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## 2011 UPDATE ■ STATE ENERGY ACTIONS

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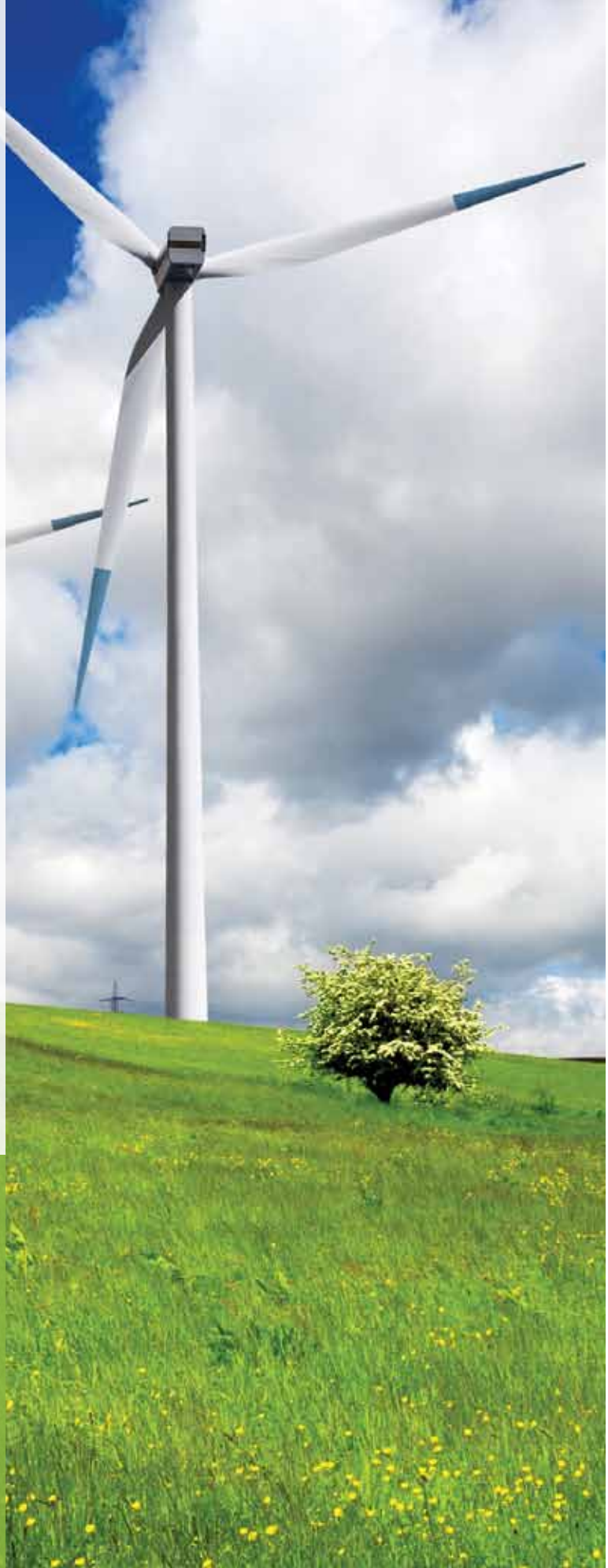


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## 2011 UPDATE ■ STATE ENERGY ACTIONS

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## Resources:

- The Database of State Incentives for Renewables & Efficiency at **http://www.dsireusa.org**
- The U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Alternative Fuels & Advanced Vehicles Data Center at **http://www.eere.energy.gov/afdc**
- The National Council of State Legislatures Energy Policy Database at **http://www.ncsl.org/?tabid=13011**
- Center for Climate and Energy Solutions at **http://www.c2es.org/**
- The U.S. Environmental Protection Agency State and Local Clean Energy Programs at **http://epa.gov/statelocalclimate/state/tracking/index.html**
- The U.S. Department of Energy Building Energy Codes Program at **http://www.energycodes.gov/states**
- Demand Response & Smart Grid—State Legislative and Regulatory Policy Action Review: May 2010 – June 2011 at **http://demandresponsesmartgrid.org/Resources/Documents/State%20Policy%20Survey/2010%20-%2011%20DR%20%20SG%20State%20Policy%20Survey_11%2007%2007_FINAL%20%282%29.pdf**
- Renewable Energy in America: Markets, Economic Development and Policy in the 50 States at **http://www.acore.org/publications/50states**

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# PREFACE

The National Governors Association Center for Best Practices (NGA Center) has compiled this update to the 2008 and 2010 editions of the *Clean State Energy Actions* report. The report provides a summary and highlights of state actions from June 2010 to August 2011. The related data tables, available online at **www.nga.org/center**, provide detailed information and update earler actions.

This update aims to help answer three questions:

- What have states been doing to advance a cleaner energy future?
- Are there existing policy models that can be replicated in other states?
- What are emerging policy tools?

Two sets of data tables are provided: one summarizing each state's actions and one detailing all state actions by clean energy category. Actions taken from June 2010 to August 2011 are listed in ***black italic*** in each table, below the information included in the 2008 and 2010 reports. Actions taken in January 2011 and later, following the election of a new governor, are in **black bold**.

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# EXECUTIVE SUMMARY

During 2011, states and territories continued to support the development and deployment of clean energy technologies.[1 2] Despite facing tepid economic growth, states remained active, with all states taking one or more actions to advance clean energy options. Spurring economic growth and reducing energy costs to consumers were strong motivations. Other drivers included diversifying energy sources and reducing emissions. Specific areas of high activity included efforts to promote alternative fuels and vehicles and to develop financing measures for energy efficiency and clean electricity.

This report updates versions released in 2008 and 2010 and covers seven categories of state policy action:

- Energy efficiency;
- Clean electricity;
- Alternative fuels and vehicles;
- Lead-by-example initiatives involving state government fleets, facilities, and operations;
- Greenhouse gas emissions;
- Clean energy research, development, and demonstration; and
- Clean energy economic development.

Clean electricity and energy efficiency continued to be the areas with the highest levels of activity, as measured by the number of states with initiatives in these categories (see table). Fifty-two states and territories adopted or updated policies relating to clean electricity. States placed a strong emphasis on funding and financing clean electricity; 48 states and territories created or refined financial incentives. This report includes a new subcategory of clean electricity actions related to shale gas development. Seven states took new action to examine or develop that resource while ensuring environmental protections.

**STATE CLEAN ENERGY ACTIVITY BY CATEGORY**
June 2010 – August 2011
(listed in order of frequency)

| Category | Number of States with Activity |
|---|---|
| Clean Electricity | 52 |
| Energy Efficiency | 48 |
| Alternative Fuels and Vehicles | 42 |
| Clean Energy Research, Development, and Demonstration | 29 |
| Clean Energy Economic Development | 28 |
| Lead by Example | 26 |
| Greenhouse Gas Emissions | 12 |

Forty-eight states took action to expand their energy-efficiency measures. As was the case with clean electricity, developing or enhancing energy-efficiency funding and financing mechanisms took center stage: 40 states and territories adopted or updated one or more financial incentives for energy efficiency. States were nearly as active in updating their building codes, with 27 states updating their existing residential and/or commercial building codes and several states adding voluntary green building construction codes.

1 *For the purposes of this report, 2011 refers to actions taken by states from June 2010 to August 2011. The reporting period is designed to cover the fiscal year used by most states, which is July 1 to June 30, and the session calendar of most state legislatures, which typically follow a January to April, May, or June schedule.*

2 *The term "clean energy" is defined differently among the states, but generally it refers to resources with lower emissions of air pollutants, toxics, and carbon dioxide than traditional sources. Those resources consist of various renewable forms of electricity generation, which can include wind, solar, geothermal, biomass, hydro, tidal, and wave, as well as, for some states, nuclear energy, natural gas and/or coal with carbon capture and sequestration. Clean energy also covers energy-efficiency and conservation measures as well as alternative, non-petroleum-based, transportation fuels, such as biomass, hydrogen, and natural gas, and related alternatively fueled vehicles and hybrid electric and all-electric vehicles.*

The category of alternative fuels and vehicles registered the largest increase. Forty-two states took action, an increase of 13 above the 29 states active in this area during the previous year. States took action to foster economic growth and reduce their dependence on imported petroleum. Forty-two states modified or created incentives for the use of alternative fuels and vehicles, nine states established or evaluated new infrastructure, and seven states set new rules for the consumption or production of alternative fuels.

Efforts to advance the clean energy economic sector drew particular interest this past year. Governors saw economic development as their top priority, and many looked to the clean energy sector as an opportunity to stimulate growth, often as part of broader recovery efforts. Twenty-eight states developed policies and made explicit investments to advance clean energy-focused economic development. State actions included creating incentives for expanding the use or manufacturing of clean technologies; launching new task forces to develop strategies; establishing workforce development programs; and expanding education opportunities. Efforts to enhance economic development by building market demand and enhancing research and development are included in other categories.

Although many states adopted similar measures, no one-size-fits-all approach exists. Policies are designed, financed, and implemented in different ways to meet the needs of each state. As states continue to face fiscal hardships in the coming months and years, efforts to advance financing, reduce energy costs in state government, and enhance clean energy focused economic development will likely continue to be areas of high activity.

# STATES PURSUING CLEAN ENERGY ACROSS MULTIPLE CATEGORIES

Over the past year, states across the nation took action to advance clean energy supply.[3] Several goals have motivated state efforts, including developing in-state resources and related economic opportunities; reducing energy costs; diversifying energy sources; and mitigating environmental impacts. This report, which updates editions released in 2008 and 2010, catalogs state policy action in seven categories: energy efficiency; clean electricity; alternative fuels and vehicles; lead by example; greenhouse gas emissions; clean energy research, development, and demonstration; and clean energy economic development. Data tables summarizing each state's actions and detailing state actions by each clean energy category can be found on the NGA Center website at **www.nga.org/center**.[4] The categories are described below:

- **Energy Efficiency** refers to state efforts to lower electricity and/or natural gas use, while maintaining the same level of service. Measures include appliance and/or equipment efficiency standards; building energy codes; utility demand-side-management initiatives; utility rate restructuring; energy savings targets or energy-efficiency resource requirements; public benefits funds; and financial incentives, such as loans, rebates, tax credits, and holidays, to lower up-front costs. Incentives for energy efficiency also include non-financial measures, such as providing consumers with information about their energy usage.
- **Clean Electricity** consists of state actions to promote the use of clean electricity from renewable or alternative energy sources. Measures include renewable or alternative energy portfolio standards and goals covering solar, wind, geothermal, biomass, hydro, wave, tidal, and other sources as defined by the state, including nuclear energy and natural gas; net metering and interconnection standards; research supporting advanced clean coal technology; public benefits funds to promote clean electricity; and financial incentives, such as tax credits, grants, loans, and rebates, to lower up-front costs. Actions include creating non-financial incentives such as streamlining permitting processes for renewable generation systems and conducting studies to identify the benefits of developing renewable energy resources. This year's report includes a new subsection within clean electricity that covers actions relating to shale gas development.
- **Alternative Fuels and Vehicles** encompasses efforts to support the supply, distribution, and production of alternative fuels, such as biomass and natural gas, and vehicles that are powered by those fuels or electricity. Measures include consumption targets and renewable fuel standards; incentives to support the production and distribution of alternative fuel and alternative fuel vehicles, such as tax benefits, loans, grants, and rebates; and non-financial incentives to promote the use of alternative fuel and electric vehicles. Actions to evaluate

3 *The "year" referred to in this report covers actions taken from June 2010 to August 2011. The reporting period is designed to cover the fiscal year used by most states, which is July 1 to June 30, and the session calendar of most state legislatures, which typically follow a January to April, May, or June schedule.*

4 *http://www.nga.org/files/live/sites/NGA/files/pdf/1201CLEANENERGY.PDF*

and enhance infrastructure for alternative fuel vehicles, including refueling/recharging stations, also fall under this category.

- **Lead by Example** includes state efforts to increase energy efficiency in state government operations and support the use of clean and renewable energy by state agencies. Measures include requirements to purchase energy-efficient appliances and equipment; energy-efficiency performance requirements for new and existing public buildings; and purchase programs for clean energy and alternative fuel and low-emission fleets.
- **Greenhouse Gas Emissions** consists of emissions measurement, planning, and reduction activities that support increased demand for clean energy. Measures include greenhouse gas registries; emissions reduction targets; utility sector or economy-wide caps; commissions to study the impact of climate change; climate action plans; and regional initiatives.
- **Clean Energy Research, Development, and Demonstration** includes measures to support partnerships or provide funding that significantly contributes to clean energy research, development, and demonstration.
- **Clean Energy Economic Development** consists of policy and research initiatives; business incubator support; education, training, and workforce development efforts; and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities, and enhance economic growth within the clean energy sector.

The term "clean energy" is defined differently among the states, but generally it refers to resources with lower emissions of air pollutants, toxics, and carbon dioxide than traditional sources. Those resources consist of various renewable forms of electricity generation, which can include wind, solar, geothermal, biomass, hydro, tidal, and wave, as well as, for some states, nuclear energy, natural gas and/or coal with carbon capture and sequestration. Clean energy also covers energy-efficiency and conservation measures as well as alternative, non-petroleum-based, transportation fuels, such as biomass, hydrogen, and natural gas, and related alternatively fueled vehicles and hybrid electric and all-electric vehicles.

# OVERVIEW AND HIGHLIGHTS OF CLEAN STATE ENERGY ACTIONS

From June 2010 to August 2011, all states took one or more steps to achieve a cleaner energy future. Their actions can be grouped in seven categories: energy efficiency; clean electricity; alternative fuels and vehicles; lead by example; greenhouse gas emissions; clean energy research, development, and demonstration; and clean energy economic development.

## Energy Efficiency

During the past year, 48 states took action to reduce the demand for electricity by increasing energy efficiency. Such efforts can lower the cost of electricity by decreasing load growth and shaving peak demand, which enable utilities to defer new capital investments and related rate increases. Measures that states have taken to promote energy efficiency include:

- Setting appliance and/or equipment efficiency standards;
- Adopting state building energy codes;
- Implementing utility demand-side-management initiatives;
- Realigning utility rate structures;
- Setting energy savings targets or energy-efficient resource requirements;
- Establishing public benefits funds promoting energy efficiency; and
- Offering financial incentives, such as loans, rebates, tax credits, and tax holidays, and non-financial incentives, such as energy-efficiency outreach and education.

### Appliance and/or Equipment Efficiency Standards

Three states implemented new minimum efficiency levels for products and appliances sold or installed in the state that are not covered under federal efficiency standards. That brings the total number of states with appliance or equipment efficiency standards to 15. New federal legislation pre-empted appliance standards already being used in four states. The preemptions ranged from 2 to 11 categories of appliances. Activity in the area declined from past years, because several states had already acted and recent federal legislation created standards for 20 categories of appliances.

**Connecticut** broadened its rules for appliance efficiency standards to encourage new technology development. Previously, the state could establish efficiency standards only if multiple products were available to meet such standards and the standards would promote energy conservation and were cost-effective for consumers. The state is now allowed to establish efficiency standards prior to having products available to meet such standards.

### Building Energy Codes

Twenty-seven states updated their existing building codes in the past year. Twenty-five states updated both their residential and commercial codes; one state updated its commercial code only; and one state updated its residential code only. Of those, 21 states updated their codes to meet the 2009 residential model energy code (2009 IECC)[5] and 18 states updated their codes to meet the 2007 commercial energy code (ASHRAE 90.1-2007).[6]

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5 *The International Energy Conservation Code (IECC) serves as the model residential code. The most recent code is the 2012 version, but as of September 2, 2010, only the 2006 version has received a final determination by the U.S. Department of Energy. The department has made a preliminary determination that the 2009 version would increase efficiency for low-rise residential buildings.*

6 *The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) develops commercial building code standards. The most recent code is the 2010 version. The 2004 version received an official determination by the U.S. Department of Energy on December 30, 2008, and the 2007 version received an official determination on July 20, 2011.*

In addition, some states began implementing "beyond-code" or "reach-code" programs. Most of those programs use the IECC and/or ASHRAE 90.1 as a baseline and then set additional voluntary or mandatory energy performance levels beyond that baseline. Forty-one states and territories now have residential codes that meet or exceed federal building code requirements (IECC 2006). Thirty-one states and territories now have commercial codes that meet or exceed federal building code requirements (ASHRAE 90.1-2004).

Under the Energy Policy Act of 1992, as each building code is developed, approximately every three years, the U.S. Department of Energy must make an official determination if the most recent code requires more efficient energy use than the previous versions. Once a determination is published in the *Federal Register*, states have two years to revise their building code to meet or exceed the most recent federal code, or explain why it is not appropriate for the state to do so. Some home-rule states adopt codes at the local level only.

**Oregon** adopted a voluntary commercial "reach" code. The state's code is based on the International Green Construction Code, which sets optional construction standards to increase the energy efficiency of buildings beyond code levels.

### Utility Demand-Side Management

Sixteen states modified their utility demand-side management (DSM) programs this year, bringing to 41 the total number of states that have implemented such initiatives. DSM refers to utility-sponsored programs designed to encourage consumers to reduce the amount of electricity they use or shift their use from times of the day when the demand and prices for electricity are high to times when demand is low.

Utility-sponsored DSM programs have included incentives that reduce the costs to consumers for installing insulation and energy-efficient windows, sealing leaks and duct work, installing energy-efficiency lighting and appliances, and maintaining or replacing heating and cooling systems. Expenses are recouped by utilities through regulatory rate cases. Similar utility-sponsored programs may be covered by public benefits funds. Several states incorporated planning and implementation for transmission grid modernization—so-called smart grid efforts—into their DSM measurements.

The **Arizona** Corporation Commission issued rules requiring investor-owned utilities to develop DSM plans, along with other energy-efficiency programs. The aim is to help the state's utilities meet a targeted 22 percent reduction in energy use by 2020.

**Connecticut** ordered its utilities to implement demand-side measures. The measures include energy efficiency, load management, demand response, combined heat and power facilities, distributed generation,[7] and other emerging energy technologies.

**Missouri** set new rules encouraging the state's four investor-owned electric utilities to implement more energy-efficiency programs to help consumers control their energy use. Electric companies can recover program costs as part of or outside of general rate cases, pending approval by the Public Service Commission.

### Utility Rate Realignment

Two states realigned or took steps to realign their utility rate structures. Thirty-eight states have now taken such steps. Utility rate realignment seeks to remove regulatory and management disincentives that discourage support for increased energy efficiency and to provide incentives for utilities to implement measures that increase energy efficiency. Utility rate realignment has three main elements: decoupling utility revenues from

7 *Distributed generation, or "on-site generation," refers to power generation at the point of consumption, as distinct from electricity provided through centralized power plants. It reduces costs to consumers and eliminates the need for electricity transmission*

electricity or natural gas sales[8], allowing utilities to recover the costs associated with energy efficiency, and providing financial incentives to meet certain efficiency goals.

The **Arizona** Corporation Commission unanimously adopted a policy statement allowing investor-owned electric and gas utilities to file decoupling proposals in their next general rate cases.

The **Nevada** Public Utilities Commission established a rule that provides for annual recovery of utilities' energy-efficiency program expenses and revenues lost from reduced sales caused by energy-efficiency programs.

### Energy Savings Targets or Energy-Efficiency Resource Requirements

Three states set or revised energy efficiency targets, either independently or as a component of the state's renewable or alternative energy portfolio standard.

**Wisconsin** revised its target to mandate annual reductions of 1.5 percent of electricity consumption and of peak demand by 2014.

### Financial and Other Incentives

This year, 40 states and territories created new financial and non-financial incentives to promote energy-efficiency measures. Sixteen states developed rebates to encourage the purchase of energy-efficiency products or services. Twenty-two states created loan funds or established low or no-interest loan programs to encourage using energy-efficiency appliances, building retrofits, or undertaking new efficient construction. Eleven states created energy-efficiency grant programs. Six states began tax benefit programs, such as credits, deductions, exemptions, and sales tax holidays. Four states implemented non-financial incentives, such as energy use disclosure provisions, to promote energy efficiency.

In total, 51 states and territories offer incentives to promote energy-efficiency measures. Thirty-nine states and territories offer revolving loan programs, 28 offer rebates, 23 provide tax incentives, and 22 offer grants.

The **Alaska** Housing Corporation established a revolving loan program offering low-cost loans to homeowners for energy- efficiency remodeling. Loan recipients contract with an energy service company, or ESCO, which guarantees savings on electricity or space heating bills.

**Hawaii** authorized its Public Utilities Commission to consider the need to reduce the state's reliance on fossil fuels through energy efficiency when examining utility system capital improvements, despite the increased short-term costs.

**Kansas** launched the 2011 Take Charge! Challenge grant competition involving 16 communities and two universities to determine which could save the most energy between January and September 2011. The winning community in each region was awarded an energy-efficiency or renewable-energy project valued at up to $100,000. Together, the grant communities saved more than $2.3 million in electricity and gas usage, reduced consumption of oil by more than 19,000 barrels, and avoided 9,979 metric tons of carbon dioxide emissions.

**Nevada** required the disclosure of energy use at the point of sale for residential property. The disclosure must include energy use information for 12 months preceding the sale of the property and information on the property's energy-efficiency characteristics.

**New Jersey** launched a new loan program for investments in energy efficiency in large commercial and industrial facilities that apply a whole-building approach. The program compliments existing pay-for-performance program incentives.

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*8 Rate decoupling is the practice of separating the link between utility revenues and electricity sales, making the utility indifferent to selling less electricity.*

**New York** enacted legislation establishing an on-bill recovery mechanism to allow customers to pay back loans for energy-efficiency improvements through a charge on their monthly utility bill. The effort is part of the Green Jobs/ Green New York initiative.

**Oregon** launched the Cool Schools Initiative, which provides school districts access to financing to upgrade inefficient lighting and heating and make other energy-efficiency improvements.

**Utah** began a new initiative within its Home Performance Program to provide rebates of up to $2,000 of the cost of energy-efficiency projects.

The 2010 edition of this report noted that 23 states enacted legislation authorizing the use of residential Property Assessed Clean Energy (PACE) financing programs. Two more states enacted authorizing legislation this year. Based on guidance from the Federal Housing Finance Agency (FHFA), however, Fannie Mae and Freddie Mac are no longer underwriting mortgages with a senior lien to mortgage payments.[9] Although the agencies' decision has led to a suspension of most residential PACE programs, some states are exploring commercial PACE options, which do not fall under FHFA's purview but do require mortgage holder approval.

## Clean Electricity

Fifty-two states and territories took action to support the generation of electricity from clean and renewable resources. Such efforts bolster the demand for clean electricity, which encourages greater investment and helps lower technology costs. State actions include:

- Establishing renewable/alternative energy portfolio standards;
- Requiring net metering and interconnection standards;
- Supporting advanced clean coal technology;
- Developing policy measures to address environmental concerns about hydraulic fracturing of natural gas;
- Using public benefits funds to promote clean electricity; and
- Offering financial incentives for clean electricity, such as tax credits, grants, loans, and rebates, as well as non-financial incentives such as streamlined permitting.

### Renewable/Alternative Energy Portfolio Standards

Twenty-one states and territories created or modified their renewable/alternative energy portfolio standards—broadly referred to as RPSs—or voluntary goals this year, increasing to 30 the total number of states and territories with RPS standards or goals. Twelve states and one commonwealth (**Puerto Rico**) modified or approved a mandatory RPS. Two territories approved a voluntary goal, and one state (**Louisiana**) created an RPS pilot program. An RPS requires utilities to obtain a certain percentage of generating capacity or retail electricity sales from renewable or alternative resources by a certain date.

**California** strengthened its RPS program, requiring retail electricity sellers to meet 33 percent of their retail sales with renewable energy resources by 2020. For the first time, the standard applies to public power, including the Los Angeles Department of Water and Power, and allows utilities flexibility to meet their requirements every three or four years.

**Illinois** authorized the state's utility companies to enter into long-term power purchase agreements with renewable energy generators. Those renewable power purchases count toward fulfilling the state's renewable portfolio standard. The new contracts for renewable energy include both solar photovoltaic and wind generation.

**Indiana** created a clean energy portfolio standard,

9 *In January 2012, FHFA issued an advance notice of proposal rulemaking to adopt guidance concerning mortgages affected by PACE programs.*

which sets a voluntary goal for utilities to provide 10 percent of electricity from clean energy resources by 2025, based on 2010 levels.

**New Jersey** added an offshore wind provision to its RPS. The provision bolsters the state's offshore wind industry and reduces the percentage of electricity sales that must be provided from other renewable energy sources (solar, wind, wave or tidal action, geothermal, landfill gas, anaerobic digestion, and fuel cells using renewable fuels).

### Net Metering and Interconnection Standards

This year, 17 states modified their existing net metering and/or interconnection standards for clean electricity or created new standards. In total, 51 states and territories require net metering or interconnection standards. Net metering assists renewable energy development by requiring utilities to buy back excess renewable power generated by consumers at retail rates. Customers with net-metered systems pay for their net energy use only. Interconnection standards establish processes and technical requirements for utilities to reduce delays and uncertainties faced by owners of clean distributed generation systems when seeking approval to connect to the grid.

**Delaware** amended its net-metering policy to allow customers to aggregate individual meters. The policy also allows net-metered systems to provide 110 percent of a host customer's expected aggregate electrical consumption, enabling an additional 10 percent in excess power to be bought back by the utility. In addition, the policy allows customers to participate in net metering via a community-owned system and extends net-metering to leased systems and systems owned by third parties.

**New Hampshire** raised its net-metering capacity limit from 100 kilowatts to one megawatt.

**New York** amended its net-metering policy to allow farm and nonresidential customers to "remotely" net meter their solar photovoltaic, anaerobic digesters, and wind systems. They can designate all or a portion of net-metering credits to meters at any property owned or leased by customers within the same utility service territory and load zone.

## Shale Gas Development, Regulation, and Policy

As the use of hydraulic fracturing to extract natural gas has grown rapidly in the past few years, states have increased efforts to address public health and environmental concerns while seeking to benefit from expanding their production of natural gas. Hydraulic fracturing, or "fracking," involves the injection of water, sand, and chemicals into shale formations, fracturing the rock and enabling the gas to escape and be captured. Shale gas formations are present in approximately 30 states.

Concerns about fracking include contamination of drinking water during drilling and storage and disposal of wastewater after drilling, along with other potentially negative impacts on public health, transportation infrastructure, and the environment. State actions have included forming study or advisory groups; requiring disclosure of the chemicals used in the process; limiting development areas; setting regulations for well casements and storage and for the recycling and disposal of wastewater; and imposing fees to help cover monitoring and compliance costs.

**Arkansas, Michigan, Texas,** and **Wyoming** adopted rules or laws requiring gas drilling companies to disclose the fluids used in fracking. In December 2011, **Colorado** enacted a law that set disclosure requirements for the content as well as the concentrations of all chemicals used in fracking.

**Maryland** established the Marcellus Shale Safe Drilling Initiative to help determine whether and how production can be accomplished without unacceptable risks to, or adverse impacts on, natural resources, public health and safety, and the environment. An advisory committee was directed to submit best practice recommendations to the governor by August 2012. By August 2014, the advisory committee must submit a final report that includes findings and recommendations on the impact of drilling on natural resources, greenhouse gas emissions, and the economy.

**New York** released recommendations for hydraulic fracturing that include prohibiting drilling in the New York City or Syracuse watersheds and on state land or within 500 feet of any primary aquifer; requiring flowback water (i.e., water that resurfaces after being injected into a well) to be stored in sealed containers rather than open holding ponds; and requiring drilling companies to disclose the chemical additives used

in fracking fluids and explore alternative chemical additives that pose less environmental risk relative to those currently used.

**Pennsylvania**'s Marcellus Shale Advisory Commission released 96 recommendations. They include increasing the setback distance from public and private water sources; posting online critical information, such as violations, penalties, and remediation activities; increasing criminal and civil penalties while enhancing the state's ability to suspend or deny drilling permits; promoting and incentivizing the use of natural gas vehicles; and imposing a fee to mitigate the potential health, environmental, or infrastructure impacts of natural gas development on communities.

The governor of **West Virginia** issued an executive order to establish new environmental regulations regarding natural gas drilling in the Marcellus Shale that would require filing a public notice of intent to drill for wells within the boundaries of municipalities; filing a water management plan with the Department of Environmental Protection (DEP) for water withdrawals greater than 210,000 gallons per month; identifying and preserving designated uses of public streams if they are being used for water withdrawals; and providing DEP with a list of additives planned to be used in the fracking fluid prior to drilling, as well as a list of additives actually used once drilling is complete. In December 2011, the legislature passed the Horizontal Well Act which: increases well permitting fees; requires a notice of drilling activity to surface owners; creates a water usage disclosure requirement; and calls for a study of the job impacts related to natural gas drilling.

## Advanced Coal and Clean Coal

Five states took steps to support carbon capture and storage and other advanced coal-fired generation technologies this year. In total, 24 states have taken actions to support advanced clean coal technology, such as providing financial incentives for advanced coal technology or requiring studies, strategic plans, or regulations on carbon sequestration.

**Kentucky** directed its Energy and Environment Cabinet to pursue one of five potential projects demonstrating the injection of carbon dioxide into geologic storage; develop a process for pooling pore space necessary to create underground carbon storage reservoirs; develop a process for transferring ownership of and liability for stored carbon dioxide to the federal or state government following a period of storage facility monitoring; and discuss with surrounding states accidental migration of geologically stored carbon across state lines. The Energy and Environment Cabinet must submit to the legislature annual reports on the project's status.

**Mississippi** established standards for the Department of Environmental Quality and its Oil and Gas Board to oversee and monitor the process of sequestering carbon dioxide used in enhanced recovery of oil and gas as part of efforts to create jobs and expand the state's energy portfolio.

Lawmakers in **North Dakota** called for the Legislative Management Committee to study carbon dioxide storage easements and their duration. The committee will report its findings and recommendations, together with any legislation necessary to implement the recommendations, to the next legislative assembly.

## Financial and Other Incentives

This year, 48 states and territories modified or expanded financial incentives to support renewable energy technology. Thirty-three states and territories enacted legislation regarding tax benefits, such as production tax credits, revaluation of property taxes, and deductions, rebates, or credits for the purchase of renewable energy systems. Twenty states implemented or modified loan programs, and 12 states offered grants. In total, 52 states and territories offer financial incentives to support renewable energy technology: 34 states and territories offer loan

programs, 21 offer grants, and 19 offer rebates.

**California** added wind and geothermal projects as eligible energy projects under the Desert Renewable Energy Conservation Plan for large-scale solar initiatives. The Department of Fish and Game can now offer project developers the option of paying mitigation fees in lieu of following the traditional permitting process. The department uses the fees to acquire and restore habitat lands for species affected by the projects.

**Connecticut** established the Clean Energy Finance and Investment Authority (CEFIA) to develop programs to finance and support clean energy investment, manufacturing, research and development, and zero- and low-emissions power sources. CEFIA is authorized to finance energy-efficiency projects; support projects that seek to use electric, hybrid, or alternative fuel vehicles, associated infrastructure, and related storage; and provide low-cost financing for clean-energy technologies. It can finance up to 80 percent of the cost of clean-energy projects and 100 percent of energy-efficiency projects.

**Hawaii** exempted third-party owners and operators of on-site renewable heat and energy-generating equipment from regulation as public utilities by the state's Public Utilities Commission.

**Illinois** prohibited homeowners or condominium unit owners associations and other community associations from preventing homeowners from using or installing solar energy systems.

**Michigan** established a program offering low-interest loans of up to $2 million for clean-energy businesses to encourage investment in advanced manufacturing of energy systems and components. Eligible industries include wind turbine systems, solar technology, bio-energy equipment, and geothermal heating and cooling systems.

**Oregon** helped homeowners install solar panels by allowing them to repay loans that finance installation, repair, insurance, and maintenance with a fixed monthly payment as low as $20. If the homeowner's utility savings exceed the monthly payment, the homeowner keeps the savings in addition to any solar tax credits.

**Vermont** streamlined the permitting process for renewable energy systems 5 kilowatts and smaller. Customers complete a registration form and certificate of compliance with interconnection requirements. The utility then has 10 days to raise any issues concerning the interconnection; otherwise, a certificate of public good is granted and the project can be installed.

The **Wyoming** State Energy Office and the Wyoming Infrastructure Authority released a study examining options for how the state can site and finance a "collector system" to bring wind energy to the transmission grid. The study provided the state a tool for mapping land-use constraints and opportunities to assist in planning and siting wind power facilities, a collector system, and high-voltage transmission lines.

## Alternative Fuels and Vehicles

States continued to expand the alternative fuel supply, distribution network, and vehicle market. Forty-two states and territories took steps to further advance clean alternative fuels and vehicles, making this category the one with the most state-level activity. State efforts, including initiatives to advance electric vehicles, include:

- Setting consumption targets and standards for renewable fuels;
- Enhancing and evaluating infrastructure for alternative fuel vehicles; and
- Providing financial incentives to support the production and distribution of alternative fuels and alternative fuel and electric vehicles, such as tax benefits, loans, grants, and rebates, as well as non-financial incentives.

### Consumption Targets and Renewable Fuel Standards

Seven states set new rules for the consumption or production of alternative fuels this year. That brings the total number of states with consumption targets or renewable fuel standards to 31.

**Oregon** mandated that all fuel sold in the state must contain a minimum of 5 percent biodiesel by volume.

### Infrastructure Enhancement and Evaluation

Nine states established new infrastructure for alternative fuel vehicles or initiated efforts to evaluate fuel infrastructure requirements this year, bringing the total number of states that enhanced or evaluated their infrastructure for alternative fuel vehicles to 13.

The **California** Public Utilities Commission, in consultation with the California Energy Commission, the California Air Resources Board, electric utilities, and the motor vehicle industry, evaluated policies and regulations to overcome barriers to the deployment and use of electric vehicles (EVs). The Public Utilities Commission directed utilities and automakers to collaborate in determining a process by which consumers will notify utilities of EV purchases. The commission also directed utilities to hold rates stable for EV owners through 2013 while it studies new rate strategies, including time-of-use pricing for EV charging, to go into effect in 2014.

**Maryland** established the Maryland Electric Vehicle Infrastructure Council to facilitate the integration of electric vehicles into the transportation network; help develop and coordinate standards for streamlined permitting and installation of residential and commercial EV charging stations and supply equipment; develop a statewide charging infrastructure plan, including public charging stations; and increase consumer awareness and demand for EVs. The Council was directed to submit an action plan to the governor by December 2012.

The **Washington** Departments of Commerce and Transportation partnered to fund the installation of qualified EV charging infrastructure along the I-5 corridor. The infrastructure is designed to enable electric vehicle drivers to travel the length of the state using the 276 miles of I-5.

### Financial and Other Incentives

This year, 42 states created or modified various alternative fuel incentives for producers, retailers, manufacturers, distributors, and individuals. Twenty-seven of the states taking action did so through tax credits. Six implemented loan programs, 10 developed rebates, and 12 offered grants. States also offered non-financial incentives, targetting drivers and potential drivers of alternative fuel vehicles, to encourage the use

of such vehicles. The nonfinancial incentives include allowing drivers of electric vehicles to use high-occupancy-vehicle lanes regardless of the number of vehicle occupants; providing dedicated parking for alternative fuel vehicles (AFVs) in parking garages; exempting electric vehicles from emissions inspections; and requiring car dealers to provide information about AFVs. In total, 49 states and territories offer incentives for the production and use of alternative fuels and alternative fuel vehicles: 44 states and territories provide tax incentives, 24 offer grants, 13 offer loans programs, and 17 offer rebates.

**Arkansas** created rebates to help consumers purchase kits to convert a diesel or gasoline motor vehicle into a dedicated or biofuel-compatible compressed natural gas motor vehicle and to cover the incremental cost associated with the conversion.

**Iowa** passed legislation strengthening incentives to the biofuel industry. The law increased the amount of the renewable fuel standard (RFS) incentive given to a retail station for meeting the Iowa RFS and provided additional incentives to retailers who meet the RFS schedule established in 2006. It also extended the E-85 promotion credit at a stable level until December 31, 2017; created a new promotion tax credit for each gallon of E-15 sold and provided an additional 3 cents for blends between E-15 and E-69; eliminated the 50 percent requirement for biodiesel tax credit eligibility and provided 4.5 cents per gallon on B-5 blends; created a three-year biodiesel production incentive for biodiesel plants; and provided $3 million per year for infrastructure such as blender pumps, E-85, or biodiesel.

**New Mexico** lawmakers requested the University of New Mexico Law School, the New Mexico Institute of Mining and Technology, New Mexico State University, Eastern New Mexico University, Western New Mexico University, and New Mexico Highlands University to examine and report on the use of natural gas as a transportation fuel. The groups testified that while there are significant infrastructure updates needed to make natural gas a widely used transportation fuel, its use would provide cost savings to consumers.

**Puerto Rico** signed a memorandum of understanding with Nissan to explore the deployment of electric vehicles in the commonwealth, including designing a pilot program for EV use, creating a plan for installing charging infrastructure, and developing incentives for the purchase or use of EVs.

**South Dakota** created the Ethanol Infrastructure Investment Fund to provide grants to encourage the purchase of flex-fuel vehicles and support the purchase and/or installation of ethanol blender pumps and other infrastructure that enable the sale of ethanol as a motor fuel.

**Virginia**'s Corporation Commission directed the state's public utilities to evaluate time-differentiated rates and other incentives to encourage off-peak charging of all-electric and plug-in hybrid electric vehicles.

## Lead by Example

Promoting clean energy in state government building and operations is often one of the first clean energy actions that states take. Such lead-by-example initiatives help states

achieve cost and energy savings, build a market for new technologies, and demonstrate their commitment to clean energy. In total, 51 states and territories have lead-by-example initiatives. This year, 26 states implemented new lead-by-example policies across various operations that can be transferred to the private sector or adopted by the public, including:

- Procuring energy-efficient appliances and equipment for public facilities;
- Establishing energy-efficiency performance requirements for new and existing public buildings;
- Purchasing clean energy for public facilities; and
- Implementing alternative fuel vehicle fleet programs.

## Appliance and Equipment Efficiency

This year, two states established requirements for state facilities to purchase energy-efficient appliances and equipment, bringing the total number of states and territories that require such procurement for public facilities to 34. For many states, those requirements entail the procurement of federally certified ENERGY STAR or other energy-efficient appliances and equipment. Some states also require state agencies to develop energy-efficiency and energy-conservation plans with provisions for the purchase of energy-efficient products.

## Building Efficiency

This year, nine states established or expanded energy savings goals for state government facilities, including leased office space, schools, colleges, and universities. That brings the total number of states and territories with energy-efficiency performance requirements for state buildings to 50. State standards often require using ENERGY STAR tools, guidelines, or partnerships or obtaining certification under Leadership in Energy and Environmental Design (LEED), Green Globes, or other beyond-code energy-efficiency requirements for new construction or existing buildings.

The **Delaware** Sustainable Energy Utility issued $67.4 million in revenue bonds payable to state appropriations to finance energy-efficiency

improvements for five state agencies. Proceeds from the bonds will be used by energy service companies ("ESCOs") to install the efficiency improvements that are expected to yield savings of more than $26 million.

In **Minnesota**, the governor issued an executive order setting a goal of a 20 percent reduction in state energy consumption and directing state agencies to identify and make cost-effective energy improvements in state facilities.

The governor of **New Hampshire** issued an executive order setting a goal of reducing fossil fuel use in state government by 25 percent, compared with 2005 levels, by 2025.

### Green Power Purchasing

Two states expanded requirements that a certain percentage of electricity purchased for state-owned buildings come from renewable resources this year, increasing the total number of states and territories with green power purchase agreements to 23.

**Massachusetts** signed a 20-year power purchase agreement with a renewable energy company to construct and operate solar panels on several state facilities and sell the power to the state at a lower cost than current rates. The agreement with the ESCO is part of a larger program to install 4 megawatts of solar capacity on 23 state facilities.

### Alternative Fuel and Vehicle Fleets

This year, 19 states set or made modifications to purchase requirements for alternative fuel vehicles and/or set standards regarding the use and promulgation of alternative fuel within state fleets. That brings the total number of states and territories using alternative fuel vehicles in their state fleets to 50. Through lead-by-example standards within their own fleet, states are in a favorable position to address the challenges that have impeded the increased use of alternative fuels, such as limited infrastructure or consumer reluctance.

**Louisiana** created the Alternative Fuel Revolving Loan Fund to help local governments convert conventional vehicles to operate on alternative fuels or help cover the incremental cost of purchasing new alternative fuel vehicles.

**North Carolina** required its Department of Administration to give purchase preference to new state vehicles with fuel economy ratings that rank among the top 15 percent of comparable vehicles in their class. At least 75 percent of new or replacement state government light-duty cars and trucks must be alternative fuel vehicles or low-emission vehicles.

**Washington** directed its state agencies to purchase low-carbon-fuel vehicles or, when purchasing new conventional vehicles, to achieve an average fuel economy of 40 miles per gallon for light-duty passenger vehicles and 27 miles per gallon for light-duty vans and sport utility vehicles.

## Greenhouse Gas Emissions

Twelve states took new action regarding greenhouse gas emissions this year, bringing the total number of states doing so to 45. These actions include emissions measurement, planning, and reduction activities that help build demand for and support deployment of clean energy, such as:

- Participating in greenhouse gas registries;
- Setting emission reduction targets;
- Establishing commissions to study the impacts of climate change;
- Establishing a climate action plan; and
- Participating in regional initiatives.

**Massachusetts** launched the GreenDOT sustainability program within its department of transportation. The program aims to reduce greenhouse gas emissions; promote the healthy transportation options of walking, bicycling, and public transit; and support smart growth development. GreenDOT supports sustainable multi-modal transportation initiatives in order to meet these goals. It will also integrate sustainability criteria into regional planning documents and reduce greenhouse gas emissions from department projects.

**Oregon** banned commercial trucks from idling their engines for more than five minutes in a 60-minute period to reduce greenhouse gas emissions and pollution in urban areas.

In **Vermont**, the governor established a climate commission composed of senior administration officials. The commission was charged with leading the state toward reduced greenhouse emissions and reliance on fossil fuels and implementing the state's 2011 energy plan.

**Washington** established standards to decommission its only remaining coal-fired electric generating facility and provided the means to mitigate the economic impacts following decommissioning.

## Clean Energy Research, Development, and Demonstration

Twenty-nine states entered into new partnerships or provided new funding through grants, awards, or tax incentives to support clean energy research, development, and demonstration efforts this year. That brings the total number of states and territories supporting clean energy research, development, and demonstration initiatives to 49.

**Nebraska** established the Business Innovation Act, which provides competitive grants for private-sector research at Nebraska institutions; technical assistance in new product development and testing; and support to help expand small businesses and entrepreneur outreach efforts. In addition, the legislation expands Small Business Innovation Research programs, including offering grants for application development and providing funding to help with prototype development, commercialization, and applied research at Nebraska institutions as well as funding to assist with microenterprise projects. The Business Innovation Act seeks to encourage and support the transfer of Nebraska-based technology and innovation in rural and urban areas of the state in order to create high-growth, high-technology companies, small businesses, and microenterprises as well as enhance the creation of wealth and quality jobs.

**New Jersey** established the Edison Innovation Green Growth Fund, which offers loans of up to $1 million to support technology companies. The money is used as growth capital to advance the commercialization of new energy-efficient, renewable energy, or supply chain products.

**North Dakota** created the Small Business Technology Investment program to allocate grants of up to $50,000 to technology-based

startup companies, including those in the clean energy sector.

## Clean Energy Economic Development

This year, 28 states established economic development policies to advance the clean energy sector, making clean energy economic development a very active area of state activity. In total, 46 states and territories have initiatives to foster economic development in the clean energy sector. Goals include stimulating new manufacturing or installation activities and decreasing energy costs. Measures to achieve these goals include:

- Providing tax incentives for businesses that manufacture clean energy generation systems;
- Providing business incubation support;
- Creating workforce development programs; and
- Expanding education opportunities for emerging professionals and retraining displaced workers.

**Colorado** partnered with the U.S. Department of Energy's National Renewable Energy Laboratory to form the Colorado Center for Renewable Energy Economic Development (CREED). CREED aims to bring together stakeholders and service providers that support the creation and growth of startup clean technology companies, contributing to economic development in the state.

**Mississippi** launched the Clean Energy Initiative to provide state income and sales-and-use tax exemptions as incentives for companies that manufacture systems or components used to generate renewable energy, including biomass, solar, wind, and hydropower generation. Alternative energy manufacturers, including manufacturers of components used in nuclear power plants, also are eligible for these incentives. To qualify, a business entity must have a minimum investment of $50 million and create 250 full-time jobs.

**New York** created the Recharge New York program to give New York businesses the opportunity to buy low-cost power in return for growing their business and creating jobs. Businesses participating in the program must also demonstrate a commitment to maximizing energy efficiency.

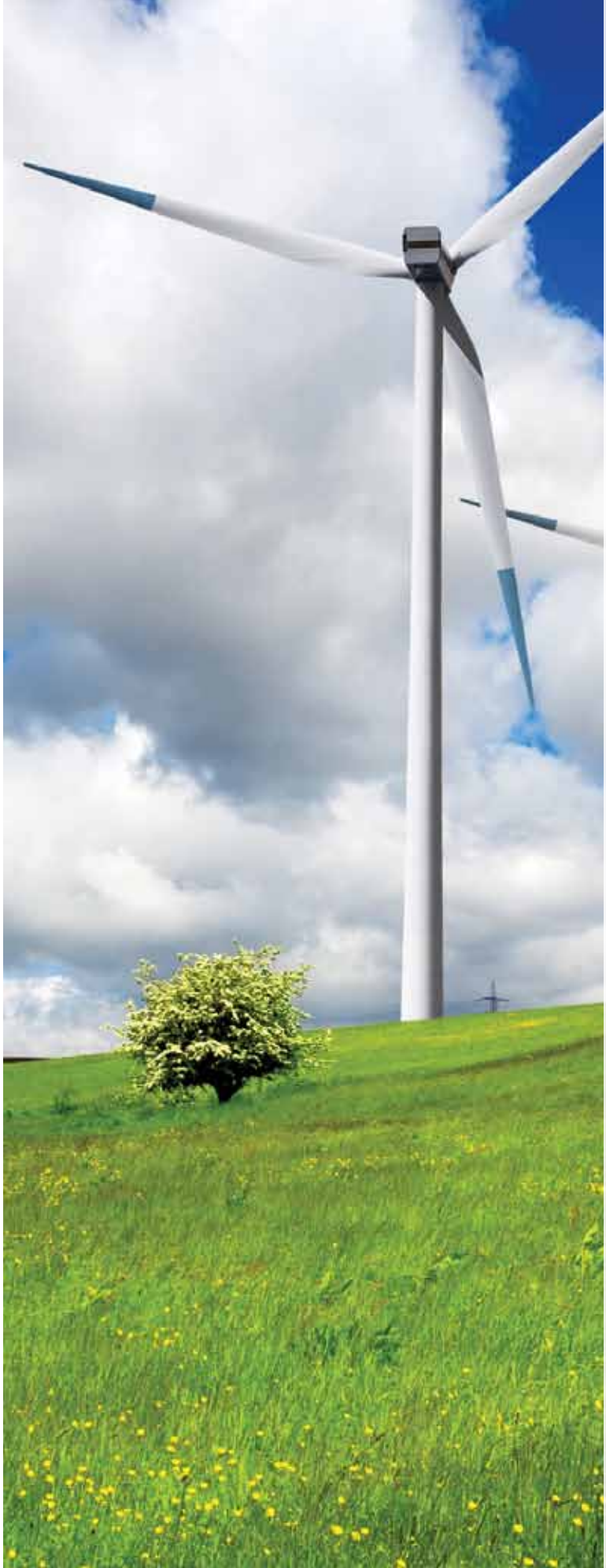
**Tennessee** launched Startup Tennessee, a public-private partnership to link entrepreneurs with training opportunities, mentors, and potential capital investors. The partnership regularly brings together regional startup incubator organizations to share best practices and helps entrepreneurs access free or low-cost services from private companies.

**Virginia** established the Clean Energy Manufacturing Incentive Grant to provide financial incentives to companies that manufacture or assemble equipment, systems, or products used to produce renewable or nuclear energy, or products used for energy conservation, storage, or grid efficiency purposes. To be eligible for a grant, the manufacturer must make a capital investment greater than $50 million and create at least 200 full-time jobs that pay at least the prevailing wage.

## Conclusion

During the past year, states continued their efforts to advance a cleaner energy future. While many states adopted similar measures, no one-size-fits-all approach exists, and policies are designed, financed, and implemented in different ways to meet the needs of each state.

As states continue to face fiscal hardships in the coming months and years, efforts to advance financing, reduce energy costs in state government, and enhance clean energy economic development will likely continue to be areas of high activity. In addition, there will likely be growing state interest in alternatively fueled vehicles and infrastructure.



## NGA CENTER DIVISIONS

The NGA Center is organized into five divisions with some collaborative projects across all divisions.

- **Economic, Human Services & Workforce** focuses on best practices, policy options, and service delivery improvements across a range of current and emerging issues, including economic development and innovation, workforce development, employment services, research and development policies, and human services for children, youth, low-income families, and people with disabilities.

- **Education** provides information on best practices in early childhood, elementary, secondary, and postsecondary education. Specific issues include common core state standards and assessments; teacher effectiveness; high school redesign; science, technology, engineering and math (STEM) education; postsecondary education attainment, productivity, and accountability; extra learning opportunities; and school readiness.

- **Environment, Energy & Transportation** identifies best practices and provides technical assistance on issues including clean energy for the electricity and transportation sectors, energy and infrastructure financing, clean energy economic development, transportation and land use planning, and clean up and stewardship of nuclear weapons sites.

- **Health** covers a broad range of health financing, service delivery, and coverage issues, including implementation of federal health reforms, quality initiatives, cost-containment policies, health information technology, state public health initiatives, and Medicaid.

- **Homeland Security & Public Safety** supports governors' homeland security and criminal justice policy advisors. This work includes supporting the Governors Homeland Security Advisors Council (GHSAC) and providing technical assistance to a network of governors' criminal justice policy advisors. Issues include emergency preparedness, interoperability, cyber-crime and cyber-security, intelligence coordination, emergency management, sentencing and corrections, forensics, and justice information technology.

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clean

# 2011 UPDATE ■ STATE-BY-STATE ENERGY ACTIONS

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# DEFINITIONS

| CATEGORY | WHAT THIS COVERS |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | State appliance efficiency standards set minimum energy efficiency standards for equipment and appliances that are not covered by federal efficiency standards. |
| Building Energy Codes | Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes. |
| Utility Demand-Side-Management | Utility sponsored programs designed to encourage consumers to modify their level and pattern of energy usage. Expenses are recouped by utilities through regulatory rate cases. These programs are distinct from programs supported by public benefits funds. This can include efforts to advance smart grid technology. |
| Utility Rate Realignment | Utility rate realignment incentivizes utilities equally for efficiency and supply resources through one to three actions: 1) removing throughput disincentives that link energy sales (kwh or therms to profits (decoupling), 2) providing incentives for energy efficiency savings, and 3) recovering costs. |
| Energy Savings Targets/Energy Efficiency Resource Standards | Energy savings targets establish statewide goals to reduce electricity consumption over a certain timeframe. Energy Efficiency Resource Standards require energy providers to meet a specific portion of their electricity demand through energy efficiency. This category may also include energy efficiency as an Renewable Portfolio Standard (RPS) or Alternative Energy Portfolio Standard (AEPS) component. |
| Public Benefits Funds | Public Benefit Funds (PBF) typically are state-level programs developed through the electric utility restructuring process as a measure to assure continued support for renewable energy resources, energy efficiency initiatives, and low-income support programs. (These funds are also frequently referred to as a system benefits charge, or SBC.) Such a fund is most commonly supported through a charge to all customers on electricity consumption. |
| Financial and Other Incentives | Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives include: tax incentives, rebates, grants, loans, bond programs and green building incentives. |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Renewables Portfolio Standards (RPS) or Alternative Energy Portfolio Standards (AEPS) require that a certain percentage of a utility's overall or new generating capacity or energy sales must be derived from renewable or alternative resources. Portfolio Standards most commonly refer to electric sales measured in megawatt-hours (MWh), as opposed to electric capacity measured in megawatts (MW). Includes voluntary goals. |
| Net Metering and Interconnection Standards | For those consumers who have their own electricity generating units, net metering allows for the flow of electricity both to and from the customer through a single, bi-directional meter. With net metering, during times when the customer's generation exceeds his or her use, electricity from the customer to the utility offsets electricity consumed at another time. In effect, the customer is using the excess generation to offset electricity that would have been purchased at the retail rate. Under most state rules, residential, commercial, and industrial customers are eligible for net metering, but some states restrict eligibility to particular customer classes.<br><br>Standard interconnection rules establish processes and technical requirements that apply to utilities within the state and reduce uncertainty and delays that clean distributed generation systems can encounter when obtaining electric grid connection. |

# DEFINITIONS

| CATEGORY | WHAT THIS COVERS |
|---|---|
| Shale Gas Development, Regulation, and Policy | New discoveries of "unconventional" sources of natural gas, primarily as shale gas (but includes coalbed methane, sandstones, and methane hydrates). Extraction techniques of shale gas - known as hydraulic fracturing or fracking - involve the injection of water and sand, treated with chemicals, into shale formations which fractures the shale \allowing the gas to escape and be captured. Shale gas deposits can increase state supplies of natural gas but also may necessitate new rules or regulations governing fracking. |
| Advanced Coal and Clean Coal | Advanced clean coal policies (loans, incentives, grants, etc.) support Integrated Gasification Combined Cycle (IGCC), carbon capture and storage, and other reduced advanced generation technology. |
| Public Benefits Funds | SEE ENERGY EFFICIENCY--PUBLIC BENEFITS FUNDS |
| Financial and Other Incentives | Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, industry recruitment/support, bond programs, green building incentives, leasing/lease purchase programs and production incentives. |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Designed to ensure that gasoline sold in the state contains a minimum volume of renewable fuel; a certain amount of biofuels will be consumed in the state; or that a certain volume of petroleum will be replaced with alternative fuels. |
| Infrastructure Enhancement and Evaluation | Policies to establish new infrastructure for alternative fuel or electric vehicles or to initiate efforts to evaluate alternative fuel or electric vehicle infrastructure requirements. |
| Financial and Other Incentives | States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs. |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Lead-by-Example appliance efficiency standards set minimum energy efficiency standards for equipment and appliances purchased for use in state government facilities. |
| Building Efficiency | Lead-by-Example building efficiency standards establish energy savings goals for state government facilities that can include leased office space, schools, colleges, and universities. These often include use of ENERGY STAR tools, guidelines, partnerships, LEED, Green Globes, or other certification, or specific beyond-code energy efficiency requirements. |
| Green Power Purchasing | Requirements that a certain percentage of electricity purchased for state government buildings come from renewable resources. |
| Alternative Fuel and Vehicle Fleets | State governments may establish purchase requirements for alternative fuel or electric vehicles and may set standards regarding the use and promulgation of alternative fuel or electric vehicles within state fleets and the public transportation system. |

# DEFINITIONS

| CATEGORY | WHAT THIS COVERS |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | These policies include a variety of emissions measurement, planning, and reduction activities: Greenhouse Gas (GHG) registries, emissions reductions targets, utility sector or economy-wide caps, climate action plans, and participation in regional initiatives such as the Regional Greenhouse Gas Initiative (RGGI). |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Partnerships with universities, research institutions, or private industries and the provision of financial support to the development or distribution of clean and advanced energy technology. |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. |
| **OTHER** | |
| | This includes items not covered in the categories above. |

Clean State Energy Actions • 2011 Update

# ALABAMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** International Residential Code (IRC) 2006 designated as minimum voluntary compliance standards<br>**Commercial:** 2006 IECC is recommended, voluntary<br>Process for adoption and compliance with codes required under the American Recovery and Reinvestment Act (ARRA)<br>• Establishes the Alabama Energy and Residential Codes Board to adopt and implement the state's first mandatory residential and commercial energy standards to be based on the 2006 IECC, ANSI/ASHRAE/IESNA Standard 90.1-2007 for commercial buildings and the 2006 International Residential Code published by the ICC, or any subsequent editions, changes or recompilations (Act 2010-185) |
| Utility Rate Realignment | • The Alabama Public Service Commission reports that most state-regulated utilities are operating under Rate Stabilization and Equalization (RSE) factors |
| Utility Demand-Side-Management | Alabama Power offers family dwelling time-of-use rates and seasonal rates |
| Financial and Other Incentives | Alabama's Local Government Energy Loan Program offers zero-interest loans to local governments and schools in rural areas for energy efficiency improvements that will eventually have a payback through utility savings<br>• Revolving Loan Program to finance energy efficiency improvements and renewable energy installations for existing businesses and industry is currently underway<br>• Agriculture Energy Efficiency Program provides education and financial resources to farmers to utilize energy efficiency and renewable energy technologies; solicitation period every other year; past solicitation Spring 2009<br>***Created AlabamaSAVES under the Alabama Department of Economic and Community Affairs (ADECA) to provide energy efficiency retrofit and renewable energy loans to commercial facilities (See also Clean Electricity).*** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Legislation has passed eliminating the requirement for liability insurance for individuals selling solar energy back to the grid<br>• Relieves utilities of the responsibility of maintaining a customer-owned or operated electrical facility (Act 2008-275, Alternative and Renewable Energy Act) |
| Financial and Other Incentives | Allows individual taxpayers a deduction for the installation of a wood-burning heating system; the Biomass Energy Program assists businesses in installing biomass energy systems by providing participants up to $75,000 in interest subsidy payments to help defray the interest expense on loans to install approved biomass projects<br>Participating power distributors in TVA's Green Power Switch Generation Partners program offer production-based incentives for solar photovoltaics (PV) and wind projects to residential/small commercial customers and incentives for PV projects for large commercial customers<br>***Established the Green Power Switch Program, offering production based incentives to homeowners and businesses installing renewable generation systems from the following sources: PV, wind, low-impact hydropower, and biomass.***<br>***Created AlabamaSAVES under the Alabama Department of Economic and Community Affairs (ADECA) to provide energy efficiency retrofit and renewable energy loans to commercial facilities (See also Energy Efficiency).*** |

**The data in this table is presented in three ways:**

(1) the data in plain text references actions from the 2008 and 2010 editions of this report

(2) the data in ***black italic*** is new (from June 2010 to August 2011)

(3) the data in **black bold** cover actions taken during the tenure of a new governor (January 2011 – August 2011).

Clean State Energy Actions • 2011 Update

# ALABAMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | The Center for Alternative Fuels was established within the Department of Agriculture and Industries to promote alternative fuels as a viable energy source in the state and will also administer a grant program funded by an income tax check-off program through the Alabama Alternative Fuels and Research Development Fund<br>***Created a tax credit for companies that invest in the development of a biofuel production facility for up to 5% of the capital costs of the project. The tax credit can be claimed against the state income tax or financial institution excise tax liability the project generates each year for up to 20 years.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Legislation is pending that would allow life-cycle costing for the purchase of energy efficient appliances and equipment by state government<br>• Allows life-cycle costing for the purchase of energy efficient vehicles and property by state government (Acts 2009-652 and 653) |
| Building Efficiency | State departments and agencies shall encourage and promote conservation so as to reduce energy consumption 10% from 2005 levels in facilities owned and operated by that agency by the end of 2008 and 20% by the end of 2010; Alabama Building Energy Conservation Code (ABECC) is a mandatory building code for state government buildings; the Alabama Building Commission is in the process of adopting the 2006 IECC as the mandatory code for state-funded buildings; legislation is pending to require that state-funded buildings be designed and built to high-performance standards at least equivalent to 30% more efficient than ASHRAE 90.1-2004<br>• 2006 IECC is mandatory for government-owned buildings<br>***Launched the Local Government Energy Loan Program, through a public-private partnership with PowerSouth, to offer zero-interest loans to local governments, K-12 schools, and public colleges and universities for renewable energy systems and energy efficiency improvements that will have a payback through utility savings.*** |
| Alternative Fuel and Vehicle Fleets | • Urges the use of biodiesel in diesel-powered public school buses (Act 2009-231)<br>• Directs state-owned vehicles to use biodiesel containing a minimum of 5% solution (Act 2009-231)<br>• Alternative Fuels Working Group provides annual reports on alternative fuel use (Act 2009-797)<br>• Procedure in place for transitioning to more fuel-efficient vehicles with Green Fleets Review Committee to ensure compliance in the transition (Act 2009-650) |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; climate action plan: "Policy Planning to Reduce Greenhouse Gas Emissions in Alabama" (1997) |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Alabama Alternative Fuels and Research Development Fund<br>• Research and development institutions now eligible for the financial incentives under the Capital Credit Program |

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Clean State Energy Actions • 2011 Update

# ALABAMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Participant in the Economy, Energy, and Environment Initiative (E3), a joint collaboration among five federal agencies (Department of Commerce, Small Business Association, Department of Labor, Department of Energy, and the Environmental Protection Agency)<br>• Coordinates efforts to help manufacturers adapt and thrive in a new business era focused on sustainability, both economic and environmental; and<br>• Provides industry assistance through special assessments, green skills training for workers, and funding assistance to make identified improvements<br>***Created the Alabama Economic Development Alliance. The Alliance is charged with more effectively utilizing the job creation and workforce assets of the state and creating a statewide economic development strategic plan. The group will focus on recruitment of new business and industry, retaining and expanding existing businesses and creating jobs through innovation, entrepreneurship, research and development (See also Energy Efficiency).*** |

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Clean State Energy Actions • 2011 Update

# ALASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | Alaska Building Energy Efficiency Standard based on 2006 IECC is mandatory for residential buildings (exceeds ECPA standards)<br>• Encourages the development of statewide energy efficiency codes for new and renovated residential, commercial and public buildings (HB 306)<br>***Residential: Updated Code to 2009 IECC***<br>***Commercial: Updated code to ASHRAE 62.2-2010*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Established a policy goal of achieving a 15% increase in energy efficiency on a per captain basis by the year 2020 (HB 306) |
| Financial and Other Incentives | The Alaska Housing Finance Corporation (AHFC) will fund homeowners' associations common area improvements, including energy efficiency; offers interest rate reductions to home buyers purchasing new and existing homes with 5 Star and 5 Star Plus energy ratings<br>The Weatherization Program is for individuals who meet certain income guidelines for eligibility; provides free weatherization assistance for homes, rentals, and multifamily dwellings; the program has been in existence almost 30 years<br>• The Home Energy Rebate Program operated by AHFC is designed to rebate to homeowners some of the expense of making energy-efficiency improvements to their homes<br>• Available one time for any family or home;<br>• The final rebate amount depends on steps and points achieved on post-improvement energy ratings for the home; and<br>• Maximum rebate is $10,000<br>• Created a new loan fund to encourage commercial energy efficiency upgrades<br>• The maximum amount of each loan is $50,000; and<br>• Due to the length of time it will take to implement regulations establishing the operations of this new revolving loan fund, no appropriation was made to capitalize this fund in the coming fiscal year (SB 220)<br>***Established a Residential Energy-Efficient Appliance Rebate Program, administered by the Alaska Housing Finance Corporation, that offers rebates for select Energy Star appliances installed in disabled Alaskans' households.***<br>***Launched a loan program for energy efficiency remodeling administered by the Alaska Housing Finance Corporation. Recipients of the loan contract with construction firms for fixes made under energy savings performance contracts and contractors guarantee the savings on electricity bills. The borrower uses the savings to repay the loans.***<br>***Increased the loan limit for the Second Mortgage for Energy Conservation program, which provides loans for energy upgrades, to $100,000.***<br>***Increased the loan limit for the Small Building Material program, which provides loans for energy efficiency upgrades to homes in "small communities", to $100,000.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Established the intent of the state to receive 50% of its electric generation from renewable and alternative energy sources by 2025 (HB 306) |

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Clean State Energy Actions • 2011 Update

# ALASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | • Net metering rules approved by the Regulatory Commission of Alaska (RCA)<br>– The rules must be finalized by an order and signed by the lieutenant governor;<br>• Utilities with retail sales of less than 5,000,000 kilowatt-hours (kWh) exempt from offering net metering;<br>• Renewable energy systems with a capacity up to 25 kilowatts (kW) eligible; and<br>• Overall enrollment is limited to 1.5% of a utility's retail sales from the previous year<br>***Approved final net metering rules were finalized in January 2010 (became effective January 15, 2010).***<br>• ***Exempted utilities that either generate 100% of electricity from approved renewable energy sources or from other low environmental impact sources approved by the RCA.***<br>• ***Net excess generation is reconciled monthly, with the utility crediting the customer-generator's account for the excess kWh generation multiplied by the "non-firm power rate." These dollar amount credits do not expire and can be applied to subsequent monthly bills.*** |
| Advanced Coal and Clean Coal | Requires the Commissioner of Natural Resources, in consultation with the Commissioner of Environmental Conservation, to prepare and submit a report to the legislature regarding carbon sequestration; the report may include discussions of increased carbon stores in soil, methods for measuring net carbon sequestration, recommendations and assessments |
| Financial and Other Incentives | The Rural Power System Upgrade Program provides loans to local utilities, local governments, regional and village corporations, village councils, nonprofit marketing cooperatives, and independent power producers for the development or upgrade of small-scale power production facilities, conservation facilities, and bulk fuel storage facilities including energy production, transmission and distribution, and waste energy conservation facilities that depend on fossil fuel, wind power, tidal, geothermal, biomass, hydroelectric, solar, or other non-nuclear energy sources<br>• Renewable Energy Fund provides grants to utilities, independent power producers, local governments, and tribal governments<br>• Grants available for feasibility studies, reconnaissance studies, energy resource monitoring, and work related to the design and construction of renewable energy facilities;<br>• Eligible technologies include solar, wind, geothermal, hydrothermal, certain types of biomass, biogas, wave, tidal, waste heat utilization, river in-stream power, and hydropower;<br>• Appropriations for this effort to date total $125 million; and<br>• An additional $50 million pending the governor's review and signature for 2011 |

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Clean State Energy Actions • 2011 Update

# ALASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • Existing tax credits and exploration incentives have been broadened to discover and produce natural gas resources in the Cook Inlet Basin<br>• 80-100% of the cost to drill for gas from a jack-up rig will be reimbursed for the first three new wells in Cook Inlet<br>• The state continues to participate financially in design and permitting for a large diameter pipeline connecting the known North Slope gas reserves with markets<br>• Separate design work is also underway on a smaller diameter line that can move forward if warranted<br>***Enacted legislation to authorize municipalities to pass ordinances that exempt residential renewable energy systems from taxation.***<br>***Provided loans, via the Power Project Loan Fund, to local government, municipal utilities,and independent power producers for the development or upgrade of small scale power production facilities, conservation facilities, and bulk fuel storage facilities,including facilities that depend on energy derived from renewable resources.***<br>***Cut the royalties geothermal developers must pay on projects, as well as lightened regulatory burden on renewable schemes.***<br>***Created the Wood Energy Pre-Feasibility Grants to provide funding to parties to explore the feasibility of community heating projects of individual facility, community, and/or district heating projects with high-efficiency, low-emission, wood-fired systems (See also Clean Energy RD&D).*** |
| **ALTERNATIVE FUELS AND VEHICLES** | |
| Financial and Other Incentives | ***Reduced the tax rate on fuel containing ethanol by $0.06 per gallon compared to the tax rate on other motor fuels in certain geographic areas.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | ***Offered loans or energy efficiency improvements, issued by the Alaska Energy Efficiency Revolving Loan Fund Program and administered by the Alaska Housing Finance Corporation (AHFC), to schools, the University of Alaska, state, and municipal governments.*** |

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Clean State Energy Actions • 2011 Update

# ALASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | The state Department of Transportation (DOT) is required to consider using alternative fuels for automotive purposes whenever practicable<br>• The state DOT is directed to review existing programs and incentives of other states to determine how Alaska can best implement a pilot program promoting the use of compressed natural gas vehicles<br>***Completed a review by the DOT of existing programs and incentives of other states to determine how Alaska can best implement a pilot program promoting the use of compressed natural gas vehicle.*** |
| **GHG EMISSIONS** | |
| GHG Policies | 2008 Climate Action Plan<br>• Released four reports as part of their Climate Action Plan on the following topics: 1) Adaptation Advisory; 2) Mitigation Advisory; 3) Immediate Action Work; and 4) Research Needs Work |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The legislature requested that representatives of the University of Alaska (UA), the Alaska Science and Technology Foundation (ASTF), the North Pacific Research Board (NPRB), and the US Arctic Research Commission (ARC) develop a Research and Development (R&D) plan to help expand and diversify Alaska's economy,protect the health of Alaskans and the environment of Alaska, and strengthen and maintain the health of state research institutions<br>The Alaska Hydrokinetic Energy Research Center, part of the University of Alaska, focuses on applied research and engineering specifically related to extracting power from the kinetic energy of moving water in rivers and tidal basins<br>The Alaska Center for Energy and Power (ACEP) maintains and operates a Diesel Engine Test Bed at the University of Alaska to demonstrate, test and document diesel engine and fuel parameters that can help improve engine efficiency<br>***Established the Emerging Energy Technology Fund, a grant program used to: test emerging energy technologies or methods of conserving energy; Improve an existing energy technology; and Deploy an existing technology that has not previously been demonstrated in Alaska.***<br>***Created the Wood Energy Pre-Feasibility Grants to provide funding to parties to explore the feasibility of community heating projects of individual facility, community, and/or district heating projects with high-efficiency, low-emission, wood-fired systems (See also Clean Electricity).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | The Alaska Wind-Diesel Applications Center, part of the University of Alaska, supports the broader deployment of cost-effective wind-diesel technologies |
| **OTHER** | |
| Nuclear Power | • Pending legislation proposes numerous statutory changes to remove language that would prohibit future consideration of nuclear energy (SB 220)<br>• The advancement of technology and design for micro reactors is being watched closely by some rural Alaska communities that have limited local opportunities for renewable power generation |

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Clean State Energy Actions • 2011 Update

# ARIZONA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards and Goals | Minimum energy efficiency standards for 12 appliances<br>• New standards established for three additional products, effective January 1, 2012<br>***All 12 appliance efficiency standards were pre-empted by federal law. New standards for three products will be effective January, 2012.*** |
| Building Energy Codes | **Residential:** 2000 IECC is voluntary<br>**Commercial:** ASHRAE 90.1-1999 is mandatory for state-owned and state-funded buildings ONLY; most communities adopt IECC 2006 |
| Utility Demand-Side-Management | The Arizona Corporation Commission is in the process of approving DSM programs for all applicable utilities; programs include percentage reductions in load growth and savings as a percent of total resources to meet load<br>***The Arizona Corporation Commission established requirements for public utilities to develop demand side management plans and other efficiency programs that result in a 22 percent reduction in customer energy use by 2020.*** |
| Utility Rate Realignment | ***The Arizona Corporation Commission unanimously adopted a policy statement that supports and encourages full decoupling of utility recovery of authorized fixed costs and energy sales. The Commission allows investor-owned electric and gas utilities to file specific decoupling proposals in their next general rate cases.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | • Requires public utilities to achieve annual energy savings of at least 22% - measured in kWh - by 2020<br>• The savings are to increase incrementally as a percentage of retail energy sales in each calendar year prior to 2020 in order to reach the set goal |
| Financial and Other Incentives | ***Created an individual income tax subtraction to taxpayers who sell one or more energy efficient single family residences, condominiums or town houses.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards | Renewable Energy Standard of 15% by 2025<br>• 4.5% of total retail electricity sales must come from distributed renewable resources for investor-owned utilities by 2012 |
| Net Metering and Interconnection Standards | Three utilities have interconnection standards for distributed generation; Arizona Corporation Commission has initiated a rulemaking process to establish interconnection standards for distributed generation for investor owned and operated utilities and is also developing net metering rules pursuant to the Renewable Energy Standard; APS is conducting a 3-year pilot net metering program for systems that generate up to 100 kW from solar, wind, or biomass (capped at 15 MW) |
| Advanced Coal and Clean Coal | The Clean Coal Technology Task Force was charged with developing a strategic plan to advance clean coal-fired plants and was scheduled to report in December 2007 |

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Clean State Energy Actions • 2011 Update

# ARIZONA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Residential Solar and Wind Energy Systems Tax Credit is 25% of the cost capped at a maximum of $1,000. Commercial sector has a 10% renewable energy tax credit capped at $50,000. $1 million is available per year; Non-Residential Solar and Wind Tax Credit; Qualifying Wood Stove Deduction<br>• Property tax exemption expanded to include other renewable energy technologies, as well as combined heat and power systems and energy efficient building components<br>***Launched Arizona Goes Solar, a web resource for homeowners and businesses to learn about opportunities to adopt solar technology and a list of federal and state renewable technology incentives.***<br>***Established the Governor's Solar Energy Task Force to evaluate incentives provided to solar energy producers and manufacturers; identify barriers to solar energy projects; propose reforms to public agency processes and tax structures that advance solar energy development; and advise the governor on solar energy matters (See also Clean Energy Economic Development).***<br>***Convened industry representatives and other stakeholders to discuss the technology, industry standards, certification issues, financing options and the viability of the geothermal technology industry in Arizona (See also Clean Energy Economic Development).***<br>***The Arizona Corporation implemented a program where customers can purchase 150 kilowatt-hour (kWh) blocks of solar electricity at an extra cost of $3 per month. The power will be produced by local photovoltaic (PV) systems.***<br>***Established individual and corporate tax credits for "solar liquid fuels," also known as microbial fuels, that create renewable transportation fuels from bacteria using a combination of carbon dioxide, water and sunlight (SB 2730 – See also Clean Energy RD&D).***<br>***Established personal and corporate tax credits for qualified renewable energy systems. The credit is based on the amount of electricity produced each year for a 10-year period (SB 1254).***<br>***Exempted the retail sale of solar energy devices and installation of solar energy devices by contractors from the sales tax.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | Designated hybrid vehicles are allowed access to high-occupancy vehicle lanes<br>***Allowed an individual driving an alternative fuel vehicle to park in areas designated for carpool operators. Individuals driving conventional vehicles are not allowed to stop or park in a space designated for parking and charging electric vehicles.*** |
| Financial and Other Incentives | $75 personal tax credit for the installation of EV recharging outlets<br>***Established the Arizona Biofuels Conversion Program, which offers up to $75,000 to public and private entities for the incremental cost of projects that result in new or converted biofuel storage and dispensing equipment.***<br>***Set the initial annual vehicle license tax on an alternative fuel vehicle at $4 for every $100 in assessed value, lower than the license tax on a coventional vehicle.***<br>***Created Electric Vehicles Arizona, in collaboration with AZ SmartPower, to bring together stakeholders to advance understanding of the opportunities and barriers that electric vehicles face in Arizona.***<br>***Exempted natural gas or liquefied petroleum gas used in motor vehicles, alternative fuel vehicles manufactured as a diesel fuel vehicle and converted to operate on an alternative fuel, and equipment used to convert a conventional fuel vehicle to operate on alternative fuel from the Arizona use tax.*** |

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Clean State Energy Actions • 2011 Update

# ARIZONA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Required new car dealers to make information about alternative fuel vehicles and Arizona-based incentives for purchasing or leasing AFVs available to the public.***<br>***Allowed an individual driving an alternative fuel vehicle to park in areas designated for carpool operators. Individuals driving conventional vehicles are not allowed to stop or park in a space designated for parking and charging electric vehicles.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | State agencies must purchase ENERGY STAR products if they are cost effective over the lifecycle of the appliance |
| Building Efficiency | LEED Silver certification required for new state buildings; ASHRAE 90.1-2004 is mandatory for state-owned and state-funded buildings ONLY; most communities adopt IECC 2006<br>***Required the Departments of Administration and Transportation and the Arizona Board of Regents to reduce their energy use by 15% by July 1, 2011 (A.R.S. § 34-451).*** |
| Green Power Purchasing | As of 2005, new state buildings had to obtain at least 10% of energy from renewable sources (solar, wind, biomass, or the purchase of renewable energy credits) |
| Alternative Fuel and Vehicle Fleets | All state agencies, boards and commissions shall continue to purchase only vehicles that are hybrids, meet low-GHG emission standards, or use E-85 fuel, biofuels, or other low-GHG alternative fuels, with the goal that by 1/2012 all state vehicles shall be hybrids that meet the previously mentioned criteria; certain state law enforcement vehicles, including "pursuit-rated" and covert vehicles shall be exempt from these requirements |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Created an R&D tax credit for investments in research and development in excess of expenditures from the previous year. The existing program provides a state tax credit between 15% and 24% of qualified R&D expenses, depending on the level of the increase.<br>***Invested $2 million to support research and development of new methods of extracting oil-rich algae strains to produce biodiesel.***<br>***Established the Venture Catalyst at Arizona State University to help faculty, students and companies launch new startups or accelerate existing ventures.***<br>***Established individual and corporate tax credits for "solar liquid fuels," also known as microbial fuels, that create renewable transportation fuels from bacteria using a combination of carbon dioxide, water and sunlight (SB 2730 – See also Clean Electricity).***<br>***Enhanced the R&D tax credit by 10% if increased R&D expenditures are made in cooperation with an Arizona university.*** |

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# ARIZONA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce GHG emissions to 2000 levels by 2020 and 50% below 2000 levels by 2040; Air Quality Improvement Action Plan (particulate matter and ozone pollution); Climate Change Action Plan (2006); WCI participant;* ADOT and ADEQ Clean Car Program; will adopt CA vehicle emissions standards pending EPA approval<br>• Established the Climate Change Oversight Group to monitor any legislation, rules or executive orders introduced at the national level, which address climate change, GHG emissions, or cap and trade of emissions (Executive Order 2010-06) |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Renewable Energy Business Tax Incentives created to draw renewable energy product manufacturers to Arizona (ARS §41-1511)<br>• Governing body of a city or town authorized to designate renewable energy incentive districts to encourage the construction and operation of renewable energy equipment in the district (See Clean Electricity - Financial Incentives)<br>• Renewable Energy Business Tax Incentives created to draw renewable energy product manufacturers to Arizona (ARS §41-1511)<br>• Income tax credits and property tax incentives available for companies choosing to establish or expand their manufacturing facilities and corporate headquarters in Arizona<br>***Established the Quality Jobs Program, with corporate tax credits of up to $9,000 for each qualifying new job. The Quality Jobs Program provides a $3,000 tax credit, which can be claimed for up to three years, for qualifying new jobs.***<br>***Established the Governor's Solar Energy Task Force to: evaluate incentives provided to solar energy producers and manufacturers; identify barriers to solar energy projects; propose reforms to public agency processes and tax structures that advance solar energy development; and advise the governor on solar energy matters (See also Clean Electricity).***<br>***Launched the Growth Fund Collaborative program to provide credit to small businesses, infrastructure construction, specialized job training and other programs to spur economic development. The main finance mechanism is volume capital bonding which allows businesses to issue tax-exempt bonds in a partnership with the government.***<br>***Convened industry representatives and other stakeholders to discuss the technology, industry standards, certification issues, financing options and the viability of the geothermal technology industry in Arizona (See also Clean Electricity).***<br>***Created the Quality Jobs Tax Credit, a performance based incentive based on net new job creation with minimum capital investment and job quality eligibility qualifications for urban and rural businesses. The credit for each new qualified job created is $3,000 per year for three years and is limited to 400 jobs per employer per year.*** |

*The governor issued an executive order providing that the state would not implement the WCI's cap-and-trade program and clarified that any state-level rules regulating greenhouse gas emissions would require clear statutory authority. The governor also prohibited state agencies from adopting or enforcing a state or regional program to regulate greenhouse gas emissions without express legislative authorization.

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Clean State Energy Actions • 2011 Update

# ARKANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** Arkansas Energy Code based on 2003 IECC with state-specific amendments is mandatory statewide<br>**Commercial:** Arkansas Energy Code based on ASHRAE 90.1-2001 is mandatory statewide. ASHRAE/IESNA 90.1-2007 for public buildings. |
| Utility Rate Realignment | Decoupling in natural gas markets |
| Utility Demand-Side-Management | • The Arkansas Public Service Commission, using the authority given to it under the Energy Conservation Endorsement Act of 1977, is requiring all regulated utilities in Arkansas to deploy various energy efficiency programs for all customer classes<br>***Issued an order opening an investigative proceeding on smart grid, advanced metering infrastructure (AMI), and demand response. The order is part of the Public Service Commission's Sustainable Energy Resources Action Plan, which required utilities "to report in detail on their current use of and future plans for Smart Grid, DR, and AMI projects and investments in Arkansas.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | ***Established sales reductions targets for both electric (.25% for 2011, .50% for 2012 and .75% for 2013) and gas (.2% for 2011, .3% for 2012 and .4% for 2013) utilities. The reductions are to be met by the end of the calendar year, and are based on 2010 sales.*** |
| Financial and Other Incentives | ***Created a low interest-rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation. Loan rates are dependent on the loan length and are related to the current market interest rates (ARRA funded – See also Clean Electricity and Clean Energy Economic Development).***<br>***Created the Residential Energy-Efficient Appliance Rebate Program, administered by the Arkansas Energy Office, to offer rebates for select Energy Star appliances installed in households in Arkansas.*** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Facilities producing electricity using solar, wind, hydro, geothermal and biomass resources are eligible to interconnect and net meter; microturbines and fuel cells using renewable resources are also eligible; currently, net metering is available to residential systems up to 25 kW in capacity and nonresidential systems up to 300 kW; net-metered customers own Renewable Energy Credits (RECs) |
| Shale Gas Development, Regulation, and Policy | ***The Arkansas Oil & Gas commission approved a rule that requires natural gas companies to disclose the composition of fluids it injects to release natural gas as part of the hydraulic fracturing process.*** |

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# ARKANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | • The Arkansas Energy Office, a division of the Arkansas Economic Development Commission, has partnered with John Brown University to launch the Arkansas Anemometer Loan Program (ALP)<br>• The ALP allows landowners to apply, and if selected, receive a free wind-resource assessment so they can make an informed decision regarding pursuing the installation of a wind turbine<br>***Created a low interest-rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation. Loan rates are dependent on the loan length and are related to the current market interest rates.***<br>***Provided funding through the The Arkansas Energy Office for solar PV, small wind, and solar water heating systems that are net metered and have an interconnection agreement.***<br>***Created a rebate incentive for school districts for the costs of converting diesel-powered and gasoline-powered school buses into dedicated or bi-fuel compressed natural gas school buses (H.B. 1050).***<br>***Amended the Arkansas clean energy development act to include natural gas public utilities, allows biofuel to satisfy the public utility's energy efficiency or conservation goals (S.B. 876 – See also Shale Gas Development, Regulation and Policy).***<br>***Created the Wind Energy Manufacturing Tax Incentive, which provides a full income tax exemption for manufacturers of windmill blades or components that meet certain criteria, including showing significant investment and job creation (See also Clean Energy Economic Development).***<br>***Decreased the sales and use tax on natural gas and electricity used by manufacturers to operate a facility that uses combined-cycle gas turbine technology or for use directly in the actual manufacturing process to provide manufacturers with a way to increase the number of employees (SB 275 – See also Clean Energy Economic Development).***<br>***Amended the Arkansas clean energy development act to include natural gas public utilities (S.B. 876).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Arkansas Alternative Fuels Development Act established an annual goal of 50 million gallons of alternative fuels produced at production facilities in the state by October 6, 2008 |
| Financial and Other Incentives | The Arkansas Alternative Fuels Development Fund offered three types of grants: 1) a production grant of $0.20 per gallon of alternative fuel (up to $2 million); 2) feedstock processors can receive up to $2 million in grant funding for the construction or modification of feedstock processing facilities; and 3) distributors are eligible for up to $50,000 in grant funding for storage and distribution of alternative fuels<br>• Biomass grown for the production of biofuel is exempt from severance tax<br>***The Arkansas Alternative Fuels Development Program provided rebates to assist in the purchase of a conversion kit used in the conversion of a diesel motor vehicle or gasoline motor vehicle to a dedicated or biofuel compressed natural gas motor vehicle as well as the differential and incremental cost associated with the conversion (H.B. 1914).*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Act 1597 of 2007 requires state agencies to use high efficiency lighting, where feasible, and if the price is competitive with consideration given to the long term cost effectiveness and savings |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | • The Arkansas Energy and Natural Resources Conservation Act encourages all state agencies, including institutions of higher education, to use LEED and Green Globes rating systems whenever possible and appropriate in conducting or funding a public building project<br>• The governor's office partnered with the William J. Clinton Foundation's Clinton Climate Initiative (CCI) to provide resources, staff support, and expertise in retrofitting state buildings and changing habits to reduce energy consumption<br>• Requires that the Arkansas Energy Office, a division of the Arkansas Economic Development Commission, develop an energy program to manage energy, water, and other utility uses for public agencies (Act 1494)<br>• Agencies must reduce total energy consumption per gross square foot for all existing state buildings by 20% by 2014 and 30% by 2017 based on energy consumption for the 2007-2008 fiscal year if the savings can be justified by a life-cycle cost analysis<br>• Requires all executive branches of government to develop strategic energy plans with the goal of reducing their annual maintenance and operating budgets that pay for energy (Executive Order 09-07)<br>• Created the Sustainable Building Design Program for State Agencies to make energy efficient capital improvement projects in state-owned buildings (Acts 1363 and 1372)<br>***Created a loan program through the Arkansas Building Authority which will administer the $9,500,000 program to state buildings incorporating new energy efficiency measures.***<br>***Required public agencies occupying a state-owned building to complete an energy audit using American Society of Heating, Refrigerating and Air-Conditioning Engineers audit procedures and report the findings to the Arkansas Energy Office (S.B. 823).*** |
| Alternative Fuel and Vehicle Fleets | By January 1, 2009, all diesel-powered motor vehicles, light trucks, and equipment owned or leased by a state agency must be operated using diesel fuel that contains a minimum of 2% biofuels by volume |
| **GHG EMISSIONS** | |
| GHG Policies | The Arkansas Climate Change Plan is due in October 2008<br>• The Arkansas Governor's Commission on Global Warming submitted its final report in November, 2008, with over 50 recommendations to reduce GHG emissions |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | • Created the Alternative Energy Commission to study the needs and impacts of various forms of alternative energy on the economic future of the state (Act 1301)<br>• Established the Arkansas Sustainable Energy Collaborative to assist the Public Service Commission in its inquiry regarding the further development of sustainable energy resources (Docket No. 08-144-U, Order No. 1)<br>***Established the Statewide Energy Consortium and the Electrical Energy Advancement Program Fund Board. Directed the Board to make recommendations to the Consortium concerning funding for competitive undergraduate and graduate scholarships for residents in the field of electrical and electronic engineering and some research project costs (HB 2219 – See also Clean Energy Economic Development).*** |

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Clean State Energy Actions • 2011 Update

# ARKANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Education, etc. | • Created an income tax abatement incentive for qualifying windmill blade and windmill component manufacturers (Act 736)<br>• Created a low interest rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation<br>***Established the Statewide Energy Consortium and the Electrical Energy Advancement Program Fund Board. Directed the Board to make recommendations to the Consortium concerning funding for competitive undergraduate and graduate scholarships for residents in the field of electrical and electronic engineering and some research project costs (HB 2219 – See also Clean Energy Economic Development) (See also Clean Energy RD&D).***<br>***Decreased the sales and use tax on natural gas and electricity used for combined-cycle gas turbine technology (SB 275).*** |
| **OTHER** | |
| Arkansas Alternative Energy Commission | • Created the Arkansas Alternative Energy Commission, which is tasked with studying the needs and impacts of various forms of alternative energy on the economic future of Arkansas (Act 1301) |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for 21 categories of appliances<br>***Set minimum energy efficiency standards for 23 appliance categories. The standards now apply to 10 categories of appliances.*** |
| Building Energy Codes | **Residential:** California Energy Efficiency Standards for Residential Buildings, exceeds 2009 IECC and is mandatory statewide<br>**Commercial:** California Energy Efficiency Standards for Non-residential Buildings, meets or exceeds ASHRAE 90.1-2007 and is mandatory statewide<br>All new and renovated buildings must achieve at least a LEED Silver rating<br>• Adopted a mandatory Green Building Standards Code (CALGREEN) requiring all new buildings to use environmentally advanced building practices<br>• Requires owner or operator of a building to disclose benchmarking data and rating to a prospective buyer, lessee of the entire building, or lender that would finance the entire building based on a schedule of compliance established by the State Energy Resources Conservation and Development Commission |
| Utility Rate Realignment | Decoupling in natural gas and electricity markets |
| Utility Demand-Side-Management | ***Required public utilities to file smart grid deployment plans by July, 2011.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Energy efficiency is an option under California's RPS; investor-owned utilities have savings goals of 23,183 GWh (including 4,885 MW of peak demand) expected to save more than 1% of total electricity sales per year from 2004-2013 |
| Public Benefits Funds | Investor-owned utilities charge a "public goods surcharge" to be devoted to energy efficiency, renewable energy, and RD&D |
| Financial and Other Incentives | The California Energy Commission provides up to $26 million in loans to schools, hospitals, and local governments for the installation of energy-saving measures or for energy audits and studies<br>Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Clean Electricity and Clean Energy Economic Development)<br>Established the Energy Conservation Assistance Loan Program to provide low interest loans to local jurisdictions for energy efficiency retrofits<br>Personal tax deduction allows taxpayers to deduct the interest paid on loans used to purchase energy efficient products or equipment for a residence; the deduction is for loans from a publicly-owned utility company for the purchase of energy-efficient heating, ventilation, air-conditioning, lighting, solar, advanced metering of energy usage, windows, insulation, zone heating products, and weatherization systems<br>• Authorizes college campuses to receive a bill credit to be applied to a designated benefiting account for electricity exported to the electrical grid by an eligible renewable generating facility<br>• Energy Commission required to establish a plan for a program to achieve greater energy savings in the state's existing residential and nonresidential buildings |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • The Public Utilities Commission asked to investigate the ability of electrical and gas corporations to provide customers with energy audits, energy efficiency financing options and to make reports<br>• Requires a local publicly owned utility to be responsible for implementing an energy efficiency program<br>• Public Utilities Commission and the State Air Resources Board authorized to treat advanced electrical distributed generation technology as cogeneration<br>• Makes existing limitations upon gas rates and surcharges charged cogenerators applicable to an advanced electrical distributed generation technology<br>• Prohibits placing alternative fuel capability requirements upon gas customers that use gas for cogeneration applicable to a generator using such advanced technology<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 77)<br>The School Facility Program (SFP), through grants approved by the State Allocation Board (SAB), provides funding to school districts for facility modernization. A school district is only eligible when previously un-modified permanent buildings are 25 years or older and relocatable classrooms are 20 years or older.<br>• The grant amount fund a large variety of work at an eligible school site including but not limited to air conditioning, insulation, roof replacement, as well as the purchase of new furniture and equipment. The amount of the grant depends on the number of students<br>**Required the Alternative Energy and Advanced Transportation Financing Authority to administer a Clean Energy Upgrade Program to reduce the costs to property owners of a loan provided by a financial institution for energy efficiency or renewable energy upgrades (AB X 1 14 – See also Clean Electricity).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | RPS program requires retail sellers of electricity to increase their sales of eligible renewable-energy resources by at least 1% of retail sales per year, so that 20% of their retail sales are served with eligible renewable energy resources by 2010, with a long-term goal of 33% by 2020<br>Has a feed-in tariff which allows eligible customer-generators to enter into 10-, 15- or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to 3 megawatts (MW) -- at time-differentiated market-based prices. All investor-owned utilities and publicly-owned utilities with 75,000 or more customers must make a standard feed-in tariff available to their customers.<br>**Updated the RPS program to require retail electricity sellers to meet 33% of their retail sales with eligible renewable energy resources by 2020.**<br>***The California Public Utilities Commission authorized the use of tradable renewable energy credits (TRECS) for RPS compliance. Utilities may use TRECS to satisfy up to 25% of their requirement, and the price of a TREC is capped at $50. Starting in 2014, there will no longer be restrictions on the sale price and number of TRECs.*** |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Rule 21 specifies standard interconnection, operating and metering requirements for distributed generation systems up to 10 MW in capacity, including renewables, with separate simplified rules for small renewables under 10 kW; utilities are required to offer net metering to all customers for solar and wind-energy systems up to 1 MW, and investor owned-utilities are required to offer net metering for biogas-electric systems and fuel cells; The feed-in tariff allows eligible customer-generators to enter into 10-, 15-, or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to 1.5 megawatt (MW) -- at time-differentiated market-based prices.<br>• Public Utilities Commission required to determine the requirements for a smart grid deployment plan consistent with the policies set forth in federal law<br>• Each electrical corporation required to develop and submit a smart grid deployment plan to the Commission<br>***Raised the system-wide cap on net metering from 2.5% to 5.0%.***<br>***The Renewable Auction Mechanism program requires California's three IOUs to purchase electricity from renewable energy systems up to 20 MW in size within their service territories.*** |
| Public Benefits Funds | Investor-owned utilities' (IOU) "public goods surcharge" to be devoted to energy efficiency, renewable energy, and energy RD&D |
| Financial and Other Incentives | Supplemental energy payments (SEPs), are available to eligible renewable generators for the above-market costs of eligible procurement by California's retail sellers to fulfill their RPS obligations; property tax exemptions are available for qualifying solar energy systems; loans are available for agriculture and food processing industries to purchase cost-effective energy efficient and renewable emerging technologies; the California Solar Initiative offers $3.2 billion over 10 years for solar energy projects with the objective of providing 3,000 MW of capacity by 2017; the California Energy Commission offers cash incentives to promote the installation of grid-connected small wind and fuel cell renewable energy electric-generating systems through its Emerging Renewables Program; the Self-Generation Incentive Program (SGIP) offers incentives to customers who produce electricity with wind turbines and fuel cells<br>• Authorize loans for the purchase of alternative source energy projects through various instruments including prepayment purchase contracts (SB 77, Alternative Energy and Advanced Transportation Financing Authority Act)<br>• Redefines alternative sources<br>• Requires contract by the authority for energy derived from an alternative source to the extent prepayment is intended to offset electrical requirements<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 77) |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Financial and Other Incentives (continued) | Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Energy Efficiency and Clean Energy Economic Development)<br><br>The California Clean Energy Manufacturing Program encourages the production and manufacture of energy efficiency and renewable energy components; systems and technologies; alternative and renewable fuels; and vehicles and vehicle components. The program provides financial support for businesses; public-private partnerships; and technology developers, fleet owners, academic institutions, consortia, and collaboratives through a variety of financial mechanisms. These include grants, loans, loan guarantees, tax-exempt financing, production incentives, and credit enhancements (See also Clean Energy Economic Development).<br><br>**Required the Alternative Energy and Advanced Transportation Financing Authority to administer a Clean Energy Upgrade Program to reduce the costs to property owners of a loan provided by a financial institution for energy efficiency or renewable energy upgrades (AB 14a – See also Energy Efficiency).**<br><br>***Excluded expenses related to the design, manufacture, production, or assembly or renewable energy equipment, combined heat and power equipment, and alternative transportation equipment from the state's sales and use taxes. This includes any source of energy under 30 megawatts that reduces the use of fossil and nuclear fuels (SB 71 – See also Clean Energy Economic Development).***<br><br>**Developed the Clean Energy Jobs plan, which calls for 12,000 megawatts to come from localized energy sources—onsite or small systems located close to where energy is consumed that can be constructed quickly, without new transmission lines, and typically without any environmental impact (See also Clean Energy Economic Development).**<br><br>***The California Energy Commission awarded a $400,000 grant to a project whose goal is to demonstrate the benefits of using energy storage systems in conjunction with an on-site fuel cell power generation.***<br><br>**Streamlined the siting and permitting process for renewable energy projects within the state's Desert Renewable Energy Conservation Plan (DRECP) by adding wind and geothermal energy projects to a program currently in place for large-scale solar projects, whereby the Department of Fish and Game (DFG) may offer project developers the option of paying mitigation fees in-lieu of the traditional permitting process (ABx 1 13).**<br><br>**Extended the current exclusion from property tax reassessment for purchases of new "active solar energy systems" to active solar energy systems that are sold in sale-leaseback arrangements (ABX1 15).** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | To increase the use of biomass in fuel production, the state will produce its own biofuels at a minimum of 20% by 2010, 40% by 2020, and 75% by 2050; goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020; by 2010, the state has committed to: 1) Build a network of hydrogen fueling stations; 2) ensure that hydrogen vehicles are commercially available for purchase; 3) incorporate hydrogen vehicles into the state fleet; 4) develop safety standards for hydrogen fueling stations and vehicles; and 5) establish incentives to encourage the use of hydrogen vehicles and encourage the development of renewable sources of energy for hydrogen production |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Infrastructure Enhancement and Evaluation | Public Utility Commission required, in consultation with the Energy Commission, the State Air Resource Board, electric corporations, and the motor vehicle industry, to evaluate policies to develop infrastructure sufficient to overcome any barriers to the widespread deployment and use of plug-in hybrid vehicles, and to adopt rules that address a specified matter<br>***The Motor Vehicle Registration Fee Program provided funding for projects that reduce air pollution from on- and off-road vehicles. Eligible projects include purchasing Alternative Fuel Vehicles and developing alternative fueling infrastructure.***<br>**Mandated that by July 1, 2011, the California Energy Commission, in consultation with the Public Utilities Commission, must develop and maintain a Web site containing specific links to web sites that contain information specific to EVs and plug-in hybrid electric vehicles, including: Resources to help consumers determine if their residences will require utility service upgrades to accommodate EVs and PHEVs; Basic charging circuit requirements; Utility rate options; and load management techniques (SB 1455).**<br>**The California Public Utilities Commission, in consultation with the California Energy Commission, California Air Resources Board, electrical corporations, and the motor vehicle industry, evaluated policies and regulations to overcome barriers to the deployment and use of EVs.Directs utilities and automakers to collaborate in determining process by which consumers will notify utilities of EV purchases. Also holds rates for EV owners stable through 2013 while studying new rate strategies, including time-of-use pricing for EV charging, to go into effect in 2014.** |
| Financial and Other Incentives | Grants of up to $5,000 will be made available to consumers who purchase or lease eligible zero emission vehicles (ZEVs), plug-in hybrid electric vehicles, and AFVs between May 24, 2007, and March 31, 2009<br>Alternative fuels production incentives<br>Qualified alternative fuels and hybrid electric vehicles can use HOV lanes<br>**The Hybrid Truck and Bus Voucher Incentive Project provided vouchers ranging from $10,000-$45,000 for eligible fleets to reduce the incremental cost of qualified medium- and heavy-duty hybrid electric vehicles at the time of purchase.**<br>**The California Public Utilities Commission voted to develop strategies for having buyers of electric vehicles tell utilities about their purchase.**<br>**The California Public Utilities Commission voted to keep electricity rates for EVs stable until at least 2013 for residential, commercial and industrial owners. Utilities and the CPUC will explore different rate strategies for 2014 and beyond, including basing rates on the time of day to shift EV charging to periods of low demand.** |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Created the Alternative and Renewable Fuel and Vehicle Technology Program to offer grants and loans for projects that: Develop and improve alternative and renewable low carbon fuels; Optimize alternative and renewable fuels for existing and developing engine technologies; Produce alternative and renewable low carbon fuels in California; Decrease the overall impact of an alternative and renewable fuel's lifecycle carbon footprint and increase sustainability; Expand fuel infrastructure, fueling stations, and equipment; Improve light, medium, and heavy-duty vehicle technologies; Retrofit medium- and heavy-duty on-road and non-road vehicle fleets; Expand infrastructure connected with existing fleets, public transit, and transportation corridors; and Establish workforce training programs, conduct public education and promotion, and create technology centers.***<br>***Established the Motor Vehicle Registration Fee Program to provide funding for projects that reduce air pollution from on- and off-road vehicles. Eligible projects include purchasing Alternative Fuel Vehicles and developing alternative fueling infrastructure.***<br>**Prohibited any common interest development from restricting the installation of electric vehicle charging stations (SB 209).**<br>***Created a $5,000 rebate for purchasers of zero-emission vehicles. All funding for this program has been exhausted.***<br>**The California Energy Commission awarded a $1.2 million grant to an electric vehicle project.**<br>***Provided financing for property used to develop and commercialize advanced transportation technologies including electric vehicles, fuel cells, and ultra-low emission vehicles that reduce pollution and energy use and promote economic development. Also provided financial incentives in the form of sales and use tax exclusions on qualified property.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | State agencies must purchase ENERGY STAR appliances when it is cost-effective to do so |
| Building Efficiency | The goal of the Green Building Action Plan is to improve the energy performance of all state buildings and reduce grid-based energy usage in state buildings by 20% of 2003 levels by 2015; all new and renovated state buildings must be constructed to LEED Silver standards; state agencies are required to cooperate in developing benchmarking and commissioning guidelines, suggesting plans for retrofitting existing buildings, and ensuring builder and contractor compliance |
| Green Power Purchasing | Environmentally Preferable Purchasing guidelines for procurement agencies; state agencies and the legislature are required to buy products with recycled content in order to reduce waste |
| Alternative Fuel and Vehicle Fleets | 75% of cars and trucks in the state fleet must be energy efficient; 50% of the state fleet should be flex fuel vehicles by 2010; provides grant funding for new school buses and for air pollution control equipment to retrofit existing buses |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce emissions levels to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050; caps emissions from electricity retailers and natural gas utilities over the long-term; Proposed Early Actions to Mitigate Climate Change (2007); WCI participant; pending EPA approval: reduce GHG emissions from vehicles 16% from 2002 levels by 2012 and 30% by 2016; provides incentive-based funding for the incremental cost of purchasing cleaner than required engines and equipment for significant near-term reductions in nitrogen oxide emissions, Reactive Organic Gases, and particulate matter emissions<br>• Global Warming Solution Act of 2006 amended to include in the definition of greenhouse gas nitrogen trifluoride<br>• Updated the State Transportation Plan to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of GHG emissions to certain levels by 2020 and 2050<br>• Requires the Transportation Commission to submit a report providing information on sustainable communities and alternative planning strategies<br>California is a member of the West Coast Governors' Climate Change Initiative along with Oregon and Washington. The three states must act individually as well as regionally to reduce greenhouse gas (GHG) emissions. The Initiative includes adopting standards to reduce GHG emissions from vehicles by expanding markets for efficiency, renewable energy and alternative fuels, including creating a working group on developing hydrogen fuel.<br>***Established rules requiring that heavy-duty diesel vehicles must meet Best Available Control Technology standards, which specify maximum exhaust particulate matter and nitrogen oxide levels.***<br>***Adopted regulations to reduce greenhouse gas emissions from vehicles with a gross vehicle weight ratings of 10,000 pounds of less operating inefficiently with under-inflated tires. Also directed the California Energy Commission to must adopt and implement a state-wide Fuel Efficient Tire Program that includes a consumer information and education program and minimum tire efficiency standards.***<br>***The California Air Resources Board adopted a regulation to limit and monitor sulfur hexafluoride (SF6) emissions from electric power sector equipment which is expected to achieve a 70 percent reduction of SF6 emissions statewide from electrical utilities – a total reduction of 250,000 metric tons of carbon dioxide equivalent by 2020. The measure ratchets down the allowable SF6 emission rate from 10 percent in 2011 to 1 percent in 2020.***<br>**Adopted a cap-and-trade regulation that sets a statewide limit on the emissions from sources responsible for 80 percent of California's greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. By the end of the program in 2020 there will be a 15 percent reduction in greenhouse gas emissions compared to 2010, reaching the same level of emissions as in 1990. The California Air Resource Board will begin enforcement in 2013.** |

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Clean State Energy Actions • 2011 Update

# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The California Solar Initiative dedicated $2.6 million to a pilot solar water heating program; investor-owned utilities charge a "public goods surcharge" to be devoted to energy efficiency, renewable energy, and RD&D; incentives for funding dedicated to research, development, and testing of alternative fuels and advancing vehicle technology; grants and loans to public agencies, businesses, fleet owners, consumers, and academic institutions to develop and deploy innovative technologies that transform California's fuel and vehicle types; the Bioenergy Action Plan includes: research and development of commercially viable biofuels production and advanced biomass conversion technologies; evaluation of the potential for biofuels to provide a clean, renewable source for hydrogen fuel; and increases the purchase of flexible-fuel vehicles to 50% of total new vehicles purchased by state agencies by 2010; participant in the PIER Program<br>***Directed the California Public Utilities Commission and utilities to evaluate and plan for increasing electricity storage capacity to inform potential targets for cost-effective electricity storage expansion (AB 2514).***<br>***Granted $724,998 for R&D in to high-tech efficient windows and creating a ten year plan for energy storage technology.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc | New Solar Homes Initiative promotes a self-sustaining market for solar homes as part of the 2007 California Solar Initiative; in February 2008, formed the Green Workforce Coalition, a public-private partnership to define labor market demand for green jobs<br>• Established an intergovernmental Green Jobs Council to develop a strategy for meeting emerging workforce needs (AB 3018)<br>• Began Green Technology Partnership Academies for high school education programs<br>• CPUC required to grant incentives eligible green-technology manufacturers<br>• Launched the Green Jobs Corps, a program focused on workforce training and job placement for at-risk youth<br>• Public-private partnership manages the Clean Energy Workforce Training Program providing grants for retraining, pre-apprenticeship training partnerships and alternative and renewable fuel and vehicle technologies workforce development<br>Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Energy Efficiency and Clean Electricity) |

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# CALIFORNIA

| CATEGORY | ACTIONS BEING TAKEN |
|---|---|
| Task Force, Workforce Development, Incentives, Analysis, Etc. (continued) | The California Clean Energy Manufacturing Program encourages the production and manufacture of energy efficiency and renewable energy components; systems and technologies; alternative and renewable fuels; and vehicles and vehicle components. The program provides financial support for businesses; public-private partnerships; and technology developers, fleet owners, academic institutions, consortia, and collaboratives through a variety of financial mechanisms. These include grants, loans, loan guarantees, tax-exempt financing, production incentives, and credit enhancements.<br>**Excluded expenses related to the design, manufacture, production, or assembly or renewable energy equipment, combined heat and power equipment, and alternative transportation equipment from the state's sales and use taxes. This includes any source of energy under 30 megawatts that reduces the use of fossil and nuclear fuels (SB 71 – See also Clean Electricity).**<br>**Established a dedicated funding stream of up to $8 million available from the state Renewable Resource Trust Fund for partnership academy programs that focus on employment in clean technology, renewable energy, energy and water conservation, or pollution reduction (SB 148).**<br>***Required the allocation of funds from the Renewable Resource Trust Fund, and if needed, another specified fund, for expenditure in the form of grants to school districts to create and maintain partnership academies that focus on employment in clean technology businesses and provides skilled workforces for the products and services for energy or water conservation, renewable energy, pollution reduction, or other technologies (S 1a).***<br>**Developed the Clean Energy Jobs plan, which calls for 12,000 megawatts to come from localized energy sources—onsite or small systems located close to where energy is consumed that can be constructed quickly, without new transmission lines, and typically without any environmental impact (See also Clean Electricity).** |
| **OTHER** | |
| Nuclear Power | Before any new nuclear facilities will be considered, the federal government must have a means of disposal for nuclear waste. Also requires legislative ratification for their commission's decision to license nuclear power plant. |

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Clean State Energy Actions • 2011 Update

# COLORADO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2003 IECC, required in jurisdictions with a building code in July 2007<br>**Commercial:** 2003 IECC, required in jurisdictions with a building code in July 2007<br>• State energy office is now promoting adoption of the 2009 IECC<br>• Provides code-related training for builders, contractors, and local code officials<br>***Residential: Updated code to 2009 IECC for all Factory Built and Multi Family structures in areas of Colorado that do not adopt or enforce building codes***<br>***Commercial: Updated code to 2009 IECC (with reference to ASHRAE 90.1-2007) for all Factory Built and Multi Family structures in areas of Colorado that do not adopt or enforce building codes*** |
| Utility Demand-Side-Management | The PUC is authorized to provide incentives for IOUs to provide DSM<br>***Created the Smart Grid Task Force to provide technical and policy recommendations to the public utilities. The final report included six topic areas: Challenges and Opportunities in Colorado; Workforce and Economic Development; Consumer Issues and Data Management; Distributed Energy Resources and Grid Management; Technical Specifications; and Grid Management.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Xcel Energy is required to meet approximately 0.38% of total electricity sales by 2013 through energy efficiency; an Energy Efficiency docket is pending at PUC (May 2008); legislation directs utility goals of reduction by 2018 of at least 5% of 2006 retail system peak demand and at least 5% of 2006 retail energy |
| Financial and Other Incentives | The Colorado Clean Energy Fund provides grants, loans and other financial incentives to attract manufacturers of energy efficient products to the state<br>• Creates a clean energy program fund (SB 184, Clean Energy Finance Program Act)<br>• Provides below market-rate clean energy loans in limited amounts to eligible homeowners for the purpose of financing clean energy and energy conserving home repairs, additions, or improvements<br>• Rural Clean Energy Project Finance program assists localities in financing eligible clean energy projects through issuance of private activity bonds<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1350, C.R.S. 30-20-601.5 et seq., SB 100)<br>***Established financing program for companies with building retrofit projects or that are directly involved in the renewable energy sector. The financing is intended to fill funding gaps or provide support to companies that have not been able to secure private investment (See also Clean Electricity and Clean Energy Economic Development).***<br>***Created rebate program for homeowners to purchase and install certain energy efficient appliances, heating equipment and weatherization materials (ARRA Funded).***<br>***Created the Green Colorado Credit Reserve , a loan program providing capital to small businesses for energy efficiency retrofits in business offices or manufacturing facilties (See also Clean Energy Economic Development).***<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector economic development (See also Clean Electricity and Clean Energy Economic Development).*** |

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Clean State Energy Actions • 2011 Update

# COLORADO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Created an improvement district comprised of the entire state and authorized the improvement district to issue up to $800 million in bonds to fund PACE financing programs (HB1328 – See also Clean Electricity).***<br>***Required builders of single-family homes to offer certain water efficient appliances if the buyer is under contract (HB 1358).***<br>**The Governor's Energy Office established a pilot program offering grants to retrofit the current homes of homeowners selling their house and moving to a more energy efficient home (H.B. 11-1160).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | 20% by 2020 for investor-owned utilities (minimum 4% of total electricity from solar, half of which must be on-site with consumer), 10% by 2020 for electric cooperatives, and 10% by 2020 for municipal utilities (no solar requirement)<br>***Updated RPS to require 30 percent of Colorado's electricity come from renewable energy sources by 2020. 3 percent must be from local solar power providers.*** |
| Net Metering and Interconnection Standards | IOUs - Systems up to 2 MW in capacity that generate electricity using qualifying renewable-energy resources are eligible for net metering; interconnection rules are based on the FERC interconnection standards for small generators (three levels of interconnection standards)<br>• Requires municipal utilities with more than 5,000 customers and all cooperative utilities to offer net-metering (HB 1160)<br>• Residential systems up to 10 kW in capacity and commercial and industrial systems up to 25 kW to be credited monthly at the retail rate for any net excess generation their systems produce; and<br>• Co-ops and municipal utilities are authorized to exceed these minimum size standards<br>• Amended the net metering rules for investor-owned utilities as they apply to solar electric systems (SB 51)<br>• Changes include shifting the maximum system size for solar electric systems from 2 MW to 120% of the annual consumption of the site;<br>• Redefines a site to include all contiguous property owned by the consumer; and<br>• Allows system owners to make a one-time election in writing to have their annual net excess generation carried forward as a credit from month to month indefinitely, rather than being paid annually at the average hourly incremental cost for that year |
| Advanced Coal and Clean Coal | The Colorado PUC is required to consider proposals of utilities to build plants using IGCC technology; allows utilities to recover extra costs associated with this technology |
| Public Benefits Funds | The Colorado Clean Energy Fund (see below) |
| Shale Gas Development, Regulation and Policy | **Enacted a law that set disclosure requirements for the content as well as the concentrations of all chemicals used in fracking.** |
| Financial and Other Incentives | The Colorado Clean Energy Fund provides grants, loans and other financial incentives to attract manufacturers of renewable energy products to the state<br>Provides the Renewable Energy Property Tax Assessment, which disregards the additional cost of renewable technology property relative to nonrenewable property |

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| Financial and Other Incentives (continued) | Xcel provides the following incentives: for systems up to 100 kW, they provide a base $2/watt rebate for solar electric generation; systems under 10 kW receive an additional $2.50/watt to purchase RECs for compliance with the solar carve-out in the state's RPS; systems 10 kW-100 kW purchase RECs for $115/MWh; purchase of RECs for larger systems (100 kW 200 MW) is based on a power purchase agreement; the Colorado Clean Energy Fund offers a $1/watt rebate with participating partners if they provide a matching $1/watt rebate for a total of $2/watt solar PV (up to $6,000) and small wind rebate (up to $10,000) in areas not served by IOUs; the Colorado Clean Energy Fund offers a $0.50/watt equivalent rebate for solar domestic hot water systems with participating partners if they provide a matching $0.50/watt for a total of $1/watt equivalent solar domestic hot water rebate (up to $1,500)<br>• Solar thermal (non-electric) systems added to the list of renewable energy equipment eligible for the property tax exemption; all sales, storage, and use of components used in solar thermal systems made exempt from the state's sales and use tax<br>• Renewable energy and energy efficiency loan program for schools to fund renewable energy projects and battery-powered and hybrid-electric bus projects in qualified school districts<br>• Local governments allowed to provide the same incentives for solar thermal installations as provided for solar electric installations; all components used in solar thermals systems used to heat or cool a building, water or a manufacturing process to be exempt from sales taxation<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1350, C.R.S. 30-20-601.5 et seq., SB 100)<br>• Requires builders of single family homes to offer solar as a standard feature to all prospective homebuyers (HB 1149)<br>• Builders required to give buyers the option to either have a photovoltaic (PV) system or a solar water heating system installed on their new home, or to have all the necessary wiring and/or plumbing installed so that they can easily add a solar system at a later date<br>• Builders also required to provide buyers with a list, maintained by the Governor's Energy Office, of every solar installer in the area, so the buyer can obtain expert help in determining if their home's location is suitable for solar and what the estimated cost savings would be<br>***Companies with building retrofitting projects or that are directly involved in the renewable energy sector are eligible to obtain financing from the Governor's Energy Office.***<br>***Required municipal electric utilities serving more than 40,000 customers to offer a green-power program that allows retail customers the choice of supporting emerging renewable technologies.***<br>***Required Colorado electric utilities to provide customers with a comparison between photovoltaic (PV) systems to any proposed distribution line extension. Only customers with peak demand less than 25 kilowatts (kW) are eligible.***<br>***Provided rebates through the Governor's Energy Office for qualifying renewable energy systems at commercial and residential buildings.***<br>***Authorized counties and municipalities to offer property or sales tax rebates or credits to residential and commercial property owners who install renewable energy systems.***<br>***Created loans of over $100,000 for solar water heat, PV, wind and other distributed generation technologies.***<br>**Created a biomass working group to promote sustainable forest management and explore potential of woody biomass as an energy source. Also directed the PUC to study biomass as an energy resource for electricity and heating.** |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Created an improvement district comprised of the entire state and authorized the improvement district to issue up to $800 million in bonds to fund PACE financing programs (HB1328 – See also Energy Efficiency).***<br>***Required the state treasurer to transfer an amount equal to 50% of the clean technology income tax withholding growth to the clean technology discovery evaluation cash fund. Money from these funds are used to provide grants related to the clean technology industries (S.B. 11-047).***<br>***Allowed for the creation of community solar garden owned by a utility or any other for-profit or nonprofit entity or organization. The garden must have at least 10 subscribers who will receive kWh credits on their utility bills in proportion to the size of their subscription (HB 1342).***<br>***Exempted renewable energy property that is located on a property classified as residential, owned by the residential property owner, and produces energy that is used by the residential property from the state property tax (HB 1267).***<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector economic development (See also Clean Energy Economic Development).***<br>***Made rebates available to homeowners who install solar water heaters and solar or wind energy systems.***<br>***Extended the cap on the dollar amount that permitting authorities may charge for solar installations to July 1, 2018 . The cap is $500 for residential application and $1,000 for non-residential applications. For systems 2 MW and larger, the local government can charge no more than what it actually cost to issue the permit (HB 1199).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Personal income tax credit for purchase of or conversion to low-emission, ultra low-emission and zero-emission vehicles; provides a state income tax credit for hybrid electric vehicles, and allows hybrid electric vehicles to use HOV lanes; provides an income tax credit for the cost of construction, reconstruction, or acquisition of an alternative fuel fueling facility that is publicly accessible; fuel tax exemptions are granted for compressed natural gas (CNG) and liquefied petroleum gas (LPG) vehicle owners; vehicles, vehicle power sources, or parts used for converting a vehicle power source certified to federal low emissions vehicle standards or better are exempt from state sales tax<br>• Extended financial incentives available to purchasers of efficient motor vehicles out to 2015 (HB 1331)<br>• Consumers can claim up to $6,000 in tax credits for the purchase of a hybrid, plug-in hybrid or alternative fuel vehicle<br>• Individuals that convert a personal vehicle to plug-in hybrid technology can claim up to $7,500 |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Participant in the Climate Savers Computing Initiative |

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|---|---|
| Building Efficiency | All state facilities are charged with reducing overall energy use by at least 20% by the end of FY2011-2012; LEED certification is required for state buildings (LEED Gold for buildings over 5,000 square feet that receives at least 25% of its funding from the state); affordable housing projects must adopt and comply with a green building standard<br>***Required a reduction in greenhouse gas emissions and waste sent to landfills, as well as reduced consumption of paper, petroleum and bottled water; required agencies to include energy savings opportunities in their capital construction request, including use of third-party power purchase agreements; required agency directors to conduct an internal review at least annually to make sure their agency is on track to meet their targets.*** |
| Alternative Fuel and Vehicle Fleets | State fleets are required to utilize a blend of 20% biodiesel and 80% petroleum diesel (B20) by 2010; 10% of all state-owned by-fuel vehicles must use ethanol; offers a rebate for the purchase or conversion of alternative fuel vehicles for state use<br>• Department of Personnel required to purchase motor vehicles that operate on compressed natural gas, unless the cost of the vehicle is prohibitive |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; issued Climate Action Plan (2007); WCI observer; adopted a GHG goal of 20% reduction below 2005 levels by 2020 and 80% below 2005 levels by 2050 |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Bioscience Discovery Evaluation Grant Program provides grants to research institutions for biofuels research projects; NEED (New Energy Economy Development) grants are provided for innovative clean energy projects from the Colorado Clean Energy Fund; SIG (Solar Innovation grants) are provided for market transforming solar energy projects from the Clean Energy Fund; grants for biomass projects, geothermal feasibility studies and small hydro feasibility studies are also provided from the Clean Energy Fund<br>• Clean technology discovery evaluation grant program created in the Office of Economic Development and International Trade (OEDIT) for the purpose of improving and expanding the development of new clean technology discoveries at higher education research institutions<br>• Requires the OEDIT to administer the program and the director of the office to consult with a Colorado-based clean technology industry association in implementing the program<br>**Formed the Colorado Center for Renewable Energy Economic Development (CREED) to expand cleantech entrepreneurship with a partnership with U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) (See also Clean Energy Economic Development).** |

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Clean State Energy Actions • 2011 Update

# COLORADO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | The Green Jobs Working Group, a part of the 2007 Governor's Energy Office reorganization, released a Green Jobs Guidebook outlining different job opportunities in the green economy<br>• Created the Clean Technology Discovery Evaluation Grant program to support research and development at higher education institutions<br>***Provided funding through the Governor's Energy Office to companies with building retrofitting projects or that are directly involved in the renewable energy sector to fill funding gaps or provide support to companies that have not been able to secure private investment.***<br>**Formed the Colorado Center for Renewable Energy Economic Development (CREED) to expand cleantech entrepreneurship with a partnership with U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) (See also Clean Energy RD&D).**<br>***Created the Green Colorado Credit Reserve, providing loans for energy efficiency retrofits in small business offices or manufacturing facilties.***<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector's economic development (See also Clean Electricity).*** |

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|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for four categories of appliances<br>**Set new minimum efficiency standards for televisions, DVD players and other electronic products. Broadened circumstances when efficiency standards can be implemented for other products (SB 1243).** |
| Building Energy Codes | **Residential and Commercial:** 2003 IECC mandatory statewide (in the process of adopting the 2006 IECC with amendments)<br>• State building code now based on 2009 IECC. Commercial code also references 2009 IECC<br>• State required to adopt 2012 IECC within 18 months of publication<br>• Certain new residential buildings in the state that cost over $5 million required to meet LEED Silver certification or equivalent |
| Utility Demand-Side-Management | Utilities (2) are eligible for performance management fees; participating in ISO-New England's Forward Capacity Market<br>***Established a program under which Connecticut electricity customers that install energy efficiency equipment and reduce their energy use during peak hours may be eligible for a rebate based on the amount of kilowatt-hours (kWh) saved during peak hours.***<br>**Required utilities to implement demand-side management measures, including, but not limited to, energy efficiency, load management, demand response, combined heat and power facilities, distributed generation and other emerging energy technologies (SB 1243).** |
| Utility Rate Realignment | Rate decoupling in natural gas and electricity is underway; mandatory time-of-use rates, voluntary variable peak pricing is offered |
| Energy Savings Targets/Energy Efficiency Resource Standards | As part of CT's RPS, 4% of supply must come from distributed sources by 2010 (energy efficiency, load management, combined heat and power - Class III renewables) |
| Public Benefits Funds | The Department of Public Utility Control receives a per-kWh surcharge on ratepayer's utility bills that is dedicated to conservation, load management, research, development and commercialization efforts, education efforts, etc. - these funds are supplemented by additional sources<br>The Energy Efficiency Fund, funded by Connecticut's public benefits charge, provides home energy efficiency rebate programs to customers of The Connecticut Light and Power Company and The United Illuminating Company, Connecticut Natural Gas, Southern Connecticut Gas, and Yankeegas customers |

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| Financial and Other Incentives | Provides a sales and use tax exemption for certain energy efficiency products; residential Energy Conservation Loans are available for conservation improvements; revenue from $CO_2$ allowances under RGGI are invested in conservation programs<br>Connecticut's New Energy Technology program provides grants of up to $10,000 to applicants who submit promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy. Grants are awarded to as many as five "small firms" -- a firm that employs 30 or fewer people -- each year (See also Clean Electricity and Clean Energy RD&D).<br>**Launched a pilot program designed to help women- and minority-owned businesses reduce their energy costs and educate themselves about energy consumption. The program, conducted in five cities, offered 1,200 small business grants of up to $1,000 to help cover electricity costs. The program also offers education on energy efficiency and conservation (See also Clean Energy Economic Development).**<br>**Established a loan program for municipalities to finance energy efficiency and renewable energy projects, the costs of which are recovered by an assessment on the benefitted property (SB 1243).**<br>**Required the energy efficiency and renewable energy plans developed under current law to provide equitable funding for low-income neighborhoods (SB 1243).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | 20% by 2020 from Class I renewables, 3% from Class I or II, and 4% from Class III by 2010; the state's two electric distribution companies are required to enter into long-term electricity purchase agreements to obtain at least 150 MW of Class I renewable energy |
| Net Metering and Interconnection Standards | Interconnection guidelines for distributed energy systems up to 20 MW in capacity; net metering is required for customers that generate electricity using Class I renewable-energy resources, which include solar, wind, landfill gas, fuel cells, sustainable biomass, ocean-thermal power, wave or tidal power, low-emission advanced renewable-energy conversion technologies, and hydropower facilities up to 2 MW in capacity; net metering is also available for distributed generation units that operate on fossil fuels up to 50 MW and on other renewables up to 500 MW<br>**Established a program allowing municipal customers of electric companies to share net metering credits among buildings the municipality owns (SB 1243).** |
| Public Benefits Funds | The legislature has set a per-kWh charge on ratepayer bills to be dedicated for this purpose; Connecticut spends approximately $120 million per year in furtherance of developing programs and funding projects for renewable technologies through these funds |

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| Financial and Other Incentives | Provides a property tax exemption for "Class I" renewable energy systems and hydropower facilities that generate electricity for private residential use; provides a sales and use tax exemption for solar and geothermal heat pumps; the Community Innovations Grants Program is a test pilot program that provides eligible communities with a $5,000 block grant to support local public awareness and education projects that promote renewable energy; Connecticut's On-Site Renewable Distributed Generation Program provides grants to support the installation of systems that generate electricity utilizing solar photovoltaic, wind, fuel cells, landfill gas, low-emission advanced biomass-conversion technologies, run-of-the-river hydropower, wave or tidal power, or ocean-thermal power are eligible; offers grants and low-interest loans to retail end-use customers of electric distribution companies for the installation of customer-side distributed resources; the Connecticut Clean Energy Fund offers rebates for the installation of solar photovoltaic systems; Project 150 allows for the sale of advanced long-term contracts to assist in the financing of the clean energy projects underlying the contracts<br>***Provided grants of up to $10,000 to small firm who employ less than 50 people that are working on promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy through the Connecticut's New Energy Technology program (See also Clean Electricity).***<br>***Exempted equipment, machinery and fuels used to manufacture solar thermal (active or passive) systems, solar electric systems, wind-power electric systems, or geothermal resource systems from the state sales and use tax (H.B. 5435 – See also Clean Energy Economic Development).***<br>***Created the Connecticut Clean Energy Fund to fund approximately 550 residential projects and 50 non-residential projects to support solar hot water heating in the State.***<br>***Launched the Connecticut Solar Lease program which allows homeowners to lease a photovoltaic (PV) system, with fixed monthly payments, for a term of 20 years. Homeowners may choose an eligible installer to design and price a PV system. All electricity generated by a leased PV system reduces the homeowner's electric bill.***<br>***Established grants for commercial, industrial, nonprofit and government entities for PV installations between 50 and 200 kW.***<br>***Created low-interest loans for PV, wind, fuel cells and CHP/cogeneration with a capacity of between 50 kW and 65 MW. The maximum loan amount is $150,000.***<br>**Required electric companies to enter into long-term contracts to buy renewable energy credits (RECs) from zero-emission generators (SB 1243).**<br>**Required the Clean Energy Finance and Investment Authority to establish a program to promote residential photovoltaic systems under which participants can choose to receive an up-front payment or a payment tied to the power the systems produce (SB 1243).**<br>**Allowed electric companies to own up to 10 megawatts of renewable energy generating capacity (SB 1243).**<br>**Allowed municipalities to establish a loan program to finance energy efficiency and renewable energy projects, whose costs are recovered by an assessment on the benefitted property (SB 1243).**<br>**Created the Clean Energy Finance & Investment Authority, which administers the Clean Energy Fund, to facilitate private capital investment in clean energy projects by pursuing maximum leveraging of public dollars (SB 1243).** |

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| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | The governor set a goal that by 2020, 20% of all energy used and sold in the state, including fuel, will come from clean renewable resources; in addition, the governor set a goal that by 2020, state fossil fuel consumption will be reduced by 20% and all commercial transportation fuels sold in the state will be required to include a mixture of 20% alternative fuels; by 2010, 10% biofuel mixtures will be mandatory for the state vehicle fleet |
| Financial and Other Incentives | Provided a tax credit for the construction of, improvements to, or equipment for any compressed natural gas, liquefied natural gas, or liquefied petroleum gas refueling station or an electric vehicle recharging station; provides a tax credit for the incremental cost of purchasing a new dedicated compressed natural gas, liquefied natural gas, liquefied petroleum gas, or electric vehicle; provides a sales tax exemption for certain alternative fuel vehicles; provides grants to qualified biodiesel producers and distributors<br>• On November 10, 2009, the governor issued Executive Order 34 to create the Electric Vehicles Infrastructure Council; the Council consists of several state agencies and other stakeholders<br>• A draft report was issued on February 1, 2010, and a final report will be issued by September 1, 2010<br>***The Connecticut Department of Transportation and the Connecticut Center for Advanced Technology developed a plan to implement zero emissions buses on a state-wide basis. The plan includes the technological, facility and financial arrangements necessary to fully implement a zero emissions bus fleet.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | ***Created a requirement that agencies procure equipment and appliances that meet or exceed the energy conservation standards set forth in the federal Energy Policy and Conservation Act, and meet or exceed federal Energy Star standards.*** |
| Building Efficiency | Certain state construction projects must meet the state-developed design standards based on LEED or Green Globes<br>**Created a requirement for a 10% reduction in energy use in state buildings by 2013 and a 20% reduction by 2018 (SB 1243).** |
| Green Power Purchasing | State government must increase Class I renewable energy purchases to 20% of electricity used in 2010, 50% in 2020, and 100% in 2050; annual voluntary green power purchase of nearly 84 million kWh (12% of total annual electricity use) |

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| Alternative Fuel and Vehicle Fleets | State fleets must meet a 40 mpg efficiency requirements, and all state-owned alternative fuels vehicles are required to use alternative fuels; in considering bids for state contracts, a price preference of up to 10% is allowed for the purchase of AFVs, or for the purchase of vehicles powered by fuel other than a clean alternative fuel plus conversion equipment to convert the vehicles to dual or dedicated alternative fuel use; in addition, some municipalities have provided free parking for alternative fuel vehicles<br>***Established the Connecticut Clean Fuel Program which provides funding to municipalities and public agencies that purchase, operate, and maintain alternative fuel and advanced technology vehicles as well as funding for diesel retrofit technologies.***<br>***Required that at least 50% of all cars and light-duty trucks the state purchases to be hybrid electric vehicles, plug-in hybrid electric vehicles, or capable of using alternative fuel.***<br>***Established the Connecticut Clean School Bus Program that provides grants for municipalities and local and regional school boards for reimbursement of the cost of retrofitting school buses.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; requires coal-fired power plants to comply with an emissions rate equal to or less than 0.6 pound of mercury per trillion BTU of heat input, or alternatively, an emissions rate comparable to a 90% reduction in mercury emissions; power sector cap through RGGI; Connecticut Climate Change Action Plan (2005); RGGI participant; adopted CA vehicle emissions standards; school bus emissions reduction program<br>Established a greenhouse gas (GHG) labeling program for new motor vehicles model years 2009 and later that includes the vehicle's GHG score and the average GHG score for vehicles in the same class |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Provides funding to Connecticut institutions of higher education or Connecticut institutions of agricultural research for purposes which may include research to promote biofuel production from agricultural products, algae and waste grease, as well as biofuel quality testing; Connecticut Innovations, Inc., through the Clean Energy Fund serves as the state's entrepreneurial risk pool and financing vehicle for such projects; the Connecticut Hydrogen-Fuel Cell Coalition is responsible for developing a plan for fuel cell economic development<br>**Launched the Alpha program under the Connecticut Clean Energy Fund (CCEF) to provide up to $200,000 per clean energy technology project that is in the early stage development.**<br>**Established a three-year pilot program to develop combined heat and power and anaerobic digester projects by providing $2 million annually for each of the programs (SB 1243).**<br>***Provided grants of up to $10,000 to small firm who employ less than 50 people that are working on promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy through the Connecticut's New Energy Technology program (See also Clean Electricity).*** |

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|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | The Connecticut Clean Energy Fund, established in 2000, provides support to academic institutions for workforce development; required the Renewable Energy Investments Board, as of May 2008, to convene a working group on maximizing the use of solar energy with recommendations on workforce development and job creation<br>• Established the Green Jobs Partnership ("Green Jobs Council") with representatives from state agencies (environmental protection, economic development, education, transportation and labor), business and industry for the purpose of developing green job opportunities, public-private partnerships and job training programs (Executive Order 23)<br>• Connecticut has established a green chemistry and science advisory group<br>• Connecticut's College system has utilized federal funding to develop certificate credit programs and train students in the emerging fields of alternative and renewable energy<br>• The governor signed legislation (HB 5435, An Act Concerning the Recommendations of the Majority Leaders Job Growth Roundtable) that:<br>• Provides the following financial incentives: sales tax exemption for machinery, supplies and fuel used in renewable energy industries, personal income tax credits for green technology investments, loan reimbursement and training grants for education and careers in green technology;<br>• Establishes a Community-Technical College advisory board to assess training needs of unemployed residents; and<br>• Creates a Department of Economic and Community Development pilot program to encourage Connecticut small manufacturers implement green technologies and efficiency measures<br>• Exempted sales and use tax for equipment, machinery and fuels used to manufacture solar thermal (active or passive) systems, solar electric systems, wind-power electric systems, or geothermal resource systems (H.B. 5435)<br>**Launched a pilot program designed to help women- and minority-owned businesses reduce their energy costs and educate themselves about energy consumption and conservation. The program, conducted in five cities, offered 1,200 small business grants of up to $1,000 to help cover electricity costs (See also Energy Efficiency).**<br>**Established a green jobs task force to study the state's current and potential green jobs industry and corresponding workforce. Also provided for angel investor tax credits and applications to Connecticut Innovations (HB 6399).** |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste. Does not allow any public service company to charge rates which include costs associated with the construction of a nuclear power generating facility. Makes some cost and value provisions. |

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Clean State Energy Actions • 2011 Update

# DELAWARE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2000 IECC mandatory statewide<br>**Commercial:** ASHRAE 90.1-1999 mandatory statewide<br>**Residential:** 2009 IECC mandatory statewide takes effect 7/1/10<br>**Commercial:** ASHRAE 90.1-2007 mandatory statewide takes effect 7/1/10<br>Zero energy new home construction requirement by 2025<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to ASHRAE 90.1-2007*** |
| Utility Demand-Side-Management | • State Regulated utility proposed Energy Efficiency Blueprint in 2009 to promote demand response programs using smart thermostats and AMI enabled smart grid technologies<br>• Demand response programs currently included in PSC Rate case |
| Utility Rate Realignment | Decoupling mechanisms for natural gas and electric utilities currently before the PSC and should be implemented by December 2010 |
| Energy Savings Targets/Energy Efficiency Resource Standards | • Approved Energy Efficiency Resource Standards (EERS) that set goals for reduction of consumption and peak demand; 15% electricity and 10% natural gas savings by 2015 (SB 106) |
| Public Benefits Funds | • Delaware's SOS provider has an SBC that generates approximately $3.0M a year for renewable energy buy down programs, technology demonstration and research and development programs administered by the Delaware Energy Office |
| Financial and Other Incentives | The Delaware General Assembly established the Sustainable Energy Unit (SEU) in 2007 to provide a one stop service for energy efficiency and renewable energy services in all sectors and for all fuels; the SEU is designed to advance energy efficiency and renewable energy and promote customer-sited renewable energy generation; the SEU offers loans, grants, third party financing and other financial and programmatic tools for energy efficiency and renewable energy technologies; the full range of SEU services are found on the SEU website<br>***The Delaware Sustainable Energy Utility (SEU) established a program that offers cash incentives of up to $20,000 to Delaware businesses, non-profits, and governmental organizations that make energy efficiency improvements in existing buildings or new construction.***<br>***The Delaware Sustainable Energy Utility (SEU) issued $67.4 million in revenue bonds payable to state appropriations to finance energy efficiency improvements for five state agencies. Proceeds from the bonds will be used by Energy Service Companies ("ESCOs") to install the efficiency improvements that are expected to yield savings of over $26 million.***<br>***Transfered $5 million in proceeds generated by the public utility tax to a new Energy Efficiency Investment Fund, which will be used to finance energy efficiency projects that will reduce overall energy use and create jobs (HB 129).*** |

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Clean State Energy Actions • 2011 Update

# DELAWARE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Retail electricity suppliers are required to purchase 20% of the electricity sold in the state from renewable sources by 2019, of which 2% must come from solar photovoltaics; under Delaware's RPS, rural electric cooperatives and municipal utilities can opt out of the mandated portfolio requirements if they establish a green energy fund and a voluntary green power purchasing program<br>***Mandated that 25% of the electricity sold in the state from renewable resources by 2026 3.5% of that requirement must be from solar.*** |
| Net Metering and Interconnection Standards | Delaware's only investor-owned utility has six categories of interconnection guidelines based on system size, system type (inverter-based or rotating), and energy source (renewable or non-renewable); residential renewable-energy systems 25 kW or less, non-residential customers of DP&L that are 2 MW or less, and non-residential customers of DEC and municipal utilities that are 500 kW or less are eligible for net metering<br>• Extended net metering to facilities of 100 MW (or more on a case-by-case basis), gave ownership of the renewable energy credits to the customers-generators allowing them to request payment for all excess electricity generated at the end of the calendar year and expanded the program capacity limit from 1% to 5% of peak load (CDR § 26-3000-3001)<br>***Expanded the state's net-metering policy: (1) allows a customer to aggregate individual meters, (2) allows customers to participate in net metering via a community-owned system, (3) allows net-metered systems to provide up to 110% of a host customer's expected aggregate electrical consumption, (4) extends net metering to leased systems and systems owned by third parties, and (5) extends net metering to fuel cells using non-renewable fuels. Rules must be adopted and implemented by July 2011 (S.B. 267).*** |
| Public Benefits Funds | Delaware's Green Energy Fund supports the state rebate program that provides up to 50% of installation costs for photovoltaic, solar water heating, fuel cells, and wind turbine systems |
| Financial and Other Incentives | The state rebate program provides up to 50% of installation costs for photovoltaic, solar water heating, fuel cells, and wind turbine systems<br>• Revised the Green Energy Program incentives for both the Delaware Electric Cooperative and the Delaware Municipal Utilities; there are several exceptions for certain municipal utilities<br>***Expanded the Green Energy Fund to include projects that "develop or improve" renewable energy in the state, for 35% of the costs or up to $250,000 per project.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | • Grid-integrated electric vehicles can receive credit for the electricity they export to the grid as they are charging their vehicle; no net credit is obtained through this agreement |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | State agencies are required to purchase Energy Star qualified products if they are available competitively and within a reasonable time frame, and if they meet appropriate performance standards |

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Clean State Energy Actions • 2011 Update

# DELAWARE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | • Requires energy efficiency reductions of 10% by close of FY 2011, 20% by 2013 and 30% by 2015 (Executive Order 18)<br>• Buildings need to be benchmarked by the end of 2011 and report energy usage and carbon emissions annually |
| Green Power Purchasing | Bulk purchasing actions by the state for state facilities and school districts enabled a 5% green power purchase in FY2008 escalating to 6% in FY2010<br>• Recent bulk purchasing actions by the state for state facilities and school districts enabled a 32% green power purchase in 2011 and will continue for three years - saving the state over $11M |
| Alternative Fuel and Vehicle Fleets | Tax exemption for alternative fuels used for state (and federal) vehicles<br>• Requires a reduction in petroleum consumption and vehicle emissions by 25% and VMT's by 15% by the end of FY 2012 (Executive Order 18) |
| **GHG EMISSIONS** | |
| GHG Policies | RGGI state - with 10% by 2019 reduction target for the power sector; participant in Climate Registry; Delaware Climate Change Action Plan (2000) |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Delaware Green Energy Fund's Research and Development Program offers grants to projects that develop or improve renewable energy technology in the state; the Technology and Demonstration Program provides grants to projects that demonstrate the market potential for renewable technologies and accelerate the commercialization of these technologies<br>***Provided grants to renewable energy demonstration projects for up to 25% of equipment costs through the Green Energy Fund.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Created a Green Global Supply Chain Service to identify how businesses could participate in the green economy<br>• Launched the Green Talent Initiative to develop eco-knowledge networks in emerging industries<br>• Partnered with Delaware Technical and community college in green trades training program<br>• Formed partnership between Workforce Investment Board, DNREC and other agencies to participate in federal WIB grant opportunities<br>• Provided loans and grants to Fisker Automotive to re-open a shuttered GM plant to make plug in hybrid electric vehicles and putting potentially thousands of unemployed auto workers back into the workforce; additional aid was obtained through US DOE and ARRA funding to re-open the plant<br>***Expanded the Blue Collar Jobs Tax credit program by: eliminating the program's sunset provision, increasing the amount of the corporate or personal income tax credits, and including provisions to attract manufacturers of advanced clean energy technology power generating devices and systems, including solar, wind, and geothermal power devices and fuel cells (SB 40).*** |

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Clean State Energy Actions • 2011 Update

# FLORIDA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Requires energy-efficient consumer appliances to increase efficiency by 15% of current standards<br>• Authorized the newly created Florida Energy and Climate Commission (FECC) to develop and administer a consumer rebate program for specified energy-efficient appliances, adopt rules, and enter into contracts or memoranda of agreement with other state agencies and public-private partnerships (Statute 377.807) |
| Building Energy Codes | **Residential:** State developed code exceeds 2006 IECC and is mandatory statewide<br>**Commercial:** State developed code meets or exceeds ASHRAE 90.1-2004 and is mandatory statewide<br>• Requires at least 50% increase in energy efficiency of the "Florida Energy Efficiency Code for Building Construction" compared to provisions of "2007 Florida Building Code" by 2019<br>• ***Amended the Building Code to incorporate energy-efficient land use and greenhouse gas reduction (HB 7135)*** |
| Utility Demand-Side-Management | Cost recovery process exists |
| Utility Rate Realignment | Allows electric utilities to recover "prudent and reasonable" expenses for DSM programs approved by the Florida Public Service Commission (PSC)<br>• The PSC is permitted to allow a utility a 0.5% increased return on equity for exceeding 20% of annual load growth through energy efficiency measures |
| Financial and Other Incentives | Offers a sales tax holiday for energy efficient products<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 7179)<br>***The Florida Energy & Climate Commission created a program to provide venture capital funds to Florida companies to improve their energy efficiency or demonstrate the use of renewable technologies (See also Clean Energy Economic Development).***<br>***The Florida Energy & Climate Commission administered the ENERGY STAR Residential HVAC rebate program (HB 15b).***<br>***Localities in Florida have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The PSC has been requested to adopt a 20% RPS by 2020, with a strong focus on solar and wind energy<br>**Amended the definition of renewable electrical energy to include customer-sited, grid-connected renewable energy generation (SB 1346). Requires utilities to provide an energy audits (SB 2078).** |

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Clean State Energy Actions • 2011 Update

# FLORIDA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Three tiers of interconnection standards and net metering for up to 2 MW of capacity; customer net excess generation (NEG) is carried forward at the utility's retail rate (i.e., as a kilowatt-hour credit) to a customer's next bill for up to 12 months at which point, the utility pays the customer for any remaining NEG at the utility's avoided-cost rate while renewable energy credits (RECs) remain with system owner, and customers may sell RECs back to the utility; there is no stated aggregate capacity limit for net-metered systems |
| Advanced Coal and Clean Coal | • Authorized the Department of Environmental Protection to adopt rules for a Cap-and-Trade Regulatory Program (HB 7135, Florida Climate Protection Act) |
| Financial and Other Incentives | Provides a renewable energy production tax credit and a renewable energy investment tax credit; provides a sales and use tax exemption for renewable energy equipment*<br>The Solar Energy System Incentives Program provides rebates for the installation of a new photovoltaic system 2 kW or larger, a solar water heating system, or a solar pool heater*<br>• Further defined the rules for soliciting a rebate from the Solar Energy Systems Incentives Program<br>***Created the Capital Investment Tax Credit to provide an annual tax credit for 5% of eligible capital costs generated by qualifying renewable energy projects (maximum of 20 years).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | • Adopted the California Clean Car Standard (Statute 62-285.400)<br>• Created a Renewable Fuel Standard requiring that, beginning on December 31, 2010, all gasoline sold in Florida contain, at a minimum, 10 percent ethanol, by volume (HB 7135) |
| Financial and Other Incentives | Provided a sales and use tax exemption and an investment tax credit for 1) hydrogen powered vehicles and related materials, and hydrogen refueling stations ($2 maximum for all taxpayers); 2) materials used in the distribution of biodiesel (B10-B100) and ethanol (E10-E100), including refueling infrastructure, transportation, and storage ($1 million maximum each fiscal year for all taxpayers); Inherently Low Emission Vehicles and hybrid electric vehicles that are certified and labeled may be driven in HOV lanes at any time |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency Standards | • Adopted Climate Friendly Public Business requirements for the use of "green" products, lodging, vehicles, and fuel (Statute 286.29) |

*There is no more funding available for the ARRA funded Solar Energy Systems Incentives Program. The Renewable Energy Production Tax Credit, the Renewable Energy Technologies Investment Tax Credit, and the Renewable Energy Equipment Sales Tax Exemption have all expired.

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Clean State Energy Actions • 2011 Update

# FLORIDA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | Law encourages the use of solar technologies and energy efficiency strategies in state buildings when life-cycle costs indicate they are economically feasible; all new education facilities must include a passive solar design; the Department of Management Services has been directed to adopt the LEED-NC for all new buildings, and to strive for Platinum Level certification and must also renovate all existing buildings they own and operate on behalf of client agencies to earn certification under LEED for Existing Buildings (EB); all state agencies and departments under the direction of the Governor may not enter into new leasing agreements for office space that does not meet Energy Star building standards<br>• Requires that state agency leasing agreements for office space are allowed only if ENERGY STAR standards are met (HB 7135)<br>• Requires all new construction and renovation of state agency buildings to meet increased energy standards (HB 7135) |
| Alternative Fuel and Vehicle Fleets | State fleets are required to be fuel efficient and use biodiesel and ethanol when available |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce emissions to 2000 levels by 2017, 1990 levels by 2025, and 80% below 1990 levels by 2050; Phase One report of the Action Team on Energy and Climate Change completed in 2007 - Part Two is scheduled for October 2008; adopted CA vehicle emissions standards; state government goal to reduce emissions from state energy use 10% by 2012 and 40% by 2025 |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Farm to Fuel Grants Program provides grants for demonstration, commercialization, research and development of renewable energy technology or projects that produce bioenergy from Florida-grown crops or biomass; provides an investment tax credit for 75% of all capital, operation and maintenance, and research and development costs incurred in connection with an investment in hydrogen-powered vehicles and hydrogen vehicle fueling stations in the state, biodiesel, and ethanol, up to a maximum of $3 million in each fiscal year for all taxpayers<br>• Created the Florida Energy Systems Consortium comprised of experts from the State University System to share energy-related expertise and assist in developing a strategic energy plan for the state (HB 7135)<br>The Innovation Incentive Program provides resources for business projects that allow the state to compete effectively for high-value research and development. Includes alternative and renewable energy projects that: partner with a college or university, provide the state a minimum return on the investment, include matching funds and are located in Florida* |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Greenforce Florida working group promotes secondary and postsecondary career pathways in alternative energy and other green jobs<br>• Florida Energy Systems Consortium (FESC) works with the State University System to develop and implement a strategic energy plan, along with education and outreach programs to prepare a clean energy workforce (HB 7135) |

*There is no more funding available for the ARRA funded Solar Energy Systems Incentives Program. The Renewable Energy Production Tax Credit, the Renewable Energy Technologies Investment Tax Credit, and the Renewable Energy Equipment Sales Tax Exemption have all expired.

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Clean State Energy Actions • 2011 Update

# GEORGIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** Georgia State Energy Code, 2006 IECC with state amendments is mandatory statewide<br>**Commercial:** ASHRAE 90.1-2004 mandatory statewide<br>***Residential: Updated code to 2009 IECC with state amendments***<br>***Commercial: Updated code to ASHRAE 90.1-2007 with state amendments*** |
| Utility Demand-Side-Management | Georgia Power offers 10 pilot DSM programs reflecting an investment of approximately $10 million over the three-year life of these programs; Electric Membership Corporations offer a variety of DSM programs, collectively spending $11.6 million on DSM programs in 2006<br>• The Power Credit Single Family Program gives Georgia Power 15% of the net present value of the net benefits resulting from the program if 50% or more of projected participation is achieved<br>***The Public Service Commission approved Georgia Power's most recent Integrated Resource Plan. Seven DSM programs were certified including: residential lighting and appliance; residential existing homes; residential high efficiency new homes; residential refrigerator recycling; residential water heating; commercial custom incentive; and commercial prescriptive incentive.*** |
| Utility Rate Realignment | • A lost revenue adjustment mechanism is authorized for the implementation of DSM programs (OCGA 46-3A-9) |
| Energy Savings Targets/Energy Efficiency Resource Standards | The governor has established the Governor's Energy Challenge, which requires state facilities to reduce energy use 15% by 2020 and challenges individuals, businesses, local governments and others to meet or exceed this challenge through their own voluntary actions<br>***Seven state agencies met the Governor's Energy Challenge of a 15% energy reductions by 2020 (See also Lead by Example).*** |
| Financial and Other Incentives | Offers a four-day sales tax exemption for energy-efficient residential appliances, lighting, doors and windows; products must meet or exceed the federal Energy Star program requirements in order to qualify<br>Created the Clean Energy Property Tax Credit, a 35% tax credit for energy efficient building projects and lighting retrofits that achieve an energy reduction standard<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1388)<br>***Established the Green Communities Fund to provide low-interest loans of up to $250,000 to businesses and property owners for energy efficiency upgrades that reduce energy use by 20% or yield a 10-year return on investment.***<br>***Administered Residential Energy-Efficient Appliance Rebate Program that offers rebates for select Energy Star appliances installed in households.***<br>***Authorized the development of a Guaranteed Energy Savings Performance Contracting Program is being developed for state facility retrofits, including a pre-qualified list of energy savings companies and standard statewide contracts for agencies to use (See also Clean Energy Economic Development).***<br>***Administered competitive energy efficiency grants for local governments, state government, and industrial, commercial and residential sectors.***<br>***Localities in Georgia have suspended most PACE programs due to the the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# GEORGIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Interconnection standards are set for up to 10 kW (residential), 100 kW (commercial) with a limit on capacity of 0.2% of utility's peak load for previous year; customers are given a choice of net metering options |
| Advanced Coal and Clean Coal | The Georgia Carbon Sequestration Registry Act provides for a registry of offsetting reductions in greenhouse gases obtained by carbon sequestration |
| Financial and Other Incentives | Provides a sales and use tax exemption for biomass materials used in the production of energy, including the production of electricity and/or steam; established personal and corporate tax credits for renewable energy equipment and certain energy-efficient equipment installed and placed into service<br>• Exemption from sales and use tax for energy efficient products for a limited period of time<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1388)<br>***Created a 35% personal and corporate tax credits for clean energy equipment installed and placed into service.***<br>***The Public Service Commission is in process of working with Georgia Power to review proposals to add up to 50MW of solar PV at avoided cost. A 2015 in service date projected.***<br>***Extended the state's clean energy tax credit to December, 31 2014 and raised the aggregate limit of the credit from $2.5 million to $5 million (HB 346).***<br>***Localities in Georgia have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | ***Gasoline suppliers who provide fuel to distributors in the state must offer gasoline that is suitable for blending with fuel alcohol.*** |
| Financial and Other Incentives | Offered an income tax credit of up to 20% of the cost to purchase or lease a ZEV, including battery-only electric vehicles and hydrogen fuel cell vehicles; offered an income tax credit of up to 10% of the cost of a new AFV or up to 10% of the cost of converting the vehicle to operation on an alternative fuel; there is a tax credit to any business enterprise for the purchase or lease of each electric vehicle charger that is located in Georgia<br>• Provided for income tax credits for wood residuals diverted or transported to renewable biomass qualified facilities for a limited period of time<br>• Telecommuting tax credit of up to $20,000 for qualifying employers<br>Provides hybrid vehicles access to HOV lanes<br>***Provided assistance to companies that are considering locating alternative fuels production facilities in Georgia.***<br>***Exempted personal property used in, or for, the construction of an alternative fuel production facility from the state sales and use tax. Qualifying Alternative fuels must be derived from biomass materials.*** |

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# GEORGIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Building Efficiency | The Governor's Energy Challenge requires state facilities to reduce energy consumption 15% by 2020 (from 2007 baseline); Georgia General Assembly encourages, but does not require, the construction of energy efficient facilities<br>• Provides standards for state buildings, including optimizing energy performance, increasing demand for materials produced in the state, utilization of local and renewable energy sources, water conservation, protection of natural resources, and Energy Star designation (OCGA 50-8-18, Energy Efficiency and Sustainable Construction Act)<br>***Seven state agencies met the Governor's Energy Challenge of a 15% energy reductions by 2020 (See also Energy Efficiency).***<br>***Authorized the development of a Guaranteed Energy Savings Performance Contracting Program being developed for state facility retrofits, including a pre-qualified list of energy savings companies and standard statewide contracts for agencies to use (See also Clean Energy Economic Development).*** |
| Alternative Fuel and Vehicle Fleets | State agencies and departments are required to prioritize the procurement of high fuel efficiency and flexible fuel vehicles when such technologies are commercially available and economically practical |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; the Georgia Carbon Sequestration Registry Act provides for a registry of offsetting reductions in greenhouse gases obtained by carbon sequestration<br>***Established an income tax credit equal to 10% of the cost of the equipment and installation of diesel particulate emissions reduction technology equipment at any truck stop, depot, or other facility, available the first year the taxpayer places the equipment in use.*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Georgia Energy Innovation Center is dedicated to the development of Georgia-based clean energy technologies and businesses by attracting and linking academic research, commercialization and business development services, including the "One-Stop Shop" that streamlines business start-up services and facilities' access to available state funding and incentives<br>Created the Research and Development Tax Credit which allows companies to claim ten percent of a company's increased qualified research and development expense over its gross receipts as a credit |

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Clean State Energy Actions • 2011 Update

# HAWAII

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** Hawaii Model Energy Code exceeds 1995 Model Energy Code, voluntary statewide and mandatory in certain jurisdictions; Hawaii is in the process of developing a Tropical Energy Code that is being shared with the Pacific and Caribbean islands; 2008 legislation mandates solar water heaters for new homes starting in 2010<br>**Commercial:** Based on ASHRAE 90.1-1989 with state specific modifications, voluntary statewide and mandatory in certain jurisdictions; Hawaii is in the process of developing a Tropical Energy Code that is being shared with the Pacific and Caribbean islands<br>Provides priority permitting processes for construction projects that are LEED Silver, two Green Globes, or other comparable certification<br>• Updated building codes with adoption of IECC 2006 as a statewide building code<br>• Various counties have adopted IECC 2006: Maui, City and County of Honolulu<br>• Kauai has adopted IECC 2009 |
| Utility Demand-Side-Management | Cost recovery process exists for electric utilities<br>• Management and implementation of utility DSM was transferred to the Public Benefits Fee Administrator (§269-121) |
| Utility Rate Realignment | Provides for lost revenues<br>• Decoupling mechanism approved for the HECO Companies<br>• Renewable Energy Investment Program Surcharge was approved for the HECO Companies |
| Energy Savings Targets/Energy Efficiency Resource Standards | Under state RPS, utilities must meet 20% of sales with eligible resources, and energy efficiency is included as an eligible resource; under the Hawaii Clean Energy Initiative, the state set a goal in conjunction with USDOE to produce 70% of energy from clean, renewable sources by 2030<br>• Mandates energy efficiency portfolio standards (EEPS) of 4300 gigawatthours (GWH) by 2030 (HB 1464) |
| Public Benefits Funds | Starting in 2008, a third party administrator began operating a fund under the Public Utilities Commission |
| Financial and Other Incentives | Provides priority permitting processes for construction projects that are LEED Silver, two Green Globes, or other comparable certification<br>• Hawaii Public Utilities Commission (PUC) established a feed-in tariff program to be offered by the three investor-owned utilities: HECO, MECO and HELCO<br>• As a home rule state, allows counties to create special improvement districts for financing a variety of projects, including Property Assessed Clean Energy (PACE) financing<br>**Directed the Public Utilities Commission to investigate an On-Bill Financing Program for residential electric utility customers to finance purchases of energy efficient or renewable energy devices and systems through their regular electric utility bills. Also authorized the Commission to implement a program by decision and order or by rules if the program is found to be viable (HB 1520 – See also Clean Electricity).** |

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# HAWAII

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | **Authorized the Public Utilities Commission to take into consideration the need to reduce the state's reliance on fossil fuels through energy efficiency and increased renewable energy generation when considering utility system capital improvements, despite the increased short-term costs (SB 1482 – See also Clean Electricity).**<br>**Created a requirement that at least ten percent of funds appropriated for school repair and maintenance be set aside and used to fund the repair, maintenance, and upgrading of school facilities to meet green building standards (HB 1639).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires the state's public utilities to provide 20% of their electricity from renewable sources by 2020; each electric utility company that sells electricity for consumption in Hawaii must establish the following percentages of "renewable electrical energy" sales: 10% of its net electricity sales by December 31, 2010; 15% of its net electricity sales by December 31, 2015; and 20% of its net electricity sales by December 31, 2020; under the Hawaii Clean Energy Initiative, the state set a goal in conjunction with USDOE to produce 70% of energy from clean, renewable sources by 2030<br>• Amount of renewable electrical energy generation required by utilities increased to 25% by 2020 and 40% by 2030 (Amendment to HB 1464)<br>• Hawaii's RPS includes renewable energy generation and energy efficiency savings in achieving the RPS goals until the end of 2014<br>• Beginning in 2015, the RPS will include only renewable energy generation<br>The Hawaii Public Utilities Commission established a feed-in tariff in Hawaii. Several renewable energy technologies are eligible for the feed-in tariff, including solar photovoltaics (PV), concentrating solar power (CSP), on-shore wind and in-line hydropower. Under this program, qualified projects will receive a fixed rate over a 20-year contract. There are three tiers for rates, with the tiers and rates differentiated by technology and system size.<br>**Amended the definition of renewable electrical energy to include customer-sited, grid-connected renewable energy generation (S 1346).** |
| Net Metering and Interconnection Standards | Simplified interconnection procedures for net metering are available for solar, wind, biomass and hydroelectric systems up to 50 kW in capacity on Kauai and 100 kW in capacity on the other islands; net metering is available on a first-come, first-served basis to residential and "small commercial" customers (including government entities) that generate electricity using solar, wind, biomass or hydroelectric systems; the PUC is considering a new docket to expand net metering across the state |
| Public Benefits Funds | Starting in 2008, a third party administrator began operating a fund under the Public Utilities Commission<br>• The Hawaii Energy Efficiency Program and administration of the public benefits funds programs transitioned from the utilities to a third-party administrator (§269-121) |

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Clean State Energy Actions • 2011 Update

# HAWAII

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Hawaii Energy Tax Credits allow individuals or corporations to claim an income tax credit of 20% of the cost of equipment and installation of a wind system and 35% of the cost of equipment and installation of a solar thermal or photovoltaic system; 2008 legislation mandates solar water heaters for new homes starting in 2010<br>An amount of $5,000,000 was appropriated to develop a photovoltaic, net metered pilot project in the schools for the 2006-2007 fiscal year<br>• Renewable energy technologies income tax credit amended to make the credit refundable for certain taxpayers, prohibits special allocations of the credit by pass-through entities, and prevents passive activity losses from including a depreciation deduction<br>• As a home rule state, allows counties to create special improvement districts for financing a variety of projects, including Property Assessed Clean Energy (PACE) financing<br>***Established loans of up to 85% of the project cost for agriculture and aquaculture-based PV, hydroelectric, wind power,methane generation, biodiesel, and ethanol projects. The loan maximum is $1,500,000 for a term of up to forty years.***<br>***Localities in Hawaii have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>**Directed the Public Utilities Commission to investigate an On-Bill Financing Program for residential electric utility customers to finance purchases of energy efficient or renewable energy devices and systems through their regular electric utility bills. Also authorized the Commission to implement a program by decision and order or by rules if the program is found to be viable (HB 1520 – See also Energy Efficiency).**<br>**Established a working group to study the feasibility of requiring all new single-family residential construction to incorporate design elements and minimal equipment installation to make them photovoltaic-ready at the time of construction (SB 181).**<br>***The Public Utilities Commission approved feed-in tariffs (FITs) for Hawaiian Electric Company (HECO) and its subsidiaries for renewable energy resources up to 500 kilowatts in size.***<br>**Exempted third-party owners and operators of on-site renewable heat and energy generating equipment from being regulated as public utilities by the Public Utilities Commission (S 704).**<br>**Authorized the Public Utilities Commission to take into consideration the need to reduce the state's reliance on fossil fuels through energy efficiency and increased renewable energy generation when considering utility system capital improvements, despite the increased short-term costs (SB 1482 – See also Energy Efficiency).** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | **Required all public, private, and government parking facilities with at least one hundred parking spaces to designate at least 1% of the spaces specifically for EVs by December 31, 2011. One of the parking spaces must be located near the building entrance and must be equipped with an EV charging unit.** |

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Clean State Energy Actions • 2011 Update

# HAWAII

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Consumption Targets/Renewable Fuel Standards | Goal that 85% of gasoline will contain 10% ethanol (2006); the state is responsible for supporting the attainment of an alternative fuels standard that will be as follows: 10% of highway fuel use to be provided by alternative fuels by 2010, 15% by 2015, and 20% by 2020 |
| Financial and Other Incentives | Provides an ethanol production incentive equal to 30% of nameplate capacity for qualifying facilities producing between 500,000 and 15 million gallons per year<br>Goal to further the state's transition to energy independence by defining hydrogen as a transportation fuel and allocating funds for the development of Hawaii's hydrogen industry through investment in the state's hydrogen infrastructure, integration of hydrogen powered vehicles into the state's automotive fleet, establishment of a hydrogen public awareness campaign, and the advancement of the construction of hydrogen demonstration refueling stations<br>• Established the Transportation Energy Transformation Grant Fund Program (SB 1202)<br>• Development of non-fossil fuel transportation established as a state policy goal (SB 1202)<br>• Requires the designation of parking spaces for electric vehicles and provides penalties for parking a nonelectric vehicle in reserved spaces<br>**Restricted any common interest development, from prohibiting or restricting the installation or use of an electrical vehicle charging station (SB 209).**<br>**Directed the energy resources coordinator to conduct a study and issue a preliminary and a final report on the conditions and policies necessary to expand biofuel production in the state to displace a significant amount of petroleum-based liquid fuel (HB 146).**<br>***Created the Hawaii EV Ready Rebate Program to provide rebates for the price of Electric Vehicles and Electric Vehicle Supply Equipment. EV rebates are in the amount of 20% of the vehicle purchase price, up to $4,500.***<br>**The Hawaii Public Utilities Commission created a pilot program offering customers lower off-peak electric rates for charging electric vehicles.**<br>***Offered a tax rebate for at-home Electric Vehicle Supply Equipment. The rebate is for up to 30% of charging system cost, including installation, up to a maximum of $500.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Agencies should use life-cycle cost-benefit analysis to purchase energy efficient equipment, using utility rebate programs whenever possible to reduce costs; agencies are required to purchase environmentally preferable, resource-efficient products and materials |
| Building Efficiency | • Present data collection and analysis of state agencies' electricity consumption and costs are used to identify and compare consumption patterns<br>• By the end of 2010, state agencies are to evaluate the energy efficiency of all existing public buildings that are larger than 5,000 square feet or use more than 8,000 kilowatt-hours (kWh) annually (HB 1464)<br>• Opportunities for increased energy efficiency must be identified by setting benchmarks for these buildings using Energy Star Portfolio Management or another similar tool<br>• Buildings must be retro-commissioned every five years |

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Clean State Energy Actions • 2011 Update

# HAWAII

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | Agencies must also track vehicle data such as fuel consumption, EPA fuel economy ratings, and acquisition cost, and use alternative fuels when available; newly purchased light-duty vehicles must be 20% more energy efficient in 2006, 30% in 2007, and 40% in 2008 with a 5% increase each subsequent year until vehicles are 75% more energy efficient; maintains a biofuels preference in the state procurement law<br>• Requires state and county agencies to follow a priority list when purchasing energy-efficient vehicles, including electric vehicles, includes requirements for developing an electric vehicle infrastructure (HB 2175) |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; statutory goal to reduce statewide emissions to 1990 levels by 2020; Climate Change Action Plan (1998)<br>• Global warming task force created to assess the impacts of climate warming trends on the visitor industry, intrastate and interstate air and sea transportation of cargo and persons, existing buildings and the public utilities infrastructure, the health of people, and native plants, animals, and ecosystems (Act 234, Hawaii's Global Warming Solutions Act) |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Offers a 100% tax credit on an equity investment in a qualified high tech business that conducts more than 50% of its activities in qualified research in non-fossil fuel energy-related technology - energy produced by wind, solar energy, hydropower, geothermal resources, ocean thermal energy conversion, wave energy, hydrogen, fuel cells, landfill gas, waste to energy, biomass including municipal solid waste, and biofuels<br>***Created the Hydrogen Investment Capital Special Fund to provide seed capital for, and venture capital investments in, private sector and federal projects for research, development, testing, and implementation of the Hawaii Renewable Hydrogen Program, which manages the state's transition to a renewable hydrogen economy.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • The Hawaii Clean Energy Initiative connects reducing dependence on imported fossil fuels with supporting a variety of clean energy jobs<br>• Workforce Development Council released the "Green Workforce Report: State of Hawaii" in October 2009<br>• Creating a job training program for employment in the transportation, green construction, sustainable agriculture, recycling and waste reduction and electricity generation sectors |
| **OTHER** | |
| Nuclear Power | Currently has a moratorium on the construction of new nuclear power plants. Also requires legislative ratification for their commission's decision to license a nuclear power plant. |

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Clean State Energy Actions • 2011 Update

# IDAHO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC mandatory statewide<br>**Commercial:** 2006 IECC mandatory statewide<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| Utility Rate Realignment | Decoupling in electricity markets |
| Financial and Other Incentives | The Idaho Department of Water Resources administers low-interest loan programs for energy efficiency projects<br>Residents with homes built or under construction before 1976, or who had a building permit issued before 1976, qualify for an income tax deduction for 100% of the costs of installing new insulation<br>***Created the K-12 Energy Efficiency Project to provide building process changes, mechanical system tune-ups, and the installation of hard measures implemented through building envelope, lighting, mechanical and water savings retrofits to schools.***<br>***Developed Appliance Rebate Program to distribute rebates to residential citizens who replace a working appliance with a new ENERGY STAR appliance.***<br>***The Office of Energy Resources administered sub-grants totaling $7,364,522 to 72 cities and counties for energy efficiency and renewable energy technology projects throughout the state (See also Clean Electricity).*** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Each of the state's three investor-owned utilities has developed a net-metering tariff that has been approved by the Idaho Public Utilities Commission |
| Shale Gas Development, Regulation and Policy | ***Established temporary rules, approved by the Oil & Gas Conservation Commission, to limit gas drilling operations to four wells per square miles and set parameters for hydraulic fracturing. The Department of Lands will write permanent rules to replace the temporary rules after the 2012 Legislature has reviewed them.*** |

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Clean State Energy Actions • 2011 Update

# IDAHO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | The Idaho Department of Water Resources administers low-interest loan programs for active solar, wind, geothermal, hydropower and biomass energy projects<br>Independent developers may request financing from the state bonding authority for renewable energy projects<br>Provides an income tax deduction of 40% of the cost of a solar, wind, geothermal, and certain biomass energy devices used for heating or electricity generation; provides a property tax exemption for wind and geothermal energy producers (in lieu of a property tax, producers must pay a tax of 3% of their gross energy earnings); offers a sales-and-use tax rebate for qualifying equipment and machinery used to generate electricity from fuel cells, low-impact hydro, wind, geothermal resources, biomass, cogeneration, solar and landfill gas<br>***The Office of Energy Resources administered sub-grants totaling $7,364,522 to 72 cities and counties for energy efficiency and renewable energy technology projects throughout the state (See also Energy Efficiency).***<br>***Dedicated $1.5 million for 12 projects through the Renewable Energy Enterprise Zone (REEZ) program. REEZ is designed to spur economic growth and job creation by encouraging renewable energy development collaboration between local authorities and energy developers (See also Clean Energy Economic Development).***<br>***Offered grants through the Solar Panels for Schools Project for the purchase and installation of large solar electric net-metered equipment systems on up to 15 public schools.***<br>***Granted the Idaho Land Board authority to reach longer-term lease agreements, negotiate rent and royalties over a wide area instead of one lease at a time. One bill also allows the Board to set bonding for each phase of a geothermal project (H.B 52, 53,54,56).***<br>***Created the Idaho Energy Primer, an educational booklet written by the Idaho Strategic Energy Alliance, designed to provide information on the sources, production, distribution and use of energy in the state to help Idaho citizens and businesses make informed decisions about our energy future.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | The Rural Idaho Economic Development Biofuel Infrastructure Matching Grant Fund was established to provide grants for up to 50% of the cost of installing new fueling infrastructure dedicated to offering biofuels for retail sale, or for upgrading existing fueling infrastructure in order to be compatible with biofuels for the purpose of offering biofuels for sale<br>Qualified fueling infrastructure is eligible for up to a 6% tax credit; offers a tax deduction to licensed motor fuel distributors based on the renewable content of the fuel |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | The state is in the process of developing purchasing efficiency standards for state agency purchased appliances and equipment |
| Building Efficiency | Agencies are beginning to include Energy Star rating requirements in bid proposals for new office space and eventually this will be required for all agencies<br>• ***To the extent feasible and practical, all major facility projects must be designed, constructed and certified to meet an energy efficiency target of at least 10% to 30% better efficiency than a comparable building on a similar site (HB 422, Energy Efficient State Building Act)*** |

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Clean State Energy Actions • 2011 Update

# IDAHO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Green Power Purchasing | Some individual agencies participate in voluntary Green Power programs offered by utilities |
| Alternative Fuel and Vehicle Fleets | Executive Order No. 2007-21 establishes a policy to reduce fossil fuel use and GHG emissions from state vehicles by establishing minimum purchasing requirements for fuel and operating efficiencies |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Climate Action Plan in progress; GHG inventory is a component of the Climate Action Plan; WCI observer |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | ***Created a public-private partnership between the state, universities, private companies and other partners to create the Energy Efficiency Research Institute to focus on the science, policy and implementation of energy efficiency.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Dedicated $1.5 million for 12 projects through the Renewable Energy Enterprise Zone (REEZ) program, designed to spur economic growth and job creation by encouraging renewable energy development collaboration between local authorities and energy developers.*** |

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Clean State Energy Actions • 2011 Update

# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Commercial:** 2006 IECC and 2004 ASHRAE 90.1 mandatory statewide<br>**Residential:** 2009 IECC is mandatory statewide<br>**Commercial:** 2009 IECC is mandatory statewide<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE Standard 90.1-2007, mandatory statewide***<br>• ***Incorporated the 2009 IECC for residential buildings and privately funded commercial buildings and ASHRAE 90.1-2007 for publicly funded commercial buildings into Illinios Energy Conservation Code. Local governments may adopt more stringent codes for commercial buildings.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Goal that energy efficiency should account for 25% of demand growth by 2015 (voluntary)<br>• The Energy Efficiency Portfolio Standard requires a savings of 0.2% of energy delivered in 2008, increasing to an annual savings of 2% up to 2015 (SB 1592, Illinois Power Agency Act)<br>• Natural gas savings target that begins with 0.2% savings by May 31, 2011, and ramps up to 1.5% in 2019, providing cumulative savings of 8.6% in 2020<br>Included a requirement in their Energy Efficiency Portfolio Standard for electric utilities to implement cost-effective demand response measures to reduce peak demand by 0.1% over the prior year for eligible retail customers |
| Utility Demand-Side-Management | ***The Illinois Statewide Smart Grid Collaborative (ISSGC) issued its final report containing its recommendations regarding smart grid policy and implementation issues.*** |
| Public Benefits Funds | The Energy Efficiency Trust Fund supports energy-efficiency upgrades for low-income residents, new construction and building retrofits, window upgrades, appliance upgrades, lighting upgrades, insulation and other efficiency measures |
| Financial and Other Incentives | The Illinois Clean Energy Community Foundation provides grants, on a competitive basis, to programs and projects that improve energy efficiency, develop renewable-energy resources, and preserve and enhance natural areas and wildlife habitats in Illinois; provides grants through the Energy Efficient Affordable Housing Construction Program to non-profit housing developers who include energy efficient building practices in the rehab or new construction of affordable housing units<br>Required the Capital Development Board, along with the Department of Commerce and Economic Opportunity, to initiate a study of building energy performance measures to identify a label for a building or facility that indicates its energy use (S 3429)<br>The Manufacturing Energy Efficiency Program targets manufacturers with energy costs greater than $500,000 per year and provides rebates to manufacturers of 50%, up to $10,000, towards the cost for developing an energy efficiency action plan and 50%, up to $10,000, for the cost of a technical assessment<br>The Green Business Building Pilot Program will provide grants of up to $100,000 per facility for design assistance for private-sector construction projects that meet a minimum LEED Gold standard and achieve energy performance of at least 20% above the minimum energy code, while achieving minimum standards for best practices in solid waste management |

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# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • The Illinois Finance Authority (IFA) provides loan guarantees to eligible renewable energy and energy efficiency projects to lower the cost of financing<br>• The IFA is authorized to provide up to $3 billion in "Additional Security" loan guarantees or bonds to help facilitate the development of renewable energy and clean coal projects in Illinois (Act 96-0103)<br>• This authorization was expanded to provide this "Additional Security" support for energy efficiency projects (Act 96-0817)<br>• The Illinois Treasurer's Office Green Energy Program encourages energy efficient development and improvements by offering low-interest loans to businesses, non-profit organizations and local governments in Illinois<br>• The Treasurer's Office secures below-market interest rates for borrowers who finance their purchase or installation of energy efficient and renewable energy equipment at participating lenders; projects can range from $10,000 to $10 million<br>***The Illinois State Board of Education established an Energy Efficiency Grants program, a dollar-for-dollar state matching grant program for energy efficiency projects in schools, offering $50 million in grants. The application deadline closed in January 2011.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,000 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030 – See also Clean Electricity and Clean Energy Economic Development).*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Goal to supply 25% of electricity from renewable sources by 2025, with 75% of the renewable energy from wind; the RPS ramps up over time to 2025; currently at 5-6% this calendar year; covers both the major utilities and the alternative retail electric suppliers<br>• Starting June 1, 2015, at least 6% of the renewable energy resources used to meet these standards shall come from solar photovoltaics (Act 96-0159)<br>***Authorized the state's utility companies to enter into long-term power purchase agreements with renewable energy generators to count toward fulfilling the state's Renewable Portfolio Standard. The new contracts for renewable energy include both solar photovoltaic and wind generation.*** |
| Net Metering and Interconnection Standards | Net metering is available to electric customers that generate up to 2 MW of electricity using solar energy, wind energy, biomass energy and hydropower, and fuel cells and microturbines powered by renewable fuels; in the rulemaking process for interconnection standards for all distributed generation up to 10 MW |
| Advanced Coal and Clean Coal | Provides bond funds for new IGCC facilities; tax incentives for new large businesses or for power plants (including gasification); includes credits or exemptions to sales and use tax, income tax, retailer's occupation tax, and electricity excise tax<br>• Created the Carbon Capture and Sequestration Legislation Commission to make a report to the General Assembly by December 31, 2010, concerning specified legislation (Act 096-0754)<br>***Authorized the Illinois Finance Authority to issue bonds for clean coal projects (SB 1906).***<br>***Authorized the Chicago Clean Energy project, a $3 billion coal gasification project that will be located on a brownfield site. The project aims to reduce carbon emissions, while creating 1,500 jobs and saving consumers more than $100 million over the next several years (See also Clean Energy Economic Development).*** |

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# ILLINOIS

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|---|---|
| Public Benefits Funds | The Renewable Energy Resources Trust Fund supports renewables through grants, loans and other incentives |
| Financial and Other Incentives | The Wind Energy Production Development Program provides financial assistance up to $25,000 for the development of new wind energy production projects of at least 0.5 MW of nameplate capacity<br>Created the School Wind and Solar Generation Program to provide full or partial low-interest loans wind and solar generation projects for school and community college districts. Projects can include engineering studies, feasibility studies, research studies, and construction costs (SB 1570).<br>Solar energy equipment is valued at no more than a conventional energy system for property tax purposes<br>• Businesses that intend to establish a new wind power facility in Illinois may be considered high impact businesses and qualify for certain occupation tax exemptions (SB 1923)<br>• The Illinois Finance Authority (IFA) provides loan guarantees to eligible renewable energy and energy efficiency projects to lower the cost of financing (Act 96-0817)<br>• The IFA is authorized to provide up to $3 billion in "Additional Security" loan guarantees or bonds to help facilitate the development of renewable energy and clean coal projects in Illinois (Act 96-0103)<br>• This authorization was expanded to provide this "Additional Security" support for energy efficiency projects<br>• The Illinois Treasurer's Office Green Energy offers low-interest loans to businesses, non-profit organizations and local governments in Illinois<br>• The Treasurer's Office secures below-market interest rates for borrowers who finance their purchase or installation of energy efficient and renewable energy equipment at participating lenders<br>• Projects can range from $10,000 to $10M<br>• Allows for Property Assessed Clean Energy (PACE) financing, with detailed program specifications to be determined (Act 96-0481)<br>***Created the Lake Michigan Offshore Wind Energy Advisory Council to review the potential for offshore wind energy projects. The Council will identify areas that might be appropriate for offshore wind development and present its recommendations to the governor and the legislature by June 30, 2012. Also allowed counties to establish wind farm districts.***<br>***Exempted building materials incorporated into wind powered facilities from state and local sales tax.***<br>***Authorized the Illinois Finance Authority to issue tax-exempt bonds for renewable energy projects (including transmission) that provide a significant public benefit for the citizens of Illinois.***<br>***Prohibited homeowners' associations, common interest community associations and condominium unit owners' associations from preventing homeowners from using or installing solar energy systems.***<br>***Localities in Illinois have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,00 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030 – See also Clean Energy Economic Development).*** |

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# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Goal to replace 50% of the state's energy supply with homegrown fuels by 2017<br>Increased the percentage of biodiesel blend required to be used by a diesel powered vehicle owned by the State or units of local government of the State when refueling at a bulk central fueling facility from 2% to 5% (HB 2535) |
| Financial and Other Incentives | Created the Renewable Fuels Commission to recommend strategies for promoting the use of alternative fuels and vehicles that utilize alternative fuels (H 4245)<br>Offers a $1,000 rebate for the purchase of a new hybrid or other fuel efficient vehicles; $500,000 in funding is available for the Illinois E85 Clean Energy Infrastructure Development Program to establish new E85 fueling stations at retail gasoline facilities in Illinois; provides a rebate for 80% of the incremental cost of purchasing an AFV (up to $4,000), 80% of the cost of federally certified AFV conversions (up to $4,000), and for the incremental cost of purchasing alternative fuels<br>Illinois Clean School Bus Program provides funding to assist schools and school districts to reduce emissions from diesel-powered school buses through emission control retrofits, implementation of cleaner fuels, including biodiesel, propane, and natural gas<br>***Allowed Individuals to register an EV at a discounted registration fee of no more than $18 per year.***<br>***The Illinois Tollway Congestion-Relief Program included a Dedicated Green Lanes Plan that will provide access to qualified hybrid electric vehicles.***<br>***Amended the Alternative Fuels Act to: require a specified sum of the amount that is appropriated for rebate programs under the Act during specified fiscal years to be designated to fund a grant program to support the adoption of electric vehicles; and authorize the Environmental Protection Agency to make grants for the purchase of electric vehicles (HB 2903).***<br>***Created the Plug-In Vehicle Initiative to prepare the state's electric grid and natural gas distribution network for the adoption of electric and natural gas vehicles.***<br>***Established the Alternate Fuels Commission to identify and recommend strategies to the governor and General Assembly for implementing and promoting the use of alternative fuels and alternative fuel vehicles.***<br>***Applied sales and use taxes to only 80% of the proceeds from the sale of fuels containing 10% ethanol.***<br>***Established a grant program to provide up to 25 percent of a project's total cost that will help eligible car-sharing organizations purchase and use electric cars in their fleets (HB 2903).***<br>***Created the Illinois Electric Vehicle Advisory Council to recommend strategies to encourage the use of electric vehicles (HB 2902).***<br>***Illinois and South Korea partnered to advance smart gird projects with an emphasis on clean energy and technology deployment. Energy related research is also a key focus on the project, with an emphasis on the development of renewable technologies (See also Clean Energy R&D).***<br>***Created a rebate for the cost of converting a conventional vehicle or a hybrid vehicle to an alternate fuel vehicle (H 6047).*** |

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# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | • Requires every state-owned building to establish a green cleaning policy whereby the building purchases and uses only environmentally-sensitive cleaning products (Green Cleaning for State Facilities Act)<br>• The adoption of such policy is only required if the transition does not increase the cleaning costs<br>• Established several Lead-by-Example initiatives including a goal to attain a 10% reduction in office paper consumption by July 1, 2010, when compared to paper consumption for fiscal year 2008 (Executive Order 11-2009)<br>• By July 1, 2012, agencies shall achieve a 20% reduction in office paper consumption from fiscal year 2008 levels |
| Building Efficiency | • Requires all state-funded building construction and major renovation to seek LEED, Green Globes, or equivalent certification of the highest level within the project budget (HB 1013, Green Buildings Act)<br>• Agencies to employ cost-effective efficiency measures to reduce electricity consumption and natural gas consumption at State-owned facilities by 25% each by July 1, 2025, as compared to fiscal year 2008 levels (Executive Order 11-2009)<br>• Goal to divert at least 20% of their solid waste from disposal facilities by July 1, 2012, referenced to the 2010 baseline, and divert at least 40% by July 1, 2015, referenced to the 2010 baseline, through source reduction, recycling and composting activities (Executive Order 11-2009)<br>***Created a requirement that each public university set a goal of reducing its footprint for power, gas, and water consumption by at least 15% within 2 years (HR 120 – See also GHG Emissions).***<br>***Created the School District Intergovernmental Cooperation Renewable Energy Act which allows multiple school districts to form a joint action agency for the purpose of acquisition, construction and operation of renewable energy facilities (H 6419).*** |
| Green Power Purchasing | Goal for state agencies to purchase 3% of their power from renewable sources by the end of 2007, 4% by the end of 2008, and 5% by the end of 2009<br>• Goal for agencies shall seek to purchase sufficient quantities of energy certified by Green-e or generated from renewable energy sources in Illinois so that 50% of the overall annual electrical energy requirements of buildings owned or leased by agencies will be met through these technologies by July 1, 2015, increasing to 100% by July 1, 2025 (Executive Order 11-2009) |
| Alternative Fuel and Vehicle Fleets | State fleets are required to use a 2% biodiesel blend (B2) when refueling at bulk central fueling facilities; all gasoline-powered vehicles purchased from state funds must be flexible fuel vehicles or fuel efficient hybrid electric vehicles<br>• Goal to achieve a target of 20% reduction in petroleum use in the operation of State vehicles by July 1, 2012, when compared to fiscal year 2008 levels (Executive Order 11-2009)<br>• By July 1, 2015, at least 20% of new passenger vehicles purchased for the state fleet shall be hybrid and 5% purchased shall be electric, rising to at least 60% hybrid and 15% electric by July 1, 2025 (Executive Order 11-2009)<br>***The governor signed a memorandum of understanding Mitsubishi Motors North America to support the advancement of electric vehicle and renewable energy technologies in Illinois. As part of the agreement, Illinois will receive a limited number of Mitsubishi Motors "i" battery electric vehicles to evaluate on a temporary basis as part of the state's fleet.*** |

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Clean State Energy Actions • 2011 Update

# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Goal to reduce emissions to 1990 levels by 2020 and 60% below 1990 levels by 2050; Illinois Climate Change Advisory Group (June 2007); goal to reduce emissions from state energy use 6% by 2010 (joined Chicago Climate Exchange)<br>***Mandated that each public university in the state have a target goal of reducing its expense footprint for power, gas, and water consumption by at least 15% within 2 years or show how it has previously met this goal (HR 120).*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Illinois Ethanol Research Advisory Board's manages and operates the National Corn-to-Ethanol Research Center (NCERC) Pilot Plant that aims to reduce the cost of new production technologies, equipment, processes, feedstocks, and new value added co- and by-products; the Renewable Fuels Research, Development, and Demonstration Program promotes and expands the use of biofuels such as ethanol and biodiesel as clean, renewable transportation fuels, and accelerates the commercialization of new renewable fuel technologies and products<br>***Launched Smart Grid Illinois in partnership with South Korea to advance smart grid projects with an emphasis on clean energy and technology deployment.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Created the 21st Century Workforce Development Fund to provide competitive grants to support workforce development activities to prepare individuals for occupations in the energy efficiency and renewable energy industries<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Directed the Illinois State Board of Education to establish a grant program to develop two-year pilot programs to assist in the creation and promotion of green career and technical education programs in public secondary schools.***<br>***Created the Higher Education Green Jobs and Technology Act to further promote collaboration between the state and Illinois' colleges, universities and research centers focused on green technology. This may include the development of courses and initiatives to align green job programs with employer needs (HB 166).***<br>***Provided grants for the construction or expansion of biodiesel and ethanol production facilities. The grant awarded may be up to 10% of the total construction costs of the facility or $4 million, whichever is less.***<br>***Authorized the Chicago Clean Energy project, a $3 billion coal gasification project that will be located on a brownfield site. The project aims to reduce carbon emissions while creating 1,500 jobs and saving consumers more than $100 million over the next several years.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,000 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030).*** |

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Clean State Energy Actions • 2011 Update

# ILLINOIS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **OTHER** | |
| Green Governments Coordinating Council | • The Green Governments Coordinating Council (GGCC) established (SB 46, Green Governments Illinois Act)<br>• Implements the state's Lead-by-Example sustainability programs<br>• Oversees development of state agency sustainability plans and serves as a resource for state agencies, local governments, and educational institutions working to green their operations and policies |
| Nuclear Power | Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste. Also requires legislative ratification for their commission's decision to license a nuclear power plant.<br>Created the Nuclear Power Issues Task Force to study and compile nuclear power issues. The Task force is to report its findings and recommendations by January 1, 2010 (SJR 4)<br>***Enacted measures which: increased fees paid by Exelon to fund upgrades to remote monitoring systems at each reactor site; hired additional nuclear safety experts; and updated vital nuclear safety equipment (HB 1723).*** |

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Clean State Energy Actions • 2011 Update

# INDIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** state developed code based on 1992 MEC, mandatory statewide<br>***Residential: State developed code based on 1992 MEC, mandatory statewide***<br>***Commercial: Updated code to 2010 Indiana Energy Conservation Code, referencing ASHRAE Standard 90.1-2007, as amended, for commercial buildings and residential buildings with more than 3 dwelling units*** |
| Utility Rate Realignment | Decoupling in natural gas markets; one electric utility decoupled |
| Financial and Other Incentives | • Several utility rebate programs exist throughout the state provided by separate rural electric cooperatives<br>Provides up to $1 million in tax credits for individuals and small businesses investing in Energy Star compliant equipment<br>• Offers homeowners and small business owners a state income tax credit, up to $100, for the purchase of Energy Star rated equipment as of January 1, 2009<br>• Offered more than $8 million to county and city governments for lighting and structural retrofits<br>Promotes energy efficiency and conservation through ongoing education and outreach programs (compact fluorescent light bulb give-aways, anti-idling events, and energy conservation education); Purdue University's TAP Energy Efficiency Services program is educating large, industrial commercial, and institutional energy users on energy efficiency and conservation |
| **CLEAN ELECTRICITY** | |
| Renewable/ Alternative Energy Portfolio Standard | ***Created a Clean Energy Portfolio Standard, which set a voluntary goal of 10% clean energy by 2025, based on 2010 levels.*** |
| Net Metering and Interconnection Standards | Three levels of interconnection standards; investor-owned utilities are required to offer net metering to residential customers and K-12 schools for solar, wind and hydroelectric projects with a maximum capacity of 10 kW<br>• Utilities are required to offer net metering to customers who generate their own electricity from renewable sources and buy back the surplus electricity of the renewable energy producers (SB 300) |
| Advanced Coal and Clean Coal | Provides financial incentives for clean coal projects using Illinois Basin coal or gas including clean coal at new or existing facilities and advanced technologies that reduce air emissions from existing facilities; also allows a coal gasification investment tax credit<br>***Expanded definition of renewable energy resources to include low temperature, oxygen starved gasification of municipal solid waste, methane recovered from landfills for the production of electricity, coal bed methane derived from a naturally occurring biogenic process and makes them eligible for financial incentives for clean coal and energy projects (SB 66).*** |

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Clean State Energy Actions • 2011 Update

# INDIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Offers residential homeowners a rebate for installing geothermal heat pumps<br>• Established the geothermal conversion revolving loan fund (HEA 1669)<br>Systems that generate energy using solar, wind, hydropower or geothermal resources--including geothermal heat pumps--are exempt from property tax; provides tax incentives to encourage capturing methane gas from Indiana landfills and utilizing it to generate electricity; Indiana has granted companies $190 million in tax-exempt certificates to upgrade and construct low emission facilities<br>The Alternative Power and Energy (APE) Grant Program provides a matching fund grant to non-profit, public and commercial entities to support the purchase and installation of alternative energy systems that offset fossil fuel usage and encourage public education (provided over $700,000 for the purchase of alternative energy systems)<br>• The Indiana Office of Energy Development (OED) offered $879,000 in grants to support the expansion of alternative energy technology; the Alternative Power and Energy Grant Program (APE) projects are to be fully constructed and operating by May 31, 2010<br>***Created the Indiana Solar Thermal Grant Program that offers public institutions, nonprofit organizations and commercial entities that use over 100,000 gallons of hot water per year a grant that covers 25% of the cost of solar water heat, up to $25,000.***<br>***Allowed value assessed deductions for wind power devices of customers participating in net a metering program offered by a utility (S 481).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Infrastructure Enhancement and Evaluation | • Maintains 102 E85 and 13 B20 biofuel pumps along the I-65 corridor as part of the U.S. DOE's Clean Cities Program<br>• Established a Biofuels Corridor, open as of October 2008, runs from Lake Michigan to the Gulf of Mexico |

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Clean State Energy Actions • 2011 Update

# INDIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | AFV and EV manufacturers are eligible for tax credits of up to 15% of the qualified investment for which the credit is claimed (See also Clean Energy Economic Development); offers a production tax credit of $0.125 per gallon of ethanol produced; offers a biodiesel production tax credit of credit of $1.00 per gallon<br>Grants of up to $5,000 are available toward the purchase of new E85 refueling equipment or the conversion of existing equipment to allow for E85 refueling<br>• An E85 retailer is entitled to a credit against the state gross retail tax in the amount of $0.18 per gallon of E85 sold<br>• Municipal corporations or special taxing districts are entitled to a monthly E85 incentive payment if at least 75% of the motor fuel purchased<br>• Biodiesel blenders located in Indiana are entitled to a credit of $0.02 per gallon<br>• A fuel retailer and distributes blended biodiesel for retail purposes is entitled to a credit of $0.01 per gallon<br>***Provided grants of up to $20,000 for installing new alternative fueling stations or converting existing fueling stations to dispense alternative fuels.***<br>***Offered grants of up to $2,000 to counties, cities, towns, townships, or school corporations to purchase original equipment manufacturer (OEM) Alternative fuel vehicles and for the cost of AFV conversions.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Five new state buildings have been constructed to LEED energy efficient certification standards<br>An Executive Order signed in June 2008 stated that all new state building construction and renovations should be completed with the highest energy efficiency that is cost-effective, based on life-cycle cost analyses; locally-sourced and historic materials were to be given additional value in the analyses; the building construction standards are to be based on nationally recognized standards such as ENERGY STAR, LEED, Green Globes or equivalent |
| Building Efficiency | State buildings located in Marion County, which encompasses Indianapolis, will purchase 10% of their energy from renewable energy resources by 2010; the state Strategic Energy Plan released in 2006 calls for increasing the percentage to 25% by 2025; the Indiana Department of Corrections is creating a wind-powered generator to help power a prison facility |
| Green Power Purchasing | Provides a price preference of 10% for the purchase of qualifying fuels; a state governmental body or educational institution must purchase bio-based products whenever possible; the state fleet includes 1,196 E85 Flex-Fuel vehicles and 1,889 diesel vehicles capable of using biodiesel; Indiana is leading the development of a $1.3 million development of a Bio-fuels corridor from Gary, IN to Mobile, AL<br>Allotted $10.1 million to convert hundreds of state and city vehicles to run on alternative fuels; the Indiana DOT will convert many light-duty trucks to run on bi-fuel propane and dump trucks to run on compressed natural gas; state educational institutions are required to purchase E85 blends and biodiesels; the state educational institutions are now eligible for the E85 fueling station grant program |

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Clean State Energy Actions • 2011 Update

# INDIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | Provides a price preference of 10% for the purchase of qualifying fuels; a state governmental body or educational institution must purchase bio-based products whenever possible; the state fleet includes 1,196 E85 Flex-Fuel vehicles and 1,889 diesel vehicles capable of using biodiesel; Indiana is leading the development of a $1.3 million development of a Bio-fuels corridor from Gary, IN to Mobile, AL<br>• Allotted $10.1 million to convert hundreds of state and city vehicles to run on alternative fuels (HEA 1554)<br>• The Indiana DOT will convert many light-duty trucks to run on bi-fuel propane and dump trucks to run on compressed natural gas<br>• State educational institutions are required to purchase E85 blends and biodiesels<br>• The state educational institutions are now eligible for the E85 fueling station grant program<br>***Created a requirement for each state entity to purchase or lease a clean energy vehicle, unless the purchase or lease of the vehicle is inappropriate for its intended use, or the purchase or lease would cost 10% more than a comparable non-clean energy vehicle.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Midwestern Regional Greenhouse Gas Reduction Accord observer |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Requires that the Center for Coal Technology Research investigate the use of coal bed methane as a renewable energy source and in the production of renewable and alternative fuels; the Energy Center at Purdue University is working on developing coal into combustible gases and liquids; the Indiana Twenty-First Century Research and Technology Fund provides grants and loans to support proposals for economic development in areas including alternative fuel technologies and fuel efficient vehicle production<br>Biomass and algae production systems required to be included in utility forecasting |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>AFV and EV manufacturers are eligible for tax credits of up to 15% of the qualified investment for which the credit is claimed (See also Alternative Fuels and Vehicles) |
| **OTHER** | |
| Environmental Stewardship Program | The Indiana Comprehensive Local Environmental Action Network (CLEAN) Community Challenge is a voluntary recognition program for local Indiana government; CLEAN helps communities take steps to plan, develop, and implement a quality of life plan; this plan includes gathering input and support from the community and local businesses |
| **CLEAN COMMUNITIES PROGRAM** | |

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Clean State Energy Actions • 2011 Update

# IOWA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2009 IECC, mandatory statewide<br>**Commercial:** 2009 IECC with reference to ASHRAE 90.1-2007<br>• Made energy-related modifications to the state building code by providing for training, administration, and enforcement of energy conservation requirements<br>- Included provisions for single or two-family residential construction<br>- Provided for training to builders and contractors |
| Utility Rate Realignment | Utilities may propose natural gas decoupling |
| Energy Savings Targets/Energy Efficiency Resource Standards | Recent legislation contains provisions requiring non-rate regulated utilities (i.e. municipals and co-ops) to submit to the IUB assessments of potential energy and capacity savings to be achieved through energy efficiency programs; each utility must report an energy efficiency goal and must provide the Iowa Utilites Board with a progress report by January 1, 2010; by January 1, 2012, each such utility must file a report of its progress to these goals to the IUB<br>• MidAmerican Energy was the first utility to receive approval by the IUB for their energy efficiency plan to achieve 1.5% electricity savings by 2010 and 0.85% natural gas savings by 2013 |
| Financial and Other Incentives | • Established an Energy City Designation Program and provided funding from loans and grants for energy reduction projects, building construction and rehabilitation (Code 473.41)<br>• The Office of Energy Independence established a community grant program for energy efficiency projects (SF 452) |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Enrolled 2008 legislation provides that the Iowa Utility Association conduct a technical study of the potential for achieving renewable generation by 2025; this must be presented to the Office of Energy Independence by December 1, 2008; requires its two investor-owned utilities to own or to contract for a combined total of 105 MW of renewable generating capacity and associated energy production, which can include small hydropower facilities, and which is allocated between the two utilities based on each utility's percentage of their combined estimated retail peak demand in Iowa |
| Net Metering and Interconnection Standards | There is no explicit net metering rule; however, net metering is implicit under an Iowa Utilities Board sub-rule under which net metering is available to all customer classes of Iowa's two investor-owned utilities who generate electricity using alternate energy production facilities (with an unofficial individual limit of 500 kW); review of interconnection standards in progress by the Iowa Utilities Board<br>***Applied Interconnection standards to distributed generation facilities of up to 10 MWs that are not subject to the interconnection requirements of the Federal Energy Regulatory Commission (FERC), the Midwest Independent Transmission System Operator, Inc. (MISO), or the Mid-Continent Area Power Pool (MAPP).*** |

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Clean State Energy Actions • 2011 Update

# IOWA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | A production tax credit is available for energy generated and sold by eligible wind energy generators and other renewable energy facilities, including biomass and solar; the market value added to a property by a solar or wind energy system is exempt from the state's property tax; exempts from the state sales tax the total cost of wind and solar energy equipment and all materials used to manufacture, install or construct wind energy systems<br>Legislation provides that 1) the tax credits approved in 2005 and in 2006 for alternative energy are extended for such generation from the current July 1, 2009, to July 1, 2012, and 2) such credits can be used not only against income tax liability, but against sales tax and against the utility replacement property tax as well<br>• The Alternate Energy Revolving Loan Program received an additional $5 million from the sale of state bonds for deposit in the fund<br>• Wind energy generating systems up to 330 MW, increased from 180 MW, are eligible for the production tax credit (SF 456)<br>• The facility was granted 12 additional months, for a total of 24, to become operational if delayed by equipment availability issues<br>• Iowa enacted one of three bills establishing small wind innovation zones; the two pending bills will carry over to the 2010 session (HF 810)<br>***Extended and altered the renewable energy production tax credit to promote small-scall wind and biogas facilities by limiting the credit to individual facilties 5 MW or less, limiting total capacity to 50 MW, and allowing generators to receive RECs even if power is used on-site (Hb 672).***<br>***Exempted real and personal property used to decompose waste or utilize it for energy from property taxation for 10 years.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | RFS goal to replace 25% of gasoline in the state with biofuels (ethanol or biodiesel) by January 1, 2020; enrolled 2008 legislation provides 1) that renewable fuels infrastructure is expanded to include blender pumps, 2) increased funding for biodiesel terminals from $50,000 to $100,000, and 3) tasks the Office of Energy Independence to create a renewable fuels marketing plan and a marketing campaign for owners of flexible fuel vehicles; participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Infrastructure Enhancement and Evaluation | • Provides for the dispensing of ethanol blended gasoline by authorizing the use of a secondary containment dispensing pump under specified conditions, requires compatibility, includes provisions for E-85 fuel (Iowa Code 455G.31)<br>• Iowa Office of Energy Independence (OEI) developed a renewable fuels marketing plan to promote the state's biofuels industry (HF 2689) |

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Clean State Energy Actions • 2011 Update

# IOWA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | A state cost-share program provides financial incentives for the installation or conversion of E85 refueling infrastructure and biodiesel storage facilities; the Renewable Fuel Infrastructure Program provides cost-share grants and supplemental incentives to E85 retailers and biodiesel wholesale distributors<br>Provides a tax credit to retail service stations at which more than 60% of the total gallons of gasoline sold through metered pumps are blended with ethanol or 50% of diesel sales are at least B2 biodiesel blends<br>Grants, loans, and tax credits are also available for alternative fuel production<br>• Iowa's Alternate Energy Revolving Loan Program provides loans for up to 50% of the cost of biomass or alternative fuels related fuel production projects, up to $250,000 (SF 376)<br>***Increased the amount of the Renewable Fuel Standard (RFS) incentive given to a retail station for meeting the Iowa RFS and provided additional incentives to retailers who meet the RF schedule established in 2006.***<br>***Extended the E-85 Promotion Credit at a stable level until December 31, 2017; created a new promotion tax credit for each gallon of E15 sold and provided an additional 3 cents for blends between E-15 and E-69.***<br>***Eliminated the 50% requirement for biodiesel tax credit eligibility and provided 4.5 cents per gallon on B5 blends.***<br>***Created a three-year biodiesel production incentives for biodiesel plants.***<br>***Provided $3 million per year for infrastructure such as blender pumps, E85, or biodiesel.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | State agencies must reduce energy use in buildings by an average of 15% by 2010, relative to their energy use in 2000; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |
| Building Efficiency | State agencies must obtain at least 10% of their electricity from renewable energy sources by 2010<br>***Created a requirement for the state to reduce energy use in its buildings 15% by 2015, relative to their energy use in 2008.*** |
| Green Power Purchasing | The state's light-duty vehicle fleets must consist of hybrid-electric vehicles and/or vehicles that use alternative fuels, with the exception of law-enforcement vehicles; bulk diesel fuel purchased by the state must contain 5% renewable fuel by 2007, increasing to 20% by 2010; by June 30, 2009, at least 60% of fuel purchases for the state's flexible fuel vehicles must be E85; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |

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Clean State Energy Actions • 2011 Update

# IOWA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | The state's light-duty vehicle fleets must consist of hybrid-electric vehicles and/or vehicles that use alternative fuels, with the exception of law-enforcement vehicles; bulk diesel fuel purchased by the state must contain 5% renewable fuel by 2007, increasing to 20% by 2010; by June 30, 2009, at least 60% of fuel purchases for the state's flexible fuel vehicles must be E85; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; voluntary GHG registry (publicly available in January 2009); Climate Action Plan will evaluate a range of policies for reductions of statewide greenhouse gas emissions, including the possibility of cutting emissions 50% by 2050, and recommending the best strategies for statewide emissions reductions; strategy for emissions data collection established January 2008<br>• The Iowa Climate Change Advisory Council released its final report in December 2008 with five key outcomes: 1) an Iowa Greenhouse Gas (GHG) Emissions Inventory and Forecast, 2) fifty-six different policy options to reduce GHG emissions, 3) evaluation of the direct costs and savings of the policy options, 4) two GHG Reduction Scenarios - a 50% and a 90% - and 5) proposed corresponding strategies |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Iowa Energy Center provides grants for renewable energy and energy efficiency to Iowa's college and universities, Iowa-based non-profit organizations, and Iowa-based foundations for energy research on topics that have strong relevance to Iowa (private sector research partnerships are encouraged); the $100 million Iowa Power Fund supports research, development, commercialization, and deployment of biofuels, renewable energy technologies, and energy efficiency technologies, while seeking to reduce GHG emissions; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>• Passed legislation regarding membership and administration of the Propane Education and Research Council and their activities related to energy efficiency (Rule 599) |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Provides loan funds to individuals and organizations that seek to build renewable energy production facilities<br>• Created the Iowa Green Jobs Task Force to coordinate workforce development and help manage ARRA funding (Executive Order 16)<br>• The Enterprise Zone Program and the High Quality Jobs Program offer state tax incentives to business projects for the production of biomass or alternative fuels<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy |

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Clean State Energy Actions • 2011 Update

# KANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** Realtors and homebuilders are required to fill out an energy efficiency disclosure form and provide it to potential buyers<br>**Commercial:** 2006 IECC for all commercial and industrial buildings, mandatory statewide |
| Utility Demand-Side-Management | Cost recovery process exists for electric utilities<br>• Energy efficiency programs are not required, but the Kansas Corporation Commission (KCC) stated they would collaborate with utilities exploring energy efficiency as a resource |
| Utility Rate Realignment | Decoupling for electricity and natural gas markets is in progress<br>• Will consider decoupling proposals from natural gas companies with concerns about revenue stability<br>• The KCC chose not to implement a decoupling mechanism in 2008 |
| Energy Savings Targets/Energy Efficiency Resource Standards | Kansas has set a voluntary goal for utilities to reduce energy use 10% by 2010; the governor set a goal of increasing energy efficiency by 5% in 2010 and 10% in 2020 |
| Financial and Other Incentives | The Kansas Energy Efficiency Loan Program (KEEP) provides loans to resident homeowners that can be used to purchase energy efficient HVAC and weatherization equipment, as well as certain energy efficient appliances<br>Efficiency Kansas offers a revolving loan program for residential and small business energy efficiency improvements run by the Kansas Energy Office, Efficiency Kansas offers low-cost financing through 105 participating banks and 21 utilities that allow on-bill repayment for efficiency upgrades<br>The Kansas Weatherization Assistance Program (WAP), operated by the Kansas Housing Resources Corporation, provides housing improvements that increase energy efficiency in low-income households; the KCC may grant an additional 50 to 200 basis points on the utility's allowed rate of return on investment in energy conservation and efficiency<br>**Launched the 2011 Take Charge! Challenge, a grant competition between 16 communities and two universities, to determine which can save the most energy between January and September 2011. The winning community in each region will win a renewable energy or energy efficiency project valued up to $100,000 (See also Clean Electricity).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Standards and Goals | ***Established a renewable portfolio standard in 2009 that requires the state's investor-owned utilities and cooperative utilities to generate a certain percentage of their electricity from eligible renewable resources, including 20% from peak demand by 2020. The Kansas Corporation Commission (KCC) established rules and regulations to administer the portfolio standard on October 27, 2010 (K.A.R. 82-16).*** |

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Clean State Energy Actions • 2011 Update

# KANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | • Customers of investor-owned utilities can use net metering to offset up to 25 kW for residential systems and up to 200 kW for non-residential systems (HB 2369)<br>• If the customer produces net excess generation during a one-month period, that amount is carried over to the next month at full retail value until it is absorbed by the utility at the end of the calendar year<br>• Customers are not subject to any additional charges for the service and are provided with a bi-directional meter at no cost<br>• Utilities must offer net metering up to one percent of their peak demand during the previous year<br>***Adopted rules to implement HB 2369 in July 2010. These rules, created by the Kansas Corporation Commission are limited, and include additional protection for the utility in the event of disruptive problems to the system caused by a net-metered facility.*** |
| Advanced Coal and Clean Coal | Tax credits for the development of new coal gasification facilities (12 year property tax exemption for new or expanded IGCC property and for purchased or installed IGCC property that complies with federal or state air emissions standards); enrolled 2008 legislation provides a property tax exemption for underground storage of carbon dioxide by allowing any carbon dioxide capture, sequestration, and utilization property and any electrical generation unit which captures and sequesters all carbon dioxide and other emissions to be exempt from all property taxes |
| Financial and Other Incentives | Provides a property tax exemption for renewable energy equipment; provides a property tax exemption for property with renewable energy generation facilities; provides income tax credits for investment in new renewable co-generation facilities and provides a property tax exemption for certain waste heat utilization systems<br>Requires electric utilities to pay no less than 150% of the utility's monthly system average cost per kWh to renewable energy producers with excess energy to sell; allows utilities to recover the cost of transmission construction through rate increases, subject to approval by the Kansas Corporation Commission; allows the formation of renewable energy co-ops consisting of five or more persons that produce at least 100 kW of renewable energy; has authorized two community colleges to install wind turbines for educational and electrical generation purposes; all renewable generation facilities, except nuclear, are exempt from the requirements of the Electric Generation Facility Siting Act<br>• Revised the state's recovery act in 2009 to provide economic incentives for solar and wind energy projects that invested at least $30 million in Kansas and provided full-time employment for 200 people within five years, at an average salary of at least $32,500<br>The wind and solar manufacturing tax incentives provides up to $5 million in bond financing for eligible projects<br>**The governor announced his Roadmap for Wind Energy in Kansas which: encourages commercial wind energy development as well as projects that expand transmission lines; continues to keep energy affordable; expands renewable energy production; and protects the environmentally sensitive Tallgrass Heartlands.**<br>***Created a revolving loan program to homeowners for up to $20,000 and to small business for up to $30,000 to help pay for renewable energy systems issued through the customer's utility or a partner lender. Customers have up to 15 years to repay the loan.*** |

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Clean State Energy Actions • 2011 Update

# KANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | **Created the Interagency Working Group for Wind Energy, made up of ten state agencies, to align priorities around wind energy planning and provide information to the governor on the status of wind energy development in the state. The Working Group also monitors transmission activities, develops strategies for fostering renewable energy development and identifies workforce issues.**<br>**Launched the 2011 Take Charge! Challenge, a grant competition between 16 communities and two universities, to determine which can save the most energy between January and September 2011. The winning community in each region will win a renewable energy or energy efficiency project valued up to $100,000 (See also Energy Efficiency).** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; established shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Financial Incentives--Loans, Rebates, Taxes, Bonds, Etc. | A licensed retail motor fuel dealer may receive a quarterly incentive for selling and dispensing renewable fuels, including biodiesel if a minimum percentage is sold: the incentive payment will increase on an annual basis from 10% for renewable fuel and 2% for biodiesel in 2009 to 25% beginning on January 1, 2024; provided a production incentive for qualified biodiesel and ethanol sold by a qualified Kansas fuel producer<br>Offered an income tax credit worth up to 40% of the incremental or conversion cost for qualified AFVs; offered an income tax credit for alternative fuel refueling stations; provided a 10% income tax credit for the first $10 million of qualified investment in equipment used to store and blend biofuels and petroleum-based fuels and a 5% credit for the amount of investment over $10 million; provided tax credits for retail dealers of biodiesel and renewable fuels; provided tax credits to distributors of renewable fuels--those in service between January 1, 1996, and January 1, 2005--who qualify for 50% of total expenditures up to $200,000 and those built after 2005 receive 40% of expenditures up to $160,000 (through 2008) or up to $100,000 after 1/1/2009; provided an income tax credit up to 40% of incremental/conversion costs of an AFV; provided a property tax exemption and Kansas Development Finance Authority financing for biomass to energy projects, excluding corn or grain sorghum; provided an income tax credit for new construction or expansion of a biomass-to-energy facility |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Participant in the Climate Savers Computing Initiative |
| Building Efficiency | The Facilities Conservation Improvement Program facilitates performance contracting in public buildings by connecting pre-approved Energy Service Companies to potential public sector clients |
| Alternative Fuel and Vehicle Fleets | A 2% or higher blend of biodiesel must be purchased for use in state-owned diesel powered vehicles and equipment; 75% of new light-duty motor vehicles acquired by the state fleet and its agencies, which are used primarily within a metropolitan statistical area or a consolidated metropolitan statistical area, are required to be AFVs; requires state agencies to purchase E85 flex fuel vehicles unless the cost of the vehicles is $250 more than the regular gasoline version; directs the Department of Administration to ensure that vehicles purchased and leased in 2010 are 10% more efficient than 2007 average and that the average EPA mileage rating for cars under the 2010 lease is at least 10% higher than the average under the 2007 lease |

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Clean State Energy Actions • 2011 Update

# KANSAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; the Kansas Energy and Environmental Policy Advisory Group will recommend steps that the state can take to reduce its GHG emissions, as well as a proposed timetable for implementation of those recommendations; WCI observer; participant in Midwestern Regional Greenhouse Gas Reduction Accord<br>• The Kansas Energy and Environmental Policy Advisory Group (KEEP) released their interim report in January 2009 with a final report due early 2010 |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | KSU and the Department of Agriculture are members of the North-Central Bioeconomy Consortium, a public sector partnership networking land grant institutions and state departments of agriculture to study biofuels and bio-based products; the Kansas Bioscience Authority provides R&D funding to government and private organizations investing in bioscience in Kansas<br>**Launched the University Economic Growth Initiative to provide $15 million for research in areas seen critical to growing the state's economy.** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • The Kansas Building Science Institute in Manhattan, Metropolitan Energy Center in Kansas City, and Neosho County Community College in Chanute have partnered with the state to offer training programs for energy auditors<br>• Additional funding designated for 100 full scholarships for the above training<br>• Kansas is a participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy |
| **OTHER** | |
| Nuclear Power | Public Service companies are not allowed to recover costs for excess nuclear capacity if there is no means of disposal of high-level nuclear waste available |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC and 2006 IRC with state specific amendments, mandatory statewide<br>**Commercial:** 2006 IECC and 2006 IBC with state specific amendments, mandatory statewide<br>• Department of Housing, Building and Construction (DBHC) will adopt a building code that achieves energy savings equivalent to the latest IECC (residential) and ANSI/ASHRAE/IESNA 90.1-2007 (commercial) and a plan to achieve compliance<br>• The DHBC estimates that 2009 IECC will be adopted by January 2011<br>• New 2009 Energy Code training program will provide energy efficiency code inspections in new construction, both commercial and residential, throughout the Commonwealth |
| Utility Demand-Side-Management | Utilities file DSM programs with the Kentucky Public Service Commission for cost recovery of approved activities<br>• The governor requested that the Kentucky Public Service Commission Chairman consider appropriate steps consistent with Kentucky law, American Recovery and Reinvestment Act (Section 410) and relevant PURPA requirements, to implement appropriate incentives for energy efficiency programs |
| Utility Rate Realignment | The state, through a contract with an outside vendor, conducted a study to determine potential financial, social, and economic impacts of alternative rate design structures and ratemaking methodologies |
| Energy Savings Targets/Energy Efficiency Resource Standards | Legislation enacted in 2008 directs a study of adoption of energy efficiency standards, with a report due November 30, 2008<br>• The Kentucky Public Service Commission (PSC) issued its report, Electric Utility Regulation and Energy Policy in Kentucky, with their findings and recommendations<br>• In response to the report, Kentucky published their Energy Plan, Intelligent Energy Choices for Kentucky's Future, which sets a target of meeting 18% of Kentucky's projected 2025 energy demand with increased efficiency<br>• Set the High Performance Building Standard that requires LEED certification of newly built or renovated state government buildings (200 KAR 6:070)<br>• The state will give priority to projects that include an expansion of existing energy efficiency programs including building and industry retrofits as well as an expansion of existing programs to support renewable energy projects and deployment activities |
| Public Benefits Funds | Legislation enacted in 2008 directs, as part of an RPS study, funding mechanisms for financing incentives for energy efficiency and renewable energy, including evaluation of public or benefit funds utilized by other states<br>• As part of the Kentucky Energy Plan, will determine the impact, surcharge amount and cost of establishing a public benefit fund |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Legislation enacted in 2008 establishes residential and commercial energy efficiency income tax credits for a percentage of installed costs of upgraded insulation, energy efficient windows and doors, and HVAC systems; also establishes tax credits for builders of Energy Star homes and purchasers of Energy Star manufactured homes; the state allows a sales tax exemption for manufacturers on the amount of sales or use tax paid on the purchase of new or replacement equipment for an energy efficiency project<br>• The Green Bank of Kentucky provides low-interest loans to state institutions for education, engineering analyses and building improvements that enhance energy efficiency<br>- The repayment of the loan is intended to come from future reduced energy usage<br>• Issuing approximately $4 million in rebates to residents who purchase Energy Star home appliances to replace older, less energy efficient models beginning April 2010 until the funding runs out<br>• The Governor's Office of Agricultural Policy is using ARRA funds to supplement tobacco settlement funding grants to multi-county collaboratives to enhance and advance renewable energy production at the farm level<br>• Awarding energy efficiency and renewable energy grants to industries locating or expanding operations in Kentucky that create or retain "green jobs" while saving energy and reducing carbon emissions<br>• Grants for local governments to improve the energy efficiency of local government buildings<br>• Kentucky's Public Service Commission will seek to implement a general policy that ensures utility financial incentives are aligned with helping customers use energy more efficiently and provides the utility with timely cost recovery and a timely earnings opportunity<br>• The Governor's Office of Agricultural Policy On-Farm Energy Efficiency and Production Program works to increase energy efficiency and opportunities for renewable energy improvements on Kentucky's farms and in farming communities<br>• Kentucky Housing Corporation, the State Housing Finance Agency, (KHC) in partnership with the Kentucky Department for Energy Development and Independence (DEDI) and Kentucky Revenue Cabinet has created KY Home Performance, a statewide $6.1 million dollar single family energy efficient retrofit program targeting households at 200% of poverty and above<br>• Kentucky's Clean Energy Corps set the goal of weatherizing 10,000 modest-income homes to make them 30% more efficient<br>• Since Feb. 2009, the state has weatherized approximately 4,200 low income housing units<br>• Kentucky Pollution Prevention Center performs energy analyses at industrial, commercial and institutional firms or organizations<br>• Establishing a program in partnership with electric utilities to explore development of smart grid concepts and their possible application in Kentucky |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Legislation enacted in 2008 directs a study of adoption of Renewable Portfolio Standards, with report due November 30, 2008<br>• Renewable and efficiency portfolio standard (REPS) denotes that 25% of Kentucky's energy needs will be supplied by 7% renewable energy sources and 18% reductions through energy conservation and efficiency (Kentucky's energy plan, Intelligent Energy Choices for Kentucky's Future)<br>• Set a target of producing 1000 MW of renewable energy by 2025<br>• Pending legislation regarding the enactment of a Clean Energy Portfolio Standard (HB 408, HB 3) |
| Net Metering and Interconnection Standards | Legislation enacted in 2008 expands the state's net metering laws by raising the cumulative cap that a utility needs to allow from 0.1% of load to 1% of load, adding power from wind, water and other renewables to the solar allowable systems, and requiring the development of standardized rules for interconnecting<br>• Small generators (up to 30kW) of wind energy, hydroelectric power and biomass or bio-gas power were included in the already existing net metering policies for solar<br>• The Kentucky Public Service Commission issued an order establishing interconnection and net metering guidelines applicable to all jurisdictional electric utilities in the state (KY PSC Order 2008-00169)<br>• Utilities were required to file net metering tariffs and application forms to comply with these guidelines |
| Advanced Coal and Clean Coal | The Public Service Commission is required to approve certain long-term contracts by utilities for synthetic gas from coal; 2007-enacted legislation also stipulates that coal gasification projects that are eligible for incentives under the Incentives for Energy Independence Act must be carbon capture ready; 2007-enacted legislation also provided funding for carbon capture and storage research; additional funding appropriated by 2008-enacted legislation will be directed toward research on carbon capture from coal-fired electric generating units<br>• Developing carbon capture and sequestration projects so that 50% of the state's coal-based energy facilities will have these management technologies by 2050<br>• State funds are appropriated annually for research projects relating to clean coal, new combustion technology, thin-seam coal extraction, safety, tracking and communication devices, coal slurry disposal, synthetic natural gas produced from coal through gasification processes, and the development of alternative transportation fuels produced by processes that convert coal or biomass resources or extract oil from oil shale, and other coal research<br>***Directed the Energy and Environment Cabinet to seek one to five projects demonstrating injection of carbon dioxide into geologic storage; provide a process for pooling of pore space necessary to create underground carbon storage reservoirs; create a process whereby ownership of and liability for stored carbon dioxide will pass to the federal or state government following a period of monitoring of the storage facility; and directs the Energy and Environment Cabinet to undertake discussions with surrounding states concerning accidental migration of geologically stored carbon across state lines (H.B. 259). Also requires annual reports (See also Clean Energy RD&D).*** |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Public Benefits Funds | Legislation enacted in 2008 directs, as part of an RPS study, funding mechanisms for financing incentives for energy efficiency and renewable energy, including evaluation of public or benefit funds utilized by other states<br>• As part of the Kentucky Energy Plan, will determine the impact, surcharge amount and cost of establishing a public benefit fund |
| Financial and Other Incentives | Provides low interest loans for the installation of solar water heaters<br>Legislation enacted in 2008 establishes the State Income Tax Credits for a percentage of installed costs of active and passive solar space heating systems, solar water heating systems, wind turbines, and solar photovoltaic systems<br>Incentives to companies that build or renovate facilities that utilize renewable energy<br>• Incentives for energy efficient alternative fuel facilities which make fuel from densified feedstock coal, waste coal or biomass that have higher energy content than the feedstocks without densification (HB 552 and 589, 2010, and KRS 154.27-010 to 154.27-090)<br>• The Public Service Commission will study natural gas retail competition programs to determine if benefits can be derived from these programs (HB 542)<br>• The Kentucky New Energy Venture Fund (KNEV) supports the development and commercialization of alternative fuel and renewable energy products, processes, and services across the state<br>***Created a personal and corporate 30% state income tax credit for solar, wind, and geothermal systems that meet program guidelines.***<br>***The Tennessee Valley Authority (TVA) now compliments the small generation (up to 200 kilowatt (kW) systems) Green Power Switch Generation Partners Program by providing incentives for mid-sized renewable energy generators between 200kW and 20MW to enter into long term price contracts.***<br>***Tennessee Valley Authority (TVA) offers a production-based incentive program to Valley homeowners and businesses for the installation of renewable generation systems.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | • Developing an Alternative Transportation Fuel Standard (KRS 152.720)<br>- The Kentucky Energy Plan outlined four sources of fuel for cars made in Kentucky that will offset foreign petroleum exports by 60%: plug-in hybrids, biofuels, coal-to-liquids and natural gas |
| Financial and Other Incentives | Provided production tax credits for pure biodiesel, corn-based ethanol, or cellulosic-based ethanol<br>Provided incentives for eligible entities that construct, retrofit, or upgrade alternative fuel production or gasification facilities, under the 2007 Incentives for Energy Independence Act |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires Energy Star qualified products in state agency procurements where economically feasible using a life-cycle cost analysis |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | Legislation enacted in 2008 requires that, beginning July 1, 2009, all construction or renovation of public buildings for which 50% or more of the capital cost is paid by the Commonwealth shall meet high performance building standards established in the Act, for projects that have not entered the design phase before January 1, 2009; requires properties leased by the state to meet high performance building standards (beginning July 1, 2018)<br>• The Kentucky Energy Plan sets efficiency targets for state government buildings of 15% and 25% in 2015 and 2025, respectively, using 2009 as the baseline year<br>• The governor ordered certain state-owned facilities required to reduce their energy use on nights and weekends<br>• Energy efficiency and renewable energy measures for the High Performance Sustainable Research Laboratory building at the University of Kentucky will take the building from a "meets code" building to a better-than-code building that will support a new state-of-the-art Advanced Battery Strategic Planning (ABSP) facility utilizing $11.8M in funds received from the National Institute for Standards and Technology (NIST)<br>• Kentucky Energy Efficiency Program for Schools (KEEPS) helps Kentucky school districts reduce energy consumption and operating expenses (HB 2, Section 16)<br>• The Kentucky School Energy Managers Program provides energy managers at the school district level with tools that will help promote and achieve the goals and objectives of the Kentucky Energy Efficiency Program for Schools<br>• The Kentucky Green and Healthy Schools program is designed to improve the knowledge base about energy and related environmental topics for students, teachers and administrators in all Kentucky schools<br>• The Kentucky National Energy Education Development (NEED) program focuses on the scientific concepts of energy and provides objective, grade-appropriate information about conventional and emerging energy sources—their use and impact on the environment, economy, and society<br>• Funding is being provided for photovoltaic systems to bring two schools to near net zero or net zero energy use<br>• Established a Green Schools Caucus (HR 24)<br>• Established a Kentucky Efficient School Design Trust Fund and required the Department of Education to develop and publish guidelines for efficient school design (SB 132)<br>***Launched "Greening Kentucky" website, which highlights state "lead by example" efforts around energy savings and environmental sustainability. Includes catalog of ongoing and completed projects as well as information on programs and efforts that individual citizens can undertake to save money through energy or water conservation.*** |
| Alternative Fuel and Vehicle Fleets | Through a 2006 Executive Order, the state has developed a strategy to replace at least 50% of the state motor fleet light-duty vehicles with energy efficient vehicles including hybrid-electric vehicles, fuel cell vehicles, and alternative fuel vehicles and to increase the use of ethanol, biodiesel, and other alternative fuels in the state motor fleet; fleet vehicles are to be fueled with either a 10% blend of ethanol (E10) or a 2% blend of biodiesel (B2) as the primary fueling option; the Transportation Cabinet is directed to maximize the use of E85 in its fleet of flexible fuel vehicles<br>• Carpool KY and flexible work options help state employees reduce their commuting costs and impact on the environment<br>• The Kentucky Energy Plan calls for efficiency targets in the state vehicle fleet of 30% below 2007 levels by 2015 and 50% below 2007 levels by 2025 |

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Clean State Energy Actions • 2011 Update

# KENTUCKY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Climate Action Plan<br>• The strategic action plan released in November 2008 outlines the three key areas for reducing carbon emissions in 2025 by 50% of what they would be under business-as-usual circumstances: nuclear energy, carbon capture/storage and energy efficiency<br>• The Kentucky Climate Action Plan Council (KCAPC) was established to identify opportunities for Kentucky to respond to the challenge of global climate change and any federal legislation or regulation to address greenhouse gas emissions while becoming more energy efficient, more energy independent, and spurring economic growth |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Kentucky Alternative Fuel and Renewable Energy Fund Program provides funding to Kentucky-based companies for research, development, and commercialization of alternative fuels and renewable energy<br>• Funding the Kentucky Geological Survey carbon sequestration research<br>• Funding the Kentucky Renewable Energy Consortium for renewable energy-related grants<br>***Directed the Energy and Environment Cabinet to seek one to five projects demonstrating injection of carbon dioxide into geologic storage; provide a process for pooling of pore space necessary to create underground carbon storage reservoirs; create a process whereby ownership of and liability for stored carbon dioxide will pass to the federal or state government following a period of monitoring of the storage facility; and directs the Energy and Environment Cabinet to undertake discussions with surrounding states concerning accidental migration of geologically stored carbon across state lines (H.B. 259). Also requires annual reports (See also Clean Energy RD&D).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Created the Energy Technology Career Track Program in April 2008<br>• Mandates the Department for Workforce Investment to establish an energy technology career track program (HB 2, KRS 158.808)<br>• Kentucky's Clean Energy Corps set the goal of weatherizing 10,000 modest-income homes to make them 30% more efficient<br>• Since Feb. 2009, the state has weatherized approximately 4,200 low income housing units<br>• Formed the Kentucky Consortium on Energy Workforce Development |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste |

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Clean State Energy Actions • 2011 Update

# LOUISIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IRC mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-2004, and 2006 IECC for buildings not covered by ASHRAE, mandatory statewide |
| Financial and Other Incentives | Partners with lenders to offer homeowners a five year loan to improve the energy efficiencies of their existing homes<br>Residents can apply to receive cash rebates for energy efficient improvements to existing homes - the amount of the incentive depends on the resulting energy savings, or Energy Efficiency Premium<br>• Under a three-and-a-half year grant, the University of Louisiana at Lafayette's Industrial Assessment Center (IAC) will perform 14 one-day type assessments on low to medium size manufacturing facilities and approximately six one-day assessments within other areas, such as medical facilities<br>• The IAC will also perform six training assessments for large energy users and six Save Energy Now Workshops<br>• The Home Energy Rebate Option (HERO) Program provides residents a cash rebate for energy efficiency improvements to homes and businesses<br>• The amount of the rebate depends on the level of energy efficiency achieved<br>• The program includes three components: New Homes, Existing Homes, and Commercial Buildings Retrofit<br>• Residential appliance rebate program for the purchase of ENERGY STAR labeled appliances<br>• A grant program will assist local governments in creating and implementing strategies to implement energy efficiency, renewable energy and transportation efficiency projects<br>The Home Energy Loan Program (HELP), administered by the Louisiana Department of Natural Resources (DNR), allows homeowners to get a five-year loan to improve the energy efficiency of their existing home<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 224)<br>***Localities in Louisiana have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | ***Approved a Louisiana Public Service Commission (LPSC) led Renewable Energy Pilot Program for the state. The goal of the pilot program is to determine whether a Renewable Portfolio Standard is suitable for Louisiana. The program has two components- the Research Component, for which each investor-owned utility must require at least 3 renewable energy projects in order to determine the feasibility of these kinds of projects, and the Request for Proposal Component for which must issue RFPs for new, long-term renewable resources that will come online between 2011 and 2014.*** |
| Net Metering and Interconnection Standards | Net metering provisions: a statewide 25 kW maximum allowed for residential, 100 kW maximum for commercial and agricultural; all utilities must participate for renewable energy only; credits roll over to the next billing cycle if supply exceeds demand for the current cycle - now 300 kW maximum for commercial |

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Clean State Energy Actions • 2011 Update

# LOUISIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Advanced Coal and Clean Coal | • Regulates the development and operation of geologic carbon sequestration facilities and pipelines transmitting carbon dioxide to such facilities (HB 661) |
| Financial and Other Incentives | Provides personal and corporate refundable tax credits for up to 50% of the first $25,000 for the purchase and installation of solar and wind energy systems; provides an ad valorem tax exemption for any equipment attached to an owner-occupied residential building or swimming pool as part of a solar energy system<br>• Renewable Energy Grant program encourages the development, implementation, and deployment of cost-effective renewable energy technologies in the public and private sectors<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 224)<br>***Localities in Louisiana have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Within six months following the point at which cumulative monthly production of denatured ethanol, biodiesel or other alternate renewable fuel produced in the state equals or exceeds an annual production volume of at least 50 million gallons (10 million for biodiesel and 20 million for other alternate renewable fuels), 2% of the total gasoline (or diesel or motor fuel) sold by volume in the state must be denatured ethanol (or biodiesel or other alternate renewable fuel) produced from domestically grown feedstock or other biomass materials |
| Financial and Other Incentives | Offered an income tax credit worth 20% of the cost of converting a vehicle to operate on an alternative fuel, 20% of the incremental cost of purchasing an Original Equipment Manufacturer AFV or hybrid electric vehicle, and 20% of the cost of constructing an alternative fuel refueling station; provided a sales and use tax exemption for qualifying biodiesel equipment and manufacturing property; all equipment for biodiesel production and industrial co-generation of electricity was exempt from state and local sales taxes; alternative fuels used by industry for power are exempt from all sales taxes<br>• Income tax credit increased to 50% of the cost of converting a vehicle to operate on an alternative fuel, 50% of the incremental cost of purchasing an Original Equipment Manufacturer AFV or hybrid electric vehicle, and 50% of the cost of constructing an alternative fuel refueling station (HB 110, LRS 47:6035)<br>• Transportation Efficiency & Alternative Fuels Grant program assisted in paying the incremental costs of converting or purchasing vehicles to CNG, in the development of CNG refueling stations, and in the deployment of energy efficient street lighting technologies<br>***Authorized local government to use hybrid or alternative fuel vehicles for law enforcement agencies and emergency vehicles (HB 70).***<br>***Directed the State Board of Elementary and Secondary Education to study issues related to using clean fuel in school buses (HR 72 – See also Lead by Example).***<br>***The Alternative Fuel Vehicle Revolving Load Fund Program provided loan assistance to local government entities for the cost of converting conventional vehicles to operate on alternative fuels, or the incremental cost of purchasing new AFVs.*** |

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Clean State Energy Actions • 2011 Update

# LOUISIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Louisiana has set Energy Star as the minimum performance standard for all purchases of appliances, light bulbs, smart chargers and computers for state agencies |
| Building Efficiency | The Governor issued a Green Government Executive Order requiring the Division of Administration to set energy efficiency goals for state facilities, office buildings or complexes and to work with each state agency in the development of the sustainability and energy efficiency goals, the purchasing of alternative and renewable energy, and the implementation of the sustainable building guidelines; Louisiana encourages the construction and renovation of major facility projects funded by the state to achieve the Energy Star designation; over the next three years, the new requirements will be phased in to ensure that each major facility project will be designed, constructed, and certified to exceed the requirements of the state energy code by at least 30% when such improvements prove to be cost-effective based on a life cycle cost analysis with a payback of no more than 30 years<br>• Grant program to encourage the implementation of energy efficiency and energy conservation projects for buildings and facilities in the higher education system<br>• The program will fund the purchase and installation of energy efficient equipment |
| Green Power Purchasing | The Department of Administration shall adopt best energy purchasing practices |
| Alternative Fuel and Vehicle Fleets | The Department of Administration shall develop average fuel economy goals for the state automobile fleet; motor vehicles purchased for use by any state agency are required to be capable of and equipped for using an alternative fuel which results in lower emissions of oxides, nitrogen, VOCs, CO, particulates, or any combination thereof, and which meet federal Clean Air Act standards<br>***Created a requirement that AFVs purchased or leased by a state agency must have a minimum fuel economy of 18 miles per gallon for city driving, 28 mpg for highway driving, or a combined city/highway driving of 24 mpg. Law enforcement vehicles, certified emergency vehicles, and state agency vehicles with prior written authorization are exempt from this requirement.***<br>***Gave state government agencies and educational institutions that perform essential governmental functions on a statewide or local basis the ability to purchase advanced ethanol blends of 20%, 30%, or 85% directly from a qualified small advanced ethanol manufacturing facility at a discounted price of 15% less than the per gallon price of unleaded gasoline.***<br>***Directed the State Board of Elementary and Secondary Education to study issues related to using clean fuel in school buses (HR 72).*** |
| **GHG EMISSIONS** | |
| GHG Policies | • A comprehensive statewide GHG inventory is being developed<br>• The second element of the project will be a thorough review of measures being taken or contemplated by other states to accommodate expected federal GHG regulation or climate change concerns<br>• The third project element will be a high-level assessment of the impacts of the most likely federal GHG regulatory schemes on Louisiana's economy<br>• The fourth element will be a list of potential state and industry strategies for responding to requirements and opportunities brought by federal GHG regulation |

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Clean State Energy Actions • 2011 Update

# LOUISIANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Under a one year grant with the University of Louisiana at Lafayette's College of Engineering, the Department of Natural Resources is providing an engineering assessment that details the potential and preliminary design strategy of three candidate power production options for small, rural communities that include both technical and economic considerations - solar technologies, biogas, and thermal conversion of biomass opportunities will be explored to identify the optimum energy cost savings; the state is undertaking a "Biomass Assessment" through a $93,000 contract with LSU to collect data on all available biomass organized by parish or plant to be placed on a state map for economic development to be used as a resource<br>***Awarded demonstration grants for the purchase of fueling infrastructure that can dispense advanced ethanol blends of 10% 20% (E20), 30%, or 85%, and for conducting research and developing guidelines on this infrastructure through the Louisiana Department of Agriculture and Forestry.***<br>***Renewed the Research and Development Tax Credit, which provides a 40% tax credit to businesses conducting research and development in Louisiana, for another six years (SB 135).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Authorized a base investment tax credit for certified, verified, and approved expenditures in the state for a capital infrastructure project directly related to green job industries (HB 733, 2009, and LRS 47:6035) |

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Clean State Energy Actions • 2011 Update

# MAINE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** The Maine Model Building Code is based on the 2003 IECC, adopted by jurisdiction<br>**Commercial:** 2003 IECC or ASHRAE/IESNA 90.1-2004, mandatory statewide<br>**Residential:** 2009 IECC mandatory statewide takes effect 7/1/10<br>**Commercial:** ASHRAE 90.1-2007 mandatory statewide takes effect 7/1/10<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| Utility Demand-Side-Management | Participant in ISO-New England's Forward Capacity Market<br>Established a state policy on smart grid infrastructure as a means to improve power reliability and the overall efficiency of the power resource and delivery system while reducing energy consumption, GHGs and costs to consumers (HB 1079)<br>***Required the Public Utilities Commission to establish terms and conditions to govern wireless smart meter installation. The terms must allow customers, at no cost, to opt out of wireless smart meter installation or have a smart meter removed. Customers, at no cost, must also be given the option of a wired smart meter (HB 563).*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | • Loading order requires procurement of energy efficiency prior to other traditional resources (MRS 3210-C (4))<br>Set a goal of 30% energy savings and 100 MW peak electric reduction by 2020 |
| Public Benefits Funds | Efficiency Maine is operated through the PUC and supports improvements in lighting efficiency, reductions in peak demand, high-performance buildings, appliance replacements for low-income residents, energy training and certification, and public education<br>• Established the Efficiency Maine Trust to administer all electricty conservation and efficiency programs, natural gas conservation and efficiency programs, the Regional Greenhouse Gas Initiative Trust Fund (replacing the Energy and Carbon Savings Trust and the Maine Energy Conservation Board), and a heating fuels efficiency and weatherization program (LD 1485)<br>***The Commission of the Efficiency Maine Trust approved its first triennial plan for the years 2011-2013.*** |
| Financial and Other Incentives | The Home Energy Loan Program provides low-interest loans to residents for energy improvements recommended by an energy auditor; the Small Business Energy Efficiency Loan Program is available to small businesses ($5 million or less in annual sales) seeking to improve energy efficiency - to qualify, a business must undergo an energy audit to identify necessary improvements performed free of charge by a Maine Public Utilities Commission staff member or for a fee by a licensed energy auditor<br>***Calls for the use of designated energy corridors if the corridor's use is likely to reduce electric rates and benefit the long-term public interest of the State, including the reduction of greenhouse gases (GHGs). Revenues from the use of state-owned lands or assets are directed to improve energy efficiency and increase renewable energy generation (LD1786 – See also Clean Electricity).*** |

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Clean State Energy Actions • 2011 Update

# MAINE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | The Governor's Office of Energy Independence and Security launched the "Grants Connector" program to provide information support for businesses, non-profits, government entities and other interested parties to pursue federal, state and private energy efficiency, conservation and renewable energy project grants and financial incentives (See also Clean Electricity)<br>The Efficiency Maine Business Program offers both prescriptive incentives and custom incentives to commercial and governmental organizations for energy efficient measures<br>The Efficiency Maine Residential Lighting Program works with retailers and manufacturers to encourage the purchase of energy-efficient lighting by residential customers by reimbursing retailers for coupons redeemed by customers<br>• Allows for Property Assessed Clean Energy (PACE) financing (LD 1717)<br>**Expanded the definition of energy savings improvement under the Property Assessed Clean Energy Program to include an upgrade of any heating equipment that will result in increased energy efficiency (SB 135).**<br>**Allowed school administrative units to enter into an agreement of up to 20 years with an energy services company to provides design, installation, operation, maintenance and financing of energy conservation or combined energy conservation and air quality improvements at existing school facilities (LD 776).** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires each competitive electricity provider to supply at least 30% of their total retail electric sales using electricity generated by eligible renewable and resources and certain efficient resources; goal to increase new renewable-energy capacity by 10% by 2017 and for each year thereafter; three goals for wind-energy development in Maine: (1) at least 2,000 MW of installed capacity by 2015; (2) at least 3,000 MW of installed capacity by 2020, of which there is a potential to produce 300 MW from facilities located in coastal waters or offshore; and (3) At least 8,000 MW of installed capacity by 2030, of which 5,000 MW should be from facilities in coastal waters or offshore |
| Net Metering and Interconnection Standards | Net metering is available for owners of qualified cogeneration and small power-production facilities with a maximum capacity of 100 kW<br>• Expanded net metering to increase eligible project types, including cogeneration, and capacity to 660 MW (LD 336)<br>• Established community-based renewable energy pilot program and allows for 1.5 credit multiplier for community projects<br>• Final state model wind ordinance released<br>• Establishing local guidelines for solar placement<br>**Required the PUC to amend the net energy rules to develop contract terms for net energy billing and interconnection agreements. The rulemaking process has not been completed.** |

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Clean State Energy Actions • 2011 Update

# MAINE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Public Benefits Funds | Developed the Renewable Resource Fund, a voluntary program allowing customers to contribute to a fund that supports renewable-energy projects. Revenue for the fund also comes from RPS alternative compliance payments. The fund is now part of the Efficiency Maine Trust and funds renewable-energy demonstration projects to Maine-based nonprofits, consumer-owned electric transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts, and school administrative units.<br>**Authorized the Renewable Resource Fund to support the solar and wind rebate programs (HB 568).** |
| Financial and Other Incentives | The Voluntary Renewable Resources Grant supports small-scale demonstration projects designed to educate communities on the value and cost-effectiveness of using natural resources to generate clean electricity<br>The Governor's Office of Energy Independence and Security launched the "Grants Connector" program to provide information support for businesses, non-profits, government entities and other interested parties to pursue federal, state and private energy efficiency, conservation and renewable energy project grants and financial incentives (See also Energy Efficiency)<br>Provides a rebate for solar-energy systems installed at homes or businesses<br>• Rebate funding expanded by $500,000 for FY10 and FY11<br>• Allows for Property Assessed Clean Energy (PACE) financing (LD 1717)<br>***Called for the use of designated energy corridors if the corridor's use is likely to reduce electric rates and benefit the long-term public interest of the State, including the reduction of greenhouse gases (GHGs). Revenues from the use of state-owned lands or assets are directed to improve energy efficiency and increase renewable energy generation (LD 1786 – See also Energy Efficiency).***<br>**Reinstated the solar and wind energy rebate program, which provided rebates for the purchase of certain solar and wind energy equipment, until June 30, 2015 (HB 568).**<br>**Proposed that the Efficiency Maine Trust develop a plan to reduce Maine's dependence on oil in order to strengthen energy security. The plan requires a cost and resource estimate for technology development and targets for reducing total oil consumption that equal the maximum economically achievable oil savings. provides that targets may not provide less than a 30% overall reduction in oil consumption from 2009 levels by 2030 and a 50% overall reduction from 2009 levels by 2050 (HB 436).**<br>**Directed the Governor's Office of Energy Independence and Security to consider issues relating to noise and visual standards, decommissioning plans, the criteria used during the permitting process to consider the visual impact of an expedited grid-scale wind energy development when asses the progress of wind energy development (HB 1005).**<br>**Required the director of the Governor's Office of Energy Independence and Security to identify opportunities to lower the cost of energy to Maine consumers, recommend appropriate actions to lower the cost of energy to Maine consumers and take action as necessary to carry out the goals and objectives of the comprehensive state energy plan including lowering the cost of energy to Maine consumers (HB 541).** |

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# MAINE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Directed the Maine Public Utilities Commission to develop a program offering green power as an option to residential and small commercial customers in the state. The PUC issued rules in October 2010 and will issue a request for proposals (RFP) from green power providers in utility transmission and distribution territories.***<br>***Offered a rebate for residential wind energy systems of $500 per 500 W, up to 2,000 W. Non-residential systems are eligible for a $500 rebate per 500 W up to 4,000 W.***<br>***Established a 100% sales and use tax refund for qualified community wind generators under 10 MW.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | The Clean Vehicle Fund provided loans to finance all or part of any clean-fuel vehicle project; the Agriculturally Derived Fuel Fund provides direct loans and subsidies to a business or cooperative for the design and construction of a facility to produce agriculturally derived fuel<br>Provided an income tax credit for the commercial production of biofuels; provides a tax credit for the construction or installation of, or improvements to, any fueling or charging station<br>**The Transportation Efficiency Fund, a non-lapsing fund administered by the Department of Transportation, may be used for zero-emission vehicles, biofuel and other alternative fuel vehicles, congestion mitigation and air quality initiatives, rail, public transit, and car or van pooling.** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | Requires state buildings owned or operated by any state agency, board, office, commission, or department, including institutions of higher learning, to incorporate LEED standards into the design, construction, operation, and maintenance of any new, expanded, or existing building, provided it is cost-effective; requires all planning and design for the construction of new or substantially renovated buildings owned or leased by the state to involve consideration of energy efficiency, to include an energy-use target that exceeds standards for commercial and institutional buildings by at least 20%, and to include a life-cycle cost analysis over a minimum of 30 years that explicitly addresses the costs and benefits of efficiency improvements; participates in the Energy Star Challenge; the state measures and tracks energy use and greenhouse gas emissions from government buildings<br>***Directed the Efficiency Maine Trust to allocate $200,000 for the completion of the energy audit and the implementation of cost effective energy efficiency measures in the State House and the Burton M. Cross State Office Building (HB 287).*** |
| Green Power Purchasing | Goal for the state government to buy at least 50% of its electricity from renewable-power sources, paid for by energy conservation improvements in all state buildings. As of March 2007, Maine's state government was purchasing 100% of its power from renewable energy resources. |
| Alternative Fuel and Vehicle Fleets | The State Purchasing Agent may not purchase or lease any car or light-duty truck for use by the state or any department or agency unless the car has fuel efficiency of at least 45 miles per gallon (35 mpg for light-duty trucks); state agencies shall promote the procurement of dedicated alternative fuel vehicles, dual fuel vehicles and supporting refueling infrastructures |

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Clean State Energy Actions • 2011 Update

# MAINE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; utility cap through RGGI; Climate Action Plan (2004); RGGI participant;* will adopt CA vehicle emissions standards pending EPA approval |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Renewable Resource Fund supports grants for renewable-energy research and development to the University of Maine System, the Maine Maritime Academy and the Maine Technical College System as well as grants for renewable-energy demonstration projects to Maine-based nonprofit organizations, consumer-owned electric transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts, and school administrative units<br>***Signed an MOU with Nova Scotia in July 2010 to work cooperatively on tidal and offshore wind development efforts by furthering academic research and establishing a formal council.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Created the Green Energy Jobs Growth Initiative to provide funding for workforce development and facilitating industry partnerships |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires voter ratification for their commission's decision to license a nuclear power plant. |

*Passed legislation providing that the State shall withdraw from the regional greenhouse gas initiative when a sufficient number of other independent system operator participating states have withdrawn such that the total carbon dioxide emissions budget for the calendar year 2009, as specified in the Memorandum of Understanding, of the remaining other independent system operator participating states is less than 35,000,000 tons.

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for nine categories of appliances |
| Building Energy Codes | **Residential and Commercial:** Maryland Building Performance Standards based on the 2006 IECC, mandatory statewide<br>***Residential and Commercial: Updated code to 2009 IECC mandatory statewide*** |
| Utility Demand-Side-Management | 15% demand side management by 2015 based on 2007 baseline<br>• Requires an electric company to include procedures for the competitive selection of heating, ventilation, air conditioning, or refrigeration service providers in its electricity savings and demand reduction plan (SB 1095) |
| Utility Rate Realignment | Decoupling in natural gas and electricity markets |
| Energy Savings Targets/Energy Efficiency Resource Standards | Goal to reduce per capita consumption and peak demand 15% by 2015 |
| Financial and Other Incentives | The Community Energy Loan Program provides financing for local governments and nonprofit organizations to identify and implement energy conservation improvements; SLAP is a revolving state agency loan program to be used for energy performance contracting or improvements<br>The Maryland Strategic Energy Investment Fund will direct proceeds from the RGGI auction to energy efficiency and renewable energy programs as well as bill payment assistance for low income consumers<br>Offers an income tax credit nonresidential and residential multifamily buildings of at least 20,000 sq. ft. that are constructed or rehabilitated to meet criteria set forth by the U.S. Green Building Council or other similar criteria (newly constructed buildings must be located on a qualified brownfields site, or in a priority funding area, and not in a wetlands area)<br>The Change a Light program encourages Marylanders to change at least one incandescent light bulb to a compact fluorescent light bulb annually; Home Performance with Energy Star is a market transformation program to train and certify contractors to provide whole-house diagnostics and improvements to customers' homes; the weatherization program provides assistance for low income energy efficiency improvements<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1567)<br>***Required the Department of Housing and Community Development to encourage the construction of new residential structures that are high–performance homes. High-performance homes are those that meet or exceed a LEED silver rating (HB 630).***<br>***Established a rebate program administered by the Maryland Energy Administration for energy efficiency improvements in single-family residences in Maryland through the Home Performance with Energy Star Program.***<br>***Created a sales and use tax "holiday" for certain energy-efficient appliances, beginning in 2011.***<br>***Localities in Maryland have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires that 20% of the state's electricity supply come from renewable sources by 2022; utilities demonstrate compliance by acquiring renewable energy credits (RECs)<br>• Altered the renewable energy portfolio standard by increasing the percentages of electricity sales that must be met in specified years through the accumulation of renewable energy credits from certain sources, redefines a specified renewable energy credit, increases the maximum allowable alternative compliance payment, subject to a certain limitation (COMAR 20.61.01 et seq.)<br>• Accelerated the annual solar energy requirements and the solar alternative compliance schedule, will take effect in 2011 (SB 277)<br>***Increased the annual percentage requirements under Maryland's Renewable Energy Portfolio Standard (RPS) for electricity from solar energy sources between 2011 and 2016 to 0.5% (SB 277).***<br>***Expanded the definition of a Tier 1 renewable sources to include waste-to-energy and refuse-derived fuel (S.B. 690).***<br>***Included energy from a specified solar water heating system as an eligible resource for meeting the renewable energy portfolio standard (S 717).*** |
| Net Metering and Interconnection Standards | Interconnection standards for all eligible systems up to 2 MW; systems owned or leased by residents, businesses, schools or government entities that generate electricity using solar, wind or biomass resources are eligible for net metering until the aggregate capacity of all net-metered systems reaches 1,500 MW; developing interconnection standards for all distributed generation<br>• Extended net metering policies to micro-combined heat and power systems and third-party ownership structures (HB 1057, SB 981)<br>• Extended net metering to qualifying fuel cell electricity generation equipment, effective October 2010 (HB 821)<br>• Revised how customer-generators are compensated for net excess generation (NEG) (HB 801)<br>• Requires NEG to be carried forward from month to month as a monetary credit whose value is determined by the prevailing market price<br>• Customer-generators may also receive payment for NEG remaining at the end of a 12 month period<br>• Maryland Public Service Commission (PSC) developing regulations to implement the revision, including a method for determining the value of NEG credits<br>• PSC to convene a working group to address time differentiated crediting, as well as meter aggregation and credit transfers for agricultural, non-profit, and governmental customer-generators<br>***Extended net metering policies to "closed conduit hydro" facilities (SB 271).*** |

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Shale Gas Development, Regulation and Policy | ***The governor signed an executive order establishing the Marcellus Shale Safe Drilling Initiative to assist state policymakers and regulators in determining whether and how gas production from the Marcellus Shale in Maryland can be accomplished without unacceptable risks of adverse impacts to public health, safety, the environment and natural resources. The advisory committee will submit its recommendations for best practices for all aspects of natural gas exploration and production in the Marcellus Shale in Maryland by August 1, 2012. A final report which will include findings and recommendations relating to the impact of Marcellus Shale drilling including possible contamination of groundwater, handling and disposal of wastewater, environmental impacts, impacts to forests and important habitats, greenhouse gas emissions and economic impact will be issued no later than August 1, 2014.*** |
| Financial and Other Incentives | The Maryland Strategic Energy Investment Fund will direct proceeds from the RGGI auction to energy efficiency and renewable energy programs as well as bill payment assistance for low income consumers; offers rebates for residential and commercial geothermal heat pump property; provides financial incentives to homeowners, businesses, local governments and non-profit organizations that install solar water-heating systems or solar-electric systems<br>Offers a production tax credit for electricity generated by wind, geothermal energy, solar energy, hydropower, small irrigation power, municipal solid waste and biomass resources; offers a corporate income tax credit for photovoltaics, wind turbines and fuel cells that serve a green whole building, a green base building, or green tenant space; provides a property tax exemption for residential solar energy systems; requires that solar heating and cooling system be assessed the same as traditional sources for tax purposes; exempts from the state sales tax all wood or refuse-derived fuel used for residential heating purposes<br>Provides grants for small wind energy systems through the Windswept program<br>Created an income tax credit of $0.03/gallon for purchases of biodiesel used for space heating or water heating<br>• Residential wind energy equipment and devices that use solar thermal electric energy are eligible for property tax exemption (HB 1171)<br>• Sales tax exemption for residential wind energy equipment<br>• Revised the definition of solar energy equipment so that other systems in a net metering type arrangement could also be sales tax exempt<br>• Reopened the Windswept Grant Program application period in 2009 to provide funds for the installation of wind energy systems of at least 1 kW (over 20 kW approved on a case-by-case basis)<br>• Revised corporate tax credit for renewable energy systems (HB 494)<br>• Extends the facility in service deadline from 2010 to 2015<br>• Sets a minimum tax credit limit of $1,000<br>• Makes excess tax credits refundable<br>• Established a fund for the management of coal combustion by-products, authorizes the Department of the Environment to establish and collect fees (HB 1556)<br>• Authorized political subdivisions to enact an ordinance or a resolution establishing a Clean Energy Loan Program to provide loans to residential and commercial property owners for the financing of energy efficiency and renewable energy projects (HB 1567) |

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • Allows for Property Assessed Clean Energy (PACE) financing (HB 1567)<br>***Provided rebates via the Mid-Size Wind Energy Grant program, for the installation of non-residential wind energy systems from 20 - 200 kilowatts (kW).***<br>***Offered rebates for mid-sized solar photovoltaic systems at $500 per kW and for solar water heating systems at 15% installed cost.***<br>***Created rebates for residential and non-residential geothermal systems of offered $2,000 and $7,000, respectively.***<br>***Extended the income tax credit for purchases of biodiesel used for space heating or water heating until 2017 (SB 959).***<br>***Created a solar energy grant program to offer rebates for residential and non-residential solar PV (up to 20kW) and thermal systems.***<br>***Exempted sales of electricity generated by specified solar energy or wind energy equipment for use in residential property or for supply to the electric grid from the sales and use tax (SB 398).***<br>***Localities in Maryland have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | ***Established the Maryland Electric Vehicle Infrastructure Council to develop an action plan to facilitate the successful integration of electric vehicles into the transportation network, to assist in developing and coordinating standards for streamlined permitting and installation of residential and commercial EV charging stations and supply equipment, to develop a statewide charging infrastructure plan, including public charging stations, and to increase consumer awareness and demand for such vehicles. The Council will submit a report with its recommendations by December 1, 2012 (SB 167).*** |
| Financial and Other Incentives | Offered ethanol and biodiesel production tax credits<br>Created a state income tax credit for tax years 2011, 2012, and 2013 only, for 20% of the cost of qualified electric vehicle recharging equipment. The limit per recharging device is $400 (HB 163).<br>Created a grant program to aid the installation of electric vehicle recharging stations<br>Created a credit against the motor vehicle excise tax for certain qualified plug–in electric drive vehicles purchased between July 1, 2010 and June 30, 2013. This is a three year program and each vehicle is eligible for up to $2,000.<br>***Offered tax credits of up to $2,000 for use against the excise tax imposed for the purchase of qualified plug-in EVs.***<br>***Allowed permitted plug-in EVs to operate in Maryland HOV lanes regardless of the number of occupants.***<br>***Exempted Hybrid Electric Vehicles that obtain a fuel economy rating from the U.S. EPA of at least 50 miles per gallon during city driving from certain mandatory motor vehicle emissions and inspection testing requirements until September 30, 2012.***<br>***Launched The Maryland Hybrid Truck Initiative to deploy 143 hybrid trucks this year to be split between five Maryland companies. The hybrids are expected to cut up to 460,000 gallons of petroleum and cut 262,610 pounds of greenhouse gas emissions each year, all the while creating more than 200 jobs (ARRA funded).*** |

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Required the Public Service Commission to establish a pilot program for electric customers to recharge electric vehicles during off-peak hours, requires the program to include incentives for residential, commercial, and governmental customers to recharge electric vehicles in a specified manner, provides that incentives may include credits on distribution charges, and rebates on the cost of charging systems, demand response programs, or other approved incentives (S 179).***<br>***Allowed an income tax credit for 20% of the cost of qualified electric vehicle recharging equipment for the taxable years 2011-2013. The credit is limited to $400 per individual recharging system (HB 163).*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires all new energy-using products in state buildings to carry the Energy Star label or be in the top 25% in energy efficiency when products with labels are unavailable |
| Building Efficiency | The Maryland Energy Administration provides loans through the State Agency Loan Program to state agencies for cost-effective energy efficiency improvements in state facilities; requires energy consumption in state buildings by reduced by 5% by 2009 and 10% by 2010 relative to a 2005 baseline; LEED or Green Globes certification required for all capital projects over 5,000 sq. ft.; the Green Buildings Act requires all new schools and state buildings to meet the LEED Silver standard; the Clean Energy Schools program is working towards have a renewable demonstration project in at least one school in each county in Maryland<br>***Enabled the adoption of the International Green Construction Code (IGCC) by all local governments across the state (HB 972).*** |
| Green Power Purchasing | At least 6% of the electricity consumed by state-owned facilities must be generated from "green" energy sources, such as wind, solar, landfill gas, and other biomass resources |
| Alternative Fuel and Vehicle Fleets | At least 50% of state vehicles must use a minimum biodiesel blend of B5 beginning in fiscal year 2008; the state will revise fleet policy and purchasing guidelines to offer more flexibility in purchasing, where practical, low emission vehicles and AFVs for its fleet; the state must help develop the refueling and maintenance infrastructure required to make using certain types of AFV use practical |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; utility cap through RGGI; Climate Action Plan in progress, due 2008: the Climate Change Commission will assess the possible impacts of climate change; calculate Maryland's contribution to the climate change problem; work together with various state agencies, energy providers, business leaders and other groups to develop a greenhouse gas reduction strategy; and develop a plan for reducing the state's vulnerability to sea level rise and other effects of climate change; RGGI participant; adopted CA vehicle emissions standards<br>• Requires the Department of the Environment to publish and update an inventory of statewide greenhouse gas emissions for calendar year 2006, and develop a specified plan to reduce greenhouse gas emissions and develop renewable energy (SB 278)<br>• Requires the state to reduce statewide greenhouse gas emissions by 25% from 2006 levels by 2020<br>• Requires specified erosion protection projects to include specified nonstructural shoreline stabilization measures, requires the Department of the Environment, in consultation with the Department of Natural Resources, to adopt regulations |

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Clean State Energy Actions • 2011 Update

# MARYLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | ***Created income tax credits of up to 10% to individuals or corporations for qualified research and development expenses for cellulosic ethanol technology. The total amount of the credit may not exceed $250,000 per calendar year.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | In April 2008, created the Maryland Strategic Energy Investment Program to provide grants and training funds for clean energy jobs - Trained 2,000 Marylanders for green jobs in the sectors of manufacturing, construction, environmental technology and solar energy through a $5.8 million grant from the U.S. Department of Labor.<br>• Opened the Maryland Clean Energy Center in 2009 to promote and coordinate the expansion of the green economy<br>• Requires the Secretary of Budget and Management to develop and implement a plan for hiring current and former Family Investment Program recipients, their children, foster youth and certain obligors<br>• Requires that the job skills enhancement program include job training for employment in energy efficiency and renewable energy industries<br>• Maintains the Maryland Green Registry, a free, voluntary self-certification program for organizations of all types to promote their best practices for environmental protection<br>• The registry provides checklists and innovative ideas to encourage members to take further action<br>• The Maryland Energy Administration (MEA) created the Clean Energy Economic Development Initiative (CEEDI) Support Program to assist in achieving the goal of 100,000 "green-collar" jobs by 2015<br>• Uses this program to help attract emerging clean energy companies and to expand existing clean energy companies including the generators, component producers and the associated supply chain producers<br>• To implement this program, MEA has issued guidelines and application instructions in line with DOE parameters on its website<br>• All grant awards are expected to be performance based with payment made against attainment of certain pre-determined milestones<br>• Trained 2,000 Marylanders for green jobs in the sectors of manufacturing, construction, environmental technology and solar energy through a $5.8 million grant from the U.S. Department of Labor |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for six categories of appliances; Massachusetts is currently seeking a waiver of federal gas furnace standards to meet the state's legislated standard of 90% minimum efficiency |
| Building Energy Codes | **Residential:** The Massachusetts State Building Code is based on the 2003 IRC and IBC with state specific amendments, mandatory statewide<br>**Commercial:** The Massachusetts State Building Code is based on ASHRAE/IESNA 90.1-1999, 2000 IECC, with state-developed amendments, mandatory statewide<br>Pending revisions would update the Code to compliance with the IECC 2006 with the 2006/2007 supplement and ASHRAE 90.1-2007 standards; revisions would also set standards for two levels of "beyond code" energy efficiency, which municipalities would request the state agency for permission to implement; pending legislation would make adoption of the latest IECC energy provisions a minimum requirement and would also require regular updating<br>• State required to adopt new IECC codes within one year of their publication<br>Adopted an optional reach energy code, called the 'Stretch Code', a performance-based code that improves energy efficiency by approximately 20% relative to the IECC 2009 for residential or ASHRAE 90.1-2007 for commercial buildings. Adoption of the Stretch Energy Code allows municipalities to meet one of 5 criteria to become designated a Green Community in Massachusetts.<br>***Residential and Commercial: Updated codes to 2009 IECC or ASHRAE 90.1-2007 with state-specific amendments*** |
| Utility Demand-Side-Management | The state has committed to meeting all load growth in electricity with demand-side efficiency by 2010; pending legislation will remove the cap on spending for utility energy efficiency programs and will require electric and gas utilities to acquire all cost-effective energy efficiency that is less than the cost of generation, under a least-cost procurement regime; participants in ISO-New England's Forward Capacity Market (FCM) provides capacity savings during peak summer and winter hours by the operator of the wholesale electricity market - utility FCM revenues are approximately $2 million for 2007 and all proceeds will go to additional energy efficiency programs for customers<br>• Established the Energy Efficiency Advisory Council, which works with utilities to determine plans for meeting required energy efficiency goals in the coming three years (SB 2468, Green Communities Act)<br>• Utilities required to submit three-year plans to DPU for approval<br>***Created the Smart Grid Evaluation Working Group to bring together the Department of Public Utilities and electric distribution companies to develop statewide smart grid evaluation approaches and standards. The group submitted an evaluation framework for smart grid pilots. The pilots discuss Demand Response measures, which is required through the Green Communities Act. Utilities are also working with large commercial customers on participating in the Forward Capacity Market.*** |
| Utility Rate Realignment | The Department of Public Utilities (DPU) issued an order to begin the process of decoupling rates for electric and natural gas distribution utilities, as required by the Green Communities Act |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Energy Savings Targets/Energy Efficiency Resource Standards | Goal is to decrease 2008 electricity generation by 20% by 2020, meeting additional needs through efficiency<br>• Utilities required to acquire all energy efficiency resources that cost less than new energy supply as primary resource (SB 2468, Green Communities Act)<br>Called for a statewide reduction of 2.4 percent in electricity use and 1.15 percent in natural gas use annually for three years |
| Public Benefits Funds | The efficiency fund, which is authorized to support DSM programs, also supports energy projects for low-income residents and is funded by a non-bypassable charge based on electricity use, imposed on customers of all investor-owned electric utilities in Massachusetts; the current charge is 2.5 mils/kWh sold, which produces $125 million per year, offsetting electric annual load growth by 0.7%; cumulatively, energy efficiency accounts for approximately 8% of the state's current electricity needs<br>• Expanded funding to $1.4 billion by 2012 through proceeds from Forward Capacity Market, RGGI, and adjustments to systems benefit charges (SB 2468, Green Communities Act) |
| Financial and Other Incentives | Offers low-interest financing to help residential consumers increase the energy efficiency of their homes through the HEAT Loan Program<br>Offers a corporate excise tax deduction for any income received from the sale of a patent or royalty income from a patent deemed beneficial for energy conservation<br>• ***Localities in Massachusetts have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Allowed for Property Assessed Clean Energy (PACE) financing as part of a larger "Municipal Relief Bill" (H.B. 4877), authorizing local governments to establish an "Energy Revolving Loan Fund" to provide financing to private property for energy efficiency and renewable energy improvements.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The state's RPS requires all retail electricity providers in the state to utilize new renewable-energy sources for at least 4% of their power supply by 2009; pending energy legislation will require an additional 1% each following year; pending legislation will also add small hydro to the list of RPS-eligible resources, create a second class of renewable resources for pre-existing facilities, create a new Alternative Energy Portfolio Standard for some non-traditional but non-renewable resources, and will add restrictions on the RPS-qualification of imports from renewable facilities outside ISO New England<br>• State Renewable and Alternative Energy Portfolio Standard, approved, effective January 2009 (225 CMR 14.00, 225 CMR 15.00, 225 CMR 14.00 16.00 for RPS Class I, RPS Class II, and APS respectively)<br>***Amended the state RPS to require 15% of electricity to come from Class I (New Resources) by 2020 and an additional 1% each year thereafter; 7.1% of electricity must come from Class II (Existing Resources) in 2009 and thereafter (3.6% renewables and 3.5% waste-to-energy). Has an overall solar carve-out of 400 MW.*** |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Interconnection standards apply to all forms of distributed generation, including renewables, and to all customers of the state's four investor-owned utilities; the state's investor-owned utilities must offer net metering for renewable-energy systems and combined-heat-and-power facilities with a generating capacity up to 60 kW; pending legislation on net metering will increase the current net metering provision to 2 MW, primarily for solar and wind generation<br>***Included a new definition for "a net metering facility of a municipality or other governmental entity." This type of net metered facility must be either Class II or Class III and must be owned by a municipality or governmental entity or the entity must use all of the facility's output. Net metering facilities by a municipality or other governmental entity up to 10 MW are eligible.***<br>***Increased the state's net metering cap from 1% of each utility historical peak load to 1% for non-government and 2% for municipal and governmental entities.***<br>***The Department of Energy Resources filed a petition outlining recommendations for utilities to improve the process of connecting new renewable energy generation installations to the electric grid and calling for a Joint Proposal by late October 2011.*** |
| Public Benefits Funds | The Renewable Energy Trust Fund, which provides funding in the areas of clean energy, green buildings and infrastructure, industry investment and development, and policy issues (market and regulatory barriers), is funded by a non-bypassable charge based on electricity use, imposed on customers of all investor-owned electric utilities in Massachusetts; a separate public benefits fund is assessed for energy efficiency, as noted above (see 1.5) |
| Financial and Other Incentives | The Massachusetts Technology Collaborative offers loans to support renewable energy companies entering or expanding within the manufacturing stage of commercial development<br>Commonwealth Solar (a rebate program that grossed $68 million in its first four years) uses renewable energy funds to defray the cost of solar installations with the goal of installing 250 MW in 10 years - the program offers rebates of up to 60% of the cost for homeowners and 40% for businesses<br>The state also offers a corporate excise tax deduction for any income received from the sale of a patent or royalty income from a patent deemed beneficial for alternative energy development; businesses may deduct from net income, for state excise tax purposes, costs incurred from the installation of any solar or wind powered climatic control unit and any solar or wind powered water heating unit; allows a 15% credit against the state income tax for the cost of a renewable-energy system (including installation costs) installed on an individual's primary residence; provides a property tax exemption for solar and wind energy systems and hydropower; provides a sales tax exemption for solar, wind, and heat pump systems and all related equipment; offers grants and loans to support the development of grid-connected renewable energy systems<br>Clean Energy Choice program allows Massachusetts electric customers to pay an additional premium each month to support green power |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | MassHousing's Green Affordable Housing Development Program seeks to promote the construction of renewable energy generation systems in affordable housing developments financed by MassHousing or the Affordable Housing Trust Fund; MassHousing, through the Renewable Energy Trust, offers feasibility grants, design grants and construction grants or loans for installing renewable energy systems; larger multifamily affordable rental housing developments that meet Energy Star standards may qualify for funding for a renewable energy system greater than or equal to 10 kW (100 kW for wind power projects)<br>***Signed a 20-year power purchase agreement with a renewable energy company to construct and operate solar panels on several state facilities and sell the power to the state at a lower cost than current rates. The agreement with the ESCO is part of a larger program to install 4 megawatts (MW) of solar capacity on 23 state facilities (See also Clean Electricity).***<br>• ***Localities in Massachusetts have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Allowed PACE financing as part of a larger "Municipal Relief Bill" (H.B. 4877), authorizing local governments to establish an "Energy Revolving Loan Fund" to provide financing to private property for energy efficiency and renewable energy improvements.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | The state's biofuels task force recommended the establishment of a regional Low Carbon Fuel Standard and interim policies to support advanced biofuels development, conditioned on meeting lifecycle greenhouse gas reduction standards; pending legislation would establish minimum biofuels standards for diesel motor fuel and a standard for home heating oil, beginning at 2% in 2010 and moving to 5% by 2013--both conditioned on fuel supplies meeting a lifecycle GHG reduction standard |
| Financial and Other Incentives | Proposed legislation to exempt advanced cellulosic ethanol from the state's gas tax<br>***The Green Communities Division of the Department of Energy Resources (DOER) made $200,000 available to local governments to fund the installation of publically available Electric Vehicle Supply Equipment.***<br>***Awarded funds for 48 electric vehicle charging stations to be installed at Logan Airport garages, parking lots, and at MBTA commuter parking locations.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires Energy Star for all computers, copiers, and printers; the state will be requiring EPEAT Silver rating for all computers in its next contract; Executive Order No. 484 bans the use of incandescent bulbs at state facilities unless required for a specific and unique purpose<br>Implemented a Computer Power Management Standard, which set standards and protocols for powering down equipment at executive branch agencies. The standard is expected to result in $2 million of savings to the Commonwealth. |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | Requires new state buildings and major renovations over 20,000 sq. ft. to be LEED certified plus 20% more efficient than the Massachusetts Energy Code; the Green Schools Initiative provides grants for the design and construction of energy efficient schools; Executive Order No. 484 requires a 20% reduction in energy use per square foot by 2012 and a 35% reduction by 2020; the state is developing a plan to conduct retro-commissioning at a number of large state facilities; the state is initiating a task force that will develop recommendations on how to move toward zero net energy buildings, including developing specifications for such a state building by 2010; goal to reduce emissions from state energy use 25% by 2012, 40% by 2020, and 80% by 2050<br><br>New buildings owned or operated by state must minimize life-cycle costs through efficiency or renewable energy procurement (SB 2768)<br><br>Implemented an Enterprise Energy Management System at over 17 million square feet of state-owned building space to provide monitoring of energy usage to inform decisions about energy efficiency investment<br><br>Launched the Commonwealth Clean Energy Investment Program (CEIP), a financing program through which the state can use low-interest capital bonds to finance clean energy projects (renewable and efficiency) at state facilities. The bonds are paid back out of the projects savings.<br><br>***Constructed the first state-owned Zero Net Energy Building at North Shore Community College. The state has another state-owned Zero Net Energy Building in design.*** |
| Green Power Purchasing | Massachusetts is developing a contract to purchase approximately 55 million kWh of new renewable electricity from New England sources not yet on-line; two state campuses have contracted for the purchase of 7.500 MWh of Renewable Energy Certificates; there are currently more than 24 on-site renewable energy installations at state facilities totaling over 4.6 MW of capacity; by the end of 2008, 12 new solar photovoltaic installations totaling 1 MW will be installed at state colleges, prisons, and a veterans home; a 660 kW wind turbine is currently operating at a state community college with another community college contracting for a 600 kW turbine for installation in 2009. State government agencies must obtain 15% of annual electricity consumption from renewable sources by 2012 and 30% by 2020.<br><br>***Signed a 20-year power purchase agreement with a renewable energy company to construct and operate solar panels on several state facilities and sell the power to the state at a lower cost than current rates. The agreement with the ESCO is part of a larger program to install 4 megawatts (MW) of solar capacity on 23 state facilities (See also Clean Electricity).*** |
| Alternative Fuel and Vehicle Fleets | State agencies must use a minimum of 5% biodiesel in all on- and off-road diesel engines increasing to 15% by Fiscal Year 2010; currently developing a green fleets program that will raise the overall fuel efficiency of the state's light duty (under 10,000 lbs.) fleet; developing a plug-in hybrid program that will test the performance of plug-in technology on at least 10 Toyota Prius vehicles; at least 10% of the total non-excluded vehicles purchased by DPGS must be zero emissions vehicles<br><br>***Created a requirement for purchasing new motor vehicles directing the Commonwealth of Massachusetts to purchase HEVs or AFVs to the maximum extent feasible and consistent with the ability of such vehicles to perform their intended functions. HEVs and AFVs must be acquired at a rate of at least 5% annually for all new motor vehicle purchases so that not less than 50% of the motor vehicles the Commonwealth owns and operates will be HEVs or AFVs by 2018.*** |

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Clean State Energy Actions • 2011 Update

# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Completed regulations for the Regional Greenhouse Gas Initiative (RGGI), a partnership with 10 states to develop a flexible, market-based system for reducing carbon dioxide emissions from power plants (RGGI implementation begins January 1, 2009, and pending legislation will specify that all allowances be offered for auction, and will also specify the uses of the auction revenue); requires analysis of GHG emissions - and options to avoid, minimize, and mitigate them - as part of the state's environmental review procedures for large development projects; participant in Climate Registry, the largest multi-state effort to track the emissions associated with global warming; maintains a goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term per NEGC-ECP commitments; state regulations that will be phased out as RGGI is phased in caps emissions from six older fossil fuel power plants at approximately 10% below 1997-1999 levels by 2006-2008, and requires new power plants to make a monetary contribution intended to fund projects to offset 1% of the plant's $CO_2$ emissions over 20 years; adopted CA vehicle emissions standards; implementation pending EPA approval of CA waiver; SB 2540, signed in August 2008, as the Global Warming Solutions Act, covering requirements on monitoring and regulating emissions and climate protection and stressing the importance of state government leading by example in GHG emissions<br>***Increased goal to cut greenhouse gas (GHG) emissions 25% below 1990 levels by 2020.*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Massachusetts Sustainable Energy Economic Development (SEED) Initiative provides financial assistance to support renewable-energy companies in the early stage of development - these companies generally have a unique technology but have not yet demonstrated commercial viability to an extent sufficient to attract venture capital; offers feasibility study and design and construction grants for distributed renewable energy technology; passed legislation to develop a comprehensive management plan for state waters, including identification of sites appropriate for renewable energy developing, including offshore wind, wave, and tidal power generation<br>Established the Wind Technology Testing Center (WTTC), the first commercial large blade test facility in the nation to test the next generation of wind turbine blades |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Environmentally Preferable Products Procurement Program established with one of its goals to provide support and guidance for sustainable business solutions (Executive Order 279, 1988)<br>• The Massachusetts Technology Collaborative offers loans to support renewable energy companies entering or expanding within the manufacturing stage of commercial development<br>• Developed a clean energy cluster approach to promote clean energy and jobs<br>• Created the Massachusetts Clean Energy Technology Center, in charge of the Massachusetts Alternative and Clean Energy Investment Trust Fund, providing funds for R&D, green curriculum development, leveraging for federal loans and grants, and to promote manufacturing for clean technology products |

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# MASSACHUSETTS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **OTHER** | |
| Wind Development | Approved final environmental impact report for Cape Wind, the first offshore wind farm in America, projected to produce 450 MW just off the coast of Massachusetts; federal approval was granted; with assistance from DOE, building just one of the two Wind Technology Testing Centers in the country<br>***Negotiated a long term contract for Cape Wind with National Grid for one-half of its electricity and REC output.*** |
| Utility Mergers | ***Before utilities can merge, the Department of Public Utilities must find that the merger is in the public interest by providing 'net benefits'. In making this determination, the Department must consider reasonably foreseeable climate change impacts.*** |
| Nuclear Power | Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires voter ratification for their commission's decision to license a nuclear power plant. |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Currently - Residential:** Michigan Uniform Energy Code Part 10 Rules, less stringent than 1992 MEC, mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-1999, mandatory statewide<br>**Residential:** 2003 IRC, with reference to the 2004 IECC supplement, mandatory statewide Proposed: residential equivalent to 2009 IECC, and commercial equivalent to 2007 ASHRAE 90.1. Expected implementation date: February, 2011<br>***Residential: Updated code to 2009 Michigan Uniform Energy Code (MUEC) based on 2009 IECC***<br>***Commercial: Updated code to 2009 Michigan Uniform Energy Code (MUEC) based on ASHRAE 90.1-2007*** |
| Utility Demand-Side-Management | • Public Services Commission requires utilities to offer programs to customers in all sectors (residential, low-income, commercial, and industrial) (Case No. U-15800)<br>• Eligible large electric customers can design and implement an energy efficiency plan for their own facilities and, if approved by their utilities, be exempt from paying the per-meter surcharge |
| Utility Rate Realignment | On April 17, 2008, the House of Representatives passed legislation with broad bipartisan support mandating electric utilities to reach savings from energy efficiency programs each year; electric utilities would be required to achieve savings of 1% per year in 2012 and each year thereafter; the legislation offers financial incentives for exceeding the benchmarks and allows program expenses to be capitalized and authorizes the Public Service Commission to implement a symmetrical revenue decoupling true-up mechanism for gas utilities<br>• Allows natural gas utilities to request a symmetrical revenue decoupling mechanism as long as they are spending at least 0.5% of total revenues (including natural gas commodity costs) on energy efficiency programs (SB 213) |
| Energy Savings Targets/Energy Efficiency Resource Standards | Michigan's RPS Statute, the Clean, Renewable, and Efficient Energy Act, PA 295 of 2008, requires all electric and natural gas utilities in Michigan to establish energy optimization programs designed to save ratepayers money by reducing the future costs of providing electric and natural gas to customers; in particular, programs are designed to delay the need for constructing new electric generating facilities and thereby protect consumers from incurring the costs of such construction<br>• Electric utilities must achieve 0.3% savings in 2009; 0.5% in 2010; 0.75% in 2011; and 1.0% in 2012 and each year thereafter (SB 213)<br>• Natural gas utilities must achieve 0.1% savings in 2009; 0.25% in 2010; 0.5% in 2011; and 0.75% in 2012 and each year thereafter (SB 213) |
| Public Benefits Funds | The state's Low-Income and Energy Efficiency Fund supports the implementation of energy-efficiency projects and renewable-energy projects in the state |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Provides grants for community education programs to help consumers better understand energy efficiency and renewable-energy options; the energy-efficiency grant program, funded by the state's Low-Income and Energy Efficiency Fund, supports the implementation of energy-efficiency projects and renewable-energy projects in the state<br>• Taxpayers filing single returns with an annual income of $37,500 or less and married couples filing jointly with an annual income of $75,000 or less are eligible for a tax credit for the purchase and installation of qualifying energy efficient home improvements, limited to the following categories: insulation, water heaters, furnaces, windows, refrigerators, clothes washers, and dishwashers, all equipment must meet the EPA Energy Star efficiency criteria (MCL 206.253)<br>• Michigan SAVES finances the installation of energy measures with no upfront cost to utility customers<br>• For both the residential and nonresidential programs, the primary marketing vehicle and initial point of contact for the customer will be a network of contractors and other energy professionals qualified by Michigan SAVES<br>• The residential and nonresidential programs will be limited, at least initially, to energy efficiency upgrades and will not finance renewable energy systems<br>• Customers can choose from à la carte eligible energy-saving measures or an audit-based full response<br>• The Bureau of Energy Systems is administering 130 local government grants and four technical assistance grants for non-profits to upgrade energy efficiency in public buildings and facilities, increase recycling and/or put other policies and programs in place in communities that can create jobs and economic activity, reduce energy use and greenhouse gas emissions<br>• The state has launched a $9.6 million Appliance Rebate Program<br>• The Program is expected to last throughout 2010<br>• Certain appliance rebates are also offered through the utility based energy optimization programs<br>• See Energy Savings Targets<br>The RETAP provides onsite pollution prevention and energy efficiency assessments to businesses with 500 or fewer full-time employees in Michigan and institutions of any size<br>• The assessments are conducted by teams of retired professionals and are provided at no cost to the requesting organization<br>• The RETAP will conduct energy assessments on approximately 500 buildings by March 2012<br>***Launched the Michigan Energy Efficiency Network, a social media website, to provide a platform for local official and organization working on energy efficiency to communicate and collaborate with each other, state energy officials and energy business and contractors.***<br>***Authorized municipalities to establish a loan program to provide financing for clean energy improvements to commercial and industrial property owners via local ordinance (HB 5640).***<br>***Localities in Michigan have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | • Established a renewable energy standard, consisting of a renewable energy capacity portfolio and a renewable energy credit portfolio, under which 10% of an electric provider's energy must come from renewable sources by 2015 (Act 295, Clean, Renewable, and Efficient Energy Act)<br>• Requires electric and natural gas providers to file energy optimization plans<br>• Requires the Public Service Commission (PSC) and the Department of Management and Budget (DMB) to take certain actions related to energy efficiency and conservation<br>• Provides for the establishment of wind energy resource zones |
| Net Metering and Interconnection Standards | Five levels of interconnection standards for distributed generation; offers voluntary statewide net-metering program for systems that generate electricity using solar, wind, geothermal, biomass (including waste-to-energy and landfill gas) or hydropower up to 30 kW<br>• Statewide net metering adopted for all systems up to 20kW (Act 295)<br>• Modified net metering for systems between 20 and 150kW (PSC Order, Docket U-15787) |
| Shale Gas Development, Regulation and Policy | **Began publishing information, via the Michigan Department of Environmental Quality, about the chemicals used in the fracking process, requiring companies to disclose all Material Safety Data Sheets, and will post that data on the department's website for public review. The sheets list characteristics of the chemical additives and their potential health and environmental effects.**<br>**Required Michigan Department of Environmental Quality operators to document where they plan to get the fresh water used in the fracking process using the DEQ's water withdrawal tool, to ensure that neither surface water nor any neighboring water wells are impacted. They also will be required to report the total volume of fracturing water recovered during operation.** |
| Financial and Other Incentives | 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging companies from securitized tobacco settlement revenues<br>Property tax credits for methane digester operators and biomass gasification system operators; ADD - designated Alternative Energy Renaissance Zones and Renewable Energy Renaissance Zones offer a waiver of business taxes, most property taxes, and income taxes<br>The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations; provides grants for community education programs to help consumers better understand energy efficiency and renewable-energy options<br>• The state has developed a $10 million Revolving Loan Fund to provide low-interest loans to public buildings and to clean energy advanced manufacturing<br>• The state has received an allocation of Qualified Energy Conservation Bonds<br>• Established a program to provide allocations to local units of government for qualified projects<br>• Augmenting the Michigan Farm Energy Audit and Renewable Energy Assessment Program<br>• Michigan State University is exploring the feasibility of growing, harvesting and utilizing bioenergy crops on non-traditional cropland that include areas along Michigan roadways and vacant urban lots for energy use such as biofuel, heat and electricity production |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • The Renewable Energy and Energy Efficient Technology Demonstration grant program provides matching funds to small businesses for projects that will demonstrate innovative renewable energy and energy efficient technologies not yet widely adopted in Michigan<br>• Established the MI Energy Efficient Appliance Rebate program<br>• Michigan companies make many of the products included in this program<br>• The Michigan strategy has the following objectives: 1) Complement the existing utility energy optimization programs by providing rebates for appliances not covered by utility programs; 2) Reach rural areas not served by utility natural gas programs; and 3) Push the marketplace by providing rebates for appliances that exceed the ENERGY STAR standards<br>***Created a 100% personal property tax exemption for alternative energy systems less than 2 MW, or less than 10 MW for a combination of technologies.***<br>***Offered a low interest loan program, which offers loans of up to $2 million to small businesses with 500 employees or less to incentivize high-growth clean energy sectors and encourage investment in advanced manufacturing of energy systems and components (See also Clean Energy Economic Development).***<br>***Authorized municipalities to establish a loan program to provide financing for clean energy improvements to commercial and industrial property owners via local ordinance (HB 5640).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Financial and Other Incentives | Offers grants to service stations to convert existing and install new fuel delivery systems designed to provide E85 and biodiesel blends; provides a reduced tax to biofuel blends (at least 70% ethanol and 5% biodiesel)<br>Offers a tax credit for research and development of a qualified hybrid system that has the primary purpose of propelling a motor vehicle; businesses located within the state's designated Alternative Energy Zone that are engaged in qualified activities are eligible for exemption from state and local taxes; offers a tax exemption on industrial property used to make biodiesel; ADD - offers grant funds for pilot programs between universities, automakers and utilities to study Plug-In-Hybrid vehicle to grid integration; offers Forest Product Processing Renaissance Zones that waive business, property, and income taxes for alternative energy creation<br>The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations; 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging companies from securitized tobacco settlement revenues<br>• Provide a tax credit to a service station owner to convert to E85 or B5 (or greater) or for new fueling equipment to provide E85 or B5 (or greater) to the public (MCL 208.1460)<br>• The tax credit is 30% of eligible costs up to $20,000 per year<br>• Biofuel Signage Rebate Program provides rebates up to $1,500 to cover 50% of the costs to design, install, and pay the first year's annual fee for signs displaying the availability of E85 or B20 at a public service station |

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# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • Public service stations that are located within six miles of an interstate highway are eligible<br>• The Bureau of Energy Systems is a partner in the I-75 Green Corridor Project which will increase the availability of E85 and B20 to the public and to fleets along I-75 from Michigan to Florida<br>• The Bureau of Energy Systems is a project partner in a DOE grant awarded to Clean Energy Coalition of Ypsilanti for the Expansion of Infrastructure for Higher Ethanol Blends Program<br>• The grant is expected to result in 10 new E85 fueling sites in Michigan<br>• The Bureau of Energy Systems is a project partner providing capital and other support in a $30M project to help municipalities, companies, and transportation groups purchase alternative fuel vehicles and install alternative fueling infrastructure<br>• The project will result in the acquisition of 271 alternative fuel vehicles and the installation of 19 alternative fuel stations<br>• Offers a tax credit for research and development of a qualified hybrid system that has the primary purpose of propelling a motor vehicle (MCL 208.1101-208.1601)<br>• Businesses located within the state's designated Alternative Energy Zone that are engaged in qualified activities are eligible for exemption from state and local taxes<br>• Offers a tax exemption on industrial property used to make biodiesel<br>• Offers grant funds for pilot programs between universities, automakers and utilities to study Plug-In-Hybrid vehicle to grid integration<br>• Offers Forest Product Processing Renaissance Zones that waive business, property, and income taxes for alternative energy creation<br>***Offered tax credits to manufacturers of traction battery packs for use in vehicles. After January 2012, a manufacturer may claim a tax credit of up to 75% of the qualified expenses for vehicle engineering to support battery integration, prototyping, and launching.***<br>**Created a nonrefundable credit for tax liability attributable to research, development, or manufacturing of qualified alternative fuel vehicles (AFVs) and renewable fuel.**<br>**Exempted dedicated AFVs powered by compressed natural gas, propane, electricity, or any other source as defined by rules the Michigan Department of Transportation promulgates from emissions inspection requirements.**<br>**The Local Development Financing Act allows municipalities to create a local development financing authority that may borrow against future tax increment financing to pay for public infrastructure improvements that will attract economic development projects. Qualified advanced vehicle research and development projects may be eligible.**<br>**Exempted small farms that produce ethanol or biofuels for their own use from requring a special permit (SB 46).** |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Participant in Climate Savers Computing Initiative; equipment should meet Energy Star standards when available |
| Building Efficiency | Goal to reduce energy use in state agencies 10% by the end of 2008; goal to reduce electricity purchases 20% from 2002 levels by 2015; LEED certification is required for state-funded new construction and renovations over $1 million - projects should strive to score at the LEED Platinum level on the Existing Building, New Construction, and Commercial Interiors scorecards -Goal of reducing state government grid-based energy purchases 25% by 2015 compared to a 2002 baseline. As of July 2010, Michigan had achieved a 22% reduction in energy use in state facilities. |
| Alternative Fuel and Vehicle Fleets | • The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations |
| **GHG EMISSIONS** | |
| GHG Policies | Created a Climate Action Council by Executive Order to inventory the state's GHG footprint and develop a comprehensive climate action plan with policy recommendations<br>***Set a goal to reduce the state's greenhouse gas (GHG) emissions to 20 percent below 2005 levels by 2025 and 80 percent below 2005 by 2050 (Executive Directive 2009-4). Policy measures to reach this goal include agricultural education programs aimed at teaching farmers practices that enhance biological carbon sequestration; building code revisions designed to improve energy efficiency; state and local plans to alleviate vehicular congestion and improve the efficiency of transport; and the development of a program that will curb state vehicle idling times.*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Offers tax credits, property tax exemptions, and payroll credits to businesses that participate in NextEnergy, a comprehensive economic-development plan to position Michigan as a world leader in the research, development, commercialization and manufacture of alternative-energy technologies; establishing Centers of Excellence which partner an anchor company with on-site university research partners to commercialize renewable energy and alternative energy technologies<br>• Partnered with Michigan based solid-state lighting companies and universities to form the Michigan Solid-State Lighting Association (MSSLA)<br>• Mission is to ensure Michigan is a global leader in solid-state lighting manufacturing, research, and development through knowledge sharing, education, and public policy advocacy<br>***Created a non-refundable business activity credit for businesses engaged in the research, development, and manufacturing of alternative energy technologies.*** |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Advancing stewardship activities through the the Michigan Turfgrass Environmental Stewardship Program<br>• Focus on pollution prevention, energy efficiency, and water conservation leading to a strong "greening" of small business<br>• Green Lodging Michigan is an environmental certification program for lodging facilities<br>• Voluntary program that establishes environmental guidelines for the hospitality industry and is designed to promote green lodging throughout the state by encouraging hospitality facilities to adopt cost-saving "green" practices<br>• Green Venues Michigan is a statewide "green" certification program for entertainment venues, convention centers, and similar facilities<br>• Designed to encourage and assist facilities to adopt cost saving, green practices which conserve natural resources and prevent pollution<br>• The 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging sectors (HB 5047)<br>• A portion of the funds were used to establish the Centers of Energy Excellence (COEE) program in 2008 to promote the development, acceleration, and sustainability of energy excellence sectors in the state through collaboration between the private sector, academia, and government<br>• This initiative has made investments in projects designed to help develop, grow and sustain alternative energy clusters which will accelerate the commercialization of innovative energy technologies, with a primary goal of leveraging federal funding opportunities<br>• The No Worker Left Behind Green Jobs program was established to provide assistance for unemployed and/or low-income workers to re-train for a job in a high-demand field, and has been focused on the green economy<br>• The Michigan Academy for Green Mobility provides training for high-tech jobs in renewable energy<br>• Building Operator Certification (BOC®) program trains individuals directly responsible for day-to-day building operations<br>• Competency-based training and certification program that provides energy-saving operational strategies for maintenance and operations staff and technicians<br>• The DELEG Bureau of Energy Systems is working with Midwest Energy Efficiency Alliance to become the state licensee for this program by mid-2010<br>• A Michigan pilot BOC training program, sponsored by Consumers Energy and DTE Energy is currently underway |

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Clean State Energy Actions • 2011 Update

# MICHIGAN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Task Force, Workforce Development, Incentives, Analysis, Etc. (continued) | • The 2009 Green Jobs for Blue Waters Initiative promotes offshore energy development<br>• The Michigan Industrial Energy Center (MIEC) will help industries in Michigan by delivering a comprehensive integrated energy savings program by (a) Offering a two-part, intensive energy education and certification program for current and future industrial energy managers; (b) Assisting energy-intensive industries by identifying, recommending and helping them implement specific measures to save energy; and (c) Helping energy-intensive industries to deploy state-of-the art energy-efficient furnace technology at two industrial demonstration sites in Michigan<br>**Offered a refundable tax credit equal to 25% of the capital costs of building a PV manufacturing facility.**<br>**Offered low-interest loans of up to $2 million to small businesses with 500 employees or less to incentivize high-growth clean energy sectors and encourage investment in advanced manufacturing of energy systems and components (See also Clean Electricity).** |
| **OTHER** | |
| Green Communities Challenge | • The Michigan Green Communities Challenge is designed to ensure that all Michigan communities have the tools to take the necessary steps to implement short-term and long-range actions that lead to energy efficiency improvements producing significant cost savings |
| Fuel Efficiency Education | The Department of Natural Resources and the Environment and the Department of Technology, Management, and Budget must develop an Eco-Driver Program for all employees using state vehicles. This program will provide education and training materials designed to maximize vehicle fuel economy by educating drivers on how driving patterns, vehicle technologies, and vehicle maintenance impact fuel economy. The Eco-Driver Program will serve as a model for the future development of an Eco-Driver Program targeted towards the general public. |

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Clean State Energy Actions • 2011 Update

# MINNESOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for five appliance categories |
| Building Energy Codes | **Residential:** 2007 Minnesota State Building Code, based on the 2006 IRC, mandatory statewide, effective as of 2009<br>**Commercial:** 2007 Minnesota State Building Code, based on ASHRAE 90.1 -2004, mandatory statewide, effective as of 2009<br>***Required new commercial, institutional and industrial projects to comply with Sustainable Building 2030 guidelines, which are designed to achieve energy consumption reductions of 60% in 2010 (2003 baseline), increasing 10% every five years towards an ultimate target of 90% in 2025.*** |
| Utility Demand-Side-Management | There must be a 1.5% annual energy savings of electric and natural gas sales, with a minimum of 1% coming from energy efficiency |
| Utility Rate Realignment | Decoupling in natural gas markets in progress; incentives are provided<br>• The Public Utilities Commission (PUC) issued an order for utilities to file non-binding notices of intent regarding their plans for decoupling pilots by June 2010, with proposals due by December 2011 (Docket No. E,G-999/CI-08-132) |
| Energy Savings Targets/Energy Efficiency Resource Standards | There must be a 1.5% annual energy savings of electric and natural gas sales, with a minimum of 1% coming from energy efficiency |
| Public Benefits Funds | Applied energy efficiency and research grants for applied research and development projects that identify new technologies or strategies to maximize energy savings, improve the effectiveness of energy conservation programs, or document the carbon dioxide reductions from energy, conservation programs |
| Financial and Other Incentives | The Energy Investment Loan Program provides loans that can be applied to energy efficiency and renewable energy projects; offers low interest loans to homeowners who want to make energy improvements to their property; provides low interest financing for making energy conservation and other basic improvements to residential rental properties located in participating Minnesota communities; provides low-interest financing for energy conservation and other basic improvements to residential, owner occupied properties<br>• Established a microenergy loan program that includes anaerobic digester gas systems (Statute 216C.145)<br>• Allows for Property Assessed Clean Energy (PACE) financing (HF 2695, Sec. 3 & 4)<br>***Established Rental Energy Loan Fund to provide financial assistance to owners of residential rental properties to increase the energy efficiency of their buildings.***<br>***Localities in Minnesota have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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# MINNESOTA

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| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires that 25% of Minnesota's power come from renewable sources by 2025; Xcel Energy, which currently generates about half of the state's electricity, will be required to produce 30% of its power from renewable sources by 2020; goal to develop an additional 800 MW of community-owned wind projects by 2010<br>• Revised the standard to include solar energy systems, with a limitation of 1% of the 25% requirement (SF 550, Sec. 13) |
| Net Metering and Interconnection Standards | Qualifying facilities up to 40 kW are eligible for net metering - there is no statewide capacity limit for net metering; the PUC adopted an order establishing generic standards for utility tariffs for interconnection and the operation of distributed-generation facilities up to 10 MW in capacity; Community-Based Energy Development (C-BED) Tariff requires each public utility in Minnesota to file with the state Public Utilities Commission to create a 20-year power purchase agreement for community-owned renewable energy projects - utilities are required to consider C-BED projects, but they are not required to sign C-BED contracts |
| Advanced Coal and Clean Coal | Provides incentives and grants to Mesaba Energy gasification plant (2003) |
| Public Benefits Funds | Xcel Energy's Renewable Energy Development Fund supports the research and development of new renewable-energy sources and energy production; project awards support wind energy, biomass energy, solar energy, hydropower, biofuels and a project involving coal gasification |
| Financial and Other Incentives | Provides loans for renewable improvements or additions to agricultural facilities; the Energy Investment Loan Program provides loans that can be applied to energy efficiency and renewable energy projects; the Rural Wind Energy Revolving Loan assists the funding of wind energy feasibility and transmission interconnection studies for community-based energy developments<br>Offers a per kWh payment for electricity generated by hydro facilities, on-farm anaerobic manure methane digesters, and new wind energy projects under 2 MW in capacity; offers a solar-electric rebate program, funded by Xcel Energy, to buy down the up-front costs of grid-connected solar-electric systems<br>Offers a sales tax exemption for solar and wind energy systems<br>• Revenues collected from production taxes on wind energy systems will be distributed as follows: 80% to counties and 20% to cities and townships (Statute 272.029)<br>• Allows for Property Assessed Clean Energy (PACE) financing (HF 2695, Sec. 3 & 4)<br>***Created rebates for in-state single family residential, multi-family residential and small business solar hot water heating systems and solar air heating systems.***<br>***Created a residential and commercial rebate of 35% of installed system costs for small wind systems up to 35 kW.***<br>***Established low-interest loans of between $2,000 and $35,000 for residential renewable energy improvements.***<br>***Offered loans in amounts of up to $40,000 per farm family, with up to $160,000 available for joint projects, for on-farm energy production.***<br>***Created grants for low-income residences of up to $4,700 to install solar or biodiesel heating systems.***<br>***Localities in Minnesota have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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# MINNESOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Requires all gasoline to contain 10% ethanol increasing to 20% by 2013 and requires all diesel fuel to contain 2% diesel, increasing to 5% in 2009 and 20% by 2015; Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>• Established standards for biodiesel blends and fuels (Statute 239.75 and 239.77) |
| Financial and Other Incentives | Offers an ethanol production incentive per gallon of ethanol produced for qualified facilities<br>Provides grants to service stations installing equipment or converting existing equipment for dispensing E85 fuel to flexible fuel vehicles<br>State agencies are required to take all reasonable actions necessary to strengthen the infrastructure for increasing the availability and use of E85 and biodiesel throughout the state<br>• $3M in state grants was awarded by the Next Generation Energy Board to eight projects focusing on biofuel development<br>**Offered tax credits to qualified small business that uses proprietary technology to add value to a product, process, or service related to cellulosic ethanol or is involved in the research or development of a proprietary product, process, or service related to cellulosic ethanol. The tax credit is equal to 25% of the qualified investment, up to $250,000 annually.**<br>**Made funding available to assist retailers with the installation and conversion of equipment to dispense biodiesel blends between 10% (B10) and 20% (B20).** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Participant in the Climate Savers Computing Initiative |
| Building Efficiency | New state construction must exceed the state energy code in effect as of January 2004 by at least 30%; participates in the Energy Star challenge; when practicable, geothermal and solar thermal heating and cooling systems must be considered when designing, planning, or letting bids for necessary replacement or initial installation of cooling or heating systems in new or existing buildings that are constructed or maintained with state funds<br>• Reviewing geothermal and solar thermal applications as possible uses for heating or cooling for all state building projects<br>**The governor issued an executive order which directs state agencies to identify and make cost-effective energy improvements in state facilities, and sets a goal of a 20 percent reduction in state energy consumption.**<br>**The governor issued an executive order that requires state agencies to create annual sustainability plans that identify specific, measurable goals, to include reducing greenhouse gas emissions by 80 percent by 2050, reducing waste disposal by 60 percent, and other similar measures of sustainability.** |

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| CATEGORY | ACTIONS TAKEN |
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| Alternative Fuel and Vehicle Fleets | Goal to reduce state fleet gasoline consumption by 50% and diesel consumption by 25% from 2005 levels by 2015; state agencies are required to use alternative fuels (B20-B100 biodiesel blends, compressed or liquefied natural gas, E70-E100 ethanol blends, hydrogen, or liquefied petroleum gas) in state motor vehicles if the clean fuels are reasonably available; requires that 75% of new vehicles be AFVs or have a fuel efficiency rating of at least 30 mpg; the state will purchase plug-in hybrid electric vehicles and neighborhood electric vehicles for the state fleet when they become commercially available and cost no more than 10% above the price of comparable gasoline-powered vehicles; the state Department of Administration is required to identify opportunities for demonstrating the use of hydrogen fuel cells within state-owned facilities, vehicle fleets, and operations<br>• Specifies electric vehicles as the vehicles that should be purchased by state agencies (HF 1250) |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce statewide GHG emissions 15% by 2015, 30% by 2025, and 80% by 2050, based on 2005 levels; the Minnesota Climate Mitigation Action Plan is in progress, due 2008: will develop a set of state-level policy recommendations for reducing or sequestering greenhouse gas emissions and will also identify opportunities to promote energy-efficient technologies and clean, renewable energy resources that will enhance economic growth<br>• The Minnesota Climate Change Advisory Group released their final report in April 2008<br>• Creating a coordinated process for reducing greenhouse gas emissions (Statute 216H) |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The state's public research and higher education institutions are encouraged to collaborate to establish a regional energy research and education partnership for the production of renewable energy and products, including hydrogen, fuel cells, and related technologies; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Created a Green Jobs Task Force, an Energy Improvement Loan Program, a Microenergy Loan Program, and mandated the completion of the "Green Economy Report" (SF 3096, Minnesota Green Jobs Act)<br>• Released the MN Green Jobs Task Force Draft Action Plan in 2009<br>• Created the Green Economy Transformation Task Force as an advisory council and to develop a statewide action plan (SF 3669)<br>• Requires the task force to analyze labor force needs relative to the green economy, including educational, training, and retraining needs<br>• Created Green JOBZ tax free zones for renewable energy jobs, part of the current JOBZ program (SF 1062)<br>• Funding available for business and community development and workforce development in clean energy industries<br>• Participant in the participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>**Created the Minnesota Science and Technology Authority to stimulate innovation and encourage investment in new technology products, companies, industries and jobs in the state.** |
| **OTHER** | |
| Nuclear Power | Currently has a moratorium on the construction of new nuclear power plants |

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Clean State Energy Actions • 2011 Update

# MISSISSIPPI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** State energy code, based on ASHRAE 90-1975; voluntary<br>**Commercial:** ASHRAE 90-1975, mandatory for state owned buildings, public buildings, and high-rise buildings |
| Utility Demand-Side-Management | ***Urged all state agencies to define the smart grid for the purposes of creating jobs and encouraging customer energy savings in the state (SCR 665).*** |
| Financial and Other Incentives | The Energy Efficiency Lease Program allows public institutions and private, non-profit hospitals the opportunity to lease-purchase energy efficient services and equipment for up to 10 years from the Energy Division of the Mississippi Development Authority; offers low interest loans for energy efficiency projects |
| **CLEAN ELECTRICITY** | |
| Advanced Coal and Clean Coal | Provides bond issuance for gasification<br>***Established standards by which the Mississippi Department of Environmental Quality and the Mississippi Oil and Gas Board will oversee and monitor the geologic carbon dioxide sequestration process used in the enhanced recovery of oil and gas in order to expand the state's energy portfollio and create jobs (S.B. 2723).*** |
| Financial and Other Incentives | Offers low interest loans for renewable energy projects, including solar thermal, solar space heat, solar process heat, photovoltaics, alternative fuels, geothermal, biomass, landfill gas and hydropower<br>• Producers of firing or co-firing biomass are eligible for an annual investment tax credit for income taxes<br>• Amended a bill from 1972 exempting public storage warehouses of the raw materials for the firing or co-firing facilities from sales tax of their gross income |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Offered low interest loans for alternative fuels projects; offered a direct payment incentive to qualified ethanol and biodiesel producers located in Mississippi |
| **LEAD BY EXAMPLE** | |
| Building Efficiency Standards | • Enacted rules and regulations regarding energy performance of state-funded buildings |
| Alternative Fuel and Vehicle Fleets | The Bureau of Fleet Management will encourage the use of fuel efficient or hybrid vehicles appropriate for the state agency's intended purpose and, when feasible, the use of alternative fuels<br>• All state agencies and institutions must develop and adopt travel policies that include strategies to reduce petroleum consumption, such as carpooling to meetings and purchasing alternative fuels where available (Executive Order 82) |

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Clean State Energy Actions • 2011 Update

# MISSISSIPPI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Energy Investment Loan Program provides loans to businesses that promote the development and demonstration of efficient, environmentally acceptable and commercially feasible technology and processes |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Provided state income tax and sales and use tax exemptions as incentives for companies that manufacture systems or components used to generate renewable energy, nuclear and biomass through the Mississippi Clean Energy Initiative. To qualify, a business entity must have a minimum investment of $50 million and create 250 full-time jobs.*** |

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Clean State Energy Actions • 2011 Update

# MISSOURI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | • Statutes authorize establishment of energy-efficiency standards for appliances (SB 1261) |
| Building Energy Codes | Set the 2006 IRC as the minimum energy efficiency standard for construction or renovation of a state building over five thousand square feet (See also - Lead by Example). |
| Utility Demand-Side-Management | Utility sponsored DSM programs are or will be implemented by all regulated and electric and most regulated natural gas companies; DSM programs or planning initiatives set out in regulatory cases and resource planning processes (electric only); advisory groups have been established to work with utilities to develop, implement and evaluate programs--Levels of investment vary<br>• Established a state goal to achieve all cost-effective demand-side savings (SB 376, Missouri Energy Efficiency Investment Act)<br>• Requires timely cost recovery of demand-side management programs, the alignment of financial incentives for customers and utilities and provides timely earnings opportunities for cost-effective measurable and verifiable efficiency savings<br>***The Public Service Commission promulgated rules to encourage the state's four investor-owned electric utilities to implement more energy efficiency programs to help consumers control their energy use. Program costs can be recovered by the electric companies between general rate cases. If an electric company seeks cost recovery outside of a general rate case, current and future programs must be approved by the Commission.*** |
| Utility Rate Realignment | Straight fixed variable rate designs established for two natural gas companies using fixed monthly charges to recover non-gas costs and conditional upon modest DSM investments; regulated electric utilities and two regulated natural gas utilities are allowed to accumulate DSM program costs in regulatory asset accounts and amortize costs over a 6-10 year period; DSM costs and earnings are recovered in subsequent rate cases |
| Energy Savings Targets/Energy Efficiency Resource Standards | • State policy goal of achieving all cost-effective demand-side savings; no required standard |

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Clean State Energy Actions • 2011 Update

# MISSOURI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | The Division of Energy of the Missouri Department of Natural Resources provides loans for energy efficiency and renewable energy projects for schools, colleges, universities and local government buildings and structures<br>• Expanded the linked-deposit loan program for eligible alternative energy operations producing and selling energy from alternative sources (SB 452)<br>• For expenses incurred on or after January 1, 2009, taxpayers can deduct energy audits and energy efficiency improvements from their income taxes up to $1000 per return and $2000 cumulatively per taxpayer (MRS 143.121(8))<br>• Provides rebates for purchase of Energy-Star rated appliances<br>• Provides grants or loans for energy audits and energy-efficiency projects in industries, commercial buildings, agricultural buildings and operations, local government buildings and schools<br>• Offers funding for innovative approaches to delivery of energy-efficiency projects and services to lower-income families<br>• Allows for Property Assessed Clean Energy (PACE) financing<br>• The "Show-Me Green Sales Tax Holiday" offers consumers a seven-day exemption from state sales taxes on certain Energy Star certified new appliances<br>***Set aside $14 million in ARRA funds to assist water and wastewater facilities, K-12 schools, universities, local governments, and hospitals in identifying and implementing energy efficiency improvements. Also set aside $5 million in ARRA funds to assist animal agriculture farmers in identifying and implementing energy efficiency improvements.***<br>***Created Energize Missouri Homes initiative to provide single family residences with funding for the Homeowner Upgrades and Geothermal program, which provides homeowners with rebates up to $17,000.***<br>***Created Energize Missouri Agriculture and Industries programs that provide grants and loans for energy efficiency measures.***<br>***Enacted the "Property Assessed Clean Energy Act." The act allows municipalities to create Clean Energy Development Boards, which in turn are permitted to develop local PACE programs to finance energy efficiency improvements or renewable energy improvements.***<br>***Localities in Missouri have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Utilities must make a good-faith effort to generate or procure electricity generated by eligible renewable-energy resources, so that by 2012, 4% of total retail electric sales is generated by eligible renewables--the goal increases to 8% by 2015, and to 11% by 2020<br>• Renewable energy standard adopted by voters in November 2008 that requires investor-owned electric utilities to increase their use of renewable sources to 2% of total electricity generation by 2011, 5% by 2014, 10% by 2018 and 15% by 2021; also includes a specific solar-generation requirement (MRS 393.1020 et seq., 4 CSR 240-20.100)<br>***Revised the list of eligible renewable energy resources to include methane generated from agricultural operations and thermal depolymerization or pyrolysis for converting waste materials to energy (S.B. 795).*** |

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Clean State Energy Actions • 2011 Update

# MISSOURI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Requires all of the state's electric utilities -- including municipal utilities and electric cooperatives -- to offer net metering to customers with systems up to 100 kW in capacity that generate electricity using wind energy, solar-thermal energy, hydroelectric energy, photovoltaics, fuel cells using hydrogen produced by any of these resources, and other sources of energy certified as renewable by the Missouri Department of Natural Resources; customers may apply for interconnection up to 100 kW or 5% of a utility's single-hour peak load during the previous year |
| Financial and Other Incentives | The Division of Energy of the Missouri Department of Natural Resources provides loans for energy efficiency and renewable energy projects for water and wastewater treatment facilities, schools, colleges, universities and local governmental buildings and structures<br>The Wood Energy Tax Credit allows individuals or businesses processing Missouri forestry industry residues into fuels an income tax credit per ton of processed material<br>***Launched the Energize Missouri Homes initiative to provide single family residences with funding for the Homeowner Upgrades and Geothermal program, which provides homeowners with rebates up to $17,000.***<br>***Created Renewable Energy Biogas Grants to support agricultural/industrial projects that use anaerobic digestion-to-energy systems and landfill biogas-to-energy projects.***<br>***Awarded Renewable Energy Studies Subgrantsto 17 entities under to increase the ability to make informed decisions about complex renewable energy systems.***<br>***Exempted, wholly or partially, improvements made to real property which are locally assessed and in a renewable energy generation zone designated as an enhanced enterprise zone from assessment and payment of ad valorem taxes of one or more affected political subdivisions for up to 25 years (HB 737).***<br>***Allowed renewable energy credit for a cleanfields renewable energy demonstration park, which contains a biomass facility, for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Energy RD&D and Clean Energy Economic Development).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | All gasoline except premium grade must contain 10% ethanol |
| Financial and Other Incentives | Qualified ethanol producers were eligible for incentives through the Missouri Ethanol Producer Incentive Fund<br>The Missouri Qualified Biodiesel Producer Incentive Fund provided a monthly grant to qualified Missouri biodiesel producers<br>• Tax credit for processed biomass engineered fiber fuel (SB 635)<br>• Tax credit for costs of purchase and installation of equipment to store and dispense alternative motor fuels (MRS 135.710)<br>***Exempted vehicles that are powered exclusively by electric or hydrogen power, or by fuels other than gasoline that are exempt from motor vehicle emissions inspection under federal regulation from state emissions inspection requirements.***<br>***Exempted plug-in electric drive vehicles with batteries that can be re-charged by an on-board generator and an off-board electrical source from the federally mandated Air Quality Attainment Act and motor vehicle emissions inspection program (H.B. 354).*** |

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Clean State Energy Actions • 2011 Update

# MISSOURI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency Standards | • Appliances used in state-owned buildings/facilities must be Energy Star-rated (SB 376)<br>• Requires 2% reduction in energy use during each of 10 years in state buildings and operations (Executive Order 09-18) |
| Building Efficiency Standards | Set the 2006 IRC as the minimum energy efficiency standard for construction or renovation of a state building over five thousand square feet (SB 1181 – See also Energy Efficiency) |
| Alternative Fuel and Vehicle Fleets | State agencies must ensure that 70% of new vehicle acquisitions be flexible fuel vehicles capable of operated on fuel blended with 75% ethanol (E85); through the 2011-12 school year, school districts are allowed to establish contracts with nonprofit, farmer-owned new generation cooperatives to purchase biodiesel blends of 20% (B20) or higher for use as bus fuel; the Biodiesel Fuel Revolving Fund uses the money generated by the sale of Energy Policy Act credits to cover the incremental cost of purchasing fuel containing B20 or higher biodiesel blends for use by state fleet vehicles; the Missouri Department of Transportation (MoDOT) is required to develop a program that provides opportunities to use B20 or higher biodiesel blends in its vehicle fleet and heavy equipment that use diesel fuel; at least 75% of the MoDOT vehicle fleet and heavy equipment that uses diesel fuel must be fueled with B20 or higher biodiesel blends, if such fuel is commercially available<br>***Required state agencies operating a vehicle fleet consisting of 15 vehicles or more to ensure that at least 50% of new vehicles purchased are capable of operating using an alternative fuel. 30% of the fuel purchased annually for use in operating state fleet vehicles must be alternative fuels.***<br>***Created a requirement that state agencies must develop fleet management plans to encourage fleet efficiencies.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Missouri Action Options for Reducing Greenhouse Gas Emissions (2002); Kansas City Climate Protection Partnership |
| **CLEAN ENERGY RD&D** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Allowed the owner of a cleanfields renewable energy demonstration park, which contains a biomass facility, to receive double renewable energy credits for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Electricity).*** |

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Clean State Energy Actions • 2011 Update

# MISSOURI

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Missouri initiated the Show Me JOBS Initiative that includes:<br>• Training programs to educate Missourians in high-tech fields<br>• Summer employment programs that helped prepare more than 7,000 young Missourians to compete for and excel in the high-tech, high-paying careers of the 21st century<br>• Financial incentives for small business development<br>• Special energy economic development team exists to help existing businesses and new businesses provide goods, services, and jobs for the green economy<br>***Permitted the owner of a cleanfields renewable energy demonstration park, which contains a biomass facility, to receive double renewable energy credits for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Electricity).*** |

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Clean State Energy Actions • 2011 Update

# MONTANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** ARM Title 24, Chapter 301.160 incorporates the 2009 IECC with state amendments and is mandatory statewide for residential and commercial construction; REScheck may be used to show compliance for the residential code<br>**Commercial:** ARM Title 24, Chapter 301.160 incorporates the 2009 IECC with state amendments and is mandatory statewide for residential and commercial construction; COMcheck may be used to show compliance for the commercial code<br>• These updates became effective on March 26, 2010<br>• The state's 46 local certified jurisdictions will have an additional 90 days to adopt the same code and edition for their jurisdictions, all other areas are under the jurisdiction of the State Building Codes Bureau<br>• Allows local city and county jurisdictions with a building code enforcement program to adopt energy conservation standards that are more stringent than the state code (HB 420)<br>• Standards must be voluntary and linked to an incentive program for energy conservation, where only buildings receiving an incentive will be required to meet the more stringent standard<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| Utility Demand-Side-Management | Cost recovery process exists for electric and natural gas utilities<br>***Established that it is the state's policy to build new transmission lines in the state, but noted that the need for new transmission lines may be mitigated by focusing on energy efficiency, distributed energy, demand response, and smart grid technologies (SB 305).*** |
| Utility Rate Realignment | Throughput incentives are addressed through lost revenue provisions for one utility |
| Energy Savings Targets/Energy Efficiency Resource Standards | The 20 x 10 initiative set the goal of reducing energy use in state government facilities by 20% by the end of 2010 |
| Public Benefits Funds | The Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables; termination date repealed |
| Financial and Other Incentives | A taxpayer may deduct a portion of the cost of a capital investment in a building that demonstrably promotes energy conservation; taxpayers may claim a credit against their tax liability for up to 25% of the costs of investment for energy conservation purposes in a building<br>The State Buildings Energy Conservation Bond program is designed to finance energy improvement projects on state owned buildings |

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Clean State Energy Actions • 2011 Update

# MONTANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Mandates that 15% of the state's energy come from renewable sources by 2015, and for each year thereafter (5% for years 2008-2009 and 10% for years 2010-2014)<br>• Certain amounts of generation capacity must be community renewable energy projects, no more than 25 MW in size and owned by Montana entities (69-8-1001 et seq. MCA)<br>• Compliance date for first tranche of community renewables moved from 2010 to start of 2012<br>• Eligible renewable resources owned by a public utility can be used to comply with the community renewable energy project requirements in the standard |
| Net Metering and Interconnection Standards | Net metering applies to systems up to 50 kW in capacity that generate electricity using hydropower, wind or solar energy (not applicable to all utilities) |
| Advanced Coal and Clean Coal | A property tax abatement of 50% for up to 19 years is available for coal gasification facilities with sequestration, including coal to liquid facilities, carbon pipeline and sequestration equipment, and clean advanced coal research and development equipment<br>• Working with US DOE and Province of Saskatchewan to develop carbon capture and storage pilot project<br>***Required the monitoring of carbon dioxide injection wells for 50 years unless an alternative timeframe is approved by the Board of Oil and Gas Conservation, requires an operator to continue to accept liability and provide adequate bond or surety for a carbon dioxide storage reservoir and the stored carbon for a minimum of 30 years (S 285).*** |
| Public Benefits Funds | The Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables |
| Financial and Other Incentives | The Alternative Energy Revolving Loan Program (AERLP) provides loans to individuals, small businesses, local government agencies, units of the university system, and nonprofit organizations to install alternative energy systems that generate energy for their own use<br>Commercial and net metering alternative energy investments of $5,000 or more are eligible for a tax credit of up to 35% against individual or corporate tax on income generated by the investment; allows a 50% property tax abatement for new renewable energy or clean coal production facilities, new renewable energy manufacturing facilities, and renewable energy or clean coal research and development equipment; offers a tax credit equal to the amount of the cost of renewable energy systems and installation of the system, up to $500<br>Offers a tax credit for the installation of a geothermal heating or cooling system, up to $1,500; new electricity generating facilities with a nameplate capacity of less than 1 MW and using an alternative renewable energy source are exempt from property taxes for five years after start of operation; provides a 10-year property tax exemption for renewable energy technology |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | All gasoline must be blended with 10%, by volume, of agriculturally derived, denatured ethanol, within one year after the Montana Department of Transportation has certified that the state has produced 40 million gallons of ethanol and has maintained that level of production for at least three months |

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Clean State Energy Actions • 2011 Update

# MONTANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Property tax rate abatements of up to 50% are available for new investments in facilities that manufacture, research, or develop products related to biodiesel, biomass, biogas, coal-to-liquid fuels, ethanol, pipelines carrying "clean" products, renewable energy manufacturing plants, and research and development equipment for renewable energy; provides an ethanol and biodiesel production incentive, a tax credit for the cost of biodiesel storage and blending equipment and a tax credit for the cost of constructing and equipping a biodiesel or bio-lubricant facility; a tax credit is available for converting vehicles to operate on alternative fuels<br>• License tax rate reduction each distributor pays for the privilege of engaging in and carrying on a business dealing with ethanol eliminated (SB 353)<br>• Certain biodiesel produced from waste vegetable oil feedstock exempted from the special fuel tax (HB 416)<br>***Allowed a licensed distributor who pays the special fuel tax on biodiesel to claim a refund equal to $0.02 per gallon of biodiesel sold during the previous quarter if the biodiesel is produced entirely from biodiesel components made in Montana.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | State government is purchasing Energy Star equipment and appliances as part of the governor's 20 x 10 initiative to reduce energy use 20% by 2010 |
| Building Efficiency | Goal to achieve a 20% reduction in state government energy consumption by 2010<br>• Created energy efficiency standards for state-owned and state-leased buildings (SB 49)<br>• Applies to new construction and major renovation projects for state-owned buildings and new construction projects for state-leased buildings<br>• Buildings must exceed the effective International Energy Conservation Code by 20%, to the extent that it is cost effective<br>• State agencies are authorized to enter into energy performance contracts to promote energy and water efficiency |
| Alternative Fuel and Vehicle Fleets | State vehicles must meet or exceed federal CAFE standards; State government agencies and universities owning or operating motor vehicles capable of burning ethanol-blended fuel gasoline must take all reasonable steps to ensure that the operators of those vehicles use ethanol-blended gasoline |

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Clean State Energy Actions • 2011 Update

# MONTANA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Climate Action Plan (2007): 54 policy recommendations; GHG emissions inventoried in 1990; WCI participant*<br>Established framework for carbon storage (SB 498, 82-11-181 et seq. MCA)<br>• Default presumption is owner of surface rights owns geologic storage reservoir<br>• Affirms the dominance of any mineral estate<br>• Montana Board of Oil and Gas Conservation Commission (board) designated to have regulatory oversight for developing the specific rules for carbon sequestration<br>• Allows for eventual transfer of ownership of the sequestered carbon dioxide to the state<br>• Established pipelines carrying $CO_2$ from fossil fuel combustion or gasification or products derived from coal as common carriers and therefore have power of eminent domain (HB338, amended 69-13-101 MCA) |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Allows a 50% property tax abatement for renewable research and development equipment; the Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables |
| **OTHER** | |
| Energy Development Project Environment Review | • Environmental review laws related to energy development projects revised (77-1-122 MCA)<br>• Limits the scope of environmental review under the State Environmental Policy Act for energy development projects on state lands |
| Nuclear Power | Requires voter ratification for their commission's decision to license a nuclear power plant. Also requires a bond of not less than 30% of the capital costs of constructing a new nuclear plant before construction. |

*Passed legislation providing that the State shall withdraw from the regional greenhouse gas initiative when a sufficient number of other independent system operator participating states have withdrawn such that the total carbon dioxide emissions budget for the calendar year 2009, as specified in the Memorandum of Understanding, of the remaining other independent system operator participating states is less than 35,000,000 tons.

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Clean State Energy Actions • 2011 Update

# NEBRASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2003 IECC mandatory statewide<br>**Commercial:** 2003 IECC 2003 IECC with reference to ASHRAE 90.1-2001, mandatory statewide<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| Utility Demand-Side-Management | Major electric utilities implementing various demand-side management initiatives |
| Public Benefits Funds | Although not specifically public benefit funds, the Low-Income Energy Conservation Act provides funds to eligible persons for energy conservation improvements; passed in 2008, the law authorizes the use of 5% of sales taxes paid by electric utilities to fund the energy efficiency improvements and requires dollar for dollar matching funds; the implementation date is July 1, 2009 |
| Financial and Other Incentives | Provides low interest loans for residential and commercial energy efficiency improvements<br>• The Whole House Tune-Up program includes rebates for eligible efficiency technologies and retrofits; the maximum incentive is $200 |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Major electric utilities have set goals of a renewable energy standard of 10% by 2020 |
| Net Metering and Interconnection Standards | • Electricity generating facilities using renewable energy sources at a capacity below 25 kW are eligible for net metering services (LB 436)<br>• Excess generation is carried forward to the next billing period and paid out at a rate equal to the local distribution utility's avoided cost of electric supply over the billing period to the customer at the year's end<br>• Utilities must offer net metering up to one percent of their average monthly peak demand<br>• Encourages private developers to develop, own, and operate renewable energy facilities for the export of wind energy from the state (LB 1048)<br>• Creates a Power Review Board (PRB) approval process, provides an exemption to public power's use of eminent domain<br>• Provides a new method for taxing wind generation facilities by creating an alternative to the current five-year depreciation of personal property schedule<br>• Creates a procedure requiring the county treasurer to distribute revenue received under this act to local taxing entities that would have received the personal property tax revenue that is currently collected |

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Clean State Energy Actions • 2011 Update

# NEBRASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Offers a production-based tax credit to any qualified producer of electricity generated by wind, solar, geothermal, hydropower, fuel cells or methane gas; an exemption from the sales and use tax imposed on the gross receipts from the sale, lease, or rental of personal property for use in a community-based energy development (C-BED) project (new wind energy projects that meet certain criteria)<br>• 2.5% loans are available for air- and ground-source heat pumps in the Nebraska Public Power District<br>***Removed the requirement that facilities eligible for renewable energy production tax credit must result in zero pollution (LB 360).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Offered assistance to fuel marketers who wish to market E85 via direct marketing agreements with NE ethanol plants; technical and marketing assistance are available; E10 market share stands at 77%; NE fleet compliance for FFV use exceeds gubernatorial target; participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025; Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Financial and Other Incentives | The Dollar and Energy Saving Loans Program made low-cost loans available for a variety of alternative fuel projects including the replacement of conventional vehicles with AFVs; the purchase of new AFVs; the conversion of conventional vehicles to operate on alternative fuels; and the construction or purchase of a refueling station or equipment<br>Investors in Nebraska biodiesel production facilities were eligible to receive a tax credit of up to 30% of the amount invested in the facility, up to $250,000<br>• Sales and purchases of electricity, coal, gas, fuel oil, diesel fuel, tractor fuel, propane, gasoline, coke, nuclear fuel, butane, wood as fuel, and corn as fuel when more than 50% of the amount purchased for use directly in farming or irrigation are exempt from sales and use taxes (NRS 77-2704.13)<br>***Refunded taxes paid on compressed natural gas, liquefied natural gas, and liquefied petroleum gas when the fuel was used to operate buses capable of carrying seven or more passengers within or near a municipality.***<br>***Exempted motor fuels sold to an ethanol or biodiesel production facility and motor fuels manufactured at an ethanol or biodiesel facility from certain motor fuel tax laws.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | • Current copy equipment purchases are Energy Star compliant and use soy based ink |
| Building Efficiency | All state-owned and state-funded buildings must comply with 2003 IECC for buildings<br>***Updated code for state-owned and state-funded buildings to 2009 IEEC.*** |

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Clean State Energy Actions • 2011 Update

# NEBRASKA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | By Executive Order, a 10% ethanol blend is required to be used in all state vehicles; all state employees operating state fleet flexible-fuel or diesel vehicles are required to use E85 or biodiesel blends whenever reasonably possible |
| **GHG EMISSIONS** | |
| GHG Policies | Nebraska has a statutorily created Carbon Sequestration Advisory Committee appointed by the Governor that helped finance a 2002 effort qualifying the change in GHG emissions due to conservation practice application in Nebraska |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The University of Nebraska maintains a Carbon Sequestration Program for research purposes in addition to conducting climate change workshop efforts; in addition, the Nebraska Center for Energy Sciences Research (NCESR), a collaboration between the Nebraska Public Power District (NPPD) and the University of Nebraska-Lincoln (UNL), was established in April 2006 to conduct research on renewable energy sources, energy efficiency and energy conservation; and to expand economic opportunities and improve quality of life for Nebraska and the nation<br>***Established the Business Innovation Act to provide competitive grants, technical assistance, outreach efforts, and funding to Nebraska institutions (See also Clean Energy Economic Development).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Created the Angel Investment Tax Credit to provide refundable state income tax credits to investors in early-stage companies, encouraging investment in high-tech and startup enterprises.***<br>***Established the Business Innovation Act, which provides competitive grants for private sector research at Nebraska institutions, technical assistance in new product development and testing, and helps expand small businesses and entrepreneur outreach efforts. In addition the Business Innovation Act expands Small Business Innovation Research programs, including offering grants for application development, and providing funding to help with prototype development, commercialization and applied research at Nebraska institutions, and provides assistance to microenterprise projects.*** |

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Clean State Energy Actions • 2011 Update

# NEVADA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Requires efficacy standards of 25 lumens per watt for lamps, bulbs, tubes, or other lighting devices between 2012 and 2015 (to be increased in 2016) |
| Building Energy Codes | **Residential and Commercial:** 2003 IECC mandatory for all jurisdictions that have not adopted an energy code; jurisdictions in Southern Nevada have adopted the 2006 Southern Nevada Energy Code, which is based on the 2006 IECC with amendments; jurisdictions in Northern Nevada have adopted the 2006 IECC<br>***Residential: Updated code to 2006 IECC, mandatory for all jurisdictions. Local governments are allowed to adopt more stringent standards provided they give notice to the Office of Energy***<br>***Commercial: Updated code to 2006 IECC with reference to ASHRAE 90.1-2004, mandatory for all jurisdictions. Local governments are allowed to adopt more stringent standards provided they give notice to the Office of Energy*** |
| Utility Demand-Side-Management | Allows a bonus rate of return for DSM that is 5% higher than authorized rates of return for supply investments |
| Utility Rate Realignment | ***Adopted a Lost Revenue Recovery mechanism that provides for annual recovery of both the utility's efficiency program expenses and the revenues lost from the reduced sales caused by energy efficiency programs.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Nevada's Energy Portfolio Standard requires the state's two investor-owned utilities to derive or save 20% of retail sales from renewable energy resources or energy efficiency measures by 2015 (IOUS can earn credit for up to 25% of the standard from energy efficiency); included in the standard is a Portfolio Energy Credit (PEC) trading program |
| Financial and Other Incentives | Provides a partial abatement of property taxes for property that has a building or structure that meets or exceeds LEED Silver rating<br>• Renewable energy and energy efficient technologies added to the list of projects eligible for special financing districts (SB 358)<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 358)<br>***Adopted appliance rebate program for residents who purchase Energy Star certified refrigerators, freezers, washing machines and dishwashers.***<br>**Authorized loan Fund for Renewable Energy, Energy Efficiency and Energy Conservation for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Clean Electricity and Clean Energy Economic Development).**<br>***Localities in Nevada have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Adopted regulations that require providing energy use information for 12 months preceding the sale of the property as well as information about the energy efficiency characteristics of the property, if such information is reasonably available.*** |

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Clean State Energy Actions • 2011 Update

# NEVADA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Nevada's Energy Portfolio Standard requires the state's two investor-owned utilities to derive or save 20% of retail sales from renewable energy resources or energy efficiency measures by 2015 (no less than 5% from solar energy); included in the standard is a Portfolio Energy Credit (PEC) trading program<br>• Energy Portfolio Standard increased the requirement to 25% by 2025 (SB 358)<br>• Utilities required to meet 6% of their portfolio requirement through solar energy beginning in calendar year 2016 |
| Net Metering and Interconnection Standards | Interconnection standards for customers of Nevada Power and Sierra Pacific Power with on-site generation up to 20 MW in capacity; systems up to 1 MW in capacity that generate electricity using solar, wind, geothermal, biomass and certain types of hydropower are generally eligible, although systems greater than 100 kW in capacity may be subject to certain costs at the utility's discretion<br>**Allows meter aggregation for owners of hydropower facilities up to 1 MW in capacity. Also allows meter aggregation for wind turbines installed in 2012 on property owned or leased by an institution of higher learning and used for research and workforce training (AB 359).** |
| Financial and Other Incentives | The Solar Generations Rebate Program offers rebates for grid-connected PV installations on residences, small businesses, public buildings, non-profits and schools<br>Provides a 10-year, 50% property tax abatement for real and personal property used to generate electricity from renewable energy resources (over 10 kW) or for a facility for the production of an energy storage device; subtracts any value added by a qualified renewable energy system from the assessed value of any residential, commercial or industrial building for property tax purposes<br>• Established the Fund for Renewable Energy, Energy Efficiency and Energy Conservation Loans and the Account for Set-Aside Programs (NRS 701.370)<br>• The Fund and the Account for Set-Aside Programs may be used only for the purposes set forth in the American Recovery and Reinvestment Act (ARRA) and to make loans available at a rate of not more than 3% to renewable energy systems for the construction of renewable energy projects<br>• Property tax abatement increased to 55% for 20 years (AB 522)<br>• Extended to additional technologies and increased the qualification requirements to ensure that incentivized projects result in more high quality jobs<br>• New or expanded businesses eligible to apply for a sales and use tax abatement for qualifying renewable energy technologies<br>• The amount of taxes abated can be everything in excess of 0.6% for a period of three years<br>• Generation facilities must have a capacity of at least 10 megawatts (MW)<br>• Applies to property used to generate electricity from renewable energy resources including solar, wind, biomass, fuel cells, geothermal or hydro<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 358)<br>**Expanded the Renewable Energy system Proprety Tax Exemption to include systems installed on one or more buildings and supplying energy to adjacent buildings or an irrigation system in an agricultural operation (SB 426).**<br>***Localities in Nevada have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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# NEVADA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Created a Renewable Generations Rebate Program for the installation of small wind, PV and hydroelectric systems which are sited at schools and at commercial, residential, public, nonprofit and agricultural locations.***<br>***Authorized loans from the Renewable Energy, Energy Efficiency and Energy Conservation Fund for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Energy Efficiency and Clean Energy Economic Development).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | The Department of Conservation and Natural Resources is required to develop and administer a program to provide incentives to encourage the use of alternative fuels in motor vehicles, specifically by individuals and others not required by state statute to purchase alternative fuel vehicles<br>A portion of any penalty assessed for violations of air pollution control laws must be deposited in the county school district fund of the county where the violation occurred; expenditures from such a fund must be approved by the local air pollution control board and are limited to: 1) programs of education on topics relating to air quality; and 2) projects to improve air quality, including the purchase and installation of equipment to retrofit school buses within the school district using biodiesel, compressed natural gas, or a similar fuel formulated to reduce gasoline and diesel fuel emissions<br>• Provisions governing the use of alternative fuels and clean vehicles revised (NRS 486)<br>• Limits the applicability of provisions concerning acquisition to certain larger fleets<br>• Modified the tax on ethanol and methanol, subjecting dealers, suppliers, and transporters of such fuels to the same requirements applicable to gasoline, including licensing and bonding requirements (SB 332, 2009, NRS 366)<br>• Provides for the taxation of biodiesel and blends of biodiesel<br>• Provides for the licensure of, and collection of taxes from, special fuels manufacturers |

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Clean State Energy Actions • 2011 Update

# NEVADA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | **Allowed drivers of Alternative Fuel Vehicles (AFVs) to use HOV lane regardless of the number of occupants in the vehicle (AB 511).**<br>***Allowed hybrid electric vehicles (HEVs) operating as taxicabs may remain in operation for an additional 24 months beyond the existing limits, which restrict the operation of vehicles used as taxicabs to a period of up to 67 months for new vehicles or 55 months for used vehicles.***<br>***Exempted Alternative Fuel Vehicles from emissions testing requirements. A new Hybrid Electric Vehicle is exempt from emissions inspection testing for the first six years.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency Standards | Requires the Chief of Purchasing Division to adopt regulations establishing standards favoring the procurement of appliances, equipment, lighting, and other equipment that bear the ENERGY STAR label (SB 395) |
| Building Efficiency | Requires state agencies, departments, and other entities in the Executive Branch to reduce grid-based energy purchases for state-owned buildings by 20% by 2015; must adopt guidelines establishing Green Building Standards for all occupied public buildings whose construction will be sponsored or financed by the State or a local government; two public buildings biennially must meet LEED Silver requirements; all school districts in Nevada that are reconstructing older schools are encouraged to use daylighting, multiple stories, solar and other renewable energy sources, and other innovative building designs and plans |
| Alternative Fuel and Vehicle Fleets | Fleets containing 10 or more vehicles that are owned, leased, or operated by the state, a state agency, or a political subdivision of the state in a county whose population is 100,000 or more are mandated to acquire AFVs or certified ultra low emission vehicles (ULEVs); requires 90% of new vehicles obtained by covered fleets to be either AFVs or certified ULEVs<br>***Required fleets containing 50 or more vehicles that are owned, leased, or operated by the state, a state agency, or a political subdivision of the state in a county with a population of 100,000 or more must acquire AFVs or certified Ultra Low Emission Vehicles.***<br>***Created a reqirement that transportation equipment purchased with county school district general funds and used for transporting pupils must fall into one of the following categories: 1) motor vehicles that use biodiesel, compressed natural gas, or similar fuels that reduce emissions; 2) equipment to retrofit motor vehicles to use these fuels; or 3) equipment for the transportation, storage, or dispensing of these fuels.*** |

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Clean State Energy Actions • 2011 Update

# NEVADA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Climate Action Plan in progress, due 2008; WCI observer |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Established the Nevada Renewable Energy Consortium consisting of the Desert Research Institute, the University of Nevada-Las Vegas Renewable Energy Center and the University of Nevada-Reno Renewable Energy Center to strengthen the Southwest's renewable energy research, and development capabilities |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Green Jobs Initiative provides job training and promotes energy efficiency and renewable energy (SB 152)<br>• Requires the Department of Employment, Training and Rehabilitation and the Housing Division to contract with nonprofit collaboratives to provide training in weatherization, energy retrofitting and audits<br>• Requires the Public Works Board, schools and universities to contract for projects to weatherize and retrofit public buildings, facilities and structures<br>***Authorized loans from the Renewable Energy, Energy Efficiency and Energy Conservation Fund for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Energy Efficiency and Clean Electricity).*** |
| **OTHER** | |
| Renewable Energy and Energy Efficiency Programs | • Created the Renewable Energy and Energy Efficiency Authority (SB 358)<br>• The State and Local Government Panel on Renewable and Efficient Energy advises the Nevada Energy Commissioner and the Authority on issues relating to the viability and progress of energy efficiency and renewable energy retrofit projects at public buildings and school<br>• The New Energy Industry Task Force advises the Authority on measures to promote the development of renewable energy and energy efficiency projects |

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Clean State Energy Actions • 2011 Update

# NEW HAMPSHIRE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** The New Hampshire Energy Code is a state code that references the 2006 IECC amended to Climate Zone 6, statewide mandatory<br>• Adopted IECC 2009 code for residential and commercial, likely effective January 2010<br>***Residential and Commercial: Updated state code to reference the 2009 IECC amended to Climate Zone 6, mandatory statewide*** |
| Utility Demand-Side-Management | Participant in ISO-New England's Forward Capacity Market |
| Public Benefits Funds | Commercial programs funded by the system benefits charge (SBC) support new construction and major renovations, lighting upgrades, occupancy sensors, controls, air conditioning improvements, programmable thermostats, efficient motors, variable-frequency drives, energy-management systems, LED traffic lights, and custom projects; residential programs funded by the SBC support Energy Star lighting and appliances, Energy Star new home construction, insulation, thermostats and other efficiency measures; SBC programs for qualified low-income residents provide funding for insulation, thermostats, lighting upgrades and efficient refrigerators |
| Financial and Other Incentives | The Renewable Energy and Energy Efficiency Business Loan Program offers small businesses a reduced interest rate loan for the purchase of structural and equipment improvements that improve energy efficiency<br>***Launched the Pay for Peformance Program, which offers incentive payments to large energy consumers to increase energy efficiency in their facilities. Eligible participants include commercial and industrial companies, developers, municipalities, schools, universities, and other institutional entities that have an electrical demand of at least 100 kW. Participants must work with Pay for Performance Partners to develop and/or approve an "Energy Reduction Plan," which consists of three components: a comprehensive energy audit; a financing plan for making energy efficiency improvements; and a construction schedule.***<br>***Allowed local governments to establish Property Assessed Clean Energy (PACE) financing program.***<br>• ***Localities in New Hampshire have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | New Hampshire's Electric RPS requires electricity providers to acquire renewable energy certificates (RECs) equivalent to 23.8% of retail electricity sold to end-use customers by 2025 |
| Net Metering and Interconnection Standards | All electric utilities are required to provide, upon request, net metering to customers who generate electricity using renewable-energy systems with a maximum capacity of 100 kW; the aggregate limit on net-metered systems is 1% of each utility's annual peak load; provides interconnection rules for net-metered systems<br>***Increased the capacity limit from 100 kilowatt (kW) to one megawatt (MW).***<br>***Included combined heat and power as eligible for net-metering (HB 1353).*** |

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Clean State Energy Actions • 2011 Update

# NEW HAMPSHIRE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Allows cities and towns to offer an exemption on residential property taxes in the amount of the assessed value of a renewable-energy system used on the property<br>***Allowed local governments to establish Property Assessed Clean Energy (PACE) financing programs.***<br>• ***Localities in New Hampshire have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created rebated from the New Hampshire Public Utilities Commission for non-residential solar photovoltaic (PV) and solar thermal installations. The program is funded through the state's renewable portfolio standard alternative compliance payments.***<br>***Established a PUC-funded rebate for solar thermal hot water heater systems or solar space heating systems and a federal rebate for solar thermal hot water heater systems that replace an existing hot water heater.***<br>***Created PUC-funded rebates of 30% of installed cost (up to $6,000) for residential bulk-fed, wood-pellet central heater boilers or furnaces (ARRA).***<br>***Funded a Renewable Energy Fund by alternative compliance payments made by utilities that have not met their percentage goals for renewable energy under the NH RPS. The fund is intended to support thermal and electrical renewable energy initiatives.***<br>***Created a requirement that all electricity providers must disclose the energy sources of their electricity and the environmental characteristics associated with their electric service (SB 327).***<br>***Created a New Hampshire Community Loan Fund by New Hampshire Community Development Finance Authority to fund and operate the Enterprise Efficiency Fund which provides loans to commercial and nonprofit entities to install certain renewable energy systems on their property.***<br>***Created low-interest loans under the Renewable Energy and Energy Efficiency Business Loan Program to help the commercial sector purchase equipment that reduces energy consumption or generates renewable energy (See also Clean Energy Economic Development).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | The Biodiesel Study Commission was directed to study the biodiesel production capacity, state and regional feedstock sources for production, methods to encourage production, and the best methods of biodiesel distribution and potential barriers to increased use |
| Financial and Other Incentives | ***The New Hampshire Department of Environmental Services and the Granite State Clean Cities Coalition (GSCCC) provided competitive funding on a cost reimbursement basis for alternative fuel vehicle, advanced vehicle, and alternative fueling infrastructure projects.***<br>***Established the Alternate Fuel Vehicle Study Commission to study the existing road and taxation rules associated with alternative fuel and advanced vehicles, including, but not limited to, electric vehicles, hybrid electric vehicles, and any vehicles that are not powered completely by gasoline engines.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Required to purchase Energy Star appliances |

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Clean State Energy Actions • 2011 Update

# NEW HAMPSHIRE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | Participates in the Energy Star Challenge with the goal of improving energy efficiency in state-occupied buildings by 10%; the Department of Administrative Services (DAS) is required to implement an energy information system, including an energy efficiency rating, to measure agencies' progress towards achieving this goal; new construction and renovation designs must exceed state energy code by at least 20%, should include energy modeling during the design processes, and require third-party commissioning as designated by the DAS<br>***The governor issued an executive order setting a goal of reducing the use of fossil fuels in state government by 25 percent, compared to 2005 levels, by 2025.***<br>***Adopted new building requirements for public buildings, which leave much of the details up to individual departments, including which green building standards new state-owned buildings and major renovations using public funding will be required to follow (SB 0409).*** |
| Alternative Fuel & Vehicle Fleets | ***Required diesel fuel purchased by the NH Department of Transportation under the Motor Fuel Inventory Fund must contain at least 5% biodiesel (B5), unless the fuel is unavailable or more expensive than 100% petroleum diesel.***<br>***Created a requirement for New Hampshire state agencies and departments to implement a Clean Fleets Program in accordance with the recommendations of the Energy Efficiency in State Government Steering Committee, including: an anti-idling policy, a highway fuel economy rating of at least 27.5 miles per gallon for all new passenger and light-duty vehicles and at least 20 mpg for all new light-duty trucks, all new passenger and light-duty vehicles certified as low emission vehicles, all vehicle purchases be in compliance with the Energy Policy Act of 1992, and any additional measures to promote fuel conservation.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-80% below 2001 levels in the long-term; caps emissions from three existing fossil fuel power plants at 1990 levels (2006); utility cap through RGGI; New Hampshire Climate Challenge Plan (2001); RGGI participant<br>***Required that each school district must develop and implement a policy to minimize or eliminate emissions from buses, cars, delivery vehicles, maintenance vehicles, and other motor vehicles used on school property.***<br>***Funded the Greenhouse Gas Emissions Reduction Fund (GHGER Fund) with proceeds of the State's share of RGGI carbon allowance auctions. Supported energy efficiency, conservation and demand response programs with monies from this fund.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Established a job creation credit against the business profits tax and the business enterprise tax for businesses manufacturing energy efficient products and increasing employment in New Hampshire<br>***Strategically invested stimulus job training funds and state energy funds in projects that increase energy efficiency and renewable energy for homes, businesses and public buildings, through the Green Jobs Initiative. Investments are made through several funds (Greenhouse Gas Emissions Reduction Fund, the Renewable Energy Fund, ARRA funding, Energy Efficiency Loans and the Business Energy Efficiency Program).***<br>***Created low-interest loans under the Renewable Energy and Energy Efficiency Business Loan Program to help the commercial sector purchase equipment that reduces energy consumption or generates renewable energy (See also Clean Energy Economic Development).*** |

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Clean State Energy Actions • 2011 Update

# NEW JERSEY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Portfolio Standards and Goals | Minimum energy efficiency standards for eight categories of appliances. Seven of which were immediately preempted by the federal Energy Policy Act of 2005. The efficiency standard for the one remaining product, unit heaters, was effective for a little over a year and then preempted by a federal standard in August of 2008. |
| Building Energy Codes | **Residential:** 2006 IECC with state amendments, mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-2004, mandatory statewide<br>***Residential: Updated code to 2009 IECC with minor modifications, mandatory statewide***<br>***Commercial: Updated code to ASHRAE/IESNA 90.1-2007 with minor modifications, mandatory statewide*** |
| Utility Rate Realignment | Decoupling in natural gas markets |
| Public Benefits Funds | Maintains a societal benefits charge to support investments in energy efficiency and Class I renewable energy; the SBC funds New Jersey's Clean Energy Program, a statewide initiative that provides technical assistance, financial assistance, information and education for all classes of ratepayers |
| Financial and Other Incentives | Offers a Home Performance with Energy Star rebate and loan program for homeowners that want to improve the energy efficiency of their homes. Contractors must be BPU certified and accredited.<br>Established the Direct Install program, which provides incentivized direct installation of energy efficiency measures for small C&I customers less than 100 kW<br>Contractors that are certified and accredited can qualify for low-cost training and discounts on diagnostic equipment; offers the Energy Star Homes Program, with incentives available to builders who construct homes that are 30% more efficient than homes built to the national Model Energy Code<br>The COOLAdvantage Program offers rebates through participating utilities to improve the energy efficiency of new central electric air conditioners and heat pumps; the New Jersey Comfort Partners program is a free of charge, direct installation energy efficiency assistance program available to all New Jersey households with significant energy usage and an income at or below 175% of the federal poverty guidelines; the SmartStart Buildings program provides incentives and rebates to C&I customers for energy efficient new construction and retrofits; the WARMAdvantage Program offers rebates to improve the energy efficiency of natural gas heating systems and water heaters<br>New Jersey Comfort Partners program is a direct installation energy efficiency assistance program available to most New Jersey households with an income at or below 225% of the federal poverty guidelines<br>Provides low-interest loans for pollution prevention, energy conservation or sustainable production - eligible capital expenditures include, but are not limited to equipment, machinery, land, buildings, and production and marketing costs<br>• New Jersey ENERGY STAR Homes offers rebates for energy-efficient new home construction that target Smart Growth Areas; low-interest financing is also available<br>• Refrigerator/Freezer Recycling Program promotes responsible recycling of refrigerators and freezers in New Jersey and offers a $50 cash incentive |

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Clean State Energy Actions • 2011 Update

# NEW JERSEY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • New Jersey SmartStart Buildings Program Provides financial incentives, design support and technical assistance for energy efficient measures including high-efficiency lighting and lighting controls, heating and cooling equipment, water heating, motors and variable frequency drives<br>• Local Government Energy Audit, for local governmental and non-profit entities, provides reimbursement for investment grade energy audits by a prequalified network of energy auditing firms<br>• Pay for Performance Program is a comprehensive, whole-building approach to energy efficiency that starts with an Energy Reduction Plan developed by an Energy Expert selected from a network of Program Partners and is available to existing commercial, industrial, institutional and multi-family buildings with peak demand over 200 kW in any of the 12 preceding months<br>• Direct Install targets small commercial and industrial facilities whose peak demand did not exceed 200kW in any of the preceding 12 months<br>• Combined Heat and Power (CHP) Program Offers incentives on various types of CHP units designed to enhance energy efficiency through on-site power generation with recovery and productive use of waste heat; CHP is now offered as part of the Pay for Performance Program<br>• Offers rebates on ENERGY STAR clothes washers, a seasonal rebate on room air conditioners (offered May-Aug only) and a rebate on ENERGY STAR dehumidifiers, as well as promoting the sale of ENERGY STAR qualified lighting products through major NJ retailers<br>***The New Jersey Economic Development Authority (EDA) created a loan program, offered through the Clean Energy Solutions Energy Efficiency Revolving Loan Fund (EERLF), to commercial, institutional, and industrial entities to finance improvements that receive support under the New Jersey Office of Clean Energy (OCE) Pay for Performance energy efficiency incentive program.***<br>***Created the New Jersey Energy Star Homes tiered incentive program to provide incentives for Climate Choice Homes with Home Energy Rating System (HERS) scores of 50 or lower to promote super efficiency and net zero energy homes.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards | Requires each supplier/provider serving retail customers in the state to include in the electricity it sells 22.5% qualifying renewables by 2021, with set requirements for Class I and Class II renewables and solar energy; by reporting year 2021, 2.12% solar electricity is required<br>***Added an offshore wind provision to the RPS defined such that it will reduce the percentage of electricity sales that must be provided from other Class I renewable energy sources (S.B. 2036). A time line has not been established.*** |
| Net Metering and Interconnection Standards | Requires electric distribution companies to offer net metering to residential and small commercial customers with photovoltaic and wind-energy systems--potentially caps statewide net-metering system capacity at 0.1% of New Jersey's peak electricity demand, or at an annual statewide financial impact to electric power suppliers and basic generation service providers of $2 million; provides three levels of interconnection standards<br>***Eliminated, as of July 2010, the maximum individual system capacity limit on net-metered systems. However, system size is limited to that needed to meet annual on-site electric demand.*** |

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Clean State Energy Actions • 2011 Update

# NEW JERSEY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Public Benefits Funds | Maintains a societal benefits charge (SBC) to support investments in energy efficiency and Class I renewable energy; the SBC funds New Jersey's Clean Energy Program, a statewide initiative that provides technical assistance, financial assistance, information and education for all classes of ratepayers |
| Financial and Other Incentives | Offers a full exemption from the state's 7% sales tax for all solar and wind energy equipment<br>• Renewable Energy Incentive Program (REIP) provides rebates that reduce the upfront cost of installing renewable energy systems like solar, wind, and sustainable biomass projects<br>• SREC Registration Program (SRP) used to register non-rebated solar projects in New Jersey<br>• Renewable Energy Manufacturing Incentive (REMI) provides rebates to New Jersey residents, businesses, local governments, and non-profit organizations that purchase and install solar panels, inverters, and racking systems manufactured in New Jersey<br>• New Jersey Board of Public Utilities approved innovative financing programs at three of the state's electric utilities to support the installation of solar photovoltaic systems that produce clean renewable electricity for customers' onsite use<br>• Finance programs to help a manufacturer of clean energy systems or products, or an innovative company developing new, green technology<br>• Allows property owners to receive property tax exemption for the value of on-site renewable energy systems (Statute 54:4-3.113a et seq.)<br>***Created a robust package of financial incentives for offshore wind development and set a target of 1,100 megawatts of wind generation off of New Jersey's coast (SB 2036 – See also Clean Energy Economic Development).***<br>***Established an offshore wind renewable energy certificate program. Also authorized the Economic Development Authority to provide tax credits for qualified wind energy facilities in wind energy zones (SB 2036).***<br>***Made photovoltaic (PV) facilities connected to the distribution grid serving New Jersey eligible to generate Solar Renewable Energy Certificates (SRECs), which energy suppliers in New Jersey use to fulfill their obligations New Jersey's renewable portfolio standard (RPS).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Offered an AFV Rebate Program to local government entities that convert vehicles to operate on alternative fuels or purchase original equipment manufacturer AFVs; offers a rebate to local governments, state colleges and universities, school districts, and governmental authorities for the incremental cost of using biodiesel over petroleum diesel and will reimburse farmers for using biodiesel in equipment; reimburse eligible local governments, state colleges and universities, school districts, and governmental authorities for 50% of the cost of purchasing and installing refueling infrastructure for alternative fuels (up to $50,000)<br>Zero Emissions Vehicles sold, rented, or leased in New Jersey were exempted from state sales and use tax<br>Offered hybrid electric vehicles and AFVs access to HOV lanes<br>***Began taxing propane used to operate a motor vehicle at a rate that is half the tax paid on the sale or use of gasoline.*** |

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Clean State Energy Actions • 2011 Update

# NEW JERSEY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Building Efficiency | LEED certification recommended; goal to have 1,000 public buildings certified; requires all new school designs to incorporate LEED Version 2.0 guidelines mandates the use of high performance green building standards in new state construction. The standard requires that new buildings larger than 15,000 square feet constructed for the sole use of state entities achieve US Green Building Council LEED Silver certification, a two-globe rating on the Green Building Initiative Green Globe rating system, or a comparable numeric rating.<br>***Established a State Energy Office within NJBPU/Treasury to develop energy efficiency and renewable energy projects within state managed buildings.*** |
| Appliance/Equipment Efficiency | Public buildings must purchase Energy Star products |
| Alternative Fuel and Vehicle Fleets | All buses purchased by the New Jersey Transit Corporation must be 1) equipped with improved pollution controls that reduce particulate emissions or 2) powered by a fuel other than conventional diesel; the Department of Treasury will develop specific targets and strategies for reducing GHG emissions by reducing the state motor fleet's fuel consumption<br>***Required state entities to purchase biofuels in place of fossil fuels when it is reasonable and cost effective (AB 1052).*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; requires entities that report other air emissions (including $CO_2$ and $CH_4$) to the NJ Department of Environmental Protection; goal to reduce emissions to 1990 levels by 2020 and 80% below 2006 levels by 2050; Climate Action Plan; will adopt CA vehicle emissions standards pending EPA approval; RGGI Participant*<br>***Adopted California motor vehicle emissions standards as set forth in Title 13 of the California Code of Regulations.***<br>***Established greenhouse gas emissions reduction targets including stabilizing GHG emissions to 1990 levels by 2020 and reducing GHG emissions to 80% below 2006 levels by 2050.*** |
| **CLEAN ENERGY RD&D** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Launched the Edison Innovation Green Growth Fund offering loans up to $1 million with a performance grant component to support technology companies. The money is to be used as growth capital to advance newly discovered energy efficient, renewable energy or supply chain products that will assist Class I renewable energy or energy efficient technologies in becoming competitive with traditional sources of electric generation.*** |

*As of May 2011, New Jersey is no longer a member of the Regional Greenhouse Gas Initiative

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Clean State Energy Actions • 2011 Update

# NEW JERSEY

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Green Jobs Training Partnership Program and the New Jersey Center for Energy and Environmental Training for entry-level workers<br>• Green Corps training programs trains out-of-school youth in green jobs<br>***Provided incentive payments to developers for the construction of 2,000 megawatts of natural gas-fired generation and guarantees a minimum return to developers to build plants.***<br>***Provided tax incentives equal to 100% of the qualified capital investment made by a business for certain businesses engaged in manufacturing wind energy equipment. Businesses must demonstrate the state's financial support of the facility will yield a net positive benefit for the state.***<br>***Created a package of financial incentives for offshore wind development and set a target of 1,100 megawatts of wind generation off of New Jersey's coast (SB 2036 – See also Clean Electricity).*** |

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Clean State Energy Actions • 2011 Update

# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 2006 IECC, mandatory statewide, plus additional "green code" measures; new Green Building Bureau established<br>**Residential and Commercial:** Updated code to 2009 New Mexico Energy Conservation Code (NMECC), based on 2009 IECC. The state amendments make it approximately 20% more stringent than the 2006 IECC. |
| Utility Demand-Side-Management | The Efficient Use of Energy Act (EUEA) requires electric utilities to acquire all cost-effective and achievable energy efficiency, with funding mechanisms |
| Utility Rate Realignment | EUEA directs the utility commission to eliminate energy efficiency disincentives and create a regulatory structure that establishes a financial preference for energy efficiency vis-a-vis building and operating new power plants |
| Energy Savings Targets/Energy Efficiency Resource Standards | EUEA establishes minimum "floors" of 5% energy efficiency savings by utilities from 2005 electricity retail sales by 2014 and 10% by 2020; Governor's executive order establishes statewide energy efficiency targets of 10% by 2012 and 20% by 2020 |
| Financial and Other Incentives | • Two separate bills authorizing local governments to offer Property-Assessed Clean Energy (PACE) financing enacted<br>• Authorizes municipalities and counties to create renewable energy financing districts (REFD) for the purpose of providing financing for consenting property owners within the district to install renewable energy technologies (SB 647)<br>• Includes photovoltaics, solar thermal, geothermal and wind as eligible technologies<br>• Authorizes counties to pass an ordinance that creates a "solar energy improvement special assessment" provision (HB 572)<br>• County itself is not authorized to provide funding directly to property owners but is directed to create rules for certifying certain private banks and financing institutions as "solar energy improvement financing institutions"<br>• Certified institutions authorized to loan property owners up to 40% of the assessed value of the property for purposes of solar energy (photovoltaic or solar thermal) improvements<br>Provides Sustainable Building Tax Credits for constructing LEED Silver or better sustainable commercial, non-profit, institutional and residential buildings, with an additional energy efficiency standard beyond LEED; the Energy Efficiency and Renewable Energy Bonding Act allows state agencies and public schools to fund energy efficiency and renewable energy renovations from energy utility bill savings<br>• Sustainable building tax credit provisions amended to clarify that manufactured and modular homes installed on a permanent pad qualify for the credit (even if manufactured out-of-state)<br>• Adds new Build Green New Mexico residential levels<br>• Allows EMNRD to categorize multi-family dwellings as "commercial" if the annual aggregate residential cap has been reached in a given year<br>• Allows non-profit organizations (such as affordable housing builders) to take the credit via transferability<br>• Allows for Property Assessed Clean Energy (PACE) financing The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided. |

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Clean State Energy Actions • 2011 Update

# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Investor-owned utilities are required to generate 20% of total retail sales to New Mexico customers from renewable energy resources by 2020, with interim standards of 10% by 2011 and 15% by 2015 and a standard for rural electric cooperatives of 10% by 2020 (utilities document compliance with the RPS through the use of renewable-energy certificates - RECs) |
| Net Metering and Interconnection Standards | Interconnection standards and net metering is available to qualifying facilities under PURPA, which generally includes all renewable-energy systems and combined-heat-and-power systems up to 80 MW in capacity (excludes municipal utilities) |
| Advanced Coal and Clean Coal | Advanced energy facilities including advanced technology coal and solar thermal generation may qualify for up to $60 million in credits; the credit is equal to 6% of facility development and construction expenditures |
| Public Benefits Fund | Public electric and natural gas utilities are authorized to implement cost-effective energy-reduction programs; the programs may be funded through a tariff rider for energy-efficiency and loan mangement programs |
| Financial and Other Incentives | The largest NM utility has a utility-commission approved solar REC 13 cent/kWh "buy back" program for residential PV systems, as part of complying with RPS requirements (likely to be expanded to include commercial this year)<br>In 2007, the State Legislature created the Renewable Energy Transmission Authority (RETA), a state-level financing authority whose primary focus is developing electric transmission infrastructure to facilitate the development and export of NM's renewable energy resources; RETA may finance or acquire interstate projects, coordinate with out-of-state authorities on transmission corridors, and fund energy storage projects<br>Under the Renewable Energy Production Tax Credit, each renewable energy generator of 1 MW or more may earn an income tax credit (personal or corporate) averaging 2.7 cents per kWh for solar and 1 cent per kWh for wind or biomass over a 10-year period (available regardless of entity's NM tax liability); the Alternative Energy Product Manufacturer's Tax Credit provides manufacturers of photovoltaic, solar thermal, wind, biomass and electric generation systems, electric or hybrid vehicles, and fuel cell systems a tax credit of up to 5% of their capital expenses; Advanced Energy Tax Credits provide advanced energy facilities, such as solar thermal electric, advanced technology coal or recycled energy up to $60 million in credits up to 6% of facility development and construction expenditures; the Solar Market Development Income Tax Credit augments the federal solar tax credit by reimbursing 30% of the cost of a solar photovoltaic or solar thermal system up to $9,000; the Gross Receipts Tax Exemption for Solar Energy Systems provides a gross receipts (sales) tax exemption for solar electric and solar thermal energy systems where the generated power is used on-site; the Wind Energy Equipment Gross Receipts Tax Deduction provides a gross receipts tax deduction for receipts from selling wind turbines, nacelles, rotors, blades and related equipment to a state or federal government entity; the Biomass-Related Equipment Compensating Tax Deduction provides deducts the value of equipment such as a boiler, turbine-generator, storage facility, feedstock processor, interconnection transformer or biomass material used for biopower, biofuels or bio-based products from the computation of the compensating tax due<br>• House Bill 375 created a tax credit in New Mexico for geothermal heat pumps purchased and installed between January 1, 2010, and December 31, 2020, on property owned by the tax payer-- the credit is worth 30% of the system's cost up to $9,000 and can be applied to individual or corporate income taxes |

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# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • Advanced Energy Tax Credit amended to make the 6% (of project development costs) credit more "accessible" to renewable energy developers<br>• Personal and corporate income taxes are added as types of taxes that can be used toward the credit; carry forward period is extended from 5-10 years<br>• Geothermal and solar photovoltaic systems are added to the types of advanced energy technologies that qualify for the credit<br>***Allowed revenue generated by the sale and installation of a "qualified generating facility" to be deducted from gross receipts before the gross receipts tax is calculated. The deductions are allowed for a ten year period starting the year construction begins. Qualified generating facilities have a minimum nameplate capacity of 1 megawatt (MW) and include geothermal thermal electric, photovoltaic, solar thermal electric, and recycled energy systems.***<br>***Created a 10% personal income tax credit (up to $9,000) for residents and businesses that install solar thermal and electric systems.***<br>***Requested the Department of Economic Development to identify the benefits and barriers to developing renewable energy resources and make recommendations to promote the development and use of renewable energy resources and associated transmission of electricity (HM 36).***<br>***Exempted any customer that is a political subdivision with consumption exceeding 20 million kilowatt-hours per year at any single facility that owns renewable energy generation from all charges by the utility for renewable energy procurements in a year (S.B. 549).***<br>***Exempted solar energy systems from property tax assessments at the time the system is installed (HB 233).***<br>***Offered a tax credit for agricultural biomass from a dairy or feedlot transported to a facility that uses agricultural biomass to generate electricity or make biocrude or other liquid or gaseous fuel for commercial use.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | After July 1, 2012, all diesel fuel sold to consumers for use in on-road motor vehicles must be B5<br>***Directed the Department of Agriculture to work with the biofuels industry, state universities, national laboratories, and industry groups to evaluate the economic opportunities of biofuel production in the state (See also Clean Energy RD&D).*** |

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Clean State Energy Actions • 2011 Update

# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial Incentives--Loans, Rebates, Taxes, Bonds, Etc. | The Alternative Energy Product Manufacturer's Tax Credit provides manufacturers of electric or hybrid vehicles and fuel cell systems a tax credit of up to 5% of their capital expenses; the Biomass-Related Equipment Compensating Tax Deduction allows the value of equipment such as a boiler, turbine-generator, or feedstock processor used for biofuels or bio-based products to be deducted in computing the compensating tax cue; the Biofuels Infrastructure Tax Incentive provides a corporate income tax credit on fuel containing a minimum of 2% biodiesel and a tax deduction of up to $50,000 per biodiesel facility and infrastructure installation; the Hybrid Tax Exemption allows buyers of a hybrid-gasoline-electric vehicle that gets 27.5 mpg or better to receive a one-time exemption from the Motor Vehicle Excise Tax worth between $600 and $1,000<br>***Any alternative fuel distributed by or used for U.S. government, state government, or an Indian nation, tribe or pueblo purposes, was exempted from the state excise tax.***<br>***Requested the Univeristy of New Mexico Law School, the New Mexico Institute of Mining and Technology, New Mexico State University, Eastern New Mexico university, Western New Mexico university and New Mexico Highlands University to examine and report the use of natural gas as a transportation fuel. The groups testified that while there are significant infrastructure updates needed to make natural gas a widely used transportation fuel, its use would provide cost savings to consumers.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | All Executive Branch state agencies, including the Higher Education Department, are required to adopt the US Green Buildings Council's LEED rating system; new construction of public buildings over 15,000 square feet or using over 50 kW peak electrical demand and renovations involving the replacement of more than three major systems (HVAC, lighting, etc.) must achieve a minimum rating of LEED Silver; projects between 5,000 and 15,000 square feet must achieve a minimum delivered energy performance standard of one half of the US energy consumption for that building type as defined by the US Department of Energy; New Mexico has set a goal for all Executive Branch state agencies to achieve a 20% reduction below 2005 levels in energy usage in state buildings for all Executive Branch state agency operations by 2015 |
| Green Power Purchasing | By 2011, all state agencies must purchase 100% of their electricity from renewable resources |

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Clean State Energy Actions • 2011 Update

# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | After July 1, 2010, all diesel fuel sold to state agencies, political subdivisions of the state, and public schools for use in operating on-road motor vehicles must contain at least 5% biodiesel (B5); all state agency fleets in the executive branch must reduce their transportation energy consumption 20%, based on 2005 levels, by 2015; By 2010, all cabinet-level state agencies, public schools (K-12), and institutions of higher education are required to take action toward obtaining 15% of their total transportation fuel requirements from renewable fuels such as ethanol and biodiesel; requires that 75% of state government and educational institution fleet vehicles purchased be bi-fuel or dedicated AFVs or HEVs |
| **GHG EMISSIONS** | |
| GHG Policies | Sets statewide GHG emission reduction targets of 2000 emission levels by 2012, 10% below 2000 levels by 2020, and 75% below 2000 emission levels by 2050; the New Mexico Climate Advisory Report was completed in 2006; WCI participant; will adopt CA vehicle emissions standards pending EPA approval; goal to reduce emissions from state energy use 4% by 2006 and 6% by 2010<br>***Adopted Carbon Plan that requires carbon emissions to be 25 percent below 1990 levels in 2020. Implementation requires 3 percent annual reduction in emissions starting in 2013.*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Economic Development Department is directed to establish the Hydrogen and Fuel Cell Technologies Development Program to foster the development of hydrogen and fuel cell-related commercialization and economic development in the state; the Program will establish a public-private partnership to provide guidance and support for hydrogen and fuel cell initiatives; the Energy Innovation Fund, established in 2007 with an initial $2 million appropriation was created to accelerate innovation and commercial adaptation of clean energy technologies in New Mexico--"The Clean Energy State"<br>***Requested the University of New Mexico Law School, the New Mexico Institute of Mining and Technology, New Mexico State University, Eastern New Mexico university, Western New Mexico university and New Mexico Highlands University to examine and report the use of natural gas as a transportation fuel. The groups testified that while there are significant infrastructure updates needed to make natural gas a widely used transportation fuel, its use would provide cost savings to consumers.***<br>***Directed the Department of Agriculture to work with the biofuels industry, state universities, national laboratories, and industry groups to evaluate the economic opportunities of biofuel production in the state (See also Alternative Fuels and Vehicles).*** |

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# NEW MEXICO

| CATEGORY | ACTIONS TAKEN |
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| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Established the Clean Energy Development Council a multi-agency one-stop-shop to facilitate the development of clean energy<br>• Established a Green Jobs Cabinet to develop recommendations for meeting the education and workforce training needs in the green economy (Executive Order 2009-002)<br>• Acting on recommendations issued by the Green Jobs Cabinet, called for the development of a "green grid", established a Research Applications Center, a Deep Source Geothermal Commercialization Working Group, and charged several departments with different roles in promoting the green economy (Executive Order 2010-001)<br>• Created the Higher Education Alternative Energy Program Awards which funds the development of courses of instruction and degree programs in the fields of alternative energy and energy efficiency at four-year public institutions and two-year institutions to provide alternative energy and energy efficiency programs and courses of instruction for students seeking licensure or certification as electricians, plumbers, mechanics, welders and heating, ventilation and air conditioning personnel or similar professions (SB 288)<br>• Green Jobs Development Training Fund allows the Industrial Training Board to spend up to $1 million of development training funds for the development of training in green industries (SB 318)<br>• Green Jobs Act authorizes the establishment of a "Green Jobs Fund" and directs the Higher Education Department to develop a plan for the development of green jobs training programs (HB 622)<br>• Established Renewable Energy Transmission Authority<br>• As a means of stimulating or guaranteeing demand at state and local levels for the production of existing clean tech manufacturers and producers, and assisting in attracting new businesses three pieces of legislation were passed: Solar Energy Improvement Special Assessments (HB 572), Renewable Energy Financing District Act (SB 647) and Public Building Energy Efficiency Standards (SB 200)<br>In order to provide incentives for job creation, New Mexico offers tax credits in the following categories: renewable energy production, advanced energy, biodiesel blending facility, biodiesel fuel tax, solar market development income, sustainable building, R&D small business, and technology jobs; offers tax exemptions for hybrid vehicles and solar energy systems gross receipts; and offers tax deductions available for research and development gross receipts<br>• The following financial incentives were updated or added in 2009 or 2010: tax credits for renewable energy, sustainable building, geothermal heat pumps, solar market development, solar and wind energy equipment gross receipts and electric generating facility gross receipts<br>• The film and television production tax credit is coupled with the "Green Filmmaking" program |

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Clean State Energy Actions • 2011 Update

# NEW YORK

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | New York's Appliance and Equipment Energy Efficiency Standards Act of 2005 calls for the State to establish efficiency standards for 14 product categories; with passage of the federal Energy Policy Act of 2005 and Energy Independence and Security Act of 2007, the State is pre-empted from enforcing standards for 13 of the 14 categories; with "consumer audio and video products" (televisions, compact audio products, digital versatile disc players, digital versatile disc recorders, and digital television adapters) remaining as the only product category available for New York State rulemaking; the New York State Department of State is working with the New York State Energy Research and Development Authority (NYSERDA) to establish standards for consumer audio and video products · may also establish standards for digital telivision adapters |
| Building Energy Codes | **Residential:** State-developed code based on the 2004 IECC with amendments, mandatory statewide<br>**Commercial:** State-developed code based on the 2003 IECC, mandatory statewide as of January 1, 2008, with the following caveat: an additional NYS Energy Code update became effective on April 9, 2008 which allows ASHRAE 90.1-2004 to be used as a compliance basis; this update closed a gap between code options within the 2003 IECC which had 2 levels of allowed lighting; the ASHRAE 90.1-2004 update closed this "loophole" thereby reducing the commercial lighting mandate efficiency level by 20-50 % (less power is allowed to be used) as compared to the first quarter of 2008 when the NYS Energy Code referenced ASHRAE 90.1-2001<br>**Residential:** New state-developed code, based on the 2009 IECC, expected to be adopted by the end of 2010, mandatory statewide<br>**Commercial:** New state-developed code, based on the 2009 IECC (The New York State Department of State has determined that for commercial buildings, the 2009 IECC meets or exceeds ASHRAE 90.1-2007), mandatory statewide<br>• To further the knowledge of Building Energy Code required by ARRA, The Department of State has worked with NYSERDA to develop a comprehensive training program of over 900 training sessions on residential/commercial energy codes for code enforcement officials, builders, design professionals and other audiences in both on-the-job and off-site environments<br>• Additional online training courses are available based on above coursework<br>***Residential: Updated code to state-developed code based on the 2009 IECC state with amendments, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with state amendments, or ASHRAE 90.1-2007, mandatory statewide*** |

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# NEW YORK

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Utility Demand-Side-Management | Participant in New England forward capacity market; provides a wide variety of incentives for four categories of load-reducing measures: permanent demand reduction, short-term demand reduction (load shifting), distributed generation, and the installation of interval meters; NYSERDA offers demand reduction incentives through its New York Energy $mart℠ Program and a System-wide Program in Con Edison Territory; NYPA and LIPA also administer demand reduction programs to their respective customers<br>• Goal to foster increased and more reliable participation in NYISO and Transmission Owner demand response (DR) programs<br>• Delivered through a variety of R&D, technical support and incentives that support several categories of load-reducing approaches: studies and installation of permanent demand reduction, short-term demand reduction (load shifting), distributed generation, energy storage and the installation of interval meters and energy information systems<br>**The New York State Public Service Commission approved a policy statement that would establish regulatory policies and set forth guidelines for utilities to follow regarding the development of smart electric grid systems and associated efforts to modernize the electric grid.** |
| Utility Rate Realignment | Decoupling in electricity markets |
| Energy Savings Targets/Energy Efficiency Resource Standards | In 2007, the governor called for electricity savings of 15% of total forecasted sales in 2015; Energy Efficiency Portfolio Standard proceeding is ongoing to define the strategies that will be used to achieve the "15-by-15" goal<br>• In its Energy Efficiency Portfolio Standards proceedings, the State of New York Public Service Commission (NYPSC or the Commission) has authorized funding and established energy usage reduction objectives for 90 new gas and electric energy efficiency programs<br>• The overall funding approved through 2011 is approximately $922M<br>• The NYPSC has authorized funding for its major gas local distribution companies to enable oil to natural gas conversions for furnaces and boilers<br>• The natural gas conversions are also eligible to receive energy efficiency incentives for qualifying equipment through the Commission's approved programs |

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# NEW YORK

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Public Benefits Funds | New York's system benefits charge (SBC) program, branded as New York Energy $mart[SM] was initiated in 1998 and was reauthorized in 2005 to provide annual funding of $175 million through 2011 to supports energy efficiency, peak load, education and outreach, research and development, and low-income energy assistance programs; the cumulative benefits through December 2007 of New York Energy $mart[SM] which is administered by NYSERDA includes 3,060 annual GWh of electricity savings from energy efficiency and DG-CHP, 1,200 MW of peak demand reduction, and 4,660,000 MMBtu of net fuel savings; in addition to NYSERDA's New York Energy $mart[SM] Program funded through the SBC, the New York Power Authority (NYPA) and Long Island Power Authority (LIPA) each offer complementary public benefits programs of their own; the three authorities coordinate program design and service delivery wherever practicable to maximize the use of public funds for the programs and to ensure a coordinated statewide effort to meet public policy goals; several investor-owned utilities offer low-income and other efficiency programs<br><br>By December 2009, the collective portfolio of New York Energy $mart[SM] achieved 3,820 GWh of cumulative annual electricity savings, and 4.6 million MMBtu of natural gas, fuel oil and other fuel savings; NYSERDA's SBC portfolio also reduced peak demand by 1,415 MW, including 824 MW of permanent demand reduction measures and 590 MW of callable load reduction; through the RPS program, as of January 2009, more than 1,164 MW (28 projects) of renewable energy capacity are under contract as a result of three Main Tier procurements; of this, more than 1,100 MW of capacity are installed and operating at 23 sites; these facilities are expected to produce 2.9 million MWh annually |
| Financial and Other Incentives | Provides low-interest loans to finance renovation or construction projects that improve a facility's energy efficiency or incorporate renewable energy systems<br>• Enacted legislation allowing for Property Assessed Clean Energy (PACE) financing<br>• Loans are not to exceed 10% of property value and are available for energy efficiency and distributed renewable energy installation<br><br>In 2000, New York enacted a Green Building Tax Credit for business and personal income taxpayers; the credit can be applied against corporate taxes, personal income, insurance corporation taxes and banking corporation taxes; the incentive applies to owners and tenants of eligible buildings and tenant spaces which meet certain "green" standards; these standards increase energy efficiency, improve indoor air quality, and reduce the environmental impacts of large commercial and residential buildings in New York State, among other benefits<br><br>Provides a cash incentive to certified builders who construct Energy Star homes; provides incentives and information for businesses to install energy-efficient lighting in small commercial spaces<br><br>Grants subsidies to low-income home owners for up to 50% of costs for energy efficient improvements<br>• "The New York's Great Appliance Swap Out" began providing $16.8 million in rebates to consumers all across New York State who purchase qualified energy efficient appliances (ARRA funded)<br>• The program requires consumers to replace old appliances, and encourages recycling by offering a larger rebate to consumers who recycle their discarded appliances<br>• Green Jobs Green New York Act includes innovative financing as a key aspect of the program including an On Bill Cost Recovery Pilot, PACE, and unsecured loans targeting the 1-4 residential, multifamily, and small business/not-for-profit sectors<br>• GJGNY will also provide reduced cost or free audits to these sectors |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • Green Residential Building Program authorizes NYSERDA to develop a program to provide incentives to building owners for energy-efficient, green residential buildings with fewer than 12 dwelling units<br>• Residential buildings must be certified at the "Silver" level or above using the National Green Building Standard or Leadership in Energy and Environmental Design (LEED) for Homes Rating System to qualify<br>• Buildings with 1-4 dwelling units must exceed current New York Energy Star Homes efficiency requirements<br>• Allows for Property Assessed Clean Energy (PACE) financing (AB 8862, AB 40004A)<br>NYSERDA is soliciting proposals for innovative and emerging data center and server technologies that increase end-use efficiency and reduce electrical demand<br>• NYSERDA is soliciting proposals for innovative and emerging end-use technologies that increase energy efficiency and reduce electric demand<br>**Expanded the Green Jobs/Green New York program to allow homeowners and businesses to pay back loans for energy efficiency upgrades using a surcharge on local utility bills (SB 4490 – See also Clean Energy Economic Development).**<br>***Launched Energy Efficiency for Health, a partnership betweeen NYSERDA and National Grid, to provide hospital with targeted technical assistance and up to $10 million in funding for energy efficiency initiatives that are expected to generate as much as $5 million in annual energy savings.***<br>***Launched New York Green Residential Building Program which offers direct incentives to building owners for certified green residential buildings.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards | New York's RPS was established in 2004 with a goal of increasing the proportion of renewable technology used by New York consumers from the 2004 baseline of 19.3% to at least 25% by 2013 with 1% of the goal coming from voluntary green power sales purchases made by retailers; the funding for the eight-year program is approximately $742 million; NYSERDA is administering these funds by issuing competitive solicitations; two competitive procurements have been completed with 837 MW of renewable capacity under contract (261 MW in service); as of May 2008, contracts from a third procurement are being negotiated<br>• In January of 2010 the RPS goal was increased to 30% by the year 2015 to augment the governor's clean energy policy of '45 by 15'--45% of NY's energy consumption met through renewables (30%) and energy efficiency (15%) by the year 2015<br>• The funding for NY's RPS has increased to approximately $3 billion<br>• As part of the program, 39 large scale generation projects representing more than 1,532 megawatts of new renewable capacity have been competitively selected to provide renewable electricity to NY consumers<br>• The 2010 PRS added solar thermal as an eligible technology and included a geographic rebalancing component that was designed to result in renewable capacity additions in the downstate region, particularly where capacity additions will have overall system benefits<br>***Established new PSC rules which (1) allow, with limitations, biomass sourced from mixed demolition debris to be considered a qualified biomass resource; (2) allow NYSERDA to issue solicitations for Main Tier projects at least once a year without an authorizing order from the PSC; and (3) allow in-state, behind-the-meter projects to qualify for Main Tier solicitations, subject to NYSERDA measurement and verification requirements.*** |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Interconnection standards for distributed generation systems up to 2 MW; net metering up to 10 kW for solar, 25 kW for residential wind, 125 kW for farm-based wind, 400 kW for farm-based biogas<br>• The following changes were made to the net metering limits: up to 25 kW for residential solar, 2 MW for non-residential solar, 25 kW for residential wind, 500 kW for farm-based wind, 2 MW non-residential wind, 500 kW for farm-based biogas, 10kW for micro-combined heat and power (micro-CHP) and fuel cells, with excess generation over the billing period bought back at avoided cost rate rather than retail rate<br>**Permitted eligible farm-based and non-residential customer-generators to designate net metering credits from equipment located on property which they own or lease to any other meter that is located on property owned or leased by the customer, and is within the same utility territory and load zone as the net metered facility (AB 6270).**<br>***Increased the eligible system size for farm-based anaerobic digesters from 500 kW to 1 MW.*** |
| Public Benefits Funds | SBC funds may be used to support renewable-energy infrastructure; in April 2008, LIPA issued an RFP soliciting proposals to reduce dependence on fossil fuel electric generation resources by purchasing the full output of power and related energy produced by up to 50 MW of photovoltaic solar photovoltaic generating systems |
| Shale Gas Development, Regulation and Policy | **Established a permitting process for water withdrawls of 100,000 gallons or more per day by anynon-agircultural user for any purpose from any of the state's waters. Water withdrawls for hydraulic fracturing activities could be covered under this legislation (AB 5318).**<br>***The governor issued an executive order prohibiting hydraulic fracturing while the state Department of Environmental Conservation (DEC) reviews the effect of drilling on water. The DEC released the results of the study and has 60-day public comment period for the recommendations, beginning in August. Drilling permits cannot be issued until public comments are considered and the final supplemental Generic Environmental Impact Statement is released.*** |
| Financial and Other Incentives | Provides low-interest loans to finance renovation or construction projects that improve a facility's energy efficiency or incorporate renewable energy systems<br>The Anaerobic Digester Gas-to-Electricity program provides incentive payments are available for both new installations and for the installation of new equipment on existing facilities<br>Provides a 15-year real property tax exemption for solar and wind energy systems constructed in New York; exempts the sale and installation of residential solar-energy systems from the state's sales and compensating use taxes<br>• Local governments now have the option to "opt-out" of exemption to state sales and other taxes; property tax abatement available for installed solar PV in cities with population greater than 1 million<br>• Qualifying energy-conservation improvements to homes are exempt from real property taxation to the extent that the addition would increase the value of the home<br>• The exemption applies directly to a variety of equipment and measures, but the statute also states that any conservation-related state or federal tax credit or deduction is also exempt from New York's property tax under this statute<br>• The federal energy efficiency tax credit can be applied to energy efficient central air conditioners, electric heat pump water heaters, natural gas, propane, or oil water heaters, advanced main air circulating fans, and certain biomass-fueled stoves |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | • In addition, the state Tax Assessor's Manual also specifically identifies solar and wind energy systems specifically as eligible for the exemption<br>Provides incentives for the purchase, installation, and operation of fuel cell systems used for electricity production; provides incentives for eligible small wind systems and grid-connected photovoltaic systems<br>• Program will add new incentives for Solar Thermal Application for domestic hot water production<br>• Allows for Property Assessed Clean Energy (PACE) financing (AB 8862, AB 40004A)<br>• Through the ARRA-funded SEP program, NYSERDA issued competitive solicitations and is in the process of contracting for the installation of over 11 MW of photovoltaic systems across New York State<br>**Created a "one-stop" multi-agency siting board to streamline siting and permitting decisions for power plants. Also lowered the threshold for plants requiring approval from 80 to 25 megawatts.**<br>***Created a personal income tax credit for expenditures on solar thermal and PV equipment used on residential property, equal to 25% of the cost of equipment and installation, up to $5,000.***<br>***Created refundable personal and corporate tax credits for the residential use of biodiesel for space heating or hot water, for 1 cent per gallon and a maximum incentive of 20 cents per gallon.***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.***<br>***NYSERDA established grants for clean energy business projects of up to 50% of a project's cost, with a maximum of $200,000 per project. The program is funded through the state's System Benefits Charge (SBC).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | ***NYSERDA's Flexible Technical Assistance Program provided assistance to public and private fleet managers who want to evaluate the feasibility and cost of adding AFVs and fueling facilities to their operations.*** |
| Financial and Other Incentives | Made a state tax credit available for the installation of clean fuel vehicle fueling infrastructure located in the state and for production of biofuels (over 40,000 gallons)<br>The Biofuel Station Initiative Program provided a reimbursement of 50% of the cost of new installations of biofuel dispensing equipment, storage tanks, and associated piping equipment (up to $50,000); provides funds to state and local transit agencies, municipalities, and schools for up to 100% of the incremental cost of purchasing new alternative fuel buses and associated infrastructure<br>Eligible hybrid electric vehicles may use the Long Island Expressway HOV lanes, regardless of the number of occupants in the vehicle<br>• Financial incentives were made available to fleets to cost-share purchase of new alternative-fuel vehicles including hybrid-electric vehicles and to retrofit existing diesel vehicles with emission control technology |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Made biofuel producers eligible for a state tax credit of $0.15 per gallon of biodiesel (B100) or ethanol produced after the production facility has produced, and made available for sale, 40,000 gallons of biofuel per year. The maximum credit available is $2.5 million per taxpayer per taxable year for no more than four consecutive taxable years.***<br>***NYSERDA administered the New York State Clean Cities Challenge, which awards funds to New York Clean Cities Coalition members that acquired AFVs or installed AFV fueling or charging infrastructure. Funds may be used to cost-share up to 75% of the proposed project, including the incremental cost of purchasing AFVs, fueling and charging equipment installation costs, and the incremental costs associated with bulk alternative fuel purchases.***<br>***NYSERDA managed the New York State Clean Cities Sharing Network, which provides technical, policy, and program information about AFVs.***<br>***Exempted E85, compressed natural gas, and hydrogen fuel used exclusively to operate a motor vehicle engine from state sales and use taxes. Exemption expires September 2011.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | New York State has several minimum product efficiency requirements for State agencies and authorities; Article 5, Section 5-108a of State Law established efficiency requirements for 31 product categories; in addition, since 2001 Executive Order No. 111 establishes efficiency requirements for all products that are Energy Star rated, supplemented by FEMP standards, supplemented by life-cycle costing analysis; in 2008, the governor furthered New York's product standards work by issuing Executive Order No. 4, which will expand product categories and include many additional environmental attributes to existing requirements product purchasing requirements |
| Building Efficiency | Since 2001, New York State agencies and authorities have had a requirement to reduce their energy consumption by 35% as compared to 1990 levels; in addition, Executive Order No. 111 has required that all facilities constructed or renovated for New York State agencies and authorities be at least 20% more efficient than the code in effect at the time the building permit is issued, as well as comply with U.S. Green Building Council requirements, though formal certification is not required; in addition, the New York State Education Department in partnership with NYSERDA and an Advisory Council, established a voluntary high performance school guideline as part of the Collaborative for High Performance Schools (CHPS) program to encourage efficient and healthy design in the State's public and private schools; during the period of 2002/03 to 2007/08, based on a comprehensive energy benchmarking program, NYSERDA has documented an average reduction in energy consumption in New York State's K-12 school sector of 23% |
| Green Power Purchasing | The state government is required to purchase a portion of its electric power from renewable energy resources - at least 10% from resources such as wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste and fuel cells, increasing to 20% by 2010; this requirement applies to over 200 million square feet of space owned or operated by New York State; authorizes the aggregate purchase of renewable energy and alternative fuels by state agencies |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | To the extent that gasoline powered state agency vehicles use central fueling stations, all state agencies and public authorities must use E85 in flexible-fuel vehicles whenever it is feasible to do so; the governor's Clean Fueled Vehicles Council is required to detail how agencies and authorities can purchase, allocate, distribute and use biodiesel in state agency and public authority fleets; at least 10% of fuels used in the state fleet must be biodiesel by 2012; by 2010, 100% of all new light-duty vehicles must be AFVs, with the exception of designated specialty, police, or emergency vehicles<br>***Developed the Alternative Fueled Vehicles Program within the New York State Office of General Services to: assist New York State agencies, authorities, state universities and community colleges in acquiring and using alternative fueled vehicles; satisfy federal and state requirements for purchasing such vehicles; and develop a comprehensive, conveniently accessible statewide fueling station network to support the vehicles.***<br>***Required any new light-duty passenger car, light-duty truck, or medium-duty passenger vehicle sold, leased, imported, delivered, purchased, or acquired in New York State must be certified to the California emissions standards set forth in Title 13 of the California Code of Regulations.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce statewide GHG emissions to 5% below 1990 levels by 2010, and 10% below 1990 levels by 2020; power sector cap through RGGI; RGGI participant; climate action plan - "Recommendations to Governor Pataki for Reducing NY State Greenhouse Gas Emissions" (2003); will adopt CA vehicle emissions standards pending EPA approval<br>• New York is currently preparing a Climate Action Plan based on stakeholder and multi-agency input in response to an Executive Order by the Governor |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | NYSERDA's Clean Energy Growth and Development program provides grants for clean energy related business projects that may include developing a new or expanded clean energy business for sales and service or manufacturing, expanding a current business model into a new market area, or introducing into New York a commercial technology developed in another state (does not apply to transportation fuels); offers competitive R&D grants for solar thermal electric, photovoltaics, hydropower, alternative fuels, wind, landfill gas, and biomass; NYSERDA's Transportation Research Program sponsors a wide variety of product development efforts aimed at improving efficiency and increasing the use of alternative fuels<br>***NYSERDA launched the Environmentally Preferred Power Systems program, offering competitive R&D grants for solar electric, photovoltaics, hydropower, fuel cells, wind, landfill gas, biomass, and anaerobic digester gas.***<br>***NYSERDA began the Innovation in the Manufacturing of Clean Energy Technologies program to support projects to research, develop, demonstrate or commercialize innovative technologies that provide an energy benefit to a Clean Energy Technology manufacturing process in New York State.*** |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Energy Efficiency Portfolio Standard (EEPS) provides $6.6M for workforce development activities targeted at the energy efficiency sector<br>• The Green Jobs-Green New York (GJ-GNY) Program provides $8M in workforce development funds for retrofit and energy auditing, solar thermal, and oil efficiency training<br>• GJ-GNY is designed to create job opportunities for new entrants into the state's workforce and to retrain long-term unemployed and displaced workers<br>• Activities will enhance EEPS funded activities<br>• Established six clean energy business incubators throughout New York State<br>• Established a NYSERDA Entrepreneurs-in-Residence program to provide mentors to clean energy startup companies<br>• Established the CleantechExecs program to transition experienced executives from other sectors into clean energy<br>• Established several clean energy entrepreneurial development and training programs throughout the state<br>• Saratoga Technology + Energy Park (STEP) is a public-private partnership developing a 280-acre site into a clean energy knowledge community that offers lab, manufacturing, office and training space to companies involved in energy and environmental technologies<br>**The 'Recharge New York' program gives New York businesses the opportunity to buy low-cost power and spend the savings on retaining and creating jobs. Businesses participating in the program must also demonstrate a commitment to maximizing energy efficiency.**<br>**Expanded the Green Jobs/Green New York program by allowing homeowners and businesses to pay back loans for energy efficiency upgrades using a surcharge on local utility bills (SB 4490 – See also Energy Efficiency).** |
| **OTHER** | |
| Nuclear Power | Prohibits public service companies from recovering costs associated with nuclear power through rates |

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# NORTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | 2009 North Carolina Energy Conservation Code (NCEC) is mandatory, statewide for residential and commercial buildings<br>**Residential:** State-developed code based on the 2006 IECC with amendments<br>**Commercial:** State-developed code based on the 2006 IECC and references the ASHRAE 90.1-2004<br>***Residential and Commercial: Updated code to 2010 North Carolina Energy Conservation Code (NCEC), effective January 2012*** |
| Utility Demand-Side-Management | • Incentives available for utilities implementing DSM or energy efficiency programs<br>• Submitted to North Carolina Utilities Commission for consideration<br>***Adjusted Renewable Energy and Energy Efficiency Standards to allow utilities to meet standards through "electricity demand reduction, defined as measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric public utility and the retail electric customer, and measured in real time using two-way communications devices that communicate on the basis of standards" (SB 75 – See also Clean Electricity).*** |
| Utility Rate Realignment | Decoupling in natural gas markets<br>• Utility natural gas efficiency program funding is embedded in rates instead of shareholder funded<br>• Lost revenue adjustment mechanism approved for a limited time for Progress Energy Carolinas to recover costs |
| Energy Savings Targets/Energy Efficiency Resource Standards | Energy efficiency included in North Carolina's REPS |
| Financial and Other Incentives | The Energy Improvement Loan Program (EILP) is available to businesses, local governments, public schools, community colleges and nonprofit organizations for projects that include energy efficiency improvements and renewable energy systems<br>• The Green Building Incentive, which provides reductions or partial rebates for building permit fees, originally designated for one county, seven cities and seven towns was extended to all counties, cities and towns<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1770. SB 97)<br>***Awarded $8.5 million to 43 public and private agencies to make downtown local government and small businesses more energy efficient, promote conservation and use of renewable fuels in industrial buildings and provide for greater energy efficiency in commercial and large nonprofit facilities.***<br>***North Carolina Housing Finance Agency adopted policy that encourages the construction of energy efficient affordable housing. The Agency will provide a construction subsidy of $4,000 to nonprofits and local governments for each home they develop according to guidelines that include specific energy efficiency standards.***<br>***Established rebate program for certain Energy Star appliances. Appliances must be replacing an existing less efficient appliance, and participants must have the old appliance recycled or ensure that they will recycle the old appliance themselves.***<br>***Authorized cities and counties to establish loan loss reserve funds to assist in the financing of eligible energy efficiency or renewable energy projects for residential or commerical property, or other types of finance programs funded through federal and state grants or their own general revenue (HB 1829 – See also Clean Electricity).*** |

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| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard (REPS) requires all investor-owned utilities in the state to supply 12.5% of 2020 retail electricity sales from eligible energy resources by 2021; municipal utilities and electric cooperatives must meet a target of 10% renewables by 2018<br>***Included "electricity demand reducition" as a means through which utilities can meet the Renewable Energy and Energy Efficiency Standards. Defined the term as measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric public utility and the retail electric customer, and measured in real time, using two-way communications devices that communicate on the basis of standards (SB 75).*** |
| Net Metering and Interconnection Standards | Requires simplified interconnection standards for small distributed generation (DG) for renewable-energy systems and other forms of DG up to 20 kW in capacity for residential systems and 100 kW for non-residential systems; investor-owned utilities are required to make net metering available to customers that own and operate systems that generate electricity using photovoltaics (solar-electric energy), wind or biomass resources, or micro-hydro systems<br>• A North Carolina Utilities Commission (NCUC) order raised the system capacity to 1MW and specified that the utility owns the RECs unless the customer-generator chooses to net meter under an unfavorable demand tariff |
| Financial and Other Incentives | The Energy Improvement Loan Program (EILP) is available to businesses, local governments, public schools, community colleges and nonprofit organizations for projects that include energy efficiency improvements and renewable energy systems<br>NC GreenPower offers production payments for grid-tied electricity generated by solar, wind, small hydro (10 MW or less) and biomass resources<br>Provides for a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year; active solar heating and cooling systems may not be assessed at more than the value of a conventional system for property tax purposes<br>• Tax credit against the Gross Premiums Tax for geothermal equipment was extended<br>• Provides that a city or county may establish a revolving loan fund to finance the purchase and installation of distributed generation renewable energy sources or energy efficiency improvements<br>Provides steam trap survey services to facilities that use steam for heating or processing<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1770. SB 97)<br>***Awarded $8.5 million to 43 public and private agencies to make downtown local government and small businesses more energy efficient, promote conservation and use of renewable fuels in industrial buildings and provide for greater energy efficiency in commercial and large nonprofit facilities.***<br>***Extended the Renewable energy tax credit to include combined heat and power systems.***<br>***Established the North Carolina Green Business Fund to provide businesses, organizations, and state and local government entities with grants up to $500,000 for deployment of renewable energy, biomass systems,waste-to-energy, and distributed transmission projects (See also Clean Energy Economic Development).*** |

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| CATEGORY | ACTIONS TAKEN |
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| Financial and Other Incentives (continued) | ***Reinstated a tax credit for costs incurred in the construction or retooling of a facility to manufacture renewable energy property or "a major component subassembly for a solar array or wind turbine". The credit is worth 25% of the eligible costs (See also Clean Energy Economic Development).***<br>***Authorized cities and counties to establish loan loss reserve funds to assist in the financing of eligible energy efficiency or renewable energy projects for residential or commerical property, or other types of finance programs funded through federal and state grants or their own general revenue (HB 1829 – See also Energy Efficiency).***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Every school bus that is capable of operating on diesel fuel must be capable of operating on diesel fuel with a minimum content of 20% biodiesel (B20); at least 2% of the total volume of fuel purchased annually by local school districts statewide for use in diesel school buses must be a minimum of B20<br>***Required suppliers that imported gasoline for sale in North Carolina to offer fuel that was not pre-blended with fuel alcohol but that is suitable for future blending.*** |
| Financial and Other Incentives | The Alternative Fuel Revolving Fund enabled state agencies to offset the incremental costs of alternative fuel, related fueling infrastructure, and purchasing AFVs<br>• Allowed use of the Alternative Fuel Revolving Fund to offset the incremental fuel cost of biodiesel blend fuel<br>A biodiesel provider that produced at least 100,000 gallons of biodiesel during the taxable year was allowed a credit equal to the per gallon excise tax the producer paid in accordance with the motor fuel excise tax rate; a tax credit was available for processing or dispensing of biodiesel, 100% ethanol, or ethanol/gasoline blends consisting of at least 70% ethanol; taxpayers who constructed, purchased, or leased renewable energy property were eligible for a tax credit equal to 35% of the cost of the property<br>• Tax credit for purchase of alternative fuel vehicle<br>Clean Fuel Advanced Technology (CFAT) is a three-year project focused on reducing transportation related emissions in North Carolina's non-attainment and maintenance counties for National Ambient Air Quality Standards and covers three broad areas: education and outreach, project funding; and recognition of exemplary activities--funding for up to 80% of project costs is available for AFVs, fueling infrastructure, idle reduction technologies, heavy-duty HEVs, heavy-duty buses, and diesel retrofits<br>School Bus Emission Reduction Grants is a pilot program will be established within the North Carolina Department of Environment and Natural Resources to provide grants towards the required 20% state funding match for the federal Safe Accountable, Flexible, Efficient Transportation Equity Act–A Legacy for Users (SAFETEA-LU), specifically for diesel school bus retrofits or repowers that reduce particulate matter emissions<br>***Made grants available for the incremental cost of purchasing original equipment manufacturer alternative fuel vehicles, vehicle conversions, implementing idle reduction programs, and constructing or installing public alternative fueling facilities. The 2011 funding cycle is reserved for projects related to diesel vehicles.*** |

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# NORTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Exempted the retail sale, use, storage or consumption of alternative fuels from the state retail sales and use tax.***<br>***Exempted plug-in electric vehicles from HOV lane vehicle occupancy restrictions (SB 194).***<br>***Exempted plug-in electric vehicles from state emissions inspections requirements (SB 194).*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | No later than December 31, 2009, all existing State-owned buildings must make specific lighting upgrades including the replacement of standard exit signs with ones that utilize LEDs and the replacement of incandescent light bulbs with compact fluorescent bulbs; existing buildings must also install faucet aerators and low-flow shower heads, and adopt other methods to reduce either outdoor or indoor water consumption by 20% relative to a 2002-2003 baseline; when replacing HVAC equipment in an existing building, the specifications of the new system must be reviewed to ensure it is properly sized; when purchasing new office equipment and appliances, the new equipment must be Energy Star certified |
| Building Efficiency | All new buildings owned by the State, the University of North Carolina, and the North Carolina Community College system larger than 20,000 sq. ft. must be designed, constructed and certified to exceed the energy efficiency requirements of ASHRAE 90.1-2004 by 30% for new buildings, and 20% for major renovations; state buildings are required in total to reduce their energy consumption per square foot by 20% by 2010 and 30% by 2015 relative to energy consumption levels during the 2003-2004 fiscal year |
| Alternative Fuel and Vehicle Fleets | Through a provision in the 2005 state budget, the North Carolina legislature set a goal to reduce petroleum use in state fleets 20% by 2010; the provision requires any agency with 10 or more vehicles to create a plan to reach this goal, and the plan was to be submitted to the State Energy Office; to date, a vast majority of all agencies have submitted a plan, and the State Energy Office is working with these agencies to ensure that each plan is met; most of these plans rely on the use of alternative fuels; flex fuel vehicles make up a high percentage of the state fleet; to date, every gasoline pump is blended with at least 10% petroleum; E85 is available at a few spots around the state, with more currently being considered and constructed; conservation is also an important part of petroleum displacement plans; agencies are encouraged to conduct meetings via conference calls or webinars whenever possible<br>***Required all new state government diesel vehicles must have a manufacturer's warranty that allows the use of biodiesel blends of 20% (B20) in the vehicle unless there is no vehicle available that is suited for the intended use and that has a manufacturer's warranty allowing the use of B20.***<br>***Required the North Carolina Department of Administration give purchase preference to new state vehicles with fuel economy ratings that rank among the top 15% of comparable vehicles in their class.***<br>***Required that at least 75% of new or replacement state government light-duty cars and trucks must be AFVs or low emission vehicles.*** |

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Clean State Energy Actions • 2011 Update

# NORTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | • Climate Action Plan<br>• Legislative Commission on Global Climate Change received an extension until October 2010 to submit its final report<br>• Provides resources for Title V facilities to voluntarily report GHG emissions to the Division of Air Quality |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Provides funding to organizations to encourage the development and commercialization of "promising" renewable energy and green building technologies |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | The North Carolina Green Business Fund was established to provide grants to private businesses with fewer than 100 employees, nonprofit organizations, local governments, and state agencies to encourage the expansion of small and medium sized businesses to help grow a green economy<br>***Awarded grants to private businesses with fewer than 100 employees, nonprofit organizations, local governments, and state agencies through the North Carolina Green Business Fund to maximize development, production, distribution, retail infrastructure, and consumer purchase of biofuels, including grants to enhance biofuels workforce development.***<br>***Reinstated a tax credit for costs incurred in the construction or retooling of a facility to manufacture renewable energy property or "a major component subassembly for a solar array or wind turbine". The credit is worth 25% of the eligible costs (See also Clean Electricity).*** |
| **OTHER** | |
| Energy Administration | • The governor signed legislation moving the State Energy Office into the North Carolina Department of Commerce (HB 1481) |

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Clean State Energy Actions • 2011 Update

# NORTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 1993 MEC is voluntary<br>**Commercial:** ASHRAE/IESNA 90.1-1989 is voluntary |
| Utility Demand-Side-Management | Cost recovery process exists for electric utilities |
| Utility Rate Realignment | Some elements of decoupling are in place for natural gas |
| Financial and Other Incentives | The North Dakota State Buildings Energy Conservation Program provides grant funding to state institutions and agencies for the installation and implementation of energy efficiency measures<br>• Weatherization assistance for those families whose income does not exceed 200% above the poverty level, depending on family size; online application<br>• Extended energy efficient home credit from December 2008 to December 2009 |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Has established a voluntary objective that 10% of retail electricity sold in the state be obtained from renewable energy by 2015--can be measured through renewable energy and recycled energy objective credits and through qualifying megawatt hours delivered at retail; state law supports the national 25 x 25 initiative<br>• States in the revised version of the comprehensive state energy policy plan, EmPower ND, a goal of increasing installed wind capacity to 5,000 MW by 2020 |
| Net Metering and Interconnection Standards | Net-metering rules apply both to renewable-energy generators and cogenerators (combined-heat-and-power systems) up to 100 kilowatts (kW) in capacity |
| Advanced Coal and Clean Coal | ***Required the legislative management committee to study carbon dioxide storage easements and the duration of carbon dioxide storage easements during the 2011-2012 interim session. The legislative management will report its findings and recommendations together with any legislation necessary to implement the recommendations, to the sixty-third legislative assembly (SB 2318).*** |
| Shale Gas Development, Regulation and Policy | ***Provided $100 million to help communities in North Dakota's oil and gas counties offset direct impacts created by the rapidly developing energy industry (HB 1013).*** |

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Clean State Energy Actions • 2011 Update

# NORTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Offers an individual or corporate income tax credit of 3% per year for five years for the cost of equipment and installation of a system that uses geothermal, solar, biomass or wind energy; offers property tax reductions for commercial wind energy generation devices constructed before 2011; provides a local property tax exemption for qualified wind, solar, or geothermal energy devices and also offers a property tax reduction centrally assessed wind energy systems larger than 100 kW; offers a sales tax exemption for qualifying wind energy systems greater than 100 kW<br>• Included geothermal energy devices in their Renewable Energy Tax Credit of 2009<br>• Extended the reduction of taxable value for wind energy systems for an additional four years<br>• Made permanent the sales and use tax exemption for materials used in the construction or expansion of a wind-powered facility<br>• Extended the income tax credit for the installation of renewable energy devices with a credit carryover of 10 years<br>***Amended the income tax credit for the cost of a geothermal energy device to include systems installed after December 31, 2008, and before January 1, 2015, in a building or on property owned or leased by the taxpayer in North Dakota. Required that the credit be in an amount equal to three percent per year for five years of the actual cost of acquisition and installation of the geothermal energy device (HB 1124).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | 75% of gasoline used in the state must be blended with ethanol by 2015 and the state will have a production capacity of at least 135 million gallons per year of biodiesel by 2015; participated in Midwest Energy Security and Climate Stewardship Platform Plan - established shared goals for the Midwest region: produced commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>• Set goal of producing 450 million gallons of ethanol by 2011<br>• Created an Ethanol Council that appropriates the ethanol fund and reports to the legislature |
| Financial Incentives--Loans, Rebates, Taxes, Bonds, Etc. | The Biofuels Partnership in Assisting Community Expansion (PACE) Loan Program will provide a 5% interest buy down to the following: biodiesel and ethanol production facilities, livestock operations feeding byproducts of a biodiesel or ethanol facility, biofuels retailers for refueling infrastructure installation, and grain handling facilities which provide condominium storage of grain used in biofuels production<br>The ethanol production incentive program provided funds for an incentive per gallon of ethanol produced and sold in North Dakota<br>• Allocated $2 million to the Biofuels Blender Pump Program to continue funding service station retailers to upgrade their equipment<br>Offered a five-year corporate income tax credit for equipment that enables a facility to sell or produce diesel fuel containing at least 2% biodiesel by volume; offered a retailer an income tax credit for biodiesel blends; provided sales tax exemptions for sales of hydrogen to power an internal combustion engine or fuel cell and for sales of equipment to a facility that was used to sell diesel fuel containing at least 2% biodiesel<br>***Made new ethanol, biodiesel, and biogas producers eligible for income tax credit equal to a percentage of wages and salaries paid each year.*** |

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Clean State Energy Actions • 2011 Update

# NORTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The North Dakota Board of Education is encouraged to establish biomass energy centers at institutions to conduct research and provide education and technical assistance related to biomass production, harvesting, transportation, and conversion; the State Industrial Commission administers renewable energy and dedicated biomass grant programs; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>• Created an Energy Policy Commission to monitor energy, water, and biofuel issues through studies and legislative councils (HB 1462)<br>• Legislative council study for the development of energy from wind and other natural resources and of wind easement and wind energy leases<br>• Revised the Biomass Incentive and Research Program law and provided funding for future projects<br>***Created the Small Business Technology Investment Program to allocate grants of up to $50,000 to technology-based start up companies (See also Clean Energy Economic Development).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Created the Small Business Technology Investment Program to allocate grants of up to $50,000 to technology-based start up companies (See also Clean Energy RD&D).*** |

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Clean State Energy Actions • 2011 Update

# OHIO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC<br>**Commercial:** 2006 IECC referencing ASHRAE 90.1-2004, mandatory statewide<br>• Builders are also allowed to meet the requirements of sections 1101-1103 of Chapter 11 of the Residential Code of Ohio (based on Chapter 11 of the 2006 IRC) or by meeting the state code's new Prescriptive Energy Requirements (Section 1104) |
| Utility Demand-Side-Management | Cost recovery process exists for electric utilities |
| Utility Rate Realignment | Decoupling in at least one natural gas company and, as a result of the recently enacted Energy, Jobs and Progress bill, decoupling may be considered for electric utilities by the Public Utilities Commission of Ohio |
| Energy Savings Targets/Energy Efficiency Resource Standards | A new energy efficiency standard for Ohio utilities mandates that by 2025 utility programs achieve annual energy savings through efficiency equal to at least 2% of a rolling three year average<br>• Requires a gradual ramp-up to a 22% reduction in electricity use by 2025 (SB 221)<br>• Electric distribution utilities must achieve 0.3% savings, ramping up to 1% per year by 2014 and then jumping to 2% per year in 2019 through 2025<br>• Requires electric distribution utilities to reduce peak demand by 1% and to continue to achieve an additional 0.75% reduction per year until 2018 |
| Public Benefits Funds | Ohio's Advanced Energy Fund provides grants and low-interest loans to distributed energy resources projects, non-residential and residential renewable energy, and manufacturing facilities' energy efficiency<br>***Suspended all funding opportunities from the Advanced Energy Fund as of November 5, 2010, in order to allow the Ohio Department of Development to process applications that were previously submitted.*** |
| Financial and Other Incentives | Offers grants to support the implementation of certain energy-efficiency projects<br>Offers conduit financing with flexible structures and associated tax benefits<br>Provides an exemption from real and personal property taxation, the state's sales and use tax, and the state's corporate franchise tax for property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1, SB 232)<br>***Created Energy Conversation for Ohioans (ECO-Link) program that offers Ohio homeowners reduced rate financing for energy efficiency and renewable energy home upgrades.***<br>***Authorized cities and counties to establish revolving loan programs to finance renewable energy and energy efficiency projects that are permanently affixed to residential, commercial or other real property (SB 232).***<br>***Localities in Ohio have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# OHIO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Electric distribution utilities must provide 25% of electricity sold through the use of advanced energy technologies by 2025; technologies include clean coal, nuclear, renewables and others; at least half (12.5% including a 0.5% carve-out for solar electric) must come from renewable sources |
| Net Metering and Interconnection Standards | Maintains three levels of interconnection standards for distributed generation up to 20 MW; net-metering law requires electric distribution utilities and competitive retail electric service providers to offer net metering to customers who generate electricity using wind energy, solar energy, biomass, landfill gas, hydropower, fuel cells or microturbines |
| Advanced Coal and Clean Coal | Offers conduit financing, loans, loan guarantees, grants, tax incentives, and funding for demonstration IGCC projects |
| Public Benefits Funds | Ohio's Advanced Energy Fund provides grants and low-interest loans to distributed energy resources projects, non-residential and residential renewable energy, and manufacturing facilities' energy efficiency |
| Financial and Other Incentives | Offers conduit financing with flexible structures and associated tax benefits for technologies that improve air quality through production of cleaner energy<br>Offers grants for the installation of new distributed energy resources projects and non-residential renewable-energy projects in the service areas of certain utilities<br>Provides production-based incentives to support new wind-energy projects<br>Provides an exemption from real and personal property taxation, the state's sales and use tax, and the state's corporate franchise tax for property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1, SB 232)<br>***Established the Energy Conversation for Ohioans (ECO-Link) programs that offers Ohio homeowners reduced rate financing for energy efficiency and renewable energy home upgrades.***<br>***Exempted qualified energy projects in Ohio from public utility tangible personal property taxes and real property taxes (S.B. 232).***<br>***Provided assistance to small and large businesses for new air quality projects in Ohio.***<br>***Authorized cities and counties to establish revolving loan programs to finance renewable energy and energy efficiency projects that are permanently affixed to residential, commercial or other real property (SB 232).***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Participated in Midwest Energy Security and Climate Stewardship Platform Plan - established shared goals for the Midwest region: produced commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |

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Clean State Energy Actions • 2011 Update

# OHIO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Infrastructure Enhancement and Evaluation | ***Allowed an alternative fuel retailer to include a marking or symbol within their logo on state turnpikes directional signs indicating that it sells one or more types of alternative fuel.*** |
| Financial and Other Incentives | Provided grants and loans to reduce emissions from diesel engines<br>The Department of Development was required to establish a biodiesel school bus program that will provide grants to school districts that use biodiesel fuel for student related transportation to help offset the incremental cost of using biodiesel fuel instead of 100% petroleum diesel fuel<br>Provided a per gallon tax credit to retailers who sell E85 or biodiesel<br>Offered grants for the purchase and installation of alternative fuel fueling and blending facilities, and for the purchase and use of alternative fuel by businesses, nonprofit organizations, public school systems, and local governments<br>**The Ohio Third Frontier Fuel Cell Program provided direct financial support of up to $1 million to accelerate the development and growth of the fuel cell industry in Ohio.**<br>***Created a tax credit for investments in a certified ethanol production plant. The credit is equal to 50% of the investment, up to $5,000 per taxpayer per certified plant against the state state corporation franchise tax and income taxes.***<br>***The Ohio Bioproducts Development Program offered grants and loans to support the development of biobased products and the production of advanced energy in the state, including biofuels.***<br>***Created the Clean Diesel School Bus Fund Retrofits Grant Program, which offers grants to retrofit school buses operating on diesel fuel.***<br>***The Diesel Emissions Reduction Grant Program and the Diesel Emission Reduction Revolving Loan Program provided funding for: projects related to certified engine configurations, including new, rebuilt, or remanufactured engine configurations the U.S. Environmental Protection Agency has certified; the purchase or use of hybrid electric and alternative fuel vehicles; and Installation of verified technology including pollution control devices, retrofits, and development of truck stop electrification and auxiliary power units.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | ***Created a requirement for state agencies and state colleges and universities to give buying preference to products made with agricultural materials such as soybeans and wood pulp when available.*** |
| Building Efficiency | Requires that all state agencies perform life-cycle cost analyses prior to the construction of new buildings, and energy consumption analyses prior to new leases; requires that an inter-university council composed of the presidents of state institutions of higher education or their designees develop energy efficiency and conservation guidelines for their respective Boards of Trustees that must include: 1) a goal to reduce energy consumption 20% from 2004 levels by 2014; 2) minimum energy efficiency standards for capital improvement projects worth more than $100,000; 3) minimum efficiency standards for leases on buildings over 20,000 sq. ft.; 4) a 15-year plan for each Board; and 5) periodic progress reports; the Ohio School Facilities Commission launched a $4 billion school construction and renovation program that requires all projects to achieve at least a LEED Silver certification; Executive Order 2007-02S directs all agencies to reduce energy consumption by 5% by the end of the current fiscal year and by an aggregate total 15% by the end of four fiscal years - this includes transportation energy and requires higher use of biofuels and other petroleum alternatives |

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Clean State Energy Actions • 2011 Update

# OHIO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | All new motor vehicles acquired by state agencies must be capable of using alternative fuels and must use that alternative fuel if it is reasonably available and priced; by January 1, 2007, state flexible-fuel vehicles were required to use at least 60,000 gallons of E85 per calendar year, increasing by 5,000 gallons per year thereafter; vehicles that operate on diesel fuel must use at least one million gallons of biodiesel, increasing by 100,000 gallons per year thereafter; Executive Order 2007-02S directs all agencies to reduce energy consumption by 5% by the end of the current fiscal year and by an aggregate total 15% by the end of four fiscal years - this includes transportation energy and requires higher use of biofuels and other petroleum alternatives |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; Midwestern Regional Greenhouse Gas Reduction Accord observer |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Any Edison technology center is eligible to apply for and receive assistance for the purposes of creating an advanced energy manufacturing center in this state that will provide for the exchange of information and expertise regarding advanced energy, assisting with the design of advanced energy projects, developing workforce training programs for such projects, and encouraging investment in advanced energy manufacturing technologies for advanced energy products and investment in sustainable manufacturing operations that create high-paying jobs; the Ohio Fuel Cell Initiative provides grants to support the growth of Ohio's fuel cell industry through collaborations that involve companies, higher education institutions, and non-profit research organizations - projects must focus on research and development that addresses technical and cost barriers to commercialization and adapting fuel cell components produced in Ohio for use in fuel cell systems; in addition, Ohio's Third Frontier technology development program added an advanced energy component to its targeted solicitations, and the state continues its commitment to clean coal technology through its Ohio Coal Development Office; a new economic stimulus plan will make $150 million available for advanced energy technology development over the next three years |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | In May 2008, provided funding for Edison Technology Centers to establish an advanced energy manufacturing center; allows any Ohio university or independent research group addressing green economic development issues to be eligible for assistance<br>• Ohio Green Pathways projects links training opportunities with jobs in green industries<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Awarded funds through the Ohio Job Stimulus Plan Advanced Energy Program to renewable energy projects that serve to attract new investment to Ohio. It reserves $84 million for non-coal projects, and seeks to build upon Ohio's manufacturing strength, advance energy technology development toward commercialization, and prepare Ohio's workforce for the future.*** |

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Clean State Energy Actions • 2011 Update

# OKLAHOMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 2003 IECC mandatory for jurisdictions that do not adopt their own code and for state-owned and -leased facilities |
| Utility Demand-Side-Management | The Oklahoma Corporation Commission had initiated a rulemaking on demand-side management encompassing both gas and electric utilities; interested parties are currently participating in a collaborative process facilitated by the Regulatory Assistance Project; the collaborative will submit comments to the Oklahoma Corporation Commission by October 1, 2008; the Commission anticipates adopting rules by November 1, 2008<br>• Incentive of 25% of net savings available for programs for which energy savings can be estimated and 15% of the costs for programs that do not produce savings such as educational or marketing programs<br>***Created the Electric Utility Data Protection Act, stating that smart grid and smart meter technologies can provide substantial benefits to consumers and the environment, including reducing energy costs, increased efficiency, and increased grid reliability. This bill requires utilities to provide customers with reasonable access to customer information, maintain confidentiality, and provide standard usage data to a customer upon request (HB 1079).*** |
| Utility Rate Realignment | • Revenue recovery mechanisms available on a case-by-case basis |
| Financial and Other Incentives | The Oklahoma Department of Commerce has established a loan/lease fund for public and non-profit K-12 schools to improve energy efficiency: Category One funding will pay for technical and energy audits, the development of Energy Management Plans, and any professional services that contribute to the planning and design of energy reduction systems and measures and Category II funding covers the actual acquisition and installation of energy conservation measures<br>The Oklahoma Department of Commerce offers a revolving loan fund for local governments to make energy efficient improvements to government buildings<br>Offers an income tax credit for eligible expenditures to contractors for energy efficient homes or manufactured homes; offers a revolving loan fund for local governments to make energy efficient improvements to government buildings<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 668)<br>***Established a municipal energy district authority to make loans to finance the purchase and installation of distributed-generation renewable energy sources, for energy-efficient improvements or retrofits that are permanently affixed to residential, commercial, or industrial property (HB 1366 – See also Energy Efficiency).***<br>***Placed two-year moratorium on the income tax credits for manufacturers of energy efficient homes. This tax credit is unavailable for any project completed on or after July 1, 2010 and before July 1, 2012.***<br>***Localities in Oklahoma have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | • Set goal calling for 15% of electricity to be generated from renewable energy sources such as wind, solar and geothermal by 2015 (HB 3028, Oklahoma Energy Security Act) |

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Clean State Energy Actions • 2011 Update

# OKLAHOMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Requires investor-owned utilities and electric cooperatives under the commission's jurisdiction to file net-metering tariffs for customer-owned renewable-energy systems and combined-heat-and-power (CHP) facilities up to 100 kW in capacity |
| Advanced Coal and Clean Coal | The "Oklahoma Carbon Sequestration Act" establishes requirements to document and quantify efforts on agricultural and nonagricultural land within the state to enhance the ability of the state's landowners to participate in carbon dioxide emissions marketing or trading systems |
| Shale Gas Development, Regulation and Policy | ***Authorized the Corporation Commission to allow multiunit horizontal wells under certain conditions and unitize a shale reservoir for the drilling of horizontal wells.***<br>***Also stipulated the prerequisites for unitization, the size of a unit, provided for ownership of oil and gas rights within the unit, and detailed what must be included in the plan of development (SB 1909).*** |
| Financial and Other Incentives | Created a state income tax credit is available to producers of electric power using renewable energy resources from a zero-emission facility; offers an income tax credit to the manufacturers of small wind turbines (up to 50 kW)<br>Income tax credit for 40% of the installation of a wind energy and/or photovoltaic energy system on residential and nonresidential property for tax years 2010 to 2014<br>***Created state income tax credits for zero-emission facilities during 2011 (for electricity produced from July 1, 2010 - June 30, 2011. Any credits that accrue during that time period will be paid during the 2012 tax year.***<br>***Placed a two-year moratorium on the small wind turbine tax credit. This tax credit is unavailable for any project completed on or after July 1, 2010 and before July 1, 2012.***<br>***Established a municipal energy district authority to make loans to finance the purchase and installation of distributed-generation renewable energy sources, for energy-efficient improvements or retrofits that are permanently affixed to residential, commercial, or industrial property (HB 1366 – See also Energy Efficiency).***<br>***Created loans for public and nonprofit k-12 schools to reduce their energy consumption, which includes the installation of certain renewable energy systems.***<br>***Established a loan/lease fund for institutes of higher education to install renewable energy systems, including solar electric or thermal and wind systems.***<br>***Expanded a Oklahoma Department of Commerce-run revolving loan fund to distribute loans of up to $150,000 for local governments to install solar thermal or electric, wind, biomass and other certain renewable energy systems.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | ***Increased the CNG fueling infrastructure in the state, with the overall goal of having one public fueling station located every 100 miles along the interstate highway system by 2015, and one public fueling station every 50 miles by 2025. May take steps to reach this goal by partnering with private entities.*** |

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Clean State Energy Actions • 2011 Update

# OKLAHOMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | The Alternative Fuels Loan program provided 0% interest loans to help convert government-owned fleets to operate on alternative fuels; offered low-interest loans to convert private fleets to alternative fuel vehicles<br>Provided a motor fuel excise tax exemption for individuals who produce and utilize biofuels; provided a one-time income tax credit for 50% of the cost of converting a vehicle to operate on an alternative fuel, or for 50% of the incremental cost of purchasing a new Original Equipment Manufacturer alternative fuel vehicle (AFV); provides a tax credit for up to 50% of the cost of installing refueling infrastructure for AFVs; biodiesel (B100) and ethanol production facilities were allowed a per gallon tax credit for production of biofuels; a retailer of ethanol-blended fuel may claim a motor fuel tax credit for each gallon of ethanol fuel sold<br>• Extended the tax credit for purchase of alternative fuel vehicle<br>***Made manufacturer of EVs that can legally be operated on interstate highways and turnpikes in the state eligible for a $2,000 credit per vehicle. Manufacturers of Four-wheeled medium-speed EVs are eligible for a $1,000 credit per vehicle. Manufacturers of Four-wheeled low-speed EVs are eligible for a $500 credit per vehicle (See also Clean Energy Economic Development).***<br>***Provided a tax credit for up to 75% of the cost of installing alternative fueling infrastructure.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency Standards | • Requires state agencies to develop energy efficiency and conservation plans with provisions for purchasing energy-efficient products and vehicles that use alternative fuel sources (HB 3394) |
| Building Efficiency | • All new state-owned buildings or major renovations must meet minimum LEED standards (HB 3394)<br>• Revolving loan fund available to local governments to make energy efficient improvements for government buildings<br>• State agencies, boards and commissions are required to appoint an Energy Efficiency Coordinator |
| Alternative Fuel and Vehicle Fleets | All school and government vehicles may be converted to operate on an alternative fuel, and all school districts should consider only purchasing school vehicles which have the capability to operate on an alternative fuel; requires all school and government vehicles capable of operating on an alternative fuel to use the fuel whenever possible<br>• Authorized the construction and operation of alternative fueling infrastructure by the State Fleet Management Division |

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Clean State Energy Actions • 2011 Update

# OKLAHOMA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Oklahoma Bioenergy Center (OBC) was created in 2007 and is a four-year, $40 million research initiative focused on achieving the competitive and sustainable production of advanced liquid biofuels in Oklahoma; the OBC is a collaboration of the University of Oklahoma, Oklahoma State University and the Samuel Roberts Noble Foundation; the OBC will establish production-scale demonstration fields--totaling more than 1,300 acres--for cellulosic energy crops, including sorghum and switchgrass; in addition to the demonstration fields, the OBC will conduct research on crop production and development, conversion technologies and harvest collection and transportation of energy crops; external contributors to the OBC include Abengoa Bioenergy, Idaho National Laboratory, Ceres, Inc., and Hitch Enterprises, Inc.; the Oklahoma Biofuels Development Act was created to encourage the processing, market development, promotion, distribution, and research of fuels derived from grain, ethanol or ethanol components, biodiesel, bio-based lubricants, co-products, or by-products<br>• Created the Clean Energy Independence Commission; reports to the Secretary of Energy |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Establishing and implementing an energy efficiency and renewable energy worker training program in 2009 (HB 1682, Green Jobs Act)<br>***Enabled a $2,000 credit per electric vehicle for manufacturer of EVs that can legally be operated on interstate highways and turnpikes in the state. Manufacturers of four-wheeled medium-speed EVs are eligible for a $1,000 credit per vehicle. Manufacturers of four-wheeled low-speed EVs are eligible for a $500 credit per vehicle.*** |
| **OTHER** | |
| Energy Independence Act | • Created County Energy District Authorities to oversee grants, energy audits and other energy security functions |
| Clean Energy Independence Commission | • Created a commission of representatives from government agencies, private energy industries and public and private universities to address a variety of energy issues |

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Clean State Energy Actions • 2011 Update

# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency requirements for 11 categories of appliances. 5 of these products are not covered by federal law (bottle type water dispensers, commercial hot food holding cabinets, compact audio products, digital versatile disc players and records, portable electric spas) |
| Building Energy Codes | **Residential:** State-developed code which exceeds the 2003 IRC, mandatory statewide<br>**Commercial:** State-developed code that exceeds ASHRAE 90.1-2004, mandatory statewide<br>• Created the Task Force on Energy Performance Scores to make recommendations regarding the implementation of a statewide voluntary building energy performance scoring system (SB 79)<br>• Requires the director of the Department of Consumer and Business Service to adopt an optional alternative to the state building code which provides more stringent energy-efficient construction standards and methods<br>• Provides for updates to the energy standards in the state building code to increase building energy efficiency<br>**Adopted a commercial reach code, a voluntary code based on the International Green Construction Code.**<br>***Residential: Updated code to 2011 Oregon Residential Specialty Code (ORSC) for 1-2 family residential dwellings, based off the 2006 International Residential Code***<br>***Commercial: Updated code to 2010 Oregon Energy Efficiency Specialty Code (OEESC), based on the 2009 IBC State-developed code that meets or exceeds 2009 IECC with several amendments*** |
| Utility Demand-Side-Management | Allows capitalization of energy efficiency costs |
| Utility Rate Realignment | Decoupling in natural gas markets |
| Public Benefits Funds | See Below--Oregon Energy Trust |
| Financial and Other Incentives | The Energy Trust of Oregon offers incentives for commercial, agricultural and institutional consumers to increase the energy efficiency of new and existing buildings; offers homeowners a variety of rebates and services through their Home Energy Savings Program (analyze the home's energy use, recommend energy-saving measures, install up to four free compact fluorescent bulbs, and advise the homeowner on how to take advantage of Oregon's Residential Energy Tax Credit); the Multi-Family Home Energy Savings Program provides cash incentives to the owners of multifamily properties and will install up to eight free compact fluorescent light bulbs in each apartment unit as well as high performance shower heads and faucet aerators; the Energy Trust of Oregon's Small Wind Incentive program provides resources and cash incentives to help customers of Portland General Electric and Pacific Power install turbines up to 50 kW; the Solar-Electric Buy-Down Program offers funding for solar photovoltaic or solar home water or pool heating installations<br>Oregon's Business Energy Tax Credit is for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provides homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems |

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Clean State Energy Actions • 2011 Update

# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | Homeowners and renters who heat with oil, wood, propane, kerosene, or butane are eligible for home-weatherization rebates of up to $500<br>Offers low-interest loans to projects that save energy and reduce energy consumption during construction or operation of another facility<br>• Oregon's Residential Energy-Efficient Appliance Rebate Program is offering rebates for selected ENERGY STAR appliances installed in low-income households<br>• Administers an energy efficiency and sustainable technology loan program to encourage investments in energy efficiency, renewable energy and energy conservation<br>• Authorizes the imposition of a special assessment on certain electric utilities, natural gas utilities or petroleum suppliers<br>• Allows local governments to establish programs to make loans for energy improvements to qualifying property<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 2626)<br>***Created grant program offering 1,200 women- and minority-owned small businesses grants of up to $1,000 to help pay their electric costs. The program also offers an educational component, teaching small business owners how to conserve energy and become more efficient.***<br>**Launched the Cool Schools Initiative, providing financing for school districts for upgrades to inefficient lighting and heating and other energy efficiency improvements. Program is administered through the Oregon Department of Energy's Clean Energy Deployment Fund (HB 2960).**<br>**Created the Clean Energy Deployment Fund in the State Treasury to provide grants and loans to support energy efficiency or clean energy projects in the state (HB 2969 – See also Clean Electricity).**<br>***Localities in Oregon have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Large utilities--those with 3% or more of the state's load--must ensure that a percentage of the electricity sold to retail customers in-state be derived from eligible renewable energy resources: 5% by 2011 and 25% by 2025; utilities with less than 1.5% of state load must meet a 5% RPS by 2025 and utilities with more than 1.5%, but less than 3% of state load must meet a 10% RPS by 2025<br>***Established that when a facility that burned coal as its fuel source completely ceases to burn coal and converts to generating electricity from renewable energy source, the facility may use electricity from renewable energy source to comply with renewable portfolio standard (HB 2622).*** |
| Net Metering and Interconnection Standards | Oregon has established separate net-metering requirements and interconnection standards for its primary investor-owned utilities (three levels of interconnection standards from 25 kW to 2 MW), and for its municipal utilities and electric cooperatives (must offer net metering up to 0.5% of a utility's historic single-hour peak load) |
| Public Benefits Funds | See Below--Energy Trust of Oregon |

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# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Offers low-interest loans to projects that produce energy from renewable sources and use recycled materials to create products<br>• Broadened the definition of alternative fuel projects eligible for loan funds small scale local energy projects and provides for the eligibility of alternative fuel equipment (HB 2182)<br>• Increases the term of service for members of the Small Scale Local Energy Project Advisory Committee<br>Oregon's Business Energy Tax Credit is for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provides a tax credit for manufacturers of renewable energy systems; provides homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems; provides a property tax exemption for the added value for qualified renewable energy systems<br>• Established a pilot feed-in-tariff for solar photovoltaic (PV) systems<br>• All electric companies must offer this feed-in-tariff, though municipal electric utilities, public utility districts and electric co-operatives are excluded from the definition of electric companies<br>• The aggregate capacity for the pilot program is 25 MW alternating current (AC), with an individual system cap of 500 kW<br>• 75% of the cap must come from small-scale systems, though the Public Utility Commission (PUC) has the discretion to define small-scale systems and PUC rulings may reduce this target if necessary<br>• Directs the Public Utility Commission to establish a pilot program for each electric company to demonstrate the use and effectiveness of incentive rates and payments for electricity delivered from equipment and devices that have the primary purpose of collecting solar energy and generating electricity by photovoltaic effect (HB 3039)<br>***Provided grant through the Oregon Department of Energy (ODOE) to schools, goverments, non-profits and commercial businesses for feasibility studies for renewable energy, heat, and fuel projects under the Community Renewable Energy Feasibility Fund (CREFF).***<br>***Launched the Forest Products Energy Project, a competitive grant program providing funding to existing local forest product companies in Oregon can to evaluate the feasibility of using biomass for renewable energy production in Oregon's forest products industry.***<br>***Allowed homeowners to install solar panels for no money down with a monthly payment as low as $20 which cover covers installation, repair, insurance and other maintenance. If the homeowner's utility savings top that monthly payment, then the customer pockets the savings, in addition to solar tax credits. The monthly payment, in the case of the Oregon program, is fixed so customers' savings increase over time.*** |

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Clean State Energy Actions • 2011 Update

# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | **Allowed the State Forester to enter into contracts to provide a supply of woody biomass from forestlands managed by the State Forestry Department as needed to facilitate the development of projects, including but not limited to bioenergy projects (SB 862).**<br>**Created a tax credit of up to 50% for the cost of a renewable energy resource manufacturing facility during the period the facility is certified. Costs include capital construction costs and any other expenses incurred in the construction, installation or acquisition of the facility (HB 2523 – See also Clean Energy Economic Development).**<br>**Allowed the auction of tax credits, taxpayer contributions or direct appropriation by the legislature, to provide funds to award grants to renewable energy production systems (HB 3672).**<br>**Allowed tax credits for any capital investment whose payback period will be longer than 3 years, based on the first year's energy savings (HB 3672).**<br>**Created the Clean Energy Deployment Fund in the State Treasury to provide grants and loans to support energy efficiency or clean energy projects in the state (HB 2969 – See also Energy Efficiency).**<br>**Limited the degree to which municipalities can restrict the location of solar panels. Authorizes installation and use of solar photovoltaic energy system on residential or commercial structure in zones in which residential or commercial structures are authorized (HB 3516).** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | All gasoline sold in the state must be blended with 10% ethanol and all diesel fuel must be blended with 2% biodiesel<br>***Required that all diesel fuel sold in the state must be blended with 5% biodiesel.*** |
| Financial and Other Incentives | Offered low-interest loans to projects that create alternative fuels<br>Oregon's Business Energy Tax Credit was created for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provided homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling system; a resident who purchased E85 or B99 is eligible for a per gallon tax credit; offers a property tax exemption for property used to produce biofuels; offers a tax credit to residents and business owners towards the purchase of AFVs and HEVs<br>• The Oregon Department of Energy adopted temporary administrative rules that more stringently define criteria for separate and distinct facilities for the purpose of applying for multiple tax credits<br>• The new rules also allow the Oregon Department of Energy to revoke certificates and recapture the tax credit if a project does not produce the amount of energy, jobs, or conservation described in the application<br>***The Oregon Department of Transportation funded the installation of qualified EV charging infrastructure in rural areas along the I-5 corridor.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | Requires that all public building projects must include solar technologies to be utilized by the building in an amount determined by the total cost of the contract - the investment in solar technology for a public building must amount to at least 1.5% of the total contract price; requires that all state facilities exceed the energy conservation provisions of the Oregon State building code by 20% or more |

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Clean State Energy Actions • 2011 Update

# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | All state agencies and transit districts purchase AFVs and use alternative fuels in these vehicles to the maximum extent possible<br>• Requires all school buses with diesel engines to be retrofitted with 2007 equivalent engines and 2007 fine particulate matter capture technology or replaced by recently manufactured school buses by 2025 (HB 2795) |
| **GHG EMISSIONS** | |
| GHG Policies | Requires new power plants to offset approximately 17% of anticipated CO2 emissions; completed the Oregon Strategy for Greenhouse Gas Reductions in 2007; requires the state to stop the growth of GHG emissions by 2010 and to reduce GHG emissions to 10% below 1990 levels by 2020 and to 75% below 1990 levels by 2050; WCI participant; Will adopt CA vehicle emissions standards pending EPA approval<br>• Established new greenhouse gas emission performance standards for electric generation facilities (SB 101)<br>• Generators of baseload power must have emissions equal to or less than 1,100 pounds of carbon dioxide ($CO_2$) per megawatt-hour, and electric utilities may only enter into long-term agreements to purchase baseload power from complying entities regardless of whether this power is generated in-state or out-of-state<br>• Directs the state Environmental Quality Commission to create greenhouse gas emission reporting rules for electricity or fossil fuels that are imported, sold, or distributed in the state (SB 38)<br>• Directs the Department of Environmental Quality to develop recommendations for legislation that fosters motor vehicle greenhouse gas emissions reductions, creates the Metropolitan Planning Organization Greenhouse Gas Emissions Task Force for the purpose of studying alternative land use and transportation scenarios that reduce greenhouse gas emissions from motor vehicles with a gross vehicle weight of a specified number of pounds or less (HB 2186)<br>**Established a requirement for the Energy Facility Siting Council to establish global warming potential of certain greenhouse gases for purposes of determining net carbon dioxide emissions (HB 3538).**<br>**Banned commercial trucks from idling their engines for more than five minutes in a 60 minute period in order to reduce greenhouse gas emissions and pollution in concentrated urban areas (H.B. 2081).**<br>***Oregon is a member of the West Coast Governors' Climate Change Initiative along with California and Washington. The three states must act individually as well as regionally to reduce greenhouse gas (GHG) emissions. The Initiative includes adopting standards to reduce GHG emissions from vehicles by expanding markets for efficiency, renewable energy and alternative fuels, including creating a working group on developing hydrogen fuel.***<br>***Directed Oregon Transportation Commission to develop and adopt a statewide strategy to reduce GHGs from transportation. To do this they must: Establish guidelines for developing and evaluating transportation scenarios that may reduce GHGs; Develop a toolkit to assist local governments and metropolitan planning organizations in reducing GHGs from motor vehicles with a gross vehicle weight rating of 10,000 pounds or less; Educate the public about the need to reduce GHG emissions from motor vehicles and the related costs and benefits; and Report progress and recommendations to the state legislature.***<br>***Required that all new passenger cars, light-duty trucks, and medium-duty vehicles sold, leased, licensed, or delivered for sale in the state must meet California vehicle missions standards.*** |

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# OREGON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Northwest National Marine Renewable Energy Center (NNMREC) is a partnership between Oregon State University (OSU) and the University of Washington (UW). Both universities collaborate with each other and the National Renewable Energy Laboratory (NREL) on research, education, outreach, and engagement. OSU focuses on wave energy and UW focuses on tidal energy. |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Incorporated clean energy into the Sustainable Oregon Workforce Initiative in 2007 to coordinate and enhance clean energy workforce development<br>• Instructs the State Workforce Investment Board to develop a plan for an initiative to promote the growth of green jobs (HB 3300)<br>• Requires the plan to identify high demand green industries and promote certain workforce development activities<br>• Requires the board to define terms related to green jobs and the green economy<br>• Requires the Economic and Community Development Department to develop criteria for and make recommendations about promoting green industries, technology and innovation<br>**Added the forest product industry to the industries the State Workforce Investment Board must take into consideration when developing their green jobs plan (HB 2840).**<br>***Created a tax credit of up to 50% for the cost of a renewable energy resource manufacturing facility during the period the facility is certified. Costs include capital construction costs and any other expenses incurred in the construction, installation or acquisition of the facility (HB 2523).*** |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have an operational and licensed nuclear waste disposal facility that is accepting nuclear waste products. Also requires voter ratification for their commission's decision to license a nuclear power plant. |

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Clean State Energy Actions • 2011 Update

# PENNSYLVANIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC with reference to ASHRAE 90.1-2004, mandatory statewide<br>• State law requires new codes to be adopted by end of calendar year they are released<br>***Residential: Updated code to 2009 Uniform Construction Code based on the 2009 IECC. It also offers alternate compliance paths through the 2009 IRC (Chapter 11) and the 2009 Pennsylvania Alternative Residential Energy Provisions (PA-Alt).***<br>***Commercial: Updated code to 2009 Uniform Construction Code based on the 2009 IECC with reference to ASHRAE 90.1-2007***<br>***New state code expected by December 31, 2011.*** |
| Utility Rate Realignment | The Alternative Energy Portfolio Standard provides for cost recovery, inclusive of energy efficiency |
| Energy Savings Targets/Energy Efficiency Resource Standards | The AEPS contains an energy efficiency resource option; the Governor's pending Energy Independence Strategy includes measures to reduce load growth and multiple tools to increase efficiency<br>• Seven major electric utilities required to develop energy efficiency programs and submit them to PUC, with goal of achieving, at minimum, 1% energy consumption reduction by 2011 and 3% by 2013, as well as 4.5% reduction by 2013 (Act 129) |
| Public Benefits Funds | Four renewable and sustainable-energy funding programs were subsequently created through individual settlements with the state's five major distribution utilities |
| Financial and Other Incentives | The Keystone Home Energy Loan Program (HELP) is a low-interest loan program for homeowners to make their homes more energy efficient (ARRA funded); the Pollution Prevention Assistance Account (PPAA) offers low-interest loans to help small business implement energy efficiency and pollution prevention projects<br>The Pennsylvania Energy Harvest program offers funding for a variety of types of renewable energy and energy efficiency projects<br>The PA Clean Air Interstate Rule (CAIR) allows for the distribution of free NOx allowances to qualified (under the AEPS) renewable energy and energy efficiency projects in PA<br>The Governor's Green Government Council of Pennsylvania provides an incentive (grants and/or reimbursements) for new schools to be built more efficiently (LEED Silver, Gold, or Platinum)<br>The governor's Energy Independence Strategy includes grant funding for high-performance green buildings in the private sector; additional pending legislation will require that all Commonwealth owned or leased facilities meet certain standards for high-performance green buildings--this legislation also will tie these green building standards to any private sector projects that receive significant funding from the Commonwealth<br>***Established Pennsylvania Green Energy Loan Fund, administered by The Reinvestment Fund (TRF), that provides loans to finance energy conservation and energy efficiency improvements in buildings throughout Pennsylvania.***<br>***Closed Pennsylvania Energy Harvest program as of October 2010. Interested applicants may sign up for notifications about the program status via the Energy Harvest Web site.***<br>***Created Small Business Advantage Grant Program that provides matching grants of 50%, or up to $7,500, for Pennsylvania small business that seek to adopt or acquire energy-efficient or pollution prevention equipment or processes.*** |

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Clean State Energy Actions • 2011 Update

# PENNSYLVANIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Alternative Energy Portfolio Standard (AEPS) requires applicable electric distribution companies and electric generation suppliers to supply a portion (18% by 2020, split into two tiers) of the electricity sold in PA with renewable and alternative energy sources; AEPS Tier I is composed of traditional renewable energy sources (wind, solar, geothermal, biomass, etc.) and is set at 8%; AEPS Tier II is composed of alternative energy sources (waste coal, demand side management, IGCC, large-scale hydro, etc.) and is set at 10% |
| Net Metering and Interconnection Standards | Interconnection standards for net-metered systems and other forms of distributed generation; investor-owned utilities must offer net metering to residential customers that generate electricity with systems up to 50 kW in capacity, nonresidential customers with systems up to 3 MW in capacity, and customers with systems greater than 3 MW but no more than 5 MW who make their systems available to the grid during emergencies, or where a microgrid is in place in order to maintain critical infrastructure |
| Advanced Coal and Clean Coal | Includes IGCC as an alternative source under the Alternative Portfolio Standard; the Energy Deployment for a Growing Economy (EDGE) incentive, initiated by the governor in 2005, continues to offer low interest loans for IGCC and allows for long-term power purchasing contracts to assist with financing |
| Shale Gas Development, Regulation and Policy | **The Department of Environmental Protection issued a voluntary request for Marcellus Shale drilling companies to stop sending their wastewater to 16 municipal sewage and commercial treatment plants. They will assess compliance to determine whether further action is needed. DEP require that all discharges to waterways must be of drinking-water quality.**<br>**The governor issued an Executive Order, creating the Marcellus Shale Advisory Commission to address the needs and impacts of natural gas development on local communities, as well as promote the efficient, environmentally sound and cost-effect development of Marcellus Shale and other natural gas resources.**<br>**Established a new requirement by the Department of Environmental Protection that requires that all discharges to waterways must be of drinking-water quality.** |
| Public Benefits Funds | Four renewable and sustainable-energy funding programs were subsequently created through individual settlements with the state's five major distribution utilities |
| Financial and Other Incentives | Pennsylvania Energy Development Authority (PEDA) provides funding to support in-state projects, manufacturing or research involving the following types of fuels, technologies or measures: clean, alternative fuels for transportation, solar energy, wind; low-impact hydropower, geothermal, biologically derived methane gas (including landfill gas); biomass, fuel cells, coal-mine methane, waste coal, integrated gasification combined cycle, demand management measures (including recycled energy and energy recovery, energy efficiency and load management); the Pennsylvania Energy Harvest program offers funding for a variety of types of renewable energy and energy efficiency projects<br>Wind turbines and related equipment (including towers and foundations) may not be counted by tax assessors when setting property values |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | The PA Clean Air Interstate Rule (CAIR) allows for the distribution of free NOx allowances to qualified (under the AEPS) renewable and energy efficiency projects in PA<br>• Created the Alternative Energy Investment Fund<br>• Includes solar rebate program, PA Sunshine, for residents and small businesses, grant and loan program for wind and geothermal technologies, and a grant and loan program for alternative and clean energy technologies, among others<br>***Established incentives ranging from $0.40-$.060 per kWh for solar production to help electricity suppliers meet their compliance obligations under the state RPS.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | The PennSecurity Fuels Initiative, proposed in 2006, aims to reduce dependence on foreign oil by replacing 900 million gallons of the state's transportation fuels with alternative sources over the next decade<br>***Created a requirement that, within one year following in-state production of 350 million gallons of cellulosic ethanol, all gasoline sold in Pennsylvania must contain at least 10% cellulosic ethanol. All diesel fuel sold in Pennsylvania must contain at least 2% biodiesel (B2) one year after in-state production of biodiesel reaches 40 million gallons.*** |
| Financial and Other Incentives | PEDA funding is available for projects involving clean, alternative fuels for transportation, biomass, and fuel cells<br>The Pennsylvania Energy Harvest Grant, seeks to deploy cleaner energy sources by providing funding for renewable energy technologies, such as biomass energy projects<br>The Alternative Fuels Incentive Grant (AFIG) Fund provides grant funding and information on alternative fuels, AFVs, HEVs, anti-idling technologies that use alternatives to diesel fuel for heavy-duty trucks, and advanced vehicle technology research, development, and demonstration |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | The High Performance Green School Planning Grants provide financial incentives to public schools to cover specific costs associated with obtaining LEED for Schools certification; through Act 46 of 2005, the PA Department of Education can offer additional reimbursement of up to 10% to school districts that build LEED for Schools (Silver or higher) or Green Globes (two Globes or higher) certified buildings; through Act 57 of 1998, the Guaranteed Energy Savings Performance Contracting program allows PA agencies to participate in ESCO contracts--this program also enables school districts, local government agencies, and other political subdivisions to participate in ESCO contracting; PA is in the process of getting LEED Gold certification for two existing state buildings, one of which is the Governor's Residence; PA is also developing an effort that would seek to obtain EPA Energy Star certification for all future ESCO contracting, where financially feasible |
| Green Power Purchasing | In 2006, the Commonwealth of PA redoubled its renewable electricity purchase to 20%, from 10%; currently, 28% of the Commonwealth's electricity is supplied by renewable resources |

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Clean State Energy Actions • 2011 Update

# PENNSYLVANIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | The Commonwealth has purchased nine additional hybrid vehicles this past fiscal year and is developing a separate hybrid vehicle contract for use by all agencies; a contract for 99 hybrid vehicles was issued but could not be accommodated by the manufacturer; the Commonwealth is developing provisions for manufacturers to provide flex fuel vehicles as the standard offering whenever available in a given model line; the Commonwealth has established a purchasing contract available to all agencies for biodiesel fuels<br>***Called for the Pennsylvania Department of General Services to conduct a study that will determine the associated costs and feasibility of modernizing the state fleet by retrofitting current state-owned vehicles with compressed or liquefied natural gas engines.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; the Local Government Greenhouse Gas Pilot Grant (2008) provides municipal governments with funding to develop GHG inventories and action plans to reduce emissions; RGGI observer; will adopt CA vehicle emissions standards pending EPA approval<br>***Established Pennsylvania Clean Vehicles Program which requires that all new passenger cars and light-duty trucks sold, leased, titled, or registered in the Commonwealth must meet California vehicle emissions and compliance requirements.*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Pennsylvania Energy Development Authority (PEDA) issues funding solicitations to support advanced energy research and deployment projects, and to assist businesses interested in locating or expanding advanced energy operations in Pennsylvania; the PA Department of Community and Economic Development has several large funding programs (Ben Franklin Funds) that frequently give money to "clean tech" or the clean energy sector; the Department of Agriculture has used funds to promote non-animal health agricultural research projects including carbon sequestration, renewable energy development (especially related to cellulosic ethanol), alternative uses of agricultural waste for energy production, improvements to ethanol and biodiesel quality, etc.; The Energy Independence Strategy includes significant financial investment in renewable energy research, development, manufacturing, and deployment |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Provided $5 million in funding for Career Opportunity grants in green collar jobs<br>• Released the Pennsylvania Green Jobs Report in January 2010<br>**Amended the Workforce Develop Act to establish statutory guidelines for the establishment and operation of "Industry Partnerships" to foster workforce development (SB 552).** |
| **OTHER** | |
| Nuclear Power | Requires a cost and environmental comparison to coal before any new nuclear facility is considered |

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Clean State Energy Actions • 2011 Update

# RHODE ISLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for 13 categories of appliances<br>***Ten standards were preempted by federal law. The standards now apply to 3 categories of appliances.*** |
| Building Energy Codes | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC amended to include ASHRAE/IESNA 90.1-2004, mandatory statewide<br>• RI State Building Commission required to update codes to incorporate 2009 IECC and ASHRAE 90.1, effective July 2010<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007 mandatory statewide*** |
| Utility Demand-Side-Management | Sets aside 5% of the energy efficiency budget for performance incentives; participant in ISO-New England's Forward Capacity Market<br>**Removed the surcharge added by natural gas and electric utilities to fund demand-side management programs (HB 5281).** |
| Public Benefits Funds | The Rhode Island Renewable Energy Fund (RIREF) is administered by the Rhode Island Office of Energy Resources, and DSM programs are administered by the state's electric distribution companies |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires state electricity retailers to derive at least 3% of the electricity they sell in state from renewable energy by December 31, 2006, increasing 1% per year through 2020; existing renewable resources may only contribute 2% of the required amount of renewables in any year and the rest must be from new renewable energy production<br>• Long-term contracts established for distribution companies and developers of new renewable energy resources |
| Net Metering and Interconnection Standards | Requires the state's primary investor-owned utility to offer net metering to all customers generating electricity using renewable-energy systems with a maximum capacity of 1.65 MW for renewable-energy systems owned by cities, towns or the Narragansett Bay Commission, and 1 MW for systems owned by other customers; the limit on the aggregate capacity of all net-metered systems is 5 MW<br>• Gives regular customers the option of receiving compensation in the form of a monthly check or as credited to the following bill<br>• Allows for bill aggregation (up to 10 bills) by cities, towns, farms, non-profit affordable housing or the NBC<br>***Changed system maximum capacities to 3.5 MW for municipalities and Narragansett Bay Commission; 2.25 MW for certain systems serving municipalities; 1.65 MW for all other systems.*** |

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Clean State Energy Actions • 2011 Update

# RHODE ISLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Public Benefits Funds | Renewable-energy systems eligible for support from the RIREF include facilities in the New England Power Pool (NEPOOL) control area that generate electricity using solar, wind, wave, tidal, ocean-thermal, geothermal, hydro or sustainably-managed biomass resources; s solar-thermal systems (including solar space-heating systems) are eligible if installed on low-income housing projects certified by the Rhode Island Housing and Mortgage Finance Corporation. In addition, co-firing systems are eligible for funding, as well as fuel cells and microturbines using renewable fuels |
| Financial and Other Incentives | Offers financial incentives to in-state retail electricity suppliers who make available eligible green-power products to residential and small business consumers in the state: either "bundled" electricity supply offerings from competitive energy suppliers or tradable renewable certificate (TRC) offerings (either sold through the Narragansett Electric Company GreenUp Program or independently) that meet product-eligibility requirements<br>Offers a personal tax credit for qualified photovoltaic systems (on-grid and off-grid), solar hot-water systems, active solar-heating systems, wind-energy systems and geothermal-energy systems; provides that for purposes of local municipal property tax assessment, certain solar-energy systems may not be assessed at more than the value of a conventional heating system, a conventional water-heating system or energy production capacity that otherwise could be necessary to install in a building; certain renewable energy systems and equipment sold in Rhode Island are exempt from the state's sales and use tax<br>• Established the Municipal Renewable Energy Investment Program, which provides grants of up to $500,000 for municipal projects<br>• Established Nonprofit Affordable Housing Renewable Energy Investment Program; both programs use public benefit funds from the renewable energy surcharge<br>• Corporate tax credits now available for solar PV as well<br>**Created the Renewable Energy Coordinating Board to develop and recommend a strategic renewable energy implementation plan for the State (SB 722).**<br>***Provided funding of up to $200,000 per year for renewable energy projects through the Pre-Development Consultant and Technical Feasibility Program (See Clean Energy RD&D).***<br>***Established a feed-in tariff for new distributed renewable energy generators up to five megawatts (MW) in capacity. The law requires electric distribution companies to enter into standard contracts for an aggregate capacity of at least 40 MW by the end of 2014. Standard contracts include a fixed payment rate and a 15-year term, and vary by generator capacity and type.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Offers loans for up to five years, with low administrative fees, to state agencies and municipal governments to cover the incremental cost of purchasing original equipment manufactured AFVs<br>Provides a qualified electric vehicle tax credit; provides a tax credit equal to 50% of the capital, labor, and equipment costs associated with the construction of, or improvement to, any alternative fuel fueling or recharging station<br>**Established a commission to study the feasibility and effectiveness of various forms of incentives to promote the development and use of advanced biofuels in the state (HB 5390).**<br>***Exempted biodiesel from the $0.30 per gallon state motor fuel tax. Biodiesel may be blended with other fuel for use in motor vehicles, but only the biodiesel portion of the blended fuel is tax exempt.*** |

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Clean State Energy Actions • 2011 Update

# RHODE ISLAND

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Building Efficiency | Required any new, substantially expanded, or renovated building owned by the state, and state agencies, departments, offices, boards, commissions, and institutions of higher learning to meet LEED design, construction, operation, and maintenance standards; buildings must be designed to qualify for LEED Silver certification<br>• Set a goal of achieving an additional 10% reduction in energy use in state buildings by 2010 (Management Directive No. 720.5) |
| Green Power Purchasing | Goal for the state government to buy 20% of its electricity from renewable-energy resources by 2011 |
| Alternative Fuel and Vehicle Fleets | At least 75% of state motor vehicle acquisitions must be AFVs, and the remaining 25% must be HEVs to the greatest extent possible; all new light-duty trucks in the state fleet must achieve a minimum city fuel economy of 19 mpg and achieve a minimum certification of a Low Emission Vehicle, and all new passenger vehicles in the state fleet must achieve a minimum city fuel economy of 23 mpg; all state agencies must purchase the most economical, fuel-efficient, and low emission vehicles appropriate to meet any needed requirements and discourage the purchase of sport utility vehicles; low rolling resistance tires with superior tread life should be purchased for state vehicles when possible; and all state vehicles must be maintained according to manufacturer specifications, including specified tire pressures and ratings; Clean School Bus Program specifies that by September 1, 2010, no full-size school bus equipped with an engine from model year 1993 or older may be used to transport school children in Rhode Island; providing there is sufficient federal or state funding, by September 1, 2010, all full-sized school buses transporting children in Rhode Island must be retrofitted to achieve lower emissions |
| **GHG EMISSIONS** | |
| GHG Policies | Goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; the Rhode Island Greenhouse Gas Action Plan was completed in 2002; power sector cap through RGGI; RGGI participant; will adopt CA vehicle emissions standards pending EPA approval<br>***Required that passenger vehicles, light-duty trucks, and medium-duty vehicles must meet California vehicle emissions standards.*** |
| **CLEAN ENERGY RD&D** | |
| | The Rhode Island Research Alliance runs an annual Collaborative Research Grant competition which provides up to $200K to multi-institutional, multi-disciplinary teams of investigators who propose a project that has a clearly identified plan for follow-on funding or commercialization<br>***Provided funding of up to $200,000 per year for renewable energy projects through the Pre-Development Consultant and Technical Feasibility Program (See also Clean Electricity).*** |
| **OTHER** | |
| Nuclear Power | Requires legislative ratification for their commission's decision to license a nuclear power plant. Some costs associated with nuclear are excluded from rates. |

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Clean State Energy Actions • 2011 Update

# SOUTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | All new and renovated buildings must meet the 2006 IECC, as of July 2009 |
| Utility Demand-Side-Management | • Public Service Commission approved portfolios of energy efficiency programs and cost recovery mechanisms from two investor-owned utilities |
| Utility Rate Realignment | • Lost revenue adjustment mechanism approved until 2012 for Progress Energy Carolinas to recover costs |
| Financial and Other Incentives | The ConserFund Loan Program to fund energy efficiency improvements in state agencies, local governments, public colleges and universities, school districts and non-profit organizations<br>Sets a cap on sales taxes for manufactured homes if they meet or exceed energy efficiency standards specified by state law<br>• Energy Efficient Manufactured Homes Incentive Program provides an income tax credit of $750 for the purchase of a qualifying manufactured home<br>• Exempts from state sales tax the gross proceeds of sales or the sales price of energy efficient appliances for noncommercial home or personal use<br>***Placed cap on sales taxes for manufactured homes at $300 for homes that meet or exceed energy efficiency standards specified by state law.*** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Provides a simplified interconnection standard for small distributed generation (DG) for renewable-energy systems and other forms of DG up to 20 kW in capacity for residential systems, and up to 100 kW in capacity for non-residential systems<br>• Public Service Commission issued a directive to standardize the net metering procedures for the three investor-owned utilities |
| Financial and Other Incentives | Provides low-interest loans to an individual or organization that plans to build a qualified renewable energy production facility<br>Homebuilders can receive a rebate for every home built with a solar hot water heating system, along with promotion from the State Energy Office as a builder with experience in installing solar hot water systems<br>Taxpayers are allowed a credit against the income tax and/or license fees for 25% of the costs incurred by the taxpayer for the purchase and installation of equipment used to create heat, power, steam, electricity or another form of energy for commercial use from a fuel consisting of at least 90% biomass resources; provides a credit for 25% of the costs of purchasing and installing a solar-energy system for heating water, space heating, air cooling or generating electricity in a building owned by the taxpayer (up to $3,500); offers a sales tax exemption for any device, equipment or machinery operated by or used to produce hydrogen or fuel cells for fuel cell application<br>• Solar income tax credits temporarily increased to 30% will revert back to 25% beginning January 1, 2010<br>Provides production incentives for qualifying biomass-energy facilities<br>***Created loans ranging from $25,000 to $500,000 for nonprofit, public, and institutional entities who install solar PV, biomass, geothermal heat pumps, and other unidentified renewable energy systems.*** |

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Clean State Energy Actions • 2011 Update

# SOUTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/ Renewable Fuel Standards | ***Created a requirement that fuel retailers that offer gasoline or diesel that is not blended with ethanol or biodiesel must ensure that their fuel is suitable for subsequent blending with biofuels.*** |
| Financial and Other Incentives | A sales tax rebate may be applied to in-state purchases of the following: flexible fuel vehicles capable of operating on E85 motor fuel, hydrogen fuel cell vehicles, electric vehicles, hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEV), and vehicles with a U.S. EPA city fuel economy rating of at least 30 mpg; an income tax credit is available for the in-state purchase or lease of a PHEV; offers a state income tax credit for fuel cell, advanced lean burn, HEV, and alternative fuel vehicles; offers tax credits for the production, distribution, and construction of a production facility for qualifying biofuels<br>An incentive payment is available to E85 retailers for each gallon of E85 fuel sold<br>***Qualified corn-based ethanol and soy-based biodiesel producers were eligible for an income tax credit of $0.20 per gallon of fuel produced through 2016.***<br>***Made ethanol retailers selling fuel blends of at least 70% ethanol (E70) eligible for a $0.05 incentive for each gallon of ethanol blended fuel sold.***<br>***Created an income tax credit for qualified research and development expenditures for taxable years through 2011. This includes developing feedstocks and production processes for cellulosic ethanol, and algae-derived and waste grease-derived biodiesel (See also Clean Energy RD&D).***<br>***Provided funding for grants that promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enabled the growth of hydrogen and fuel cell technologies (See also Clean Energy RD&D).***<br>***Exempted the following from state sales tax: 1) any device, equipment, or machinery operated by hydrogen or fuel cells; 2) any device, equipment, or machinery used to generate, produce, or distribute hydrogen and designated specifically for hydrogen or fuel cell applications; and 3) any device, equipment, or machinery used predominantly for manufacturing, or research and development involving hydrogen or fuel cell technologies.***<br>***Exempted alternative fuels and blended fuels (propane and CNG) from the state sales and use tax. These fuels are, however, subject to a state fuels user fee of $0.16 per gallon.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | All major facility projects in the state must be designed, constructed, and at least certified as receiving two globes using the Green Globes Rating System or receiving the LEED Silver standard<br>• Amended the State Energy Efficiency Act to require state agencies to consider and implement energy, water, and wastewater conservation and efficiency measures |
| Alternative Fuel and Vehicle Fleets | All state-owned diesel refueling facilities must provide fuel containing at least 5% biodiesel (B5) in all diesel pumps; the South Carolina Department of Education is required to fuel the state school bus fleet with biodiesel when feasible; all state agencies operating alternative fuel vehicles are required to use alternative fuels in those vehicles when practical and economical; where performance and life expectancy are equivalent or better than other vehicles, preference is given to hybrid and plug-in electric hybrid vehicles |

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Clean State Energy Actions • 2011 Update

# SOUTH CAROLINA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; the South Carolina Climate Plan |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The South Carolina Renewable Energy Grant Program provides grants to private and public entities to assist those involved in renewable energy-related research and projects to become more competitive in obtaining federal and other grants; an income tax credit is available for up to 25% of qualified research and development expenditures, which include developing feedstocks and production processes for cellulosic ethanol and algae-derived biodiesel; Created the South Carolina Hydrogen Infrastructure Development Fund to fund grants administered by the South Carolina Research Authority to promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enable the growth of hydrogen and fuel cell technologies in the state<br>***Created an income tax credit for R&D projects on developing feedstocks and production processes for cellulosic ethanol, and biodiesel derived from algae or grease.***<br>***Provided funding for grants that promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enable the growth of hydrogen and fuel cell technologies.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | ***Reduced 20% from the cost and taxable fair market value for manufacturing machinery and equipment purchased for use at a renewable energy manufacturing facility including those manufacturing batteries for hybrid electric, fuel cells or other certified motor vehicles.*** |

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# SOUTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | ***Residential: Established 2009 IECC as voluntary code for new residential buildings. Builders or sellers of new residential buildings are required to provide a disclosure form with information regarding the energy efficiency of the building.***<br>***Commercial: No mandatory statewide energy code*** |
| Utility Demand-Side-Management | South Dakota Energy Smart is a statewide initiative coordinated by the South Dakota Public Utilities Commission that is designed to foster the development, implementation, and promotion of energy efficiency programs in South Dakota; all of the South Dakota electricity providers and the state of South Dakota are partners in SD Energy Smart<br>• Enacted legislation requiring public utilities to integrate energy efficiency resources and smart grid technology into their planning processes |
| Public Benefits Funds | Under the State of South Dakota Energy Loan Fund, SD is using over $8 million of funds to provide no-interest loans to state projects; the loan payment is based on energy cost savings |
| Financial and Other Incentives | Created the South Dakota Energy Efficienct Government Loan program to provide loans to nonprofits, schools, and government agencies located in South Dakota to pay for energy audits, energy efficiency improvements, and renewable energy installations (See also Clean Electricity) |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Renewable Energy Objective promotes a voluntary objective that, by 2015, 10% of all retail electricity sales be obtained from renewable and recycled resources; the law also calls for renewable electricity reporting requirements<br>• Amended their original RPS to allow "conserved energy" to count toward their 10% from renewable, recycled or conserved energy sources by 2015 goal |
| Net Metering and Interconnection Standards | The South Dakota Public Utilities Commission is in the final stages of completing standardized interconnection standards (will be completed in August 2008)<br>• Set 4 levels of interconnection standards for systems of up to 10 megawatts (MW) in capacity |
| Advanced Coal and Clean Coal | Specified pipeline requirements and landowner approval for carbon sequestration projects |
| Financial and Other Incentives | New and expanded renewable electricity generation facilities that have a nameplate capacity to produce 10 MW of electricity or less with costs greater than $500,000 are eligible for a 100% rebate of the project contractor's excise tax |

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Clean State Energy Actions • 2011 Update

# SOUTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | Provides a special property tax assessment to qualified commercial wind facilities with an aggregate capacity under 5 MW; wind facilities with capacity greater than 5 MW are eligible for an alternative property tax structure of $3/kW of capacity and 2% of the wind farm's gross receipts, and wind farm property is exempt from taxes levied on real and personal property; exempts from local property taxes renewable energy systems on residential and commercial property; new and expanded renewable electricity generation facilities that produce more than 10 MW of electricity are eligible for a reduced contractor's excise tax rate of 1% instead of 2%--payment of the excise tax may be delayed into four equal annual payments; the Renewable Energy Systems Property Tax Exemption provides a local property tax exemption for renewable energy systems on residential and commercial property--the exemption applies to 50% of installed cost of commercial system and 100% of the installed cost of a residential system and can be transferred when property is sold (full exemption may be claimed for three years after installation with the exemption being reduced in the subsequent three years); anaerobic digester projects that sell electricity are eligible to qualify for the commercial property tax exemption<br><br>Created the South Dakota Energy Efficient Government Loan program to provideloans to nonprofits, schools, and government agencies located in South Dakota to pay for energy audits, energy efficiency improvements, and renewable energy installations (See also Energy Efficiency)<br><br>• Proposed legislation for the Public Utilities Commission's (PUC) Small Renewable Energy Initiative to address reducing up-front and ongoing taxes and ensuring a fair price<br><br>***Created a tax refund for new and expanded wind-energy facilities, new or upgraded electric transmission lines and associated facilities, and business facilities that manufacture or distribute wind or transmission components. Only facilities built after January 1, 2010 are eligible (See also Clean Energy Economic Development).***<br><br>**Created a Wind Energy Competitive Advisory Task Force to make recommendations as to the proper mechanisms to tax wind energy and compete with surrounding states for the construction and maintenance of wind energy installations (S.B. 194).**<br><br>***Allowed eligible facilities (Facilities that generate electricity using wind, solar, hydro, hydrogen generated by another eligible resource, or biomass resources) that generate less than five megawatts (MW) in capacity, all real property used or constructed for the purpose of producing electricity to be assessed in the same manner as other real property. However, the first $50,000 or 70% of the assessed value of eligible property, whichever is greater, is exempt from the real property tax.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards/Low-Carbon Fuel Standards (LCFS) | Participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br><br>***Required the South Dakota Department of Transportation and state employees using state diesel vehicles to stock and use a minimum of 2% biodiesel blended fuel (See also Lead by Example).*** |

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# SOUTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | An ethanol production incentive payment of 20 cents/gallon is available to ethanol producers for ethyl alcohol which is fully distilled and produced in SD (for plants in production before 2007); the 2008 South Dakota Legislature provided a 2-cent tax incentive for blends of biodiesel of 5% or higher to encourage growth of a biodiesel industry in SD and to further use of biodiesel blended fuel at the pump<br>A tax refund is available for contractors' excise taxes and sale or use taxes paid for the construction of a new agricultural processing facility, which includes an expansion to an existing ethanol processing or soybean processing facility if the expansion will be used for the production of biofuels (the project must exceed $4.5 million to qualify); a tax report credit for gasoline blended with ethanol or methanol to create E85 of M85 is available to licensed blenders - the tax report credit is granted on a per gallon basis, in the amount that the rate for motor fuel exceeds the rate for E85 or M85 (the credit is used to offset any tax liability resulting from the blending of previously untaxed ethanol or methanol)<br>Infrastructure grants are provided for infrastructure to many of the different ethanol facilities--over $10 million as of spring 2008<br>South Dakota provides a supportive regulatory inspection policy for blender pumps<br>**Created the Ethanol Infrastructure Investment Fund which will be used to give grants to encourage the purchase of flex fuel vehicles in the state and pay for the purchase and/or installation of ethanol blender pumps and other infrastructure that allows for the sale of ethanol as a motor fuel (S.B. 0196).**<br>***Licensed biodiesel blenders were eligible for a per gallon tax credit for special fuel blended with biodiesel to create a biodiesel blend.***<br>***Allowed a licensed biodiesel producer to apply for and obtain a tax refund for state fuel taxes paid on methanol used to produce biodiesel.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | South Dakota adopted legislation that requires LEED Silver rating standard for all new construction and remodeled state facilities, including Board of Regents facilities (Public Universities and Technical Schools); the state is in the process of replacing every light bulb (and, when needed, light fixtures) with more modern energy efficient models on the Pierre campus |
| Green Power Purchasing | The state of South Dakota will purchase green power from a 50 MW wind energy project; the project is under construction and expected to be providing electricity in the fall of 2008 and will make two universities--SDSU and USD--more green-friendly campuses |
| Alternative Fuel and Vehicle Fleets | The governor implemented a flex-fuel vehicle (FFV) purchasing policy and has purchased 1037 FFVs, or about 45% of the state fleet; SD is committed to purchasing more FFVs as the option becomes available in a larger variety of vehicle models with the ultimate goal of having 100% of the state fleet as FFVs<br>***Directed the South Dakota Department of Transportation and state employees using state diesel vehicles to stock and use a minimum of 2% biodiesel blended fuel.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Midwest Governors Association Greenhouse Gas Reduction Accord observer; South Dakota is currently tracking $CO_2$ emissions from large $CO_2$ emitting projects |

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Clean State Energy Actions • 2011 Update

# SOUTH DAKOTA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | South Dakota has created and funded two 2010 Research Centers at state universities: the 2010 Bioprocessing Research Center is doing research on the next generation of alternative fuels, including cellulosic ethanol and has been funded with $1 million in state funding with an additional commitment of $1 million; the 2010 Light Activated Materials Research Center is doing research on photovoltaic solar energy and has been funded with over $2 million in state funding with an additional commitment of $1 million; the Wind Resource Assessment Network provided funds for 11 different wind resource assessment stations across SD to verify the state's wind resource potential; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Established a tax refund for new and expanded wind-energy facilities, new or upgraded electric transmission lines and associated facilities, and business facilities that manufacture or distribute wind or transmission components. Only facilities built after January 1, 2010 are eligible.*** |

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Clean State Energy Actions • 2011 Update

# TENNESSEE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 1992 MEC, mandatory statewide; jurisdictions can adopt a more stringent code<br>**Commercial:** ASHRAE 90A-1980 and 90B-1975 voluntary statewide<br>**Residential:** 2003 IECC, mandatory statewide; jurisdictions can adopt a more stringent code<br>**Residential: Updated code to 2006 IECC for all residential and commercial buildings. Jurisdictions can adopt a more stringent code.**<br>**Commercial: Updated code to 2006 IECC for all residential and commercial buildings. Jurisdictions can adopt a more stringent code. Adopted ASHRAE 90.1-2007 for all state buildings.** |
| Financial and Other Incentives | The Small Business Energy Efficiency Loan Program makes loans to existing Tennessee small businesses of less than 300 employees or $3.5 million in annual gross receipts for energy efficiency retrofits--approved applicants are eligible for a low interest loan of up to $300,000 and repay it over a period of up to seven years; this program also provides free energy saving assessments to identify needed energy efficiency measures; the Local Government Energy Efficiency Loan Program makes loans to county/city owned local government facilities for energy efficiency retrofits--loans are made for up to $500,000 for each county or city government; these loans are 0% interest for Tennessee Three-Star communities and 3% interest for non Three-Star communities; this program also provides free energy saving assessments to identify needed energy efficiency measures<br>***Created rebate program for ENERGY STAR-qualified appliances purchased after August 24, 2010.***<br>***Established a loan program for Tenessee businesses to receive loans at below-market rates for financing up to 100% percent of the cost of energy improvements, such as building retrofits, equipment replacements or upgrades, lighting upgrades and renewable generation projects (See also Clean Electricity).*** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | At the present time, TVA encourages the development of consumer generation systems that use renewable resources through a demonstration project called Green Power Switch Generation Partners; TVA pays participating consumers for the energy generated by solar photovoltaic or wind turbine sources, up to 50 kW; the project uses a dual-metering arrangement, and TVA pays for all the energy generated by the consumer; this payment is made in the form of a credit on the customer's utility bill of 15 cents per kWh generated for non-demand metered customers and 20 cents per kWh generated for demand-metered customers; TVA reimburses the distributor for the total amount of the credit given to the customer<br>• Authorized the creation of non-profit generation and transmission cooperatives to supply electric power and energy services |

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Clean State Energy Actions • 2011 Update

# TENNESSEE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Provides that wind energy systems operated by public utilities, businesses or industrial facilities shall not be taxed at more than one-third of their total installed cost<br>• Clean energy technology is eligible for the emerging industry tax credit<br>Offers a pilot grant program for businesses to install renewable energy systems at their facilities after undergoing an energy audit; the Tennessee Clean Energy Technology Grant Program (TN-CET) - makes grant funding available to assist Tennessee businesses install clean energy technologies like solar, wind and geothermal; grants must be used on buildings, located within the state, that are used for retail, commercial and/or industrial purposes and the maximum Grant Amount under this program is 40% of installed system cost up to a maximum of $75,000<br>***Created low-interest, seven year loans of up to $300,000 for solar electric and thermal, wind, biomass, and geothermal electric systems installed by commercial and industrial entities with fewer than 300 employees or less than $3.5 million in annual gross sales or receipts. The program is funded by oil overcharge restitution funds.***<br>***Allowed a taxpayer to take a credit, to apply for a refund of taxes paid, or to apply for authority to make tax-exempt purchases of machinery and equipment used to produce electricity in a certified green energy production facility (See also Clean Energy Economic Development).***<br>***Created the Solar Innovation Grant program to provide grants to commercial and industrial entities in the solar industry for a variety of purposes, including: training programs, reducing costs through process improvements, and increasing the use of renewable energy.***<br>***Established a loan program for state businesses to receive loans at below-market financing rates for up to 100% percent of the cost of energy improvements, such as: building retrofits, equipment replacements or upgrades, lighting and renewable enegy generation (See also Energy Efficiency).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Infrastructure Enhancement and Evaluation | • Defined standards for biofuels and petroleum blending<br>• Biodiesel blends made available for public use at a retail location may not exceed 20% biodiesel (B20) by volume and biodiesel blends containing more than 5% biodiesel (B5) by volume must be labeled as a biodiesel blend at the pump |
| Financial and Other Incentives | Offered grants to county governments for the installation of biodiesel infrastructure; the Tennessee Department of Transportation (TDOT) was authorized to undertake public-private partnerships with transportation fuel providers, including, but not limited to farmer cooperatives, to install refueling facilities for alternative fuels including, but not limited to, E85 and B20<br>The Green Island Corridor program was an important component of the state's comprehensive strategy for supporting biofuels in Tennessee: this program is working to establish a statewide network of E85 and B20 no more than 100 miles apart along interstate and major highway corridors to make these fuels available to citizens, travelers and fleets; the Green Island Corridor grant program, administered by TDOT, assists retail vehicle fuel stations and farm co-ops with up to 80% of the costs to convert or install storage and fuel dispensing equipment for E85 and B20 pumps, with a cap of $45,000 per pump<br>TDOT advertised biofuel station locations on the Official State Map and provides interstate signage at exits with participating biofuel stations; biofuel stations are also listed at **www.biotenn.org**; as of May 2008, there are 14 E85 pumps and 33 B20 pumps now selling biofuel; several pumps are scheduled to open in the next few months and other stations are in the contract preparation process |

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Clean State Energy Actions • 2011 Update

# TENNESSEE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | **Offered a $2,500 point of purchase rebate on the first 1,000 electric vehicles purchased in Tennessee. The rebate is funded from the state's petroleum violation escrow account. This tax rebate applies primarily to the Nissan Leaf.**<br>***Offered grants to local governments' and public universities to support the use of E85 and biodiesel blends of at least 20% (B20). Grants could be used for incremental fuel costs; engine maintenance; conversion or installation of infrastructure; and promotional materials.***<br>***The FastTrack Infrastructure Development Program offered funding for alternative fueling infrastructure improvement to private sector businesses to locate or expand fueling infrastructure that create or retain jobs for Tennesseans.***<br>***Permitted vehicles that the U.S. EPA defines as Inherently Low Emission Vehicles or Low Emission and Energy-Efficient Vehicles to operate in HOV lanes.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency Standards | • Executive branch state agencies must purchase Energy Star qualified products |
| Building Efficiency Standards | • The Clean Energy Future Act outlines a five-year accelerated program to improve energy efficiency in state buildings (Public Chapter 529) |
| Alternative Fuel and Vehicle Fleets | All state agencies, universities, and community colleges that have more than 10 state-owned vehicles in their fleet are required to develop and implement plans to increase the state's use of alternative fuels and hybrid electric or other fuel-efficient or low-emission vehicles; each plan must incorporate a goal to reduce or displace at least 20% of the fleet's consumption of petroleum by January 1, 2010; state fleets are encouraged to make every effort to ensure that at least 30% of newly purchased motor vehicles are energy-efficient vehicles<br>• Mandates that 25% of newly purchased vehicles must be hybrid electric or compact fuel-efficient with an eventual goal of 100% energy-efficient cars in the passenger motor vehicle fleet |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Department of Agriculture is authorized to develop and implement an alternative fuel research program to stimulate public and private research in conversion technology; the University of Tennessee Biofuels Initiative (UTBI) is a state sponsored plan to decrease our dependency on foreign oil while simultaneously increasing rural economic development and domestic energy production within Tennessee; the UTBI proposes to jump-start a new bioenergy industry in the state by building and opening a 5-million-gallon-per-year cellulosic ethanol biorefinery in East Tennessee; the principal product of the refinery will be Gasoline (TM) ethanol fuel that is derived from plant material such as switchgrass, wood chips and other forest and agricultural biomass<br>• Creating a solar farm/research institute at the University of Tennessee's Knoxville campus<br>**Created a $50 million INCITE initiative focused on building innovation-based economic development and driving growth in the creation of knowledge-based jobs by funding business incubators and creating co-investment funds for early stage companies, including clean technology.** |

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Clean State Energy Actions • 2011 Update

# TENNESSEE

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Released the report, "Growing Green: The Potential for Green Job Growth in Tennessee"<br>**Launched Startup Tennessee to link entrepreneurs with training opportunities, mentors, and potential capital investors.**<br>***Allowed a taxpayer to take a credit, to apply for a refund of taxes paid, or to apply for authority to make tax-exempt purchases of machinery and equipment used to produce electricity in a certified green energy production facility (See also Clean Electricty).***<br>***Reduced tax rate for manufacturers of clean energy technologies to 0.5% if they make a minimum $100 million investment, create and maintain 50 full-time jobs for 10 years that pay 150% above the state occupational average wage.***<br>***Created the Biodiesel Manufacturers' Incentive Fund, which provides Tennessee biodiesel producers with payments for up to 10 million gallons of biodiesel fuel produced and sold annually to Tennessee distributors.*** |
| **OTHER** | |
| Governor's Task Force on Energy Policy | The Governor's Task Force on Energy Policy is charged with identifying: Lead-by-Example opportunities for energy efficient state buildings; prospective energy efficiency regulations and incentives to encourage conservation in the public and private sector; possible partnerships and collaborations to encourage research and development of clean energy technology; and strategies for expanding the use of alternative fuels in the state |

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Clean State Energy Actions • 2011 Update

# TEXAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2000 IECC with 2001 Supplement, mandatory for all state buildings; jurisdictions may adopt a more recent code<br>**Commercial:** 2000 IECC with 2001 Supplement, with reference to ASHRAE 90.1-2001, mandatory for all state buildings; jurisdictions may adopt a more recent code<br>***Residential: Maintained existing code for private buildings. Adopted 2003 IECC for state-funded buildings, mandatory statewide.***<br>***Commerical: Maintained existing code for private buildings. Adopted ASHRAE 90.1-2007 for state-funded buildings, mandatory statewide.***<br>• ***Effective January 1, 2012, 2009 IECC will apply to single-family residential construction. Effective April 1, 2012, 2009 IECC will apply to all other residential, commercial and industrial construction.*** |
| Energy Savings Targets/Energy Efficiency Resource Standards | Requires electric utilities to offset 20% of load growth through end-use energy efficiency<br>***Increased target to 25% in 2012 and to 30% in 2013 and beyond.*** |
| Utility Demand-Side Management | ***Required the Public Utility Commission to adopt rules ensuring that ERCOT "allows load participation in all energy markets for residential, commercial, and industrial customer classes, either directly or through aggregators of retail customers.*** |
| Financial and Other Incentives | The LoanSTAR Program offers low-interest loans to all public entities, including state, public school, colleges, university, and non-profit hospital facilities for Energy Cost Reduction Measures<br>Purchases of certain energy-efficient products during Memorial Day weekend are exempt from the state sales and use tax<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1937)<br>***Created incentives for homeowners who replace older, less efficient appliances with ENERGY STAR appliances.***<br>***Established a pilot program under the LoanSTAR revolving loan program to provide loans to houses of worship and community-based organizations to finance the implementation of energy efficiency measures and renewable energy technologies (HB 2077 – See also Clean Electricity).*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Texas RPS, and renewable-energy credit (REC) trading program mandates renewable energy purchase requirements of 5,880 MW by 2015 (about 5% of the state's electricity demand), including a target of 500 MW of renewable-energy capacity from resources other than wind with a target of reaching 10,000 MW in renewable energy capacity by 2025 |
| Net Metering and Interconnection Standards | Interconnection standards and net metering is provided to electrical generating facilities (consisting of one or more on-site distributed-generation units) located at a customer's point of delivery, with a maximum capacity of 10 MW and connected at a voltage less than 60 kV; the total capacity of a facility's individual on-site distributed generation units may exceed 10 MW |
| Advanced Coal and Clean Coal | Funded the site screening process for a potential FutureGen plant; approved grants and incentives for low emissions projects; expedited permitting for FutureGen-type projects |

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Clean State Energy Actions • 2011 Update

# TEXAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Shale Gas Development, Regulation and Policy | ***Passed legislation requiring operators of wells where hydraulic fracturing or "fracking" treatments are performed to disclose the identity and amount of each chemical used in the treatment as well as the total volume of water used. The disclosed information a will be posted on the public hydraulic fracturing chemical registry website of the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission (HB 3328).***<br>***Tightened air emission limits, via a vote of the Commission on Environmental Quality, for the release of toxic chemicals associated with natural gas drilling in the Barnett Shale area in north Texas and requires producers to test their drilling sites more stringently.*** |
| Financial and Other Incentives | Allows a corporation to deduct the cost of a solar energy device from the franchise tax in one of two ways: (1) the total cost of the system may be deducted from the company's taxable capital; or, (2) 10% of the system's cost may be deducted from the company's income; offers a franchise tax exemption to companies engaged solely in the business of manufacturing, selling, or installing solar energy devices<br>Allows an exemption of the amount of the appraised property value that arises from the installation or construction of a qualifying solar or wind-powered energy device<br>• Incentives for projects to sequester carbon dioxide in geological formations<br>• Production of renewable methane defined as methane gas derived from animal waste or an agricultural byproduct is now eligible for the fuel ethanol and biodiesel incentive program<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1937)<br>***Established energy storage equipment and facilities as generation assets.***<br>***Established a pilot program under the LoanSTAR revolving loan program to provide loans to houses of worship and community-based organizations to finance the implementation of energy efficiency measures and renewable energy technologies (HB 2077).***<br>***Prohibited property owners' association from including or enforcing any provision that prohibits or restricts a property owner from installing a solar energy device (HB 362).***<br>***Offered a LoanSTAR Program of low-interest loans of up to $5 million to public entities for the installation of solar electric and thermal, wind, and geothermal heat pump systems. Loans are repaid through energy cost savings over ten years or less, with interest rates at 3% APR.***<br>***Offered grant from the Texas Department of Rural Affairs to qualified local, non-entitlement governments (of under 50,000 residents) for the installation of renewable energy systems.***<br>***Required utility customers pay a Contribution in Aid to Construction (CIAC) or a pre-payment charge, or to sign a contract with a term of one year or longer if the electric utility must construct a line extension for a customer, and the utility must also provide the customer with information about on-site renewable energy and distributed-generation (DG) technology alternatives.***<br>***Localities in Texas have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# TEXAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | The Adopt-A-School Bus Program provides grants to aid local school districts replacing their aging, diesel school bus fleets with new clean fuel buses<br>• Loan program for the advancement of alternative energy<br>• Fuel derived from cellulosic biomass and blended with gasoline is exempt from the motor fuels tax<br>• Incentive and rebate programs for appliances and equipment fueled by LPG or other environmentally beneficial alternative fuels<br>• Established the Clean Fleet Program to provide grants to encourage a person that has a fleet of diesel-powered vehicles to replace them with alternative fuel or hybrid vehicles<br>***Offered competitively-priced natural gas available to school districts and other state and local public entities for use in natural gas vehicles.***<br>***Offered incentives to buyers who wished to replace aging medium-duty diesel school bus or delivery vehicles with qualified propane vehicles that met or exceeded current U.S. EPA emissions standards.***<br>***Exempted the biodiesel or ethanol portion of blended fuel containing taxable diesel from the diesel fuel tax.***<br>***Allowed the Texas Department of Transportation to seek funding from public and private sources to acquire and operate hydrogen vehicles and establish and operate publicly-accessible hydrogen fueling stations.***<br>***Ruled that money from the Texas Emissions Plan Reduction Fund could be used for: the alternative fueling facilities program (2%); the natural gas vehicle grant program (not less than 16%); and natural gas fueling stations (no more than 4%) (SB 385 – See also GHG Emissions).***<br>***Authorized the Commission on Environmental Quality to establish and administer the state natural gas vehicle grant program to encourage an entity that has a heavy-duty or medium-duty motor vehicle to convert the vehicle to a natural gas engine or replace the vehicle with a natural gas vehicle by offsetting the incremental cost (SB 20).*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires state buildings, schools and state universities to purchase energy efficient light bulbs; requires state agencies to purchase other qualified appliances |
| Building Efficiency | Requires state government departments to compare the cost of providing energy alternatives for new and reconstructed state government buildings and for certain construction or repair to energy systems and equipment; requires the board of trustees of a school district to establish a goal to reduce the school district's annual electric consumption by 5% each state fiscal year for six years beginning September 1, 2007<br>• Critical government buildings must obtain a combined heat and power (CHP) feasibility study prior to construction or major renovation<br>***Created a requirement that newly constructed or renovated state buildings must meet an approved high performance building standard that: is developed through a nationally recognized process or by a municipally owned utility in the state; provides minimum requirements for energy use, natural resources use, and indoor air quality; encourages the use of materials manufactured or produced in the state; and requires a post-construction review (SB 1318).*** |

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Clean State Energy Actions • 2011 Update

# TEXAS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleet Requirements | • Adopted provisions for a fuel mitigation pilot grant program by the state forest service for fire departments<br>***Created a requirement that state fleets with more than 15 vehicles, excluding emergency and law enforcement vehicles, must purchase or lease a motor vehicles that use compressed natural gas, liquefied natural gas, propane, ethanol or fuel blends of at least 85% ethanol (E85), methanol or fuel blends of at least 85% methanol (M85), biodiesel or fuel blends of at least 20% biodiesel (B20), or electricity including plug-in hybrid electric vehicles. Covered state agency fleets must consist of at least 50% of vehicles that are able to operate on alternative fuels and use these fuels at least 80% of the time the vehicles are driven.*** |
| **GHG EMISSIONS** | |
| GHG Policies | TERP provides grants for various types of clean air projects in 41 counties to improve air quality in the state's non-attainment areas; grants are available for new, converted, or repowered on-road and off-road vehicles and equipment<br>***Ruled that money from the Texas Emissions Plan Reduction Fund can be used for: the alternative fueling facilities program (2%);the natural gas vehicle grant program (not less than 16%); and natural gas fueling stations (no more than 4%) (SB 385).***<br>***Created a pollutant watch list of air contaminants that may cause short-term or long-term adverse human health effects or odors in a given area. Also created a system for public notification of emergency releases by a facility (HB 1981).*** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Texas Emissions Reduction Plan (TERP) provides grants for alternative fuel and advanced technology demonstration and infrastructure projects under the New Technology Research and Development Program, which provides incentives to encourage and support research, development, and commercialization of technologies that reduce pollution in Texas<br>***Established the Air Quality Research Support Program to, along with a nonprofit organization or institute of higher education, administer a program to support research related to air quality (SB 527).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Exempted corporations engaged solely in the business of manufacturing, selling, or installing solar energy devices from the franchise tax |

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# UTAH

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC mandatory statewide<br>**Commercial:** 2006 IECC mandatory statewide including ASHRAE/IESNA 90.1- 2004<br>**Residential and Commercial:** Meet or exceed the IECC 2009 or ANSI/ASHRAE/IENSA Standard 90.1-2007 mandatory statewide (2010 Legislative General Session) |
| Utility Demand-Side-Management | Savings and efficiency programs through regulated electricity and natural gas utilities, including appliance and equipment rebates, energy audits, Energy Star Housing, remodeling, and weatherization<br>• Utah Building Energy Efficiency Strategies (UBEES) is working with utilities and the residential, commercial, and public building sectors to encourage energy efficient building retrofits |
| Utility Rate Realignment | Decoupling in natural gas markets |
| Energy Savings Targets/Energy Efficiency Resource Standards | The governor has set an Energy Efficiency Goal of 20% improvement in energy efficiency by 2015<br>• A Joint Resolution on Cost-effective Energy Efficiency and Utility Demand-Side Management sets non-binding energy savings goals of at least 1% per year for Utah's electric corporations and at least 0.5% per year for Utah's natural gas utility corporations (HJR 9) |
| Financial and Other Incentives | Created a $5 million revolving loan fund to provide zero-interest loans for energy efficiency projects in K-12 schools and school districts. Loans are provided for the retrofit of existing buildings as well as energy efficiency upgrades to new buildings. However, loans can not be used for new buildings to meet the Utah energy code.<br>***Created the Utah Home Performance Program to provide rebates of 50% or 80% of the cost (depending on income level) up to $2,000 for energy efficiency improvements in homes.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Under Utah's renewable energy goal, subject to cost effectiveness determination, investor-owned utilities, municipal utilities, and cooperative utilities shall use renewables to provide 20% of their adjusted retail electric sales by 2025; RECs may be used for compliance |
| Net Metering and Interconnection Standards | Requires all investor-owned utilities and most electric cooperatives to offer net metering to customers that generate electricity using solar, wind, hydropower, hydrogen, biomass, landfill gas or geothermal energy for residential systems up to 25 kW in capacity and non-residential systems up to 2 MW<br>• Extended net metering benefit to allow development and installation of renewable energy sources by third parties on behalf of non-profits and public entities to sell excess power to public utilities<br>• State Energy Program directed to assess the need for model solar and geothermal ordinances at the local government level<br>• Local governments also urged to adopt a model ordinance for wind energy projects<br>***Maintained rules for interconnection include provisions for three levels of interconnection for systems up to 20 megawatts (MW) in capacity, based on system complexity.*** |

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Clean State Energy Actions • 2011 Update

# UTAH

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Advanced Coal and Clean Coal | • Methane gas recovered from an abandoned coal mines qualifies as a renewable energy source<br>• Resolution expressing support for producing hydrogen from coal with carbon capture and sequestration (CCS) technology adopted<br>• Public Service Commission urged to consider authorizing recovery of prudently incurred costs from advanced coal and CCS technology that reduces carbon emissions and improves energy security |
| Financial and Other Incentives | Provides low-interest loans (2-3%) for energy efficiency projects in K-12 schools and school districts in Utah<br>• Program expanded to provide loans to cities and counties<br>Offers an income tax credit for renewable energy systems for both commercial and residential use; exempts the purchase or lease of equipment used to generate electricity from renewable resources from the state sales tax (See also Clean Energy Economic Development)<br>• Legislation created a system for the Governor's Office of Economic Development (GOED) in collaboration with local governments, to provide tax incentives to renewable energy producers and manufacturers who locate their projects in Utah<br>• The Renewable Energy Development Incentive (REDI) is a refundable tax credit for up to 100% of new state tax revenues (including, state, corporate, sales and withholding taxes) over the life of the project (See also Clean Energy Economic Development)<br>***Allowed commercial, utility, and industrial entities to be exempt from sales tax resulting in the purchase or lease of equipment for new renewable power systems of 20 kW or greater, or for expansions of 1 MW or greater.***<br>***Renamed the Renewable Energy Development Incentive (REDI) the Alternative Energy Development Incentive (AEDI). The program has expanded eligibility under the program to other forms of "alternative energy" including petroleum coke, shale oil, nuclear fuel, tar sands, and oil-impregnated diatomaceous earth (SB 242).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs by placing liens equal in value to the loan against any property where such renewable energy systems are being installed (S.B. 110).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | Utah has an extensive network of state-owned and commercial CNG refueling stations, which is accessible to government and private sector fleets as well as individuals' vehicles |
| Infrastructure Enhancement and Evaluation | • Utah Clean Cities received a $14.9 million dollar grant from U.S. DOE to upgrade compressors at existing stations and add numerous new CNG fueling sites for the public along the I-15 corridor |

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Clean State Energy Actions • 2011 Update

# UTAH

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Provides grants to assist businesses and government entities in covering: 1) the cost of converting a vehicle to operate on clean fuels, 2) the incremental cost of purchasing an Original Equipment Manufacturer (OEM) clean fuel vehicle, and 3) the cost of retrofitting diesel vehicles with U.S. EPA verified closed crankcase filtration devices, diesel oxidation catalysts, and/or diesel particulate filters<br>Provides an income tax credit for 50% of the incremental cost (up to $3,000 maximum) of a clean fuel vehicle built by an OEM and/or an income tax credit for 50% of the cost (up to $2,500 maximum) of converting the vehicle to operate on an alternative fuel<br>Vehicles with clean fuel license plates are authorized to travel in HOV lanes<br>***The Utah Clean Fuels and Vehicle Technology Grant and Loan Program provided grants and loans to assist businesses and government entities in covering: 1) the cost of converting vehicles to operate on clean fuels; 2) the incremental cost of purchasing clean fuel vehicles; and 3) the cost of retrofitting diesel vehicles. The Program also provided loans for the purchase of fueling equipment for public/private sector business and government vehicles.***<br>***Began taxing clean special fuels used to operate motor vehicles, including propane and electricity, at 3/19 of the rate of $0.0245, which is imposed on traditional motor fuels. The tax on compressed natural gas is $0.085 per gasoline gallon equivalent.***<br>***Modified the Motor and Special Fuel Tax Act by amending provisions relating to a tax on liquified natural gas, amends the definition of clean fuel, provides that beginning on July 1, 2011, a tax is imposed at a reduced rate on liquified natural gas per gasoline gallon equivalent.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | The Utah Department of Administrative Services manages the state Energy Efficiency Program, which includes state and higher-education buildings and vehicle fleets; new buildings must be constructed to high-efficiency building requirements<br>• All new state buildings, including higher education buildings, must be designed and constructed to meet LEED Silver certification<br>• Established a revolving loan program to fund efficiency improvements in state facilities (HB 198)<br>• The State Building Board to make rules to establish criteria to determine loan eligibility and to prioritize energy efficiency measures including project feasibility, estimated payback period and other criteria |
| Green Power Purchasing | Blue Sky (wind energy) credits may be purchased to offset carbon emissions |
| Alternative Fuel and Vehicle Fleets | The Utah Air Quality Board is authorized to mandate fleet vehicles to use clean fuels; vehicle fleet purchases are based on specific criteria, including energy efficiency and emissions impacts |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; as a member of the Western Climate Initiative,* Utah supports the regional goal of 15% reduction in GHG emissions by 2020<br>• Utah established a state GHG emissions reduction goal to reduce emissions to 2005 levels by 2020 |

*As of December 2011, Utah is no longer a member of the Western Climate Initiative

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Clean State Energy Actions • 2011 Update

# UTAH

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Researchers in Utah's USTAR program, with funding support from DOE, will conduct a demonstration carbon sequestration project in central Utah<br>***Created the Bingham Entrepreneurship and Energy Research Center at Utah State University to serve as a regional research hub. It houses offices of the Utah State University Research Foundation's Energy Dynamics Laboratory and the Idaho National Laboratory. USTAR staff will also be housed in the facility to assist with research commercialization and outreach to local companies and entrepreneurs.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | Created the Alternative Energy Development Incentive to provide post-performance refundable tax credit for up to 100% of new state tax revenues as a way to attract to renewable energy producers and manufacturers who locate their projects in Utah (See also Clean Electricity)<br>Exempted the purchase or lease of equipment used to generate electricity from wind, solar, biomass, landfill gas, anaerobic digestion, hydroelectricity, and geothermal resources from the state sales tax (See also Clean Electricity)<br>Established the Custom Fit training program to providee subsidized, specialized employee training for Utah companies. The program is administered through the Utah College of Applied Technology centers and state colleges and universities. This incentive typically supplies a match grant up to $20,000 per company per year for professional training programs.<br>The Utah Department of Workforce Services has created an educational initiative focused on training incumbent workers to improve their skills for the Utah workforce. This training program encourages and rewards workers already in the workforce to improve their knowledge and skills within their industry. |

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Clean State Energy Actions • 2011 Update

# VERMONT

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Minimum energy efficiency standards for six categories of appliances<br>***Two minimum efficiency standards now apply.*** |
| Building Energy Codes | **Residential:** The Vermont Residential Building Energy Standard (RBES), based on the 2009 IECC with state specific amendments, is mandatory statewide<br>**Commercial:** 2005 Vermont Guidelines for Energy Efficient Commercial Construction based upon amendments to the IECC 2004 Supplement and an alternative path of ASHRAE 90.1-2004 with amendments |
| Utility Demand-Side-Management | Expenses energy efficiency spending (formerly amortized program costs over five years); participant in ISO-New England's Forward Capacity Market |
| Utility Rate Realignment | Decoupling in electricity markets |
| Public Benefits Funds | Efficiency Vermont provides technical assistance and financial incentives for energy-efficient building design, construction, renovation, equipment, lighting and appliances; its primary priorities are reducing the size of future power purchases, reducing the generation of greenhouse gases, limiting the need to upgrade the state's transmission and distribution infrastructure, and minimizing the costs of electricity<br>• PSB directed to develop energy efficiency pilot program for transmission and industrial utility customers whose contributions in a given year to public benefits fund exceeded $1.5 million |
| Financial and Other Incentives | The Efficiency Vermont program includes the following incentives: incentives for energy efficient lighting; rebates to encourage the installation of efficient motors and variable frequency drives; rebates to encourage users to install energy efficient transformers; rebates to businesses that purchase high-efficiency HVAC equipment and controls; financial incentives for custom energy efficient measures and energy efficient design; rebates for the installation of energy efficient equipment in existing multifamily apartments; financial incentives for residential customers to install energy efficient equipment in their homes; coupons for Energy Star lighting equipment redeemable at participating retailers; financial incentives to cover the incremental costs of energy efficient refrigeration for commercial, industrial, agricultural and institutional buildings; rebates for the purchase of a plug-in vending machine controller<br>• Allows for Property Assessed Clean Energy (PACE) financing (Act 45)<br>**The Vermont Energy Act of 2011 created two reserve funds; one funded by participating homeowners via a one-time fee and managed by Efficiency Vermont, and another funded by the Regional Greenhouse Gas Initiative and managed by the Vermont's treasurer. These reserve funds are designed to cover losses in the event of foreclosure of participating properties and to lower the risk to financial institutions providing funding for PACE programs (See also Clean Electricity).**<br>***Localities in Vermont have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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Clean State Energy Actions • 2011 Update

# VERMONT

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Calls for the state's electric utilities to meet any increase in statewide retail electricity sales between 2005 and 2012 by using renewable energy resources; Vermont also maintains a separate state goal of assuring that 20% of total statewide electric retail sales before July 1, 2017, are generated by qualifying renewables<br>***Required all retail electricity providers to purchase electricity generated by eligible renewable energy facilities through the Sustainably Priced Energy Enterprise Development (SPEED) Program, via long term contracts with fixed standard offer rates (see also Clean Energy Financial Incentives).***<br>***Revised the SPEED Program to to assure, by January 1, 2022, that the amount of in-state qualifying renewable energy plants equals one-third of the state's highest annual energy usage on or before January 1, 2022, or of 6,000 GWH, whichever is greater (HB 56).***<br>***Amended the Renewable Energy Programs statutes to create a Baseload Renewable Power Portfolio Requirement. It stipulates that electricity supplied to customers must contain a portion of "baseload renewable power", defined as power from a wood biomass plant in Vermont with nominal capacity of 20.5 MW.*** |
| Net Metering and Interconnection Standards | Requires separate interconnection standards for net-metered energy systems and for distributed-generation systems that are not net metered; requires electric utilities to offer net metering to all customers with photovoltaic systems, wind-energy systems, fuel cells or biomass-energy systems until the cumulative generating capacity of net-metered systems equals 1% of a utility's peak demand - the maximum system capacity is 15 kW for most net-metered systems and 150 kW for farm-based systems<br>***Raised system capacity to 2.2 MW for military systems; 250 kW for all other systems (20 kW for micro-CHP).***<br>***Allowed utilities to offer additional credits or incentives to net metering customers, above and beyond the benefits provided by net metering itself.***<br>***Allowed for net-metered solar power. Also stipulated that utilities will offer additional credits of $0.20 per kilowatt hour (kWh) minus the highest residential rate for solar net metering customers (HB 56).*** |
| Public Benefits Funds | The Clean Energy Development Fund (CEDF) Loan Program seeks to promote the development of clean electric-energy technologies by providing funding for purchasing land and buildings (when specific to qualifying projects), purchasing and installing machinery and equipment, and working capital; low-interest loans are available to individuals, companies, nonprofits and municipalities--eligible clean electric-energy technologies generally include solar, wind, biomass, fuel cells and combined heat and power<br>***Authorized The CEDF to support natural gas vehicles and/or fueling infrastructure (H.781 – See also Alternative Fuels and Vehicles).*** |

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Clean State Energy Actions • 2011 Update

# VERMONT

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Offers a corporate income tax credit in an amount equal to 100% of the "Vermont-property portion" of the federal business energy tax credit for solar; allows municipalities the option of offering exemption from real and personal property taxes for certain renewable energy systems; offers a sales tax exemption for renewable-energy systems; provides funding for new solar water heating, solar electric (photovoltaic) and wind energy system installations<br>• Allows for Property Assessed Clean Energy (PACE) financing (Act 45)<br>**Amended the Business Solar Tax Credit to allow businesses with an allocation to select a grant in lieu of the tax credit. The grant amount was either 50% the value of the tax credit allocation or 15% of the actual costs of the plant -- whichever is less.**<br>**The governor directed Efficiency Vermont and the state Department of Public Service to create an incentive program to assist Vermonters who choose to switch from oil heat to wood pellet options.**<br>**Replaced the permitting process for renewable energy systems 5 kW and smaller with a process that allows customers to install the system 10 days after completing a registration form and certificate of compliance with interconnection requirements. The utility has 10 days to raise any issues concerning the interconnection, otherwise a Certificate of Public Good is granted and the project may be installed (H.56).**<br>***Changed the business solar tax incentive to define the available funding from the Clean Energy Development Fund and relax project deadlines to ease pressure on state regulators (H.781).***<br>***Established Small Scale Renewable Energy Incentive Program rebates for new solar water heating, solar PV, wind, and micro-hydro energy installations in a variety of sectors. Incentives vary by technology,and range from $0.60/W to $4.50/W for power generating systems, with incentives of up to $255,000.***<br>***Required all retail electricity providers to purchase electricity generated by eligible renewable energy facilities through the Sustainably Priced Energy Enterprise Development (SPEED) Program, via long term contracts with fixed standard offer rates.***<br>***Localities in Vermont have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created two reserve funds under The Vermont Energy Act of 2011: one is funded by participating homeowners via a one-time fee and managed by Efficiency Vermont, and the other is funded by the Regional Greenhouse Gas Initiative and managed by the Vermont's treasurer. These reserve funds are designed to cover losses in the event of foreclosure of participating properties and to lower the risk to financial institutions providing funding for PACE programs.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Vermont businesses involved exclusively in the design, development, and manufacture of electric vehicles (EVs), AFVs, HEVs, as well as energy technology involving fuel sources other than fossil fuels, and qualify as a "high-tech business" are eligible for up to three of the following tax credits: 1) payroll income tax credit; 2) qualified research and development income tax credit; 3) export tax incentive; 4) small business investment tax credit; and 5) high-tech growth tax credit<br>***Made Funding from the Clean Energy Development Fund available to projects that involved the purchase of dedicated NGVs and development of natural gas fueling infrastructure (See also Clean Electricity).*** |

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Clean State Energy Actions • 2011 Update

# VERMONT

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires state agencies to purchase only Energy Star or comparable products and to use them in a manner that maximizes their energy efficiency potential |
| Building Efficiency | Requires state buildings to be designed to be "highly efficient" and to exceed state efficiency codes for existing buildings by 30%; existing buildings must meet 10 criteria for energy efficiency, including Energy Star requirements |
| Green Power Purchasing | Directs the Department of Buildings and General Services to investigate cost-effective opportunities to purchase renewable energy for state facilities |
| Alternative Fuel and Vehicle Fleets | Requires all state fleet vehicles to be "right-sized" and among the most fuel-efficient and lowest emission vehicle models in each class, including advanced-technology vehicles such as hybrids; encourages the use of video and online conferencing, as well as carpooling, to reduce vehicle trips and vehicle miles traveled; directs state fleet users to purchase vehicles that have the highest available fuel efficiency in each respective vehicle class pursuant to performance specifications approved by the Climate Neutral Working Group<br>***Required state agencies to consider AFVs when purchasing vehicles for state use, via the Vermont Department of Buildings and General Services, providing the alternative fuel is suitable for the vehicle's operation, is available where the vehicle will be used, and is competitively priced with conventional fuels.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; goal to reduce GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-80% below 2001 levels in the long-term; caps emissions from the state's existing fossil fuel power plants at 1990 levels; Climate Action Plan; RGGI participant; will adopt CA vehicle emissions standards pending EPA approval<br>***Required that new vehicles sold in Vermont must meet California emission and compliance requirements.***<br>**The governor established a Climate Commission made up of senior administration officials charged with leading the state toward reduced greenhouse emissions and reliance on fossil fuels. It is tasked with implementing Vermont's 2011 energy plan.** |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Department of Agriculture will develop an economic initiative to provide business and technical assistance for research and planning to aid farmers in developing business enterprises that harvest biomass, convert biomass to energy, or produce biofuels such as biodiesel and ethanol |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • Vermont Sustainable Jobs Fund has provided grants and technical assistance to businesses with natural resources based sectors since 1995<br>• Formulated a strategy for environmental technology sector workforce development and training |
| **OTHER** | |
| Nuclear Power | ***Created a legislative ratification requirement for their commission's decision to license a nuclear power plant.*** |

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Clean State Energy Actions • 2011 Update

# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC with reference to ASHRAE 90.1-2004, mandatory statewide<br>• Scheduled to adopt the 2009 IECC code for residential and ASHRAEI 90.1-2007 for commercial<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| Utility Demand-Side-Management | Electric utilities are allowed cost recovery of demand side management (DSM) through a separate rate rider; they are developing and submitting programs for approval<br>• Utilities are required to update their Integrated Resource Plans (IRP) every two years to meet supply and reliability requirements<br>• Dominion and two electric cooperatives are implementing smart grid programs to enhance the utilities' ability to efficiently manage their distribution grids and provide an infrastructure to support customers' DSM actions |
| Utility Rate Realignment | Virginia General Assembly in 2008 passed the Natural Gas Conservation and Ratemaking Efficiency Act intended to encourage natural gas utilities to file conservation programs tied to alternative (decoupled) rate designs, and to reward utilities that assist customers in reducing energy consumption and energy bills<br>• Virginia Natural Gas implemented its energy conservation plan and a natural gas decoupling mechanism (Revenue Normalization Adjustment Rider)<br>• Columbia Gas of Virginia followed in April 2010 |
| Energy Savings Targets/Energy Efficiency Resource Standards | • The Virginia General Assembly set a target that 10% of electric base year (2006) use should be reduced by conservation and efficiency by 2022<br>• Implementing a five-year "Virginia Energy Sense" consumer education and outreach program, under the guidance of the State Corporation Commission, to encourage electric energy efficiency and conservation |
| Financial and Other Incentives | Allows a four-day sales tax exemption on Energy Star and Water Sense qualified products of $2,500 or less per product, purchased for non-commercial home or personal use; localities may provide a property tax exemption for buildings with efficiency at least 30% higher than code, or that meet LEED, Energy Star, or Green Globe certifications, or for buildings with green roofs<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 110)<br>• $7.5 million ARRA funds are being used for a rebate program for certain Energy Star qualified appliances<br>• $15 million ARRA funds are being used for a rebate program for energy efficiency retrofits to homes and commercial properties<br>• Localities may make gifts and donations to any nonprofit organization that is engaged in providing energy efficiency services or promoting energy efficiency within or without the boundaries of the locality<br>• The Virginia Resource Authority is authorized to issue bonds for local government energy efficiency programs |

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Clean State Energy Actions • 2011 Update

# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Established financing program that provides lease financing funding for energy efficiency projects in state facilities operated by agencies, authorities and institutions of the Commonwealth of Virginia.***<br>***Added LEED or other green building rating systems to the list of development characteristics that earn points toward Low Income Housing Tax Credit allocations.***<br>***Created a rebate program for home energy efficiency improvements. Homeowners can receive funds for rebates for up to 20% of the costs of qualifying energy products and services, for up to $595.***<br>***Localities in Virginia have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created financial incentives to companies that manufacture or assemble equipment, systems, or products used to produce renewable or nuclear energy, or products used for energy conservation, storage, or grid efficiency purposes (HB 2316 – See also Clean Energy Economic Development and Clean Electricity).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs placing liens equal in value to the loan against any property where such renewable energy systems are being installed (SB 110 – See also Clean Electricity).*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Established voluntary, incentive-based renewable energy portfolio standard with the following goals (base year is 2007): 4% of base year sales by 2010; 7% of base year sales by 2016; 12% of base year sales by 2022; and 15% of base year sales by 2025<br>• Provides that an investor-owned electric utility will receive double credit toward meeting the goals of the renewable energy portfolio standard program for energy derived from onshore wind or solar and triple credit from offshore wind<br>***Required the State Corporation Commission to consider the rate impact of renewable resources before approving reliance on renewable resources (HB 1912).***<br>***Ruled that an investor-owned electric utility will receive triple credit toward meeting the goals of the renewable energy portfolio standard program for energy derived from offshore wind (HB 1022).*** |
| Net Metering and Interconnection Standards | Net metering is available on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators in Virginia reaches 1% of each electric distribution company's peak load for the previous year - this includes residential systems up to 10 kW and commercial systems of up to 500 kW; customer-generators must notify the electric distribution company and the energy service provider prior to interconnecting<br>• Utilities may approve a higher capacity limit at their discretion; renewable energy certificates (RECs) are owned by the customer-generators<br>• The customer-generator has a one-time option to sell RECs to the utility upon entering into the power purchasing agreement<br>• Excess electricity produced can be sold under a voluntary agreement at any time<br>• Virginia provides a permit-by-rule for renewable projects less than 100 MW in size (20 MW for biomass and waste to energy) and exempts such projects from State Corporation Commission approval<br>***Increased the maximum capacity of a residential electrical generation facility to 20 kW (HB 1983).*** |

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# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Advanced Coal and Clean Coal | Promotes gasification research in state Energy Plan; A new coal/coal waste/ biomass advanced fluid bed generation plant is under construction in Wise County; conducting research on carbon sequestration in unmineable coal seams<br>• The Virginia Coal and Energy Commission will study legal issues on indemnification of land owners on property used for carbon sequestration |
| Shale Gas Development, Regulation and Policy | ***Established a joint legislative subcommittee to study the issues related to ownership of natural gas and regulation of the industry under the Virginia Gas and Oil Act (H.JR. 121).***<br>***Provided that the surface owner of real property shall be presumed to be the owner of any natural gas below the surface unless the right to ownership or possession of the natural gas has been expressly conferred by deed or other instrument (S.B. 376).***<br>***Exempted property used directly in the drilling, extraction, or processing of natural gas or oil and reclamation of the well areas from the retail sales and use (S.B. 1343).*** |
| Financial and Other Incentives | Localities may exempt or partially exempt solar energy equipment or recycling equipment from local property taxes; electric utilities may receive up to 200 basis point extra return for direct investments in electricity generation (renewable, nuclear, carbon capture compatible clean coal) that lessen or eliminate emissions<br>• State law requires the Southeastern Public Service Authority to entertain and negotiate any and all reasonable landfill gas-to-fuel or gas-to-electricity contract offers<br>• The Virginia Offshore Wind Development Authority was created to support the development of the offshore wind industry and wind-powered electric energy facilities located off the coast of the Commonwealth<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 110)<br>• Virginia offers the Solar Photovoltaic Manufacturing Incentive Grant Program to encourage the manufacture of solar photovoltaic panels in the state*<br>• $15 million in ARRA funds are being used for a rebate program for certain solar thermal heating, residential solar PV and small residential wind systems (up to 10 kW)<br>***Localities in Virginia have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Directed the State Corporation Commission)to consider approval of distributed solar generation facilities, constructed and operated by a utility, and special pricing of the power generated by those facilities. Encourages participation by local governments, schools and not for profits in providing locations for these projects (HB 1686 – See also Clean Energy RD&D).***<br>***Created a Voluntary Solar Resource Development Fund. Utilities are required to provide a link to information about the Fund and to a web site where their customers can make donation to the fund. Money donated to the fund will be made available as loans to support construction of solar energy projects.*** |

*Repealed the Solar Photovoltaic Manufacturing Incentive Grant Program effective July 1, 2013, and the Biofuels Production Incentive Grant Program effective July 1, 2017 to create the Clean Energy Manufacturing Incentive Grant Program (See below Clean Energy Economic Development).

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# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Created financial incentives to companies that manufacture or assemble equipment, systems, or products used to produce renewable or nuclear energy, or products used for energy conservation, storage, or grid efficiency purposes (HB 2316 – See also Clean Energy Economic Development and Energy Efficiency).***<br>***Created the Offshore Wind Development Authority to facilitate the development of the offshore wind industry and wind-powered electric energy facilities. Charged the Authority with identifying barriers to the development of the offshore wind industry, collecting metocean and environmental data, upgrading port facilities to accommodate the manufacturing and assembly of project components and vessels that will support such projects, and applying for loan guarantees for such projects (HB 389).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs placing liens equal in value to the loan against any property where such renewable energy systems are being installed (SB 110).***<br>***Created rebates for homeowners who replace their heat pumps, central heating, or central air conditioning systems with a geothermal heat pump.***<br>***Added renewable energy projects to those which the Virginia Resources Authority may finance (HB 2389).***<br>***Ensured that if localities adopt local ordinances to address the siting of renewable energy facilities, that the ordinance will be consistent with provisions of the Commonwealth's Energy Policy. Also provides reasonable criteria for siting renewable energy facilities (SB 862).***<br>***Created the Virginia Universities Clean Energy Development and Economic stimulus foundation, which is tasked with identifying, obtaining, disbursing and administering funding to sutpport: the research and development of alternative fuel and clean energy technologies; economic development projects in rural areas; and commercialization of alternative fuels and clean energy technologies (See also Alternative Fuels and Vehicles and Clean Energy RD&D).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | • The Department of General Services is required to establish the conditions under which state public bodies may procure diesel fuel containing, at a minimum, 2%, by volume, biodiesel fuel or green diesel fuel, for use in on-road internal combustion engines |

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| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | School systems may use funding from the Literary Loan program to convert school buses to alternative fuels or construct alternative fuel refueling stations<br>Provides grants and an income tax credit to producers of biofuels, specifically ethanol, biodiesel, and green diesel<br>• A higher per gallon grant is available for biofuels produced from advanced feedstocks<br>Businesses involved with the manufacture of AFVs, AFV conversions, or the production or storage of dispensing hydrogen are provided a job creation tax credit; localities may exempt or partially exempt AFVs from personal property taxes<br>Grants are available for alternative fuel infrastructure at retail gas stations<br>• Localities may give preferential treatment to electric vehicles when establishing rates of taxation on personal property<br>• Use of HOV lanes by clean special fuel vehicles, regardless of the number of occupants<br>***The Alternative Fuels Revolving Fund was used to distribute loans and grants to municipal, county, and state governments to support alternative fuel vehicle programs; pay for AFV maintenance, operation, evaluation, or testing; pay for vehicle conversions; or improve alternative fuel infrastructure.***<br>***The governor issued an executive order directing the release of a Public-Private Partnership solicitation to further the Commonwealth's interest in partnerships with and among alternative fuel source providers, infrastructure developers, vehicle manufacturers, and other industry leaders to expand alternative fuels refueling infrastructure, and provision of alternative fuel vehicles to support the Commonwealth's vehicle pools and fleets.***<br>***Excluded any person who is not a public service corporation and who provided electric vehicle charging service at retail from the meaning of the terms "public utility," "public service corporation," or "public service company" (H.B. 2105).***<br>***The Virginia State Corporation Commission (Commission) directed public utilities to evaluate time-differentiated rates and other incentives to encourage off-peak all-electric (EV) and plug-in hybrid electric vehicle charging. The Commission authorized public utilities to conduct pilot programs to determine the feasibility and implications of offering off-peak rates and other incentives (H.B. 2105).***<br>***The Clean Fuel Vehicle Job Creation Tax Credit provided a corporate income tax credit for the creation of full-time clean fuel vehicle jobs. The allowable credit was $700 per qualifying job created for the first taxable year and the two succeeding taxable years, for a maximum "per job" credit of $2,100. The credit is available until the 2014 taxable year (SB 1236 – See also Clean Energy Economic Development).***<br>***Created the Virginia Universities Clean Energy Development and Economic stiumulus foundation, which was tasked with identifying, obtaining, disbursing and administering funding to support: the research and development of alternative fuel and clean energy technologies; economic development projects in rural areas; and commercialization of alternative fuels and clean energy technologies.*** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Requires Virginia agencies and institutions to purchase or lease ENERGY STAR-rated appliances and equipment for all classifications for which an ENERGY STAR designation is available<br>• Guidelines are being developed for executive branch agencies to reduce energy consumption and water use, promote waste reduction and reduce travel |

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Clean State Energy Actions • 2011 Update

# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Building Efficiency | Requires state agencies to reduce the annual cost of non-renewable energy purchases by at least 20% of fiscal year 2006 expenditures by fiscal year 2010; state agencies and institutions use energy saving performance contracting and internal funding to reduce energy use and participate in the PJM Demand Response program to reduce peak electric demands; the Commonwealth purchases natural gas to optimize use of natural gas storage and financial hedging instruments<br>• State agencies and institutions required to reduce energy use by 5% below base line use by 2012, in addition to the previous 15% to 20% savings targets<br>• All construction and renovation of buildings for the executive branch agencies and institutions should meet LEED-Silver or Green Globes two-globe standards |
| Green Power Purchasing | The Commonwealth has funded equipment changes to use switchgrass and wood fuels for various state-owned boiler plants, and provides a central, all public body contract for purchase of fuel oils, including bio-based heating oil<br>• The Department of General Services is required to establish the conditions under which state public bodies may procure diesel fuel containing, at a minimum, 2% by volume, biodiesel fuel or green diesel fuel, for use in on-road internal combustion engines |
| Alternative Fuel and Vehicle Fleets | Agencies and institutions are to purchase and lease the most fuel-efficient vehicle that meet operational needs<br>• Procurement of diesel fuel containing at least 2% biodiesel fuel or green diesel fuel, will be required for all agencies except for public safety agencies<br>***Required the Director of the Department of General Services, in conjunction with the Secretary of Administration and the Governor's Senior Advisor on Energy, to develop a plan providing for the replacement of vehicles in the centralized fleet that are rotated out of service with vehicles that operate using natural gas, electricity, or other alternative fuels, to the greatest extent practicable (H.B. 2282).*** |
| **GHG EMISSIONS** | |
| GHG Policies | • Virginia exempts certain pollution control equipment and facilities from local property taxes |

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Clean State Energy Actions • 2011 Update

# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | $1.6 million in new state general funding is being added to a previous $1.5 million state general funding appropriation, to be matched 50/50 with private funds, for the Virginal Coastal Energy Research Consortium; $2 million is being appropriated for competitive R&D grants under the Commonwealth Technology Research Program, with energy as one of three priority areas; ongoing appropriations provided to the Virginia Center for Coal and Energy Research, helping support carbon sequestration in unmineable coal seam research; 10 state universities support energy R&D with internal and external fund sources<br>• Established, under Governor McDonnell's 2010 energy legislative package, the Universities Clean Energy Development and economic Stimulus Foundation<br>• Requires that any royalties from offshore oil and gas leasing and production be distributed to transportation, local infrastructure, and the Virginia Coastal Energy Research Consortium<br>• The Virginia Tobacco Indemnification and Community Revitalization Commission has funded five energy research and development facilities and made up to $100 million available for energy research and development<br>• Broadened the responsibilities of the Coastal Energy Research Consortium to include studies on all domestic forms of coastal energy<br>• State research institutions have also allocated internal funds to provide energy research and development in areas such as offshore wind, fuel cells, materials research, building efficiency, and other topics<br>***Created a new tax credit program in which companies can claim a 15% credit for qualified research. Companies that conduct research in partnership with a Virginia university are eligible for a 20% credit.***<br>***Created the Commonwealth Research Commercialization Fund to provide grants to technology firms for a variety of purposes, such as matching federal research funding.***<br>***Directed the State Corporation Commission to consider approval of distributed solar generation facilities and special pricing of the power generated by those facilities. Allows such projects to be treated as demonstration projects for purposes of assessing their benefits to the utility's power distribution system for improving reliability (HB 1686 – See also Clean Electricity).***<br>***Appropriated $6 million for the FY2012 Commonwealth Research Commercialization Fund, providing funding for Virginia-based research and commercialization, as well as financing science and technology facilities.*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • The Virginia Community College System offers green job training across the community college system<br>• New or expanded programs are being implemented in wind turbine service, HVAC systems, and other areas<br>• Numerous community based organizations are providing green jobs training, including groups such as the Community Housing Partnership, Dan River Region Collaborative, Shenandoah Valley Workforce Investment Board, and Green Jobs Alliance<br>• Grants to accelerate development of Virginia energy production from renewable biomass and waste streams<br>• Funds to support new or grow existing energy efficiency or renewable energy businesses and manufacturers |

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# VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Task Force, Workforce Development, Incentives, Analysis, Etc. (continued) | • The governor's legislation to establish a $2500 per green job tax credit (over five years) for green jobs paying an annual salary in excess of $50,000<br>• This credit will be available for green jobs created<br>• The taxpayer is allowed a credit for up to 350 new green jobs<br>• Provides a tax credit for job creation in the fields of cellulosic ethanol production, vehicle conversion to ethanol, and manufacturing of vehicle parts for conversion<br>• Created a $500 income tax credit for the creation of green jobs (SB 623)<br>***Created a $2,500 per green job tax credit (over five years) for green jobs paying an annual salary in excess of $50,000 .***<br>***Offered a job creation tax credit of up to $700 per full-time employee for businesses involved in alternative fuel vehicle (AFV) and component manufacturing, alternative fueling equipment component manufacturing, AFV conversions, and advanced biofuels production. Qualified AFVs include vehicles that operate using natural gas, propane, hydrogen, electricity, or advanced biofuels (SB 1236).***<br>***Created financial incentives through the Clean Energy Manufacturing Incentive Grants to companies that manufacture or assemble equipment used to produce renewable, nuclear, conservation, storage, or grid efficiency purposes. To be eligible for a grant, the manufacturer must make a capital investment greater than $50 million and create at least 200 full-time jobs that pay at least the prevailing wage (SB 1360 / HB 2316).***<br>***Directed the utility regulators to consider "furtherance of the economic and job creation objectives of the Commonwealth" among the factors when they decide whether or not to approve a proposed electric generation facility (HB 1912).***<br>***Provided a corporate income tax credit for the creation of full-time clean fuel vehicle jobs. The allowable tax credit under the Clean Fuel Vehicle Job Creation Tax Credit is $700 per qualifying job created for the first taxable year and the two succeeding taxable years, for a maximum "per job" credit of $2,100. The credit is available until the 2014 taxable year (SB 1236).***<br>***Extended the sunset date of the Clean Fuel Vehicle and Cellulosic Biofuels Job tax credit to 2016 (SB 1236).*** |
| **OTHER** | |
| Virginia Energy Plan | • The Virginia Energy Plan established a comprehensive energy policy and energy policy objectives in the Code of Virginia<br>• The Department of Mines, Minerals and Energy is charged with drafting a new plan every four years to reflect each new governor's policy initiatives |
| Offshore Energy Production | • Virginia policy supporting oil and natural gas exploration, development, and production 50 miles or more off Virginia's coast, taking into account the impact on affected localities, armed forces, and the mid-Atlantic regional spaceport<br>• Two wind power developers have submitted lease offers to the federal Minerals Management Service for federal waters off of Virginia's coast<br>• MMS is working with the Commonwealth on leasing offshore waters for wind power projects |
| State Telework and Alternate Work Schedule Policy | • The Secretary of Administration is required to establish a comprehensive statewide telecommuting and alternative work schedule policy<br>• Consistent with this policy, agencies have a goal that 20% of employees in eligible positions are to telework and 25% of its employees in eligible positions are to use alternate work schedules |

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Clean State Energy Actions • 2011 Update

# WASHINGTON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Appliance/Equipment Efficiency Standards | Set minimum energy efficiency standards for 12 categories of appliances in 2005 (some were preempted by federal law) and eight additional types of appliances in 2006<br>• Added efficiency standards for several more products (HB 1004)<br>***Minimum energy efficiency standards remain for six categories of appliances.*** |
| Building Energy Codes | **Residential:** State-developed and implemented code exceeds 2006 IECC standards for most homes; mandatory statewide<br>**Commercial:** State-developed code that meets or exceeds ASHRAE/IESNA 90.1-2004<br>The Evergreen Sustainable Development Standard establishes green building criteria that will be required for any affordable housing project applying for state funds through the WA State Housing Trust Fund and is based on a point system which awards points for a variety of sustainable building practices including: site location and planning, water conservation, energy efficiency and renewable technology, and environmentally conscious construction practices<br>***Residential: Updated code to 2009 WSEC, state-developed and implemented code; mandatory statewide***<br>***Commercial: Updated code to 2009 WSEC, state-developed and implemented code; mandatory statewide*** |
| Utility Demand-Side-Management | Electric utility efficiency programs are underway in both investor-owned-utilities and public utilities; investor-owned utilities may recover costs for electricity conservation; four natural gas utilities have some amount of energy efficiency activity as well |
| Energy Savings Targets/Energy Efficiency Resource Standards | (See Renewable/Alternative Energy Portfolio Standards below) Covered utilities must meet Washington's Renewable Energy Standard requirements and capture all cost-effective conservation |
| Financial and Other Incentives | Created the Energy Efficiency Credit Enhancements program to Provide grants to financial institutions and entities working with financial institutions involved in energy efficiency lending, and to reduce the risk associated with energy efficiency lending<br>***Allowed schools to begin using energy savings performance contracting (HB 2020).***<br>The state energy program awarded grants and loans to a variety of public and private entities statewide for energy efficiency, transportation, biomass, & clean technology<br>The Washington State University Extension Energy Office is providing grants to small and medium sized manufacturers pursue energy efficiency projects |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards Goals | Electric utilities that serve more than 25,000 customers in the state of Washington to obtain 15% of their electricity from new renewable resources (or through renewable energy credits) by 2020 and to undertake all cost-effective energy conservation |

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# WASHINGTON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | Interconnection standards provide for two separate levels of interconnection based on system capacity: the first level applies to systems up to 300 kW, and the second level, which applies to systems greater than 300 kW but not greater than 20 MW, embraces the Federal Energy Regulatory Commission's (FERC) interconnection standards; net metering applies to systems up to 100 kW in capacity that generate electricity using solar, wind, hydro, biogas from animal waste, or combined heat and power technologies (including fuel cells) - all customer classes are eligible, and all utilities - including municipal utilities and electric cooperatives - must offer net metering |
| Advanced Coal and Clean Coal | Maintains a power plant performance requirement under which utilities may not own electric resources or hold five year or longer contracts for generating resources which emit more than 1100 pounds of $CO_2$ per MWh, effectively discouraging investment without carbon sequestration |
| Financial and Other Incentives | Provides a reduced business and occupation tax rate for manufacturers and wholesale marketers of solar-electric (photovoltaic) modules or silicon components of those systems; offers production incentives for individuals, businesses, and local governments that generate electricity from solar power, wind power or anaerobic digesters; tax does not apply to the sales of equipment used to generate electricity from wind, sun, landfill gas, and fuel cells<br>• Further reduced the business and occupation tax rate to 0.275%, which is 43% lower than the standard manufacturing business and occupation tax rate (SB 6170)<br>• Applicable to manufacturers of photovoltaic modules, solar grade silicon, silicon solar wafers, silicon solar cells, thin film solar devices or compound semiconductor solar wafers to be used exclusively in solar energy systems<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Energy RD&D and Clean Energy Economic Development).*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | At least 2% of the diesel sold in Washington must be biodiesel, beginning November 30, 2008, or when a determination is made by the Director of the Department of Ecology that feedstock grown in Washington State can satisfy a 2% fuel blend requirement - the biodiesel requirement would increase to 5% once in-state feedstocks and oil-seed crushing capacity can meet a 3% requirement; by December 1, 2008, at least 2% of the total gasoline sold in the state must be denatured ethanol - the ethanol requirement could be increased to 10% if the Director of the Department of Ecology determines that this would not jeopardize continued attainment of federal Clean Air Act standards<br>In May 2009, the governor issued Executive Order directing the Washington Department of Ecology to assess whether the California Low Carbon Fuel Standard or a modification of that standard would best meet Washington's greenhouse gas emissions reduction targets. The Department Ecology, along with the Departments of Transportation and Commerce will recommend whether to pursue adoption of a low carbon fuel standard for Washington, what LCFS policies would best fit Washington, and if not recommended what alternatives could help achieve state GHG targets. |

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# WASHINGTON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Infrastructure Enhancement and Evaluation | ***Created a partnership with the Washington Departments of Commerce and Transportation to fund the installation of qualified EV charging infrastructure along the I-5 corridor.***<br>***Any regional transportation planning organization containing a county with a population greater than one million must collaborate with state and local governments to promote EV use, invest in EV infrastructure, and seek federal or private funding for these efforts.***<br>***Publicly and privately owned EVs may be charged at state office locations where the vehicles are used for state business, commuter vehicles, or conducting business with the state. Contingent upon funding, the state must install electrical outlets suitable for charging EVs in each of the state's fleet parking and maintenance facilities as well as every state-operated highway rest stop by December 31, 2015.***<br>***Prohibited the Utilities and Transportation Commission from regulating the rates, services, facilities, and practices of an entity that offers charging facilities to the public if that entity is not otherwise subject to commission jurisdiction as an electrical company (H 1571).*** |
| Financial and Other Incentives | Grants may be awarded to projects involving the purchase or conversion of existing vehicles to plug-in hybrid electric vehicles or battery electric vehicles for use in an applicant's fleet or operations (available to state agencies, public school districts, public utility districts, or political subdivisions of the state)<br>Beginning January 1, 2009, new passenger cars, light-duty trucks, and medium-duty passenger vehicles that are dedicated AFVs are exempt from the state sales and use tax; a tax deduction is available for the sale or distribution of biodiesel or E85 motor fuel; fuel delivery vehicles and machinery, equipment, and related services that are used for the retail sale or distribution of a biodiesel blend or E85 motor fuel are exempt from state retail fuel sales and use taxes; qualifying buildings, equipment, and land used in the manufacturing of alcohol fuel, biodiesel, or biodiesel feedstocks are also exempt from state and local property and leasehold taxes; retail sales and use tax does not apply to sales of new passenger cars and light duty trucks which utilize hybrid technology and have a mileage rating of at least 40 miles per gallon (takes effect 1/1/2009 and expires 1/1/2011)<br>***Exempted public lands used for installing, maintaining, and operating EV infrastructurefrom leasehold excise taxes. Additionally, the state sales and use taxes did not apply to EV batteries; labor and services for installing, repairing, altering, or improving EV batteries and EV infrastructure; and the sale of property used for EV infrastructure.***<br>***The Green Energy Incentive Account provided financial assistance for alternative fueling infrastructure along Interstate corridors.***<br>***Electric, compressed natural gas, and liquefied petroleum gas vehicles are exempt from emission control inspections. HEVs that obtain a U.S. EPA fuel economy rating of at least 50 miles per gallon of gasoline during city driving are also exempt.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | Requires major facility projects for all state agencies, institutions of higher education, and other entities receiving state funding to meet at least the LEED Silver Standard in design, construction, and maintenance, to the extent appropriate; goal to achieve a 10% reduction in energy purchases from fiscal year 2003 levels |

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# WASHINGTON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | Sets requirements for fuel efficiency in state vehicle fleets; publicly and privately owned plug-in electric vehicles may be recharged at state office locations where the vehicles are used for state business, commuter vehicles, or conducting business with the state; at least 20% of all diesel used by state agencies must be biodiesel by June 2009; all state and local government agencies are required to satisfy 100% of their fuel usage for operating publicly owned vehicles by using biofuels or electricity by June 2015; the Clean School Bus Program provides funding to retrofit school buses with exhaust emission control devices or for refueling infrastructure needed to allow school bus fleets access to use alternative, cleaner fuels; at least 30% of all new vehicles purchased through a state contract must be clean-fuel vehicles<br>• All alternative fuel vehicles are exempted from state sales and use tax<br>• Hybrid electric vehicles achieving a minimum of 40 mpg according to U.S. EPA estimates also qualify for exemption<br>***Required Washington state agencies to consider purchasing ultra low carbon fuel vehicles or converting conventional petroleum-based vehicles to use ultra low carbon fuels when financially comparable. State agencies must purchase ultra low carbon fuel vehicles or, when purchasing new conventional vehicles, achieve an average fuel economy of 40 miles per gallon (mpg) for light-duty passenger vehicles and 27 mpg for light-duty vans and sport utility vehicles.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; requires new power plants to offset approximately 20% of anticipated $CO_2$ emissions; Climate Action Plan; statute requires the reduction of statewide emissions to 1990 levels by 2020, 25% below 1990 levels by 2035, and 50% below 1990 levels by 2050; WCI participant; will adopt CA vehicle emissions standards pending EPA approval<br>• Requires the Department of Community, Trade, and Economic Development to develop a strategic plan for enhancing energy efficiency in, and thereby reducing greenhouse gas emissions from, homes, buildings, districts, and neighborhoods, specifies the reduction in annual net energy consumption required for residential and nonresidential construction by a certain date, requires utilities to maintain records of energy consumption data, establishes energy benchmarks for public buildings (SB 5854)<br>***Washington is a member of the West Coast Governors' Climate Change Initiative along with California and Oregon. The three states must act individually as well as regionally to reduce greenhouse gas (GHG) emissions. The Initiative includes adopting standards to reduce GHG emissions from vehicles by expanding markets for efficiency, renewable energy and alternative fuels, including creating a working group on developing hydrogen fuel.***<br>***Established standards to decommission its only remaining coal-fired electric generating facility and provided the means to mitigate the economic impacts following decommissioning (SB 5769).*** |

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# WASHINGTON

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | The Energy Freedom Program awards low-interest loans and grants through a competitive application process; eligible projects include: research and development of new and renewable energy and biofuel sources, including biomass, solar, and wind power; renewable energy and alternative fuel infrastructure, facilities, and technologies, and research and development to develop markets for alternative fuel byproducts<br>The Northwest National Marine Renewable Energy Center (NNMREC) is a partnership between Oregon State University (OSU) and the University of Washington (UW). Both universities collaborate with each other and the National Renewable Energy Laboratory (NREL) on research, education, outreach, and engagement. OSU focuses on wave energy and UW focuses on tidal energy.<br>***Exempted machinery and equipment used primarily in technological research and development operations by the state's four-year institutions of higher education from the state sales and use tax (HB 1347).***<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Electricity and Clean Energy Economic Development).*** |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | In 2007, set the goal of reducing global-warming pollution and increasing the number of green jobs in the state to 25,000 by 2020; HB 2815, signed in June 2008, created initiatives for workforce training and education in green jobs, including grants for curriculum development and retraining<br>• Released the reports "2008 Green Economy Jobs in Washington State" and "Washington State's Green Economy: A Strategic Framework" outlining the current state of the green economy, the benefits, and barriers to further development<br>• Additional research to this report was commissioned<br>• The Evergreen Jobs Initiative is a public-private partnership to coordinate green economic development<br>• The Clean Energy Leadership Council is charged with aligning policies, technologies and capital<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Energy RD&D and Clean Electricity).*** |

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# WEST VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 2003 IECC, 2003 IRC with amendments, voluntary adoption by jurisdictions |
| Utility Demand-Side-Management | • The Public Service Commission is reviewing utility demand-side response recommendations |
| Utility Rate Realignment | Provides elements of cost recovery |
| Financial and Other Incentives | Centers for Building Energy Use provide energy efficiency strategies to West Virginia public schools<br>Industries of the Future - West Virginia provides energy efficiency solutions to West Virginia manufacturers<br>• Sales tax exemption for ENERGY STAR products $5,000 or less for home or personal use effective until 2010.<br>• The Department of Environmental Protection will implement the West Virginia Energy Efficient Appliance Rebate Program as a mail-in rebate program to help West Virginia Consumers replace older, inefficient appliances with ENERGY STAR® qualified appliances. The program is in effect until August 2011.<br>***Implemented the West Virginia Energy-Efficient Appliance Rebate program for customers who replace older, inefficient applainces with approved energy efficient appliances.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | • West Virginia's Alternative and Renewable Energy Portfolio Standard requires 25% of the electricity produced by investor-owned utilities to come from alternative and renewable sources by 2025, with interim goals of 10% by 2015 and 15% by 2020<br>• Advanced coal technology, solar PV, solar thermal, wind, run-of-river hydropower, geothermal, biomass, biologically-derived fuel, and fuel cell technology are all eligible resources |
| Net Metering and Interconnection Standards | Provides net metering to residential and commercial systems up to 25 kW in capacity that generate electricity using photovoltaics, wind, biomass, landfill gas, hydropower or fuel cells<br>• The West Virginia Public Service Commission (WVPSC) is considering raising the net metering limit to 500kW for commercial and 2MW for industrial, rules are expected July 2010 (HB 103)<br>• The same legislation suggested WVPSC require utilities to provide a rebate or discount at fair value for any excess generation from customer-generators<br>***Raised the net metering limit, via the West Virginia Public Service Commission (WVPSC), to 500kW for commercial and 2MW for industrial. Also increased the overall program capacity to 3% of utility peak load and allowed for meter aggregation and perpetual kWh rollover at the retail rate.*** |
| Shale Gas Development, Regulation and Policy | ***Formed the Marcellus to Manufacturing Task Force to research and develop potential economic development opportunities related to Marcellus Shale and natural gas byproducts such as ethane and ethylene.*** |

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# WEST VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Shale Gas Development, Regulation and Policy | ***Formed the Marcellus to Manufacturing Task Force to research and develop potential economic development opportunities related to Marcellus Shale and natural gas byproducts such as ethane and ethylene.***<br>***The Marcellus Gas and Manufacturing Development Act provides West Virginia companies a tax credit equal to 100% of the annual personal property taxes imposed for owning horizontal drilling rig and related equipment against corporation net income and franchise taxes, personal income tax, severance tax, and business occupation tax; a tax credit for purchases and conversions of alternative fuel vehicles (AFV) and purchases/installation of alternative fuel vehicle refueling infrastructures against the corporation net income and franchise taxes, personal income tax; a sales tax exemption for materials used for new or existing natural gas compressor stations and certain gas transmission lines; and a property tax break for qualified capital additions to a manufacturing facility (S 465).***<br>***The governor issued an executive order directing the state's Department of Environmental Protection to promulgate additional environmental regulations governing Marcellus Shale drilling activities. The order directs the DEP to develop regulations concerning water withdrawals, stream and groundwater protection, and public notice, and also instructs the DEP to pursue reasonable environmental regulations to ensure responsible development of the Marcellus Shale.***<br>**The legislature passed the Horizontal Well Act which: increases well permitting fees; requires a notice of drilling activity to surface owners; creates a water usage disclosure requirement; and calls for a study of the job impacts related to natural gas drilling.** |
| Financial and Other Incentives | Promotes gasification research in state energy plan<br>Wind operations pay a state business and occupation tax rate of 12% of nameplate capacity; by making payments to local community groups, a wind operation can receive a credit against the B&O tax<br>• American Electric Power's Mountaineer Plant at New Haven is the first coal-fired power plant in the world to capture a portion of its carbon dioxide emissions and inject them underground<br>• TransGas LLC is developing and permitting one of the first U.S. coal-to-liquid plants in West Virginia<br>• Developing a pilot project to capture about 1,800 metric tons of carbon dioxide a year from the flue gas of a coal-fired boiler at Dow Chemical Co. in South Charleston*<br>• Passed regulations regarding carbon sequestration and storage and established a working group to study and make recommendations regarding carbon dioxide sequestration<br>• Mapping geological sequestration opportunities within the state<br>• Solar energy tax credit for residential installations at 30% of cost, up to $2,000<br>***Allowed utility-owned wind projects to be assessed for property tax-purposes to have a value equal to their salvage value. In effect, the provisions lower the tax rate to 24.95% of fair market value.***<br>***The TransGas LLC coal-to-liquid plant broke ground in summer 2011.*** |

*Discontinued the pilot project to capture about 1,800 metric tons of carbon dioxide a year from the flue gas of a coal-fired boiler at Dow Chemical Company.

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Clean State Energy Actions • 2011 Update

# WEST VIRGINIA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ALTERNATIVE FUELS AND VEHICLES** | |
| Financial and Other Incentives | • West Virginia established a hydrogen fueling station at Yeager Airport in the state's capital city, Charleston<br>***Established an income tax credit for eligible taxpayers who convert a vehicle to operate exclusively on alternative fuel or purchase a new original equipment manufacturer dedicated or bio-fuel AFV.***<br>***Created an income tax credit for the construction, purchase and installation of qualified alternative fueling infrastructure. The tax credit is 50% of the total allowable costs associated with construction or purchase and installation of the equipment, up to $250,000.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency Standards | • Upgraded the state building code to the 2009 IECC and ASHRAE 90.1-2007<br>• Using ARRA funding, West Virginia is increasing energy efficiency in 5.9 million square feet of its state-owned and operated facilities through lighting, HVAC and fuel-switching projects<br>• The program is also funding the development of a geothermal system at a new primary school<br>• ARRA funding also is supporting energy efficiency projects at city halls and county courthouses |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | West Virginia funds research into the economics of residential photovoltaics<br>• Renewable Energy Projects on Surface-Mined Lands, an Appalachian Regional Commission-support initiative, will drive solar, biomass and wind developments on post-mined properties<br>• As part of the partnership, a SODAR unit will study commercial opportunities on surface-mine sites<br>• West Virginia University and the U.S. EPA will create an inventory of mine-scarred land throughout the state suitable for redevelopment into biofuels, such as switchgrass and other alternative energy production<br>• These sites, known as sustainable energy parks, will promote renewable energy, offset greenhouse gases and contribute to local economies<br>• One community will be selected for the development of a comprehensive pilot to showcase the sustainable energy park concept |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • West Virginia's new Green-Up Council is developing an energy sector education and training plan that aligns with the state's energy plan and supports job expansion and creation in the energy efficiency, renewable energy, alternative energy and advanced traditional energy fields<br>• Using ARRA funding, West Virginia is establishing curriculum at selected community and technical colleges on wind, solar, building energy efficiency and energy codes |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have a nuclear waste disposal facility that has been operational for 24 months and is accepting waste product. Also requires that the cost of any nuclear project proposal be economically feasible or advantageous for rate payers. |

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Clean State Energy Actions • 2011 Update

# WISCONSIN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 2006 IECC mandatory statewide<br>***Residential and Commercial: Updated code to 2006 IECC with state amendments, mandatory statewide*** |
| Utility Rate Realignment | • Approved decoupling for electricity (Docket 6690-UR-119)<br>• Utility and PSC-based pilot programs |
| Energy Savings Targets/Energy Efficiency Resource Standards | • Pending Energy Efficiency Resource Standard<br>• The Governor's Task Force on Global Warming recommended that the state set savings targets of 2% per year for electricity and 1% per year for natural gas<br>***Set targets of 1.5% of electricity consumption and 1.5% peak demand savings by 2014. Also set target of 1% natural gas sales reduction by 2014. The reduction is based on the prior year's sales times a 1% growth rate.*** |
| Financial and Other Incentives | Through the Focus on Energy program and participating lenders, Energy Star Mortgages are available to those who purchase a Wisconsin Energy Star home; offers financial incentives to eligible customers who install qualifying energy-efficiency equipment; offers "Cash-Back Rewards" to eligible residents and businesses for purchasing and installing furnaces, air conditioners, boilers, or other energy efficient heating and cooling equipment; consumers who purchase and install qualifying Energy Star appliances and lighting are eligible for incentives through the Focus on Energy Program<br>• Allows for Property Assessed Clean Energy (PACE) financing (Statute 66.0627, SB 624)<br>***Localities in Wisconsin have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Requires utilities to produce 10% of their electricity from renewable energy sources by 2015<br>***Expanded the definition of hydroelectric facilities eligible to meet the state's RPS requirement to those placed in service after December 31, 2010 with a capacity of 60 megawatts or more. This allows for the construction of new large hydroelectric facilities.*** |
| Net Metering and Interconnection Standards | Interconnection standards for distributed generation systems up to 15 MW in capacity; requires all regulated utilities to file tariffs allowing net metering to customers that generate electricity with DG systems up to 20 kW in capacity |

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Clean State Energy Actions • 2011 Update

# WISCONSIN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Any value added by a solar-energy system or a wind-energy system is exempt from general property taxes; provides financial support for developing business skills and marketing materials for organizations and businesses that provide renewable-energy services; provides financial support for assessing the feasibility of using complex, customer-sited renewable-energy systems; offers Cash-Back Rewards for installing or expanding renewable-energy systems on businesses and homes<br>• Allows for Property Assessed Clean Energy (PACE) financing (Statute 66.0627, SB 624)<br>***Established a program by the Wisconsin Department of Commerce that offers low-interest loans to for-profit renewable energy manufacturing companies in the state for up to 25% of project costs at a fixed interest rate of 2% for 5-10 years (ARRA funded)***<br>***Launched Wisconsin Focus on Energy to offer a competitive grant to support the deployment of large renewable energy projects. Grant recipients and projects must be located in a participating electric or gas utility's service territory and must result in electricity or natural gas savings. Also offers incentives for installing or expanding renewable-energy systems in residential and non-residential buildings.***<br>***Created tax credit from income or franchise taxes of 10% of the cost of equipment primarily used to harvest or process woody biomass for use as a fuel or as a component of fuel.***<br>***Exempted wind, solar, and anaerobic digester systems from the sales and use tax.***<br>***Localities in Wisconsin have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Consumption Targets/Renewable Fuel Standards | The state aims to generate 25% of its transportation fuels from renewable sources by the year 2025; participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| Infrastructure Evaluation and Enhancement | ***Directed the Wisconsin Department of Administration to pursue, in cooperation with the Department of Agriculture, Trade and Consumer Protection, the establishment and maintenance of sufficient alternative fueling infrastructure at public retail outlets to meet the public's traveling needs.*** |

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Clean State Energy Actions • 2011 Update

# WISCONSIN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | The state aims to generate 25% of its transportation fuels from renewable sources by the year 2025; participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>***Created a tax credit for 25% of the cost to install or retrofit fueling stations in Wisconsin that dispense motor vehicle fuel blends of at least 85% ethanol or at least 20% biodiesel fuel.***<br>***Exempted the first 1,000 gallons of renewable fuel an individual produces each year for personal use from the motor vehicle fuel excise tax, the petroleum inspection fee, and any petroleum inspection requirements not required under federal law.***<br>***Made a corporation involved in qualified research eligible for a tax credit equal to 10% of the qualified research expenses the corporation incurred during the taxable year. Qualified research includes automotive batteries for use in hybrid electric vehicles that reduce the demand for natural gas or electricity or improve the efficiency of its use (See also Clean Energy RD&D).***<br>***Allowed a person using alternative fuel to operate a taxi used to transport passengers to be reimbursed for the amount of Wisconsin fuel tax paid.***<br>***Prohibited any county, city, village, town, or other political subdivision from levying or collecting any excise, license, privilege, or occupational tax on motor vehicle fuel or alternative fuels, or on the purchase, sale, handling, or consumption of motor vehicle fuel or alternative fuels.***<br>***Allowed the Wisconsin Department of Public Instruction (DPI) to provide financial aid to school districts that use biodiesel fuel to operate school buses.*** |
| **LEAD BY EXAMPLE** | |
| Building Efficiency | Calls for the Department of Administration to set energy efficiency goals for state facilities, office buildings, and campuses; the Department of Administration is to work with the Building Commission and the Energy Center of Wisconsin to ensure that new state facilities are constructed to be 30% more energy efficient than commercial code; the facilities of the six state agencies that use the largest amounts of electricity must develop energy cost reduction plans that identify opportunities to increase the energy efficiency in their facilities |
| Green Power Purchasing | Calls for the Department of Administration to set energy efficiency goals for state facilities, office buildings, and campuses; the Department of Administration is to work with the Building Commission and the Energy Center of Wisconsin to ensure that new state facilities are constructed to be 30% more energy efficient than commercial code; the facilities of the six state agencies that use the largest amounts of electricity must develop energy cost reduction plans that identify opportunities to increase the energy efficiency in their facilities |

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Clean State Energy Actions • 2011 Update

# WISCONSIN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Alternative Fuel and Vehicle Fleets | Calls for 10% renewable energy for state government by 2008 and 20% by 2012<br>***Required that all state-owned or state-leased motor vehicles are hybrid electric vehicles or operate on gasohol or alternative fuels whenever feasible.***<br>***Required the Wisconsin Office of Energy Independence adopt and implement a plan to facilitate alternative fuel use in flexible fuel vehicles and other vehicles the state owns. The plan must ensure that all state-owned FFVs and other alternative fuel vehicles are identifiable, all state employees driving FFVs and other vehicles powered by an alternative fuel other than gasohol are made aware of the alternative fueling stations in the vicinity of their travel routes, and all state employees strive to use alternative fuels when operating state FFVs and diesel-powered vehicles.***<br>***Created a requirement that all state agencies must collectively reduce gasoline use by at least 20% by 2010 and 50% by 2015 in state-owned vehicles as compared to the total amount used in 2006. In addition, state agencies must reduce petroleum-based diesel fuel use by 10% by 2010 and 25% by 2015.*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; requires entities that emit 100,000 or more tons of $CO_2$ to report their emissions to the state Department of Natural Resources; Midwestern Regional Greenhouse Gas Reduction Accord<br>• State Climate Action Plan |
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | Participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>Offered a tax credit equal to 10% of the qualified research expenses for hybrid electric vehicle battery research that reduce the demand for natural gas or electricity |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • A $100 million fund that streamlines and aligns existing state and federal resources, including 100% of Wisconsin's $55.5 million SEP ARRA allocation, to assist manufacturers in retooling their facilities to create and retain jobs<br>• Regional Industry Skills Education (RISE), Opportunity Grants, and Skill Jump Start Grants fund training workers in green jobs<br>• The Wisconsin Department of Workforce Development (DWD) awarded 10 Emerging Industries Skills Partnership (EISP) grants totaling $850,000 in 2008 and six grants totaling $600,000 in 2009, all leveraging additional funding by workforce region for job training projects to help ensure skilled workforce in emerging sectors of advanced manufacturing, biotechnology and renewable energy<br>• Nearly $3 million in Wisconsin Industry Partnership Grants support a new, industry-driven approach to training by targeting resources to meet sector needs on a regional basis<br>• Using a $6 million ARRA 2009 grant to expand its Apprenticeship Program and train nearly 3,000 workers for clean energy jobs in the building trades and manufacturing, including weatherization technician and energy auditor |

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# WISCONSIN

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Task Force, Workforce Development, Incentives, Analysis, Etc. (continued) | • Launched an "Energy Advocate Youth Pilot" to help disadvantaged youth gain employment and homeowners save on energy costs<br>• Wisconsin Technical College System (WTCS) encourages energy conservation and promotes improvements in energy efficiency through education and training<br>• WTCS leadership established a steering committee for the purpose of implementing collaborative and comprehensive strategies to meet the need for Green Jobs at the local, regional and state levels |
| **OTHER** | |
| Nuclear Power | Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires that the cost of any nuclear project proposal be economically feasible or advantageous for rate payers. |

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Clean State Energy Actions • 2011 Update

# WYOMING

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 1989 MEC may be adopted and enforced by local jurisdictions |
| Utility Demand-Side-Management | • Wyoming Public Service Commission approved six demand-side-management programs for Rocky Mountain Power<br>• These programs represent the state's first significant energy efficiency activity |
| Utility Rate Realignment | Provides cost recovery for natural gas; cost recovery for electricity is in progress<br>• A three-year pilot decoupling program approved for Questar Gas Company for its General Service class of customers<br>• Pilot program will be adjusted annually |
| Financial and Other Incentives | Provides a matching grant for 75% (or $4,000) of the cost of an energy audit for small businesses; Pacific Power partners with Wyoming Energy Council, Inc. to replace inefficient appliances such as refrigerators and air-conditioners with Energy Star-certified models<br>• Wyoming Energy Conservation Improvement Program created (HB 156)<br>• Authorizes agencies, public hospitals and other public entities responsible for a facility or group of facilities to enter into contracts with energy service companies for energy or water conservation measures without upfront capital costs or capital appropriations<br>• Provides that such contracts are not considered to be a contract for public improvement<br>***Established a low-interest loan program for income qualified (50-80% less than the area median income) homeowners for energy efficient home retrofits.***<br>***Created a state-wide residential appliance rebate program for new energy-efficient appliances purchased after April 15, 2010 that replace existing appliances.***<br>**Authorized local governments to establish a loan program to provide financing for cost-effective energy improvements to existing residential, commercial and industrial properties. Local governments are authorized to secure loans under energy improvement programs through liens in the same manner as provided for special assessments (HB 179).** |
| **CLEAN ELECTRICITY** | |
| Net Metering and Interconnection Standards | Wyoming's net-metering law includes basic interconnection requirements for systems up to 25 kW in capacity that generate electricity using solar, wind, hydropower or biomass resources; a statewide interconnection policy is in place |
| Advanced Coal and Clean Coal | Provides a sales and use tax exemption for equipment purchased to make new coal gasification or coal liquefaction facilities operational<br>• Codifies the Clean Coal Task Force (Statute 21-17-121)<br>• Extends its term to June 13, 2013<br>• Requires annual reports and reappropriates funds for clean coal research |
| Shale Gas Development, Regulation and Policy | ***Repealed certain limits on the amount of gas stored by natural gas utilities and related provisions regarding gas price regulation, customer rates, sales of stored gas and public service commission duties.***<br>***Required energy companies to disclose the chemicals they use in hydraulic fracturing.*** |

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Clean State Energy Actions • 2011 Update

# WYOMING

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives | Provides a sales excise tax exemption for equipment used to generate electricity from renewable sources up to the point of transmission; the Photovoltaic Incentive Program offers grants of 50% (up to $3,000) to residents who install photovoltaic or photovoltaic hybrid systems on their homes<br>**Released a study by the Wyoming State and Energy Office and the Wyoming Infrastructure Authortiy that examines options for how the state can site and finance a "collector system" to bring wind energy to the grid.** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Offers a production tax credit for ethanol<br>***Allocated $200,000 for the Wyoming Department of Transportation and the Department of Administration and Information to purchase 10 natural gas motor vehicle conversions each for the two departments (See also Lead by Example).*** |
| **LEAD BY EXAMPLE** | |
| Alternative Fuel and Vehicle Fleets | ***Allocated $200,000 for the Wyoming Department of Transportation and the Department of Administration and Information to purchase 10 natural gas motor vehicle conversions each for the two departments (See also Alternative Fuel and Vehicles).*** |
| **GHG EMISSIONS** | |
| GHG Policies | Participant in Climate Registry; the Department of Environmental Quality is authorized to establish an intrastate, or participate in an interstate, emissions trading program; WCI observer |

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# AMERICAN SAMOA

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | The American Samoa Energy Office (i.e., ASPA Energy Center), in joint cooperation with the Guam Energy Office, has obtained a federal grant for technical assistance to develop a tropical island-specific model energy code |
| Utility Demand-Side-Management | A regional DSM program was funded through the UNDP from 1993 to 1996 |
| Energy Savings Targets/Energy Efficiency Resource Standards | Includes Energy Management as a way to meet renewable energy goals - through initiatives such as in-house lighting and air conditioning upgrades, waste heat recovery, and commercial lighting programs |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Renewable Energy Action Plan for American Samoa evaluated major indigenous renewable resources and furnished budget estimates; the American Samoa Power Authority has set a goal that 10% of electricity production should come from renewable sources by 2010 (with 2-3 MW of installed wind capacity by 2010) |
| Net Metering and Interconnection Standards | Net metering and interconnection standards provide credits for electricity a resident produces through renewable energy generators (solar or wind), exceeding their monthly usage; the excess can be carried over as kilowatt hour credits until the end of the calendar year<br>• Net metering is available to residential and small commercial customers with wind or solar-energy systems up to 30 kilowatts (kW) in capacity (ASAC 12.06) |

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# GUAM

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | A model Tropical Energy Code was created with a grant from DOE for Hawaii, Guam, the Virgin Islands, Mariana Islands, and Puerto Rico; the Guam Energy Code, which became effective in October of 2000, requires that piping stubouts be provided for water heaters installed in low-rise residential buildings to enable the future installation of solar collectors |
| Utility Rate Realignment | The Guam Public Utilities Commission (PUC) is authorized to issue recommendations for the implementation of a utility rate structure designed to reward and encourage consumers to use renewable energy and ensure that utilities' profit margins do not decrease for a period of five years following implementation of this rate structure |
| Financial and Other Incentives | ***Established a rebate program for the purchase and installation energy efficient ENERGY STAR certified products for the home.*** |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | Each utility that sells electricity for consumption on Guam must establish a renewable energy portfolio goal of 25% renewable energy by 2035; any permit issued for the construction of a base load electrical generation plant must include a requirement that 10% of total generation capacity must come from "alternative" energy sources |
| Net Metering and Interconnection Standards | In 2003, Guam enacted legislation requiring the Guam Power Authority (GPA) to allow net metering for customers with fuel cells, microturbines, wind energy, biomass, hydroelectric, solar energy or hybrid systems of these renewable energy technologies; the eligible size for net-metered systems is limited to 25 kilowatts (kW) |

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# NORTHERN MARIANA ISLANDS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | A model Tropical Energy Code was created with a grant from DOE for Hawaii, Guam, the Virgin Islands, Mariana Islands, and Puerto Rico |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Commonwealth Utilities Corporation (CUC) seeks the development of Grid Supply Renewable Electricity Generation ("REG") projects for the Commonwealth of Northern Mariana Islands (CNMI) and intends to enter into long-term performance contracts, where the contractors will be fully responsible for construction and operation of these Renewable Electricity Generation ("REG") projects. This Request For Proposal (RFP) is the first in what the CUC envisions to be an ongoing process of growth and development of a comprehensive portfolio of increased energy efficiency in the CNMI islands, to reduce the islands' dependence on fossil fuel/s.<br>***Established benchmarks for the Commonwealth Utilities Corporation (CUC) to provide 80% of its electricty from renewable energy by 2015. There are stipulations within the law that allow for non-compliance if there is no "cost-effective" way to meet the benchmarks.*** |

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Clean State Energy Actions • 2011 Update

# PUERTO RICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | The Energy Affairs Administration (EAA) together with the Permits and Regulations Administration is updating building energy codes, on both residential and commercial. Amendments are being drafted together with the collaboration of stakeholders from the building industry; where energy simulation and economic analysis have been perform to justify each respective modification or addition to the adopted code.<br>**Residential:** Code will be based on the 2009 IECC, including modifications based on Puerto Rico's tropical climate as described in the amendments<br>**Commercial:** Code will be based on the adoption of ASHRAE 90.1 -2007<br>• Energy code enforcement and compliance stage will begin in late 2010 |
| Utility Demand-Side-Management | The Puerto Rico Electric Power Authority, a public corporation, has a campaign to educate the public on energy conservation and efficiency; every year the public corporation publishes numerous ads in newspapers and transmits information via radio, TV, the Internet, and informational brochures; the costs of the program vary yearly and are estimated to around $300,000 to $500,000 |
| Financial and Other Incentives | • Buildings Energy Efficiency Retrofit Program provides rebates for energy efficiency retrofit projects for businesses for up to 50% of the total cost with a maximum of $300,000<br>• Weatherization Assistance Program enables low-income families to permanently reduce their energy consumption and their electricity bills through the use of energy efficient appliances and equipment<br>• Average expenditure limit is $6,500 per unit, with a estimated total of 5,500 units to be weatherized<br>• State Energy Efficiency Appliance Rebate Program provided a total of 18,021 vouchers<br>• A value of $200 each for the acquisition of applicable Energy Star appliances and correct disposal of replaced appliances<br>• Energy Efficiency and Conservation Block Grant provided funds to municipalities for the implementation of energy efficiency and conservation measures as well as the integration of distributed renewable energy sources |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | • The Department of Economic Development and Commerce together with the Energy Affairs Administration has enacted a new Renewable Energy Reform (HB 2611, Renewable and Alternate Renewable Energy Diversification Public Policy Act)<br>• Adopting a RPS requiring a minimum of 15% renewable energy generation by 2020<br>• Implementing a Renewable Energy Credits (RECs) system to ensure and promote the compliance of the proposed RPS<br>***Required the Puerto Rico Electric Power Authority (PREPA) to supply 20% of retail electricity sales from eligible "green energy" resources by 2035. Green Energy includes both renewable and alternative energy resources. Compliance for this standards does not begin until 2015.*** |

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# PUERTO RICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Net Metering and Interconnection Standards | The law establishes a net metering program that limits residential clients to 25 kW and commercial, industrial, educational institutions, hospitals, agricultural operations to 1 MW; compensation is as follows: at the closing of the June billing period in each year, any accumulation of credits per kWh by clients will be compensated at the rate of 10 cents per kWh; however, only 75% of the accumulated credit will be paid to clients, and the rest will be used as a credit for the Department of Education<br>• Interconnection of distributed generation equipment should be in compliance with the Puerto Rico Electric Power Authority (PREPA) Regulation for the Interconnection of Generators to the Electric Distribution System<br>• Based on requirements established on IEEE 1547 (Standard for Interconnecting Distributed Resources with Electric Power Systems) |
| Financial and Other Incentives | • Revolving loan program, through Economic Development Bank for small and medium business; offers up to 50% of investment with a maximum of $300,000, at an interest of 4.95%--eligible projects include: wind, sun, and retrofits<br>• Sun Energy Program provides rebates for the purchase and installation of solar energy systems in homes, and businesses<br>• For homes: $4/watt based on the total system capacity up to 50% of the cost, $30,000 max<br>• For businesses: $4/watt based on the total system capacity up to 50% of the cost, $200,000<br>• Wind Energy Program provides rebates for the purchase and installation of small wind (<20kW) energy systems in businesses facilities, up to 50% of the cost, $100,000 max<br>• Agricultural Renewable Energy Program provides rebates for the construction of new renewable energy projects in the agriculture industry, up to 40% of the total cost, $100,000 max.<br>• Funds can be matched by other rebates or incentives awarded by the PR Department of Agriculture<br>• Solar Water Heater Program provides rebates to homeowners when they purchase a new solar water heater, $1000 per household/applicant<br>• Offers tax credits for the acquisition or installation of solar equipment, limited to: 50% of total cost (including installation) for FY 2009-2010 to 2010-2011, 25% of total cost (including installation) for FY 2011-2012 and so on (Act 248)<br>• Created a Green Energy Fund, an investment fund to promote and develop the clean energy industry<br>• Incentives will be divided into three main small-scale, medium-scale, and large/utility scale projects<br>• Small and medium-scale applicants will be eligible for a rebate based on a percentage of the total cost of installation, and will correlate with current market price for the desired technology<br>• Large-scale will be eligible to participate on the RECs compliance and voluntary markets<br>***Created a 30% tax deduction (up to $500) for expenses incurred in the purchase and installation of solar equipment for residential use and a 50% tax deduction (up to $3,000) for expenses incurred in the purchase and installation of a wind turbine to produce electricity for residential use.*** |

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Clean State Energy Actions • 2011 Update

# PUERTO RICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| Financial and Other Incentives (continued) | ***Exempted all material, equipment or accessories that use solar energy to operate from the state property tax. The tax exemption was expanded in 2010 to include that certain businesses dedicated to "green energy" may be eligible for a 90% exemption on municipal and state personal and real property taxes for up to 25 years.***<br>***Exempted farmers certified by the government and who receive half of their income from their agricultural business from excise taxes. Exempted excise taxes include: equipment, articles and objects whose operation depend solely on solar, wind, hydro or any other type of power, excluding the power produced by petroleum and its derivatives.*** |
| **ALTERNATIVE FUELS & VEHICLES** | |
| Financial and Other Incentives | Act No. 182 (2007) offers a tax credit for the purchase of vehicles that operate with alternative or combined energy; a total of $2,000 will be given for the tax year in which the vehicle is acquired<br>**Signed a MOU with Nissan to explore the deployment of Evs in Puerto Rico including designing a pilot program for EV use, creating a plan for installing charging infrastructure, and developing incentives for EV use or purchase.** |
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Executive Order No. 40 (2007) requires all government agencies and entities to purchase Energy Star equipment and products and mandates said entities to purchase efficient lighting systems |
| Building Efficiency | Executive Order No. 41 requires all new construction and major renovations of government buildings to obtain a LEED certification according to the following conditions: buildings that are 10,000 sq. ft. and up must be LEED Certified; buildings that are 30,000 sq. ft. and up must be LEED Silver<br>• Requires an energy reduction of at least 10% for all government agencies (Executive Order 2009-004)<br>• Based on this order, the energy consumption of government agencies decreased by 7.6 million kWh (approx. 2%) for the year 2009 resulting in savings of approximately $96.24 million, equivalent to a 19.12% overall reduction in annual expenditures related to energy consumption and an equivalent of 11.4 million pounds of avoided $CO_2$ emissions |
| Green Power Purchasing | • Several agencies have started negotiations for Power Purchase Agreements (PPAs) |
| Alternative Fuel and Vehicle Fleets | • The Energy Affairs Administration is developing an state program consistent with a federal Executive Order (Executive Order 13514) |
| **GHG EMISSIONS** | |
| GHG Policies | Executive Order 2008-09 was adopted on February 28, 2008 regarding global warming; the purpose of the Order is to create a Strategic Commission for the Mitigation and Adaptation to Climate Change; the Commission must submit a series of recommendations to the Governor by August 2008 |

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Clean State Energy Actions • 2011 Update

# PUERTO RICO

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **CLEAN ENERGY RD&D** | |
| Partnerships, Grants, Awards, and Dedicated Funding | • Ordered the Commission on Socio-Economic Development, Planning, Trade and Industry and Communications to conduct a study on public policy promoting renewable energy<br>• Ordered the Agriculture Committee of the Senate of Puerto Rico to conduct a thorough and detailed investigation into the cultivation of micro-algae in pools of salt water and/or alternative energy crops<br>• Ordered the Committee on Natural Resources, Environment and Energy to conduct a comprehensive study on the implementation of laws, regulations and environmental and energy policy in Puerto Rico<br>• The Economic Incentive Law allows for a wide array of tax incentives and credits to retain and attract investment local and foreign corporate investment in the areas of manufacturing, science and technology and research and development |
| **CLEAN ENERGY ECONOMIC DEVELOPMENT** | |
| Task Force, Workforce Development, Incentives, Analysis, Etc. | • The Department of Labor and Human Resources, in collaboration with the Energy Affairs Administration is developing an information system for identifying green jobs |
| **OTHER** | |
| Puerto Rico Verde Campaign | • Developed the Puerto Rico Verde Campaign to promote public awareness in energy matters and create a new consciousness through energy conservation and efficiency measures<br>• The campaign uses the educational promotion: "Turn off, Un-plug, and Replace" |

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Clean State Energy Actions • 2011 Update

# VIRGIN ISLANDS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **ENERGY EFFICIENCY** | |
| Building Energy Codes | **Residential and Commercial:** 2003 IECC; presently upgrading to Tropical Energy Code<br>• Requires developers to install energy efficient solar water heaters to provide at least 70% of the building's water heating needs in all new developments and substantial building modifications |
| Utility Demand-Side-Management | 50,000 compact fluorescent light bulbs were distributed to utility customers in 2007-2008 |
| Energy Savings Targets/Energy Efficiency Resource Standards | • Selected two ESCOs to perform ESPCs for government and large commercial and industrial ratepayers to achieve gross energy savings from efficiency in the range of 20% to 30% with market penetration of 80%<br>• Signed MOU through Energy Development in Island Nations (EDIN) partnership to achieve a 60% reduction in fossil fuel consumption by 2025 |
| Financial and Other Incentives | • Grant program for energy efficiency and renewable energy projects in existing buildings<br>• Eligible applicants are community groups and civic organizations with not-for-profit status<br>• Funding is also available for energy education outreach, solar outdoor lighting, and energy education mini-grants |
| **CLEAN ELECTRICITY** | |
| Renewable/Alternative Energy Portfolio Standards and Goals | The Islands' utility has issued a Request for Proposal (RFP) for Renewable/Alternative energy generation up to 21% by 2011<br>• Waste-to-Energy Plant selected from RFP applicant pool<br>• Requires peak demand generating capacity to be met by renewable energy sources on the following schedule: 20% by January 1, 2015, 25% by January 1, 2020, 30% by January 1, 2025 (12 VIC § 1151 et seq.)<br>***Signed a Memorandum of Understanding with the US Department of Energy and the US Department of Interior in early 2010 that set a goal that 60% of energy needs would be met by renewables by the year 2025.*** |
| Net Metering and Interconnection Standards | The Islands' utility allows up to 15 MW (11%) PV and wind systems to net meter up to 10 kW<br>• Raised the capacity limits to 20 kW for residential systems, 100 kW for commercial systems, and 200 kW for public systems |
| Financial and Other Incentives | Provides Renewable Energy Rebates on photovoltaic energy, solar water heaters, and wind turbines; offers 20% off Energy Star appliances<br>• Increased discount for Energy Star appliances to 30%<br>• Residents and small business owners with gross annual revenues of $500,000 or less, with electricity usage between 1,200 kWh and 2,000 kWh per month, may be eligible for loans covering 50% of the cost of solar hot water heaters |

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Clean State Energy Actions • 2011 Update

# VIRGIN ISLANDS

| CATEGORY | ACTIONS TAKEN |
|---|---|
| **LEAD BY EXAMPLE** | |
| Appliance/Equipment Efficiency | Enforcement of Executive Order 231-1979 - energy efficient procurement practices for the government, requiring energy equipment to be procured based on life cycle costs |
| Building Efficiency | Enforcement of Executive Order 278-1985 requiring air conditioning in government to be maintained at 76 degrees; enacted legislation mandates that government reduce energy consumption 20% by 2012 |
| Fuel and Vehicle Fleet Requirements | The Virgin Islands Energy Office (VIEO) entered into a partnership with the DPNR Division of Environment Protection, and the St. Croix Vocational School Diesel Technology Program, applied and received a grant from the U.S. EPA to conduct a feasibility study on existing feedstock for biodiesel production; VIEO will provide 50% cost share in the joint effort to promote the use and implementation of biodiesel from used vegetable oils to be used in diesel engines for the local government fleet |

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# ENERGY EFFICIENCY

## Appliance/Equipment Efficiency Standards

### DEFINITION

State appliance efficiency standards set minimum energy efficiency standards for equipment and appliances that are not covered by federal efficiency standards.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Arizona** | Minimum energy efficiency standards for 12 appliances<br>• New standards established for three additional products, effective January 1, 2012<br>***All 12 appliance efficiency standards were pre-empted by federal law. New standards for three products will be effective January, 2012.*** |
| **California** | Minimum energy efficiency standards for 21 categories of appliances<br>***Set minimum energy efficiency standards for 23 appliance categories. The standards now apply to 10 categories of appliances.*** |
| **Connecticut** | Minimum energy efficiency standards for four categories of appliances<br>**Set new minimum efficiency standards for televisions, DVD players and other electronic products. Broadened circumstances when efficiency standards can be implemented for other products (SB 1243).** |
| **Florida** | Requires energy-efficient consumer appliances to increase efficiency by 15% of current standards<br>• Authorized the newly created Florida Energy and Climate Commission (FECC) to develop and administer a consumer rebate program for specified energy-efficient appliances, adopt rules, and enter into contracts or memoranda of agreement with other state agencies and public-private partnerships (Statute 377.807) |
| **Maryland** | Minimum energy efficiency standards for nine categories of appliances |
| **Massachusetts** | Minimum energy efficiency standards for six categories of appliances; Massachusetts is currently seeking a waiver of federal gas furnace standards to meet the state's legislated standard of 90% minimum efficiency |
| **Minnesota** | Minimum energy efficiency standards for five appliance categories |
| **Missouri** | • Statutes authorize establishment of energy-efficiency standards for appliances (SB 1261) |
| **Nevada** | Requires efficacy standards of 25 lumens per watt for lamps, bulbs, tubes, or other lighting devices between 2012 and 2015 (to be increased in 2016) |
| **New Jersey** | Minimum energy efficiency standards for eight categories of appliances. Seven of which were immediately preempted by the federal Energy Policy Act of 2005. The efficiency standard for the one remaining product, unit heaters, was effective for a little over a year and then preempted by a federal standard in August of 2008. |
| **New York** | New York's Appliance and Equipment Energy Efficiency Standards Act of 2005 calls for the State to establish efficiency standards for 14 product categories; with passage of the federal Energy Policy Act of 2005 and Energy Independence and Security Act of 2007, the State is pre-empted from enforcing standards for 13 of the 14 categories; with "consumer audio and video products" (televisions, compact audio products, digital versatile disc players, digital versatile disc recorders, and digital television adapters) remaining as the only product category available for New York State rulemaking; the New York State Department of State is working with the New York State Energy Research and Development Authority (NYSERDA) to establish standards for consumer audio and video products · may also establish standards for digital telivision adapters |

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# ENERGY EFFICIENCY

## Appliance/Equipment Efficiency Standards

| DEFINITION | |
|---|---|
| State appliance efficiency standards set minimum energy efficiency standards for equipment and appliances that are not covered by federal efficiency standards. | |
| **Oregon** | Minimum energy efficiency requirements for 11 categories of appliances. 5 of these products are not covered by federal law (bottle type water dispensers, commercial hot food holding cabinets, compact audio products, digital versatile disc players and records, portable electric spas) |
| **Rhode Island** | Minimum energy efficiency standards for 13 categories of appliances<br>***Ten standards were preempted by federal law. The standards now apply to 3 categories of appliances.*** |
| **Vermont** | Minimum energy efficiency standards for six categories of appliances<br>***Two minimum efficiency standards now apply.*** |
| **Washington** | Set minimum energy efficiency standards for 12 categories of appliances in 2005 (some were preempted by federal law) and eight additional types of appliances in 2006<br>• Added efficiency standards for several more products (HB 1004)<br>***Minimum energy efficiency standards remain for six categories of appliances.*** |

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Clean State Energy Actions • 2011 Update

# ENERGY EFFICIENCY

## Building Energy Codes

### DEFINITION

Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | **Residential:** International Residential Code (IRC) 2006 designated as minimum voluntary compliance standards<br>**Commercial:** 2006 IECC is recommended, voluntary<br>Process for adoption and compliance with codes required under the American Recovery and Reinvestment Act (ARRA)<br>• Establishes the Alabama Energy and Residential Codes Board to adopt and implement the state's first mandatory residential and commercial energy standards to be based on the 2006 IECC, ANSI/ASHRAE/IESNA Standard 90.1-2007 for commercial buildings and the 2006 International Residential Code published by the ICC, or any subsequent editions, changes or recompilations (Act 2010-185) |
| **Alaska** | Alaska Building Energy Efficiency Standard based on 2006 IECC is mandatory for residential buildings (exceeds ECPA standards)<br>• Encourages the development of statewide energy efficiency codes for new and renovated residential, commercial and public buildings (HB 306)<br>***Residential: Updated Code to 2009 IECC***<br>***Commercial: Updated code to ASHRAE 62.2-2010*** |
| **Arizona** | **Residential:** 2000 IECC is voluntary<br>**Commercial:** ASHRAE 90.1-1999 is mandatory for state-owned and state-funded buildings ONLY; most communities adopt IECC 2006 |
| **Arkansas** | **Residential:** Arkansas Energy Code based on 2003 IECC with state-specific amendments is mandatory statewide<br>**Commercial:** Arkansas Energy Code based on ASHRAE 90.1-2001 is mandatory statewide. ASHRAE/IESNA 90.1-2007 for public buildings. |
| **California** | **Residential:** California Energy Efficiency Standards for Residential Buildings, exceeds 2009 IECC and is mandatory statewide<br>**Commercial:** California Energy Efficiency Standards for Non-residential Buildings, meets or exceeds ASHRAE 90.1-2007 and is mandatory statewide<br>All new and renovated buildings must achieve at least a LEED Silver rating<br>• Adopted a mandatory Green Building Standards Code (CALGREEN) requiring all new buildings to use environmentally advanced building practices<br>• Requires owner or operator of a building to disclose benchmarking data and rating to a prospective buyer, lessee of the entire building, or lender that would finance the entire building based on a schedule of compliance established by the State Energy Resources Conservation and Development Commission |

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# ENERGY EFFICIENCY

## Building Energy Codes

| DEFINITION | |
|---|---|
| Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes. | |
| **Colorado** | **Residential:** 2003 IECC, required in jurisdictions with a building code in July 2007<br>**Commercial:** 2003 IECC, required in jurisdictions with a building code in July 2007<br>• State energy office is now promoting adoption of the 2009 IECC<br>• Provides code-related training for builders, contractors, and local code officials<br>***Residential: Updated code to 2009 IECC for all Factory Built and Multi Family structures in areas of Colorado that do not adopt or enforce building codes***<br>***Commercial: Updated code to 2009 IECC (with reference to ASHRAE 90.1-2007) for all Factory Built and Multi Family structures in areas of Colorado that do not adopt or enforce building codes*** |
| **Connecticut** | **Residential and Commercial:** 2003 IECC mandatory statewide (in the process of adopting the 2006 IECC with amendments)<br>• State building code now based on 2009 IECC. Commercial code also references 2009 IECC<br>• State required to adopt 2012 IECC within 18 months of publication<br>• Certain new residential buildings in the state that cost over $5 million required to meet LEED Silver certification or equivalent |
| **Delaware** | **Residential:** 2000 IECC mandatory statewide<br>**Commercial:** ASHRAE 90.1-1999 mandatory statewide<br>**Residential:** 2009 IECC mandatory statewide takes effect 7/1/10<br>**Commercial:** ASHRAE 90.1-2007 mandatory statewide takes effect 7/1/10<br>Zero energy new home construction requirement by 2025<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to ASHRAE 90.1-2007*** |
| **Florida** | **Residential:** State developed code exceeds 2006 IECC and is mandatory statewide<br>**Commercial:** State developed code meets or exceeds ASHRAE 90.1-2004 and is mandatory statewide<br>• Requires at least 50% increase in energy efficiency of the "Florida Energy Efficiency Code for Building Construction" compared to provisions of "2007 Florida Building Code" by 2019<br>• Amended the Building Code to incorporate energy-efficient land use and greenhouse gas reduction (HB 7135) |
| **Georgia** | **Residential:** Georgia State Energy Code, 2006 IECC with state amendments is mandatory statewide<br>**Commercial:** ASHRAE 90.1-2004 mandatory statewide<br>***Residential: Updated code to 2009 IECC with state amendments***<br>***Commercial: Updated code to ASHRAE 90.1-2007 with state amendments*** |

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# ENERGY EFFICIENCY

## Building Energy Codes

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| Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes. | |
| **Hawaii** | **Residential:** Hawaii Model Energy Code exceeds 1995 Model Energy Code, voluntary statewide and mandatory in certain jurisdictions; Hawaii is in the process of developing a Tropical Energy Code that is being shared with the Pacific and Caribbean islands; 2008 legislation mandates solar water heaters for new homes starting in 2010<br>**Commercial:** Based on ASHRAE 90.1-1989 with state specific modifications, voluntary statewide and mandatory in certain jurisdictions; Hawaii is in the process of developing a Tropical Energy Code that is being shared with the Pacific and Caribbean islands<br>Provides priority permitting processes for construction projects that are LEED Silver, two Green Globes, or other comparable certification<br>• Updated building codes with adoption of IECC 2006 as a statewide building code<br>• Various counties have adopted IECC 2006: Maui, City and County of Honolulu<br>• Kauai has adopted IECC 2009 |
| **Idaho** | **Residential:** 2006 IECC mandatory statewide<br>**Commercial:** 2006 IECC mandatory statewide<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| **Illinois** | **Commercial:** 2006 IECC and 2004 ASHRAE 90.1 mandatory statewide<br>**Residential:** 2009 IECC is mandatory statewide<br>**Commercial:** 2009 IECC is mandatory statewide<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE Standard 90.1-2007, mandatory statewide***<br>• ***Incorporated the 2009 IECC for residential buildings and privately funded commercial buildings and ASHRAE 90.1-2007 for publicly funded commercial buildings into Illinios Energy Conservation Code. Local governments may adopt more stringent codes for commercial buildings.*** |
| **Indiana** | **Residential and Commercial:** state developed code based on 1992 MEC, mandatory statewide<br>***Residential: State developed code based on 1992 MEC, mandatory statewide***<br>***Commercial: Updated code to 2010 Indiana Energy Conservation Code, referencing ASHRAE Standard 90.1-2007, as amended, for commercial buildings and residential buildings with more than 3 dwelling units*** |
| **Iowa** | **Residential:** 2009 IECC, mandatory statewide<br>**Commercial:** 2009 IECC with reference to ASHRAE 90.1-2007<br>• Made energy-related modifications to the state building code by providing for training, administration, and enforcement of energy conservation requirements<br>- Included provisions for single or two-family residential construction<br>- Provided for training to builders and contractors |

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| DEFINITION | |
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| **Kansas** | **Residential:** Realtors and homebuilders are required to fill out an energy efficiency disclosure form and provide it to potential buyers<br>**Commercial:** 2006 IECC for all commercial and industrial buildings, mandatory statewide |
| **Kentucky** | **Residential:** 2006 IECC and 2006 IRC with state specific amendments, mandatory statewide<br>**Commercial:** 2006 IECC and 2006 IBC with state specific amendments, mandatory statewide<br>• Department of Housing, Building and Construction (DBHC) will adopt a building code that achieves energy savings equivalent to the latest IECC (residential) and ANSI/ASHRAE/IESNA 90.1-2007 (commercial) and a plan to achieve compliance<br>• The DHBC estimates that 2009 IECC will be adopted by January 2011<br>• New 2009 Energy Code training program will provide energy efficiency code inspections in new construction, both commercial and residential, throughout the Commonwealth |
| **Louisiana** | **Residential:** 2006 IRC mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-2004, and 2006 IECC for buildings not covered by ASHRAE, mandatory statewide |
| **Maine** | **Residential:** The Maine Model Building Code is based on the 2003 IECC, adopted by jurisdiction<br>**Commercial:** 2003 IECC or ASHRAE/IESNA 90.1-2004, mandatory statewide<br>**Residential:** 2009 IECC mandatory statewide takes effect 7/1/10<br>**Commercial:** ASHRAE 90.1-2007 mandatory statewide takes effect 7/1/10<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| **Maryland** | **Residential and Commercial:** Maryland Building Performance Standards based on the 2006 IECC, mandatory statewide<br>***Residential and Commercial: Updated code to 2009 IECC mandatory statewide*** |

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## Building Energy Codes

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| **Massachusetts** | **Residential:** The Massachusetts State Building Code is based on the 2003 IRC and IBC with state specific amendments, mandatory statewide<br>**Commercial:** The Massachusetts State Building Code is based on ASHRAE/IESNA 90.1-1999, 2000 IECC, with state-developed amendments, mandatory statewide<br>Pending revisions would update the Code to compliance with the IECC 2006 with the 2006/2007 supplement and ASHRAE 90.1-2007 standards; revisions would also set standards for two levels of "beyond code" energy efficiency, which municipalities would request the state agency for permission to implement; pending legislation would make adoption of the latest IECC energy provisions a minimum requirement and would also require regular updating<br>• State required to adopt new IECC codes within one year of their publication<br>Adopted an optional reach energy code, called the 'Stretch Code', a performance-based code that improves energy efficiency by approximately 20% relative to the IECC 2009 for residential or ASHRAE 90.1-2007 for commercial buildings. Adoption of the Stretch Energy Code allows municipalities to meet one of 5 criteria to become designated a Green Community in Massachusetts.<br>***Residential and Commercial: Updated codes to 2009 IECC or ASHRAE 90.1-2007 with state-specific amendments*** |
| **Michigan** | **Currently - Residential:** Michigan Uniform Energy Code Part 10 Rules, less stringent than 1992 MEC, mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-1999, mandatory statewide<br>**Residential:** 2003 IRC, with reference to the 2004 IECC supplement, mandatory statewide<br>Proposed: residential equivalent to 2009 IECC, and commercial equivalent to 2007 ASHRAE 90.1. Expected implementation date: February, 2011<br>***Residential: Updated code to 2009 Michigan Uniform Energy Code (MUEC) based on 2009 IECC***<br>***Commercial: Updated code to 2009 Michigan Uniform Energy Code (MUEC) based on ASHRAE 90.1-2007*** |
| **Minnesota** | **Residential:** 2007 Minnesota State Building Code, based on the 2006 IRC, mandatory statewide, effective as of 2009<br>**Commercial:** 2007 Minnesota State Building Code, based on ASHRAE 90.1 -2004, mandatory statewide, effective as of 2009<br>***Required new commercial, institutional and industrial projects to comply with Sustainable Building 2030 guidelines, which are designed to achieve energy consumption reductions of 60% in 2010 (2003 baseline), increasing 10% every five years towards an ultimate target of 90% in 2025.*** |
| **Mississippi** | **Residential:** State energy code, based on ASHRAE 90-1975; voluntary<br>**Commercial:** ASHRAE 90-1975, mandatory for state owned buildings, public buildings, and high-rise buildings |
| **Missouri** | Set the 2006 IRC as the minimum energy efficiency standard for construction or renovation of a state building over five thousand square feet (See also - Lead by Example). |

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| Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes. | |
| **Montana** | **Residential:** ARM Title 24, Chapter 301.160 incorporates the 2009 IECC with state amendments and is mandatory statewide for residential and commercial construction; REScheck may be used to show compliance for the residential code<br>**Commercial:** ARM Title 24, Chapter 301.160 incorporates the 2009 IECC with state amendments and is mandatory statewide for residential and commercial construction; COMcheck may be used to show compliance for the commercial code<br>• These updates became effective on March 26, 2010<br>• The state's 46 local certified jurisdictions will have an additional 90 days to adopt the same code and edition for their jurisdictions, all other areas are under the jurisdiction of the State Building Codes Bureau<br>• Allows local city and county jurisdictions with a building code enforcement program to adopt energy conservation standards that are more stringent than the state code (HB 420)<br>• Standards must be voluntary and linked to an incentive program for energy conservation, where only buildings receiving an incentive will be required to meet the more stringent standard<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| **Nebraska** | **Residential:** 2003 IECC mandatory statewide<br>**Commercial:** 2003 IECC 2003 IECC with reference to ASHRAE 90.1-2001, mandatory statewide<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |
| **Nevada** | **Residential and Commercial:** 2003 IECC mandatory for all jurisdictions that have not adopted an energy code; jurisdictions in Southern Nevada have adopted the 2006 Southern Nevada Energy Code, which is based on the 2006 IECC with amendments; jurisdictions in Northern Nevada have adopted the 2006 IECC<br>***Residential: Updated code to 2006 IECC, mandatory for all jurisdictions. Local governments are allowed to adopt more stringent standards provided they give notice to the Office of Energy***<br>***Commercial: Updated code to 2006 IECC with reference to ASHRAE 90.1-2004, mandatory for all jurisdictions. Local governments are allowed to adopt more stringent standards provided they give notice to the Office of Energy*** |
| **New Hampshire** | **Residential and Commercial:** The New Hampshire Energy Code is a state code that references the 2006 IECC amended to Climate Zone 6, statewide mandatory<br>• Adopted IECC 2009 code for residential and commercial, likely effective January 2010<br>***Residential and Commercial: Updated state code to reference the 2009 IECC amended to Climate Zone 6, mandatory statewide*** |
| **New Jersey** | **Residential:** 2006 IECC with state amendments, mandatory statewide<br>**Commercial:** ASHRAE/IESNA 90.1-2004, mandatory statewide<br>***Residential: Updated code to 2009 IECC with minor modifications, mandatory statewide***<br>***Commercial: Updated code to ASHRAE/IESNA 90.1-2007 with minor modifications, mandatory statewide*** |

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Clean State Energy Actions • 2011 Update

# ENERGY EFFICIENCY

## Building Energy Codes

| DEFINITION | |
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| Energy codes establish energy standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking-in future energy savings at the time of new construction or renovation. Some states have added voluntary green building construction codes. | |
| **New Mexico** | **Residential and Commercial:** 2006 IECC, mandatory statewide, plus additional "green code" measures; new Green Building Bureau established<br>***Residential and Commercial: Updated code to 2009 New Mexico Energy Conservation Code (NMECC), based on 2009 IECC. The state amendments make it approximately 20% more stringent than the 2006 IECC.*** |
| **New York** | **Residential:** State-developed code based on the 2004 IECC with amendments, mandatory statewide<br>**Commercial:** State-developed code based on the 2003 IECC, mandatory statewide as of January 1, 2008, with the following caveat: an additional NYS Energy Code update became effective on April 9, 2008 which allows ASHRAE 90.1-2004 to be used as a compliance basis; this update closed a gap between code options within the 2003 IECC which had 2 levels of allowed lighting; the ASHRAE 90.1-2004 update closed this "loophole" thereby reducing the commercial lighting mandate efficiency level by 20-50 % (less power is allowed to be used) as compared to the first quarter of 2008 when the NYS Energy Code referenced ASHRAE 90.1-2001<br>**Residential:** New state-developed code, based on the 2009 IECC, expected to be adopted by the end of 2010, mandatory statewide<br>**Commercial:** New state-developed code, based on the 2009 IECC (The New York State Department of State has determined that for commercial buildings, the 2009 IECC meets or exceeds ASHRAE 90.1-2007), mandatory statewide<br>• To further the knowledge of Building Energy Code required by ARRA, The Department of State has worked with NYSERDA to develop a comprehensive training program of over 900 training sessions on residential/commercial energy codes for code enforcement officials, builders, design professionals and other audiences in both on-the-job and off-site environments<br>• Additional online training courses are available based on above coursework<br>***Residential: Updated code to state-developed code based on the 2009 IECC state with amendments, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with state amendments, or ASHRAE 90.1-2007, mandatory statewide*** |
| **North Carolina** | 2009 North Carolina Energy Conservation Code (NCEC) is mandatory, statewide for residential and commercial buildings<br>**Residential:** State-developed code based on the 2006 IECC with amendments<br>**Commercial:** State-developed code based on the 2006 IECC and references the ASHRAE 90.1-2004<br>***Residential and Commercial: Updated code to 2010 North Carolina Energy Conservation Code (NCEC), effective January 2012*** |
| **North Dakota** | **Residential:** 1993 MEC is voluntary<br>**Commercial:** ASHRAE/IESNA 90.1-1989 is voluntary |
| **Ohio** | **Residential:** 2006 IECC<br>**Commercial:** 2006 IECC referencing ASHRAE 90.1-2004, mandatory statewide<br>• Builders are also allowed to meet the requirements of sections 1101-1103 of Chapter 11 of the Residential Code of Ohio (based on Chapter 11 of the 2006 IRC) or by meeting the state code's new Prescriptive Energy Requirements (Section 1104) |

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| **Oklahoma** | **Residential and Commercial:** 2003 IECC mandatory for jurisdictions that do not adopt their own code and for state-owned and -leased facilities |
| **Oregon** | **Residential:** State-developed code which exceeds the 2003 IRC, mandatory statewide<br>**Commercial:** State-developed code that exceeds ASHRAE 90.1-2004, mandatory statewide<br>• Created the Task Force on Energy Performance Scores to make recommendations regarding the implementation of a statewide voluntary building energy performance scoring system (SB 79)<br>• Requires the director of the Department of Consumer and Business Service to adopt an optional alternative to the state building code which provides more stringent energy-efficient construction standards and methods<br>• Provides for updates to the energy standards in the state building code to increase building energy efficiency<br>***Residential: Updated code to 2011 Oregon Residential Specialty Code (ORSC) for 1-2 family residential dwellings, based off the 2006 International Residential Code***<br>***Commercial: Updated code to 2010 Oregon Energy Efficiency Specialty Code (OEESC), based on the 2009 IBC State-developed code that meets or exceeds 2009 IECC with several amendments***<br>**Adopted a commercial reach code, a voluntary code based on the International Green Construction Code.** |
| **Pennsylvania** | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC with reference to ASHRAE 90.1-2004, mandatory statewide<br>• State law requires new codes to be adopted by end of calendar year they are released<br>***Residential: Updated code to 2009 Uniform Construction Code based on the 2009 IECC. It also offers alternate compliance paths through the 2009 IRC (Chapter 11) and the 2009 Pennsylvania Alternative Residential Energy Provisions (PA-Alt).***<br>***Commercial: Updated code to 2009 Uniform Construction Code based on the 2009 IECC with reference to ASHRAE 90.1-2007***<br>***New state code expected by December 31, 2011.*** |
| **Rhode Island** | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC amended to include ASHRAE/IESNA 90.1-2004, mandatory statewide<br>• RI State Building Commission required to update codes to incorporate 2009 IECC and ASHRAE 90.1, effective July 2010<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007 mandatory statewide*** |
| **South Carolina** | All new and renovated buildings must meet the 2006 IECC, as of July 2009 |
| **South Dakota** | ***Residential: Established 2009 IECC as voluntary code for new residential buildings. Builders or sellers of new residential buildings are required to provide a disclosure form with information regarding the energy efficiency of the building.***<br>***Commercial: No mandatory statewide energy code*** |

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| **Tennessee** | **Residential:** 1992 MEC, mandatory statewide; jurisdictions can adopt a more stringent code<br>**Commercial:** ASHRAE 90A-1980 and 90B-1975 voluntary statewide<br>**Residential:** 2003 IECC, mandatory statewide; jurisdictions can adopt a more stringent code<br>**Residential: Updated code to 2006 IECC for all residential and commercial buildings. Jurisdictions can adopt a more stringent code.**<br>**Commercial: Updated code to 2006 IECC for all residential and commercial buildings. Jurisdictions can adopt a more stringent code. Adopted ASHRAE 90.1-2007 for all state buildings.** |
| **Texas** | **Residential:** 2000 IECC with 2001 Supplement, mandatory for all state buildings; jurisdictions may adopt a more recent code<br>**Commercial:** 2000 IECC with 2001 Supplement, with reference to ASHRAE 90.1-2001, mandatory for all state buildings; jurisdictions may adopt a more recent code<br>***Residential: Maintained existing code for private buildings. Adopted 2003 IECC for state-funded buildings, mandatory statewide.***<br>***Commercial: Maintained existing code for private buildings. Adopted ASHRAE 90.1-2007 for state-funded buildings, mandatory statewide.***<br>• ***Effective January 1, 2012, 2009 IECC will apply to single-family residential construction. Effective April 1, 2012, 2009 IECC will apply to all other residential, commercial and industrial construction.*** |
| **Utah** | **Residential:** 2006 IECC mandatory statewide<br>**Commercial:** 2006 IECC mandatory statewide including ASHRAE/IESNA 90.1- 2004<br>**Residential and Commercial:** Meet or exceed the IECC 2009 or ANSI/ASHRAE/IENSA Standard 90.1-2007 mandatory statewide (2010 Legislative General Session) |
| **Vermont** | **Residential:** The Vermont Residential Building Energy Standard (RBES), based on the 2009 IECC with state specific amendments, is mandatory statewide<br>**Commercial:** 2005 Vermont Guidelines for Energy Efficient Commercial Construction based upon amendments to the IECC 2004 Supplement and an alternative path of ASHRAE 90.1-2004 with amendments |
| **Virginia** | **Residential:** 2006 IECC, mandatory statewide<br>**Commercial:** 2006 IECC with reference to ASHRAE 90.1-2004, mandatory statewide<br>• Scheduled to adopt the 2009 IECC code for residential and ASHRAEI 90.1-2007 for commercial<br>***Residential: Updated code to 2009 IECC, mandatory statewide***<br>***Commercial: Updated code to 2009 IECC with reference to ASHRAE 90.1-2007, mandatory statewide*** |

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| **Washington** | **Residential:** State-developed and implemented code exceeds 2006 IECC standards for most homes; mandatory statewide<br>**Commercial:** State-developed code that meets or exceeds ASHRAE/IESNA 90.1-2004<br>The Evergreen Sustainable Development Standard establishes green building criteria that will be required for any affordable housing project applying for state funds through the WA State Housing Trust Fund and is based on a point system which awards points for a variety of sustainable building practices including: site location and planning, water conservation, energy efficiency and renewable technology, and environmentally conscious construction practices<br>***Residential: Updated code to 2009 WSEC, state-developed and implemented code; mandatory statewide***<br>***Commercial: Updated code to 2009 WSEC, state-developed and implemented code; mandatory statewide*** |
| **West Virginia** | **Residential and Commercial:** 2003 IECC, 2003 IRC with amendments, voluntary adoption by jurisdictions |
| **Wisconsin** | **Residential and Commercial:** 2006 IECC mandatory statewide<br>***Residential and Commercial: Updated code to 2006 IECC with state amendments, mandatory statewide*** |
| **Wyoming** | **Residential and Commercial:** 1989 MEC may be adopted and enforced by local jurisdictions |
| **American Somoa** | The American Samoa Energy Office (i.e., ASPA Energy Center), in joint cooperation with the Guam Energy Office, has obtained a federal grant for technical assistance to develop a tropical island-specific model energy code |
| **Guam** | A model Tropical Energy Code was created with a grant from DOE for Hawaii, Guam, the Virgin Islands, Mariana Islands, and Puerto Rico; the Guam Energy Code, which became effective in October of 2000, requires that piping stubouts be provided for water heaters installed in low-rise residential buildings to enable the future installation of solar collectors |
| **Northern Mariana Islands** | A model Tropical Energy Code was created with a grant from DOE for Hawaii, Guam, the Virgin Islands, Mariana Islands, and Puerto Rico |
| **Puerto Rico** | The Energy Affairs Administration (EAA) together with the Permits and Regulations Administration is updating building energy codes, on both residential and commercial. Amendments are being drafted together with the collaboration of stakeholders from the building industry; where energy simulation and economic analysis have been perform to justify each respective modification or addition to the adopted code.<br>**Residential:** Code will be based on the 2009 IECC, including modifications based on Puerto Rico's tropical climate as described in the amendments<br>**Commercial:** Code will be based on the adoption of ASHRAE 90.1-2007<br>• Energy code enforcement and compliance stage will begin in late 2010 |
| **Virgin Islands** | **Residential and Commercial:** 2003 IECC; presently upgrading to Tropical Energy Code<br>• Requires developers to install energy efficient solar water heaters to provide at least 70% of the building's water heating needs in all new developments and substantial building modifications |

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Clean State Energy Actions • 2011 Update

# ENERGY EFFICIENCY

## Utility Demand-Side-Management

### DEFINITION

Utility sponsored programs designed to encourage consumers to modify their level and pattern of energy usage. Expenses are recouped by utilities through regulatory rate cases. These programs are distinct from programs supported by public benefits funds. This can include efforts to advance smart grid technology.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Alabama Power offers family dwelling time-of-use rates and seasonal rates |
| **Arizona** | The Arizona Corporation Commission is in the process of approving DSM programs for all applicable utilities; programs include percentage reductions in load growth and savings as a percent of total resources to meet load<br>***The Arizona Corporation Commission established requirements for public utilities to develop demand side management plans and other efficiency programs that result in a 22 percent reduction in customer energy use by 2020.*** |
| **Arkansas** | • The Arkansas Public Service Commission, using the authority given to it under the Energy Conservation Endorsement Act of 1977, is requiring all regulated utilities in Arkansas to deploy various energy efficiency programs for all customer classes<br>***Issued an order opening an investigative proceeding on smart grid, advanced metering infrastructure (AMI), and demand response. The order is part of the Public Service Commission's Sustainable Energy Resources Action Plan, which required utilities "to report in detail on their current use of and future plans for Smart Grid, DR, and AMI projects and investments in Arkansas.*** |
| **California** | ***Required public utilities to file smart grid deployment plans by July, 2011.*** |
| **Colorado** | The PUC is authorized to provide incentives for IOUs to provide DSM<br>***Created the Smart Grid Task Force to provide technical and policy recommendations to the public utilities. The final report included six topic areas: Challenges and Opportunities in Colorado; Workforce and Economic Development; Consumer Issues and Data Management; Distributed Energy Resources and Grid Management; Technical Specifications; and Grid Management.*** |
| **Connecticut** | Utilities (2) are eligible for performance management fees; participating in ISO-New England's Forward Capacity Market<br>***Established a program under which Connecticut electricity customers that install energy efficiency equipment and reduce their energy use during peak hours may be eligible for a rebate based on the amount of kilowatt-hours (kWh) saved during peak hours.***<br>**Required utilities to implement demand-side management measures, including, but not limited to, energy efficiency, load management, demand response, combined heat and power facilities, distributed generation and other emerging energy technologies (SB 1243).** |
| **Delaware** | • State Regulated utility proposed Energy Efficiency Blueprint in 2009 to promote demand response programs using smart thermostats and AMI enabled smart grid technologies<br>• Demand response programs currently included in PSC Rate case |
| **Florida** | Cost recovery process exists |

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# ENERGY EFFICIENCY

## Utility Demand-Side-Management

| DEFINITION | |
|---|---|
| Utility sponsored programs designed to encourage consumers to modify their level and pattern of energy usage. Expenses are recouped by utilities through regulatory rate cases. These programs are distinct from programs supported by public benefits funds. This can include efforts to advance smart grid technology. | |
| **Georgia** | Georgia Power offers 10 pilot DSM programs reflecting an investment of approximately $10 million over the three-year life of these programs; Electric Membership Corporations offer a variety of DSM programs, collectively spending $11.6 million on DSM programs in 2006<br>• The Power Credit Single Family Program gives Georgia Power 15% of the net present value of the net benefits resulting from the program if 50% or more of projected participation is achieved<br>***The Public Service Commission approved Georgia Power's most recent Integrated Resource Plan. Seven DSM programs were certified including: residential lighting and appliance; residential existing homes; residential high efficiency new homes; residential refrigerator recycling; residential water heating; commercial custom incentive; and commercial prescriptive incentive.*** |
| **Hawaii** | Cost recovery process exists for electric utilities<br>• Management and implementation of utility DSM was transferred to the Public Benefits Fee Administrator (§269-121) |
| **Illinois** | ***The Illinois Statewide Smart Grid Collaborative (ISSGC) issued its final report containing its recommendations regarding smart grid policy and implementation issues.*** |
| **Kansas** | Cost recovery process exists for electric utilities<br>• Energy efficiency programs are not required, but the Kansas Corporation Commission (KCC) stated they would collaborate with utilities exploring energy efficiency as a resource |
| **Kentucky** | Utilities file DSM programs with the Kentucky Public Service Commission for cost recovery of approved activities<br>• The governor requested that the Kentucky Public Service Commission Chairman consider appropriate steps consistent with Kentucky law, American Recovery and Reinvestment Act (Section 410) and relevant PURPA requirements, to implement appropriate incentives for energy efficiency programs |
| **Maine** | Participant in ISO-New England's Forward Capacity Market<br>Established a state policy on smart grid infrastructure as a means to improve power reliability and the overall efficiency of the power resource and delivery system while reducing energy consumption, GHGs and costs to consumers (HB 1079)<br>***Required the Public Utilities Commission to establish terms and conditions to govern wireless smart meter installation. The terms must allow customers, at no cost, to opt out of wireless smart meter installation or have a smart meter removed. Customers, at no cost, must also be given the option of a wired smart meter (HB 563).*** |
| **Maryland** | 15% demand side management by 2015 based on 2007 baseline<br>• Requires an electric company to include procedures for the competitive selection of heating, ventilation, air conditioning, or refrigeration service providers in its electricity savings and demand reduction plan (SB 1095) |

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| **Massachusetts** | The state has committed to meeting all load growth in electricity with demand-side efficiency by 2010; pending legislation will remove the cap on spending for utility energy efficiency programs and will require electric and gas utilities to acquire all cost-effective energy efficiency that is less than the cost of generation, under a least-cost procurement regime; participants in ISO-New England's Forward Capacity Market (FCM) provides capacity savings during peak summer and winter hours by the operator of the wholesale electricity market - utility FCM revenues are approximately $2 million for 2007 and all proceeds will go to additional energy efficiency programs for customers<br>• Established the Energy Efficiency Advisory Council, which works with utilities to determine plans for meeting required energy efficiency goals in the coming three years (SB 2468, Green Communities Act)<br>• Utilities required to submit three-year plans to DPU for approval<br>***Created the Smart Grid Evaluation Working Group to bring together the Department of Public Utilities and electric distribution companies to develop statewide smart grid evaluation approaches and standards. The group submitted an evaluation framework for smart grid pilots. The pilots discuss Demand Response measures, which is required through the Green Communities Act. Utilities are also working with large commercial customers on participating in the Forward Capacity Market.*** |
| **Michigan** | • Public Services Commission requires utilities to offer programs to customers in all sectors (residential, low-income, commercial, and industrial) (Case No. U-15800)<br>• Eligible large electric customers can design and implement an energy efficiency plan for their own facilities and, if approved by their utilities, be exempt from paying the per-meter surcharge |
| **Minnesota** | There must be a 1.5% annual energy savings of electric and natural gas sales, with a minimum of 1% coming from energy efficiency |
| **Mississippi** | ***Urged all state agencies to define the smart grid for the purposes of creating jobs and encouraging customer energy savings in the state (SCR 665).*** |
| **Missouri** | Utility sponsored DSM programs are or will be implemented by all regulated and electric and most regulated natural gas companies; DSM programs or planning initiatives set out in regulatory cases and resource planning processes (electric only); advisory groups have been established to work with utilities to develop, implement and evaluate programs--Levels of investment vary<br>• Established a state goal to achieve all cost-effective demand-side savings (SB 376, Missouri Energy Efficiency Investment Act)<br>• Requires timely cost recovery of demand-side management programs, the alignment of financial incentives for customers and utilities and provides timely earnings opportunities for cost-effective measurable and verifiable efficiency savings<br>***The Public Service Commission promulgated rules to encourage the state's four investor-owned electric utilities to implement more energy efficiency programs to help consumers control their energy use. Program costs can be recovered by the electric companies between general rate cases. If an electric company seeks cost recovery outside of a general rate case, current and future programs must be approved by the Commission.*** |

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| **Montana** | Cost recovery process exists for electric and natural gas utilities<br>***Established that it is the state's policy to build new transmission lines in the state, but noted that the need for new transmission lines may be mitigated by focusing on energy efficiency, distributed energy, demand response, and smart grid technologies (SB 305).*** |
| **Nebraska** | Major electric utilities implementing various demand-side management initiatives |
| **Nevada** | Allows a bonus rate of return for DSM that is 5% higher than authorized rates of return for supply investments |
| **New Hampshire** | Participant in ISO-New England's Forward Capacity Market |
| **New Mexico** | The Efficient Use of Energy Act (EUEA) requires electric utilities to acquire all cost-effective and achievable energy efficiency, with funding mechanisms |
| **New York** | Participant in New England forward capacity market; provides a wide variety of incentives for four categories of load-reducing measures: permanent demand reduction, short-term demand reduction (load shifting), distributed generation, and the installation of interval meters; NYSERDA offers demand reduction incentives through its New York Energy $mart℠ Program and a System-wide Program in Con Edison Territory; NYPA and LIPA also administer demand reduction programs to their respective customers<br>• Goal to foster increased and more reliable participation in NYISO and Transmission Owner demand response (DR) programs<br>• Delivered through a variety of R&D, technical support and incentives that support several categories of load-reducing approaches: studies and installation of permanent demand reduction, short-term demand reduction (load shifting), distributed generation, energy storage and the installation of interval meters and energy information systems<br>**The New York State Public Service Commission approved a policy statement that would establish regulatory policies and set forth guidelines for utilities to follow regarding the development of smart electric grid systems and associated efforts to modernize the electric grid.** |
| **North Carolina** | • Incentives available for utilities implementing DSM or energy efficiency programs<br>• Submitted to North Carolina Utilities Commission for consideration<br>***Adjusted Renewable Energy and Energy Efficiency Standards to allow utilities to meet standards through "electricity demand reduction, defined as measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric public utility and the retail electric customer, and measured in real time using two-way communications devices that communicate on the basis of standards" (SB 75-See also Clean Electricity).*** |
| **North Dakota** | Cost recovery process exists for electric utilities |
| **Ohio** | Cost recovery process exists for electric utilities |

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| **Oklahoma** | The Oklahoma Corporation Commission had initiated a rulemaking on demand-side management encompassing both gas and electric utilities; interested parties are currently participating in a collaborative process facilitated by the Regulatory Assistance Project; the collaborative will submit comments to the Oklahoma Corporation Commission by October 1, 2008; the Commission anticipates adopting rules by November 1, 2008<br>• Incentive of 25% of net savings available for programs for which energy savings can be estimated and 15% of the costs for programs that do not produce savings such as educational or marketing programs<br>***Created the Electric Utility Data Protection Act, stating that smart grid and smart meter technologies can provide substantial benefits to consumers and the environment, including reducing energy costs, increased efficiency, and increased grid reliability. This bill requires utilities to provide customers with reasonable access to customer information, maintain confidentiality, and provide standard usage data to a customer upon request (HB 1079).*** |
| **Oregon** | Allows capitalization of energy efficiency costs |
| **Rhode Island** | Sets aside 5% of the energy efficiency budget for performance incentives; participant in ISO-New England's Forward Capacity Market<br>**Removed the surcharge added by natural gas and electric utilities to fund demand-side management programs (HB 5281).** |
| **South Carolina** | • Public Service Commission approved portfolios of energy efficiency programs and cost recovery mechanisms from two investor-owned utilities |
| **South Dakota** | South Dakota Energy Smart is a statewide initiative coordinated by the South Dakota Public Utilities Commission that is designed to foster the development, implementation, and promotion of energy efficiency programs in South Dakota; all of the South Dakota electricity providers and the state of South Dakota are partners in SD Energy Smart<br>• Enacted legislation requiring public utilities to integrate energy efficiency resources and smart grid technology into their planning processes |
| **Texas** | ***Required the Public Utility Commission to adopt rules ensuring that ERCOT allows load participation in all energy markets for residential, commercial, and industrial customer classes, either directly or through aggregators of retail customers.*** |
| **Utah** | Savings and efficiency programs through regulated electricity and natural gas utilities, including appliance and equipment rebates, energy audits, Energy Star Housing, remodeling, and weatherization<br>• Utah Building Energy Efficiency Strategies (UBEES) is working with utilities and the residential, commercial, and public building sectors to encourage energy efficient building retrofits |
| **Vermont** | Expenses energy efficiency spending (formerly amortized program costs over five years); participant in ISO-New England's Forward Capacity Market |

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|---|---|
| Utility sponsored programs designed to encourage consumers to modify their level and pattern of energy usage. Expenses are recouped by utilities through regulatory rate cases. These programs are distinct from programs supported by public benefits funds. This can include efforts to advance smart grid technology. | |
| **Virginia** | Electric utilities are allowed cost recovery of demand side management (DSM) through a separate rate rider; they are developing and submitting programs for approval<br>• Utilities are required to update their Integrated Resource Plans (IRP) every two years to meet supply and reliability requirements<br>• Dominion and two electric cooperatives are implementing smart grid programs to enhance the utilities' ability to efficiently manage their distribution grids and provide an infrastructure to support customers' DSM actions |
| **Washington** | Electric utility efficiency programs are underway in both investor-owned-utilities and public utilities; investor-owned utilities may recover costs for electricity conservation; four natural gas utilities have some amount of energy efficiency activity as well |
| **West Virginia** | • The Public Service Commission is reviewing utility demand-side response recommendations |
| **Wyoming** | • Wyoming Public Service Commission approved six demand-side-management programs for Rocky Mountain Power<br>• These programs represent the state's first significant energy efficiency activity |
| **American Samoa** | A regional DSM program was funded through the UNDP from 1993 to 1996 |
| **Puerto Rico** | The Puerto Rico Electric Power Authority, a public corporation, has a campaign to educate the public on energy conservation and efficiency; every year the public corporation publishes numerous ads in newspapers and transmits information via radio, TV, the Internet, and informational brochures; the costs of the program vary yearly and are estimated to around $300,000 to $500,000 |
| **Virgin Islands** | 50,000 compact fluorescent light bulbs were distributed to utility customers in 2007-2008 |

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Clean State Energy Actions • 2011 Update

# ENERGY EFFICIENCY

## Utility Rate Realignment

### DEFINITION

Utility rate realignment incentivizes utilities equally for efficiency and supply resources through one to three actions: 1) removing throughput disincentives that link energy sales (kwh or therms to profits (decoupling), 2) providing incentives for energy efficiency savings, and 3) recovering costs.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | • The Alabama Public Service Commission reports that most state-regulated utilities are operating under Rate Stabilization and Equalization (RSE) factors |
| **Arizona** | ***The Arizona Corporation Commission unanimously adopted a policy statement that supports and encourages full decoupling of utility recovery of authorized fixed costs and energy sales. The Commission allows investor-owned electric and gas utilities to file specific decoupling proposals in their next general rate cases.*** |
| **Arkansas** | Decoupling in natural gas markets |
| **California** | Decoupling in natural gas and electricity markets |
| **Connecticut** | Rate decoupling in natural gas and electricity is underway; mandatory time-of-use rates, voluntary variable peak pricing is offered |
| **Delaware** | Decoupling mechanisms for natural gas and electric utilities currently before the PSC and should be implemented by December 2010 |
| **Florida** | Allows electric utilities to recover "prudent and reasonable" expenses for DSM programs approved by the Florida Public Service Commission (PSC)<br>• The PSC is permitted to allow a utility a 0.5% increased return on equity for exceeding 20% of annual load growth through energy efficiency measures |
| **Georgia** | • A lost revenue adjustment mechanism is authorized for the implementation of DSM programs (OCGA 46-3A-9) |
| **Hawaii** | Provides for lost revenues<br>• Decoupling mechanism approved for the HECO Companies<br>• Renewable Energy Investment Program Surcharge was approved for the HECO Companies |
| **Idaho** | Decoupling in electricity markets |
| **Indiana** | Decoupling in natural gas markets; one electric utility decoupled |
| **Iowa** | Utilities may propose natural gas decoupling |
| **Kansas** | Decoupling for electricity and natural gas markets is in progress<br>• Will consider decoupling proposals from natural gas companies with concerns about revenue stability<br>• The KCC chose not to implement a decoupling mechanism in 2008 |
| **Kentucky** | The state, through a contract with an outside vendor, conducted a study to determine potential financial, social, and economic impacts of alternative rate design structures and ratemaking methodologies |
| **Maryland** | Decoupling in natural gas and electricity markets |

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| **Massachusetts** | The Department of Public Utilities (DPU) issued an order to begin the process of decoupling rates for electric and natural gas distribution utilities, as required by the Green Communities Act |
| **Michigan** | On April 17, 2008, the House of Representatives passed legislation with broad bipartisan support mandating electric utilities to reach savings from energy efficiency programs each year; electric utilities would be required to achieve savings of 1% per year in 2012 and each year thereafter; the legislation offers financial incentives for exceeding the benchmarks and allows program expenses to be capitalized and authorizes the Public Service Commission to implement a symmetrical revenue decoupling true-up mechanism for gas utilities<br>• Allows natural gas utilities to request a symmetrical revenue decoupling mechanism as long as they are spending at least 0.5% of total revenues (including natural gas commodity costs) on energy efficiency programs (SB 213) |
| **Minnesota** | Decoupling in natural gas markets in progress; incentives are provided<br>• The Public Utilities Commission (PUC) issued an order for utilities to file non-binding notices of intent regarding their plans for decoupling pilots by June 2010, with proposals due by December 2011 (Docket No. E,G-999/CI-08-132) |
| **Missouri** | Straight fixed variable rate designs established for two natural gas companies using fixed monthly charges to recover non-gas costs and conditional upon modest DSM investments; regulated electric utilities and two regulated natural gas utilities are allowed to accumulate DSM program costs in regulatory asset accounts and amortize costs over a 6-10 year period; DSM costs and earnings are recovered in subsequent rate cases |
| **Montana** | Throughput incentives are addressed through lost revenue provisions for one utility |
| **Nevada** | ***Adopted a Lost Revenue Recovery mechanism that provides for annual recovery of both the utility's efficiency program expenses and the revenues lost from the reduced sales caused by energy efficiency programs.*** |
| **New Jersey** | Decoupling in natural gas markets |
| **New Mexico** | EUEA directs the utility commission to eliminate energy efficiency disincentives and create a regulatory structure that establishes a financial preference for energy efficiency vis-a-vis building and operating new power plants |
| **New York** | Decoupling in electricity markets |
| **North Carolina** | Decoupling in natural gas markets<br>• Utility natural gas efficiency program funding is embedded in rates instead of shareholder funded<br>• Lost revenue adjustment mechanism approved for a limited time for Progress Energy Carolinas to recover costs |
| **North Dakota** | Some elements of decoupling are in place for natural gas |
| **Ohio** | Decoupling in at least one natural gas company and, as a result of the recently enacted Energy, Jobs and Progress bill, decoupling may be considered for electric utilities by the Public Utilities Commission of Ohio |
| **Oklahoma** | • Revenue recovery mechanisms available on a case-by-case basis |

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| **Oregon** | Decoupling in natural gas markets |
| **Pennsylvania** | The Alternative Energy Portfolio Standard provides for cost recovery, inclusive of energy efficiency |
| **South Carolina** | • Lost revenue adjustment mechanism approved until 2012 for Progress Energy Carolinas to recover costs |
| **Utah** | Decoupling in natural gas markets |
| **Vermont** | Decoupling in electricity markets |
| **Virginia** | Virginia General Assembly in 2008 passed the Natural Gas Conservation and Ratemaking Efficiency Act intended to encourage natural gas utilities to file conservation programs tied to alternative (decoupled) rate designs, and to reward utilities that assist customers in reducing energy consumption and energy bills<br>• Virginia Natural Gas implemented its energy conservation plan and a natural gas decoupling mechanism (Revenue Normalization Adjustment Rider)<br>• Columbia Gas of Virginia followed in April 2010 |
| **West Virginia** | Provides elements of cost recovery |
| **Wisconsin** | • Approved decoupling for electricity (Docket 6690-UR-119)<br>• Utility and PSC-based pilot programs |
| **Wyoming** | Provides cost recovery for natural gas; cost recovery for electricity is in progress<br>• A three-year pilot decoupling program approved for Questar Gas Company for its General Service class of customers<br>• Pilot program will be adjusted annually |
| **Guam** | The Guam Public Utilities Commission (PUC) is authorized to issue recommendations for the implementation of a utility rate structure designed to reward and encourage consumers to use renewable energy and ensure that utilities' profit margins do not decrease for a period of five years following implementation of this rate structure |

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# ENERGY EFFICIENCY

## Energy Savings Targets/Energy Efficiency Resource Standards

### DEFINITION

Energy savings targets establish statewide goals to reduce electricity consumption over a certain timeframe. Energy Efficiency Resource Standards require energy providers to meet a specific portion of their electricity demand through energy efficiency. This category may also include energy efficiency as an Renewable Portfolio Standard (RPS) or Alternative Energy Portfolio Standard (AEPS) component.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alaska** | Established a policy goal of achieving a 15% increase in energy efficiency on a per captain basis by the year 2020 (HB 306) |
| **Arizona** | • Requires public utilities to achieve annual energy savings of at least 22% - measured in kWh - by 2020<br>• The savings are to increase incrementally as a percentage of retail energy sales in each calendar year prior to 2020 in order to reach the set goal |
| **Arkansas** | ***Established sales reductions targets for both electric (.25% for 2011, .50% for 2012 and .75% for 2013) and gas (.2% for 2011, .3% for 2012 and .4% for 2013) utilities. The reductions are to be met by the end of the calendar year, and are based on 2010 sales.*** |
| **California** | Energy efficiency is an option under California's RPS; investor-owned utilities have savings goals of 23,183 GWh (including 4,885 MW of peak demand) expected to save more than 1% of total electricity sales per year from 2004-2013 |
| **Colorado** | Xcel Energy is required to meet approximately 0.38% of total electricity sales by 2013 through energy efficiency; an Energy Efficiency docket is pending at PUC (May 2008); legislation directs utility goals of reduction by 2018 of at least 5% of 2006 retail system peak demand and at least 5% of 2006 retail energy |
| **Connecticut** | As part of CT's RPS, 4% of supply must come from distributed sources by 2010 (energy efficiency, load management, combined heat and power - Class III renewables) |
| **Delaware** | • Approved Energy Efficiency Resource Standards (EERS) that set goals for reduction of consumption and peak demand; 15% electricity and 10% natural gas savings by 2015 (SB 106) |
| **Georgia** | The governor has established the Governor's Energy Challenge, which requires state facilities to reduce energy use 15% by 2020 and challenges individuals, businesses, local governments and others to meet or exceed this challenge through their own voluntary actions<br>***Seven state agencies met the Governor's Energy Challenge of a 15% energy reductions by 2020 (See also Lead by Example).*** |
| **Hawaii** | Under state RPS, utilities must meet 20% of sales with eligible resources, and energy efficiency is included as an eligible resource; under the Hawaii Clean Energy Initiative, the state set a goal in conjunction with USDOE to produce 70% of energy from clean, renewable sources by 2030<br>• Mandates energy efficiency portfolio standards (EEPS) of 4300 gigawatthours (GWH) by 2030 (HB 1464) |
| **Illinois** | Goal that energy efficiency should account for 25% of demand growth by 2015 (voluntary)<br>• The Energy Efficiency Portfolio Standard requires a savings of 0.2% of energy delivered in 2008, increasing to an annual savings of 2% up to 2015 (SB 1592, Illinois Power Agency Act)<br>• Natural gas savings target that begins with 0.2% savings by May 31, 2011, and ramps up to 1.5% in 2019, providing cumulative savings of 8.6% in 2020<br>Included a requirement in their Energy Efficiency Portfolio Standard for electric utilities to implement cost-effective demand response measures to reduce peak demand by 0.1% over the prior year for eligible retail customers |

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| **Iowa** | Recent legislation contains provisions requiring non-rate regulated utilities (i.e. municipals and co-ops) to submit to the IUB assessments of potential energy and capacity savings to be achieved through energy efficiency programs; each utility must report an energy efficiency goal and must provide the Iowa Utilities Board with a progress report by January 1, 2010; by January 1, 2012, each such utility must file a report of its progress to these goals to the IUB<br>• MidAmerican Energy was the first utility to receive approval by the IUB for their energy efficiency plan to achieve 1.5% electricity savings by 2010 and 0.85% natural gas savings by 2013 |
| **Kansas** | Kansas has set a voluntary goal for utilities to reduce energy use 10% by 2010; the governor set a goal of increasing energy efficiency by 5% in 2010 and 10% in 2020 |
| **Kentucky** | Legislation enacted in 2008 directs a study of adoption of energy efficiency standards, with a report due November 30, 2008<br>• The Kentucky Public Service Commission (PSC) issued its report, Electric Utility Regulation and Energy Policy in Kentucky, with their findings and recommendations<br>• In response to the report, Kentucky published their Energy Plan, Intelligent Energy Choices for Kentucky's Future, which sets a target of meeting 18% of Kentucky's projected 2025 energy demand with increased efficiency<br>• Set the High Performance Building Standard that requires LEED certification of newly built or renovated state government buildings (200 KAR 6:070)<br>• The state will give priority to projects that include an expansion of existing energy efficiency programs including building and industry retrofits as well as an expansion of existing programs to support renewable energy projects and deployment activities |
| **Maine** | • Loading order requires procurement of energy efficiency prior to other traditional resources (MRS 3210-C (4))<br>Set a goal of 30% energy savings and 100 MW peak electric reduction by 2020 |
| **Maryland** | Goal to reduce per capita consumption and peak demand 15% by 2015 |
| **Massachusetts** | Goal is to decrease 2008 electricity generation by 20% by 2020, meeting additional needs through efficiency<br>• Utilities required to acquire all energy efficiency resources that cost less than new energy supply as primary resource (SB 2468, Green Communities Act)<br>Called for a statewide reduction of 2.4 percent in electricity use and 1.15 percent in natural gas use annually for three years |
| **Michigan** | Michigan's RPS Statute, the Clean, Renewable, and Efficient Energy Act, PA 295 of 2008, requires all electric and natural gas utilities in Michigan to establish energy optimization programs designed to save ratepayers money by reducing the future costs of providing electric and natural gas to customers; in particular, programs are designed to delay the need for constructing new electric generating facilities and thereby protect consumers from incurring the costs of such construction<br>• Electric utilities must achieve 0.3% savings in 2009; 0.5% in 2010; 0.75% in 2011; and 1.0% in 2012 and each year thereafter (SB 213)<br>• Natural gas utilities must achieve 0.1% savings in 2009; 0.25% in 2010; 0.5% in 2011; and 0.75% in 2012 and each year thereafter (SB 213) |

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| **Minnesota** | There must be a 1.5% annual energy savings of electric and natural gas sales, with a minimum of 1% coming from energy efficiency |
| **Missouri** | • State policy goal of achieving all cost-effective demand-side savings; no required standard |
| **Montana** | The 20 x 10 initiative set the goal of reducing energy use in state government facilities by 20% by the end of 2010 |
| **Nevada** | Nevada's Energy Portfolio Standard requires the state's two investor-owned utilities to derive or save 20% of retail sales from renewable energy resources or energy efficiency measures by 2015 (IOUS can earn credit for up to 25% of the standard from energy efficiency); included in the standard is a Portfolio Energy Credit (PEC) trading program |
| **New Mexico** | EUEA establishes minimum "floors" of 5% energy efficiency savings by utilities from 2005 electricity retail sales by 2014 and 10% by 2020; Governor's executive order establishes statewide energy efficiency targets of 10% by 2012 and 20% by 2020 |
| **New York** | In 2007, the governor called for electricity savings of 15% of total forecasted sales in 2015; Energy Efficiency Portfolio Standard proceeding is ongoing to define the strategies that will be used to achieve the "15-by-15" goal<br>• In its Energy Efficiency Portfolio Standards proceedings, the State of New York Public Service Commission (NYPSC or the Commission) has authorized funding and established energy usage reduction objectives for 90 new gas and electric energy efficiency programs<br>• The overall funding approved through 2011 is approximately $922M<br>• The NYPSC has authorized funding for its major gas local distribution companies to enable oil to natural gas conversions for furnaces and boilers<br>• The natural gas conversions are also eligible to receive energy efficiency incentives for qualifying equipment through the Commission's approved programs |
| **North Carolina** | Energy efficiency included in North Carolina's REPS |
| **Ohio** | A new energy efficiency standard for Ohio utilities mandates that by 2025 utility programs achieve annual energy savings through efficiency equal to at least 2% of a rolling three year average<br>• Requires a gradual ramp-up to a 22% reduction in electricity use by 2025 (SB 221)<br>• Electric distribution utilities must achieve 0.3% savings, ramping up to 1% per year by 2014 and then jumping to 2% per year in 2019 through 2025<br>• Requires electric distribution utilities to reduce peak demand by 1% and to continue to achieve an additional 0.75% reduction per year until 2018 |
| **Pennsylvania** | The AEPS contains an energy efficiency resource option; the Governor's pending Energy Independence Strategy includes measures to reduce load growth and multiple tools to increase efficiency<br>• Seven major electric utilities required to develop energy efficiency programs and submit them to PUC, with goal of achieving, at minimum, 1% energy consumption reduction by 2011 and 3% by 2013, as well as 4.5% reduction by 2013 (Act 129) |
| **Texas** | Requires electric utilities to offset 20% of load growth through end-use energy efficiency<br>***Increased target to 25% in 2012 and to 30% in 2013 and beyond.*** |

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| **Utah** | The governor has set an Energy Efficiency Goal of 20% improvement in energy efficiency by 2015<br>• A Joint Resolution on Cost-effective Energy Efficiency and Utility Demand-Side Management sets non-binding energy savings goals of at least 1% per year for Utah's electric corporations and at least 0.5% per year for Utah's natural gas utility corporations (HJR 9) |
| **Virginia** | • The Virginia General Assembly set a target that 10% of electric base year (2006) use should be reduced by conservation and efficiency by 2022<br>• Implementing a five-year "Virginia Energy Sense" consumer education and outreach program, under the guidance of the State Corporation Commission, to encourage electric energy efficiency and conservation |
| **Washington** | (See Renewable/Alternative Energy Portfolio Standards below) Covered utilities must meet Washington's Renewable Energy Standard requirements and capture all cost-effective conservation |
| **Wisconsin** | • Pending Energy Efficiency Resource Standard<br>• The Governor's Task Force on Global Warming recommended that the state set savings targets of 2% per year for electricity and 1% per year for natural gas<br>***Set targets of 1.5% of electricity consumption and 1.5% peak demand savings by 2014. Also set target of 1% natural gas sales reduction by 2014. The reduction is based on the prior year's sales times a 1% growth rate.*** |
| **American Samoa** | Includes Energy Management as a way to meet renewable energy goals - through initiatives such as in-house lighting and air conditioning upgrades, waste heat recovery, and commercial lighting programs |
| **Virgin Islands** | • Selected two ESCOs to perform ESPCs for government and large commercial and industrial ratepayers to achieve gross energy savings from efficiency in the range of 20% to 30% with market penetration of 80%<br>• Signed MOU through Energy Development in Island Nations (EDIN) partnership to achieve a 60% reduction in fossil fuel consumption by 2025 |

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# ENERGY EFFICIENCY

## Public Benefits Funds

### DEFINITION

Public Benefit Funds (PBF) typically are state-level programs developed through the electric utility restructuring process as a measure to assure continued support for renewable energy resources, energy efficiency initiatives, and low-income support programs. (These funds are also frequently referred to as a system benefits charge, or SBC.) Such a fund is most commonly supported through a charge to all customers on electricity consumption.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **California** | Investor-owned utilities charge a "public goods surcharge" to be devoted to energy efficiency, renewable energy, and RD&D |
| **Connecticut** | The Department of Public Utility Control receives a per-kWh surcharge on ratepayer's utility bills that is dedicated to conservation, load management, research, development and commercialization efforts, education efforts, etc. - these funds are supplemented by additional sources<br>The Energy Efficiency Fund, funded by Connecticut's public benefits charge, provides home energy efficiency rebate programs to customers of The Connecticut Light and Power Company and The United Illuminating Company, Connecticut Natural Gas, Southern Connecticut Gas, and Yankeegas customers |
| **Delaware** | • Delaware's SOS provider has an SBC that generates approximately $3.0M a year for renewable energy buy down programs, technology demonstration and research and development programs administered by the Delaware Energy Office |
| **Hawaii** | Starting in 2008, a third party administrator began operating a fund under the Public Utilities Commission |
| **Illinois** | The Energy Efficiency Trust Fund supports energy-efficiency upgrades for low-income residents, new construction and building retrofits, window upgrades, appliance upgrades, lighting upgrades, insulation and other efficiency measures |
| **Kentucky** | Legislation enacted in 2008 directs, as part of an RPS study, funding mechanisms for financing incentives for energy efficiency and renewable energy, including evaluation of public or benefit funds utilized by other states<br>• As part of the Kentucky Energy Plan, will determine the impact, surcharge amount and cost of establishing a public benefit fund |
| **Maine** | Efficiency Maine is operated through the PUC and supports improvements in lighting efficiency, reductions in peak demand, high-performance buildings, appliance replacements for low-income residents, energy training and certification, and public education<br>• Established the Efficiency Maine Trust to administer all electricity conservation and efficiency programs, natural gas conservation and efficiency programs, the Regional Greenhouse Gas Initiative Trust Fund (replacing the Energy and Carbon Savings Trust and the Maine Energy Conservation Board), and a heating fuels efficiency and weatherization program (LD 1485)<br>***The Commission of the Efficiency Maine Trust approved its first triennial plan for the years 2011-2013.*** |
| **Massachusetts** | The efficiency fund, which is authorized to support DSM programs, also supports energy projects for low-income residents and is funded by a non-bypassable charge based on electricity use, imposed on customers of all investor-owned electric utilities in Massachusetts; the current charge is 2.5 mils/kWh sold, which produces $125 million per year, offsetting electric annual load growth by 0.7%; cumulatively, energy efficiency accounts for approximately 8% of the state's current electricity needs<br>• Expanded funding to $1.4 billion by 2012 through proceeds from Forward Capacity Market, RGGI, and adjustments to systems benefit charges (SB 2468, Green Communities Act) |

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| **Michigan** | The state's Low-Income and Energy Efficiency Fund supports the implementation of energy-efficiency projects and renewable-energy projects in the state |
| **Minnesota** | Applied energy efficiency and research grants for applied research and development projects that identify new technologies or strategies to maximize energy savings, improve the effectiveness of energy conservation programs, or document the carbon dioxide reductions from energy, conservation programs |
| **Montana** | The Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables; termination date repealed |
| **Nebraska** | Although not specifically public benefit funds, the Low-Income Energy Conservation Act provides funds to eligible persons for energy conservation improvements; passed in 2008, the law authorizes the use of 5% of sales taxes paid by electric utilities to fund the energy efficiency improvements and requires dollar for dollar matching funds; the implementation date is July 1, 2009 |
| **New Hampshire** | Commercial programs funded by the system benefits charge (SBC) support new construction and major renovations, lighting upgrades, occupancy sensors, controls, air conditioning improvements, programmable thermostats, efficient motors, variable-frequency drives, energy-management systems, LED traffic lights, and custom projects; residential programs funded by the SBC support Energy Star lighting and appliances, Energy Star new home construction, insulation, thermostats and other efficiency measures; SBC programs for qualified low-income residents provide funding for insulation, thermostats, lighting upgrades and efficient refrigerators |
| **New Jersey** | Maintains a societal benefits charge to support investments in energy efficiency and Class I renewable energy; the SBC funds New Jersey's Clean Energy Program, a statewide initiative that provides technical assistance, financial assistance, information and education for all classes of ratepayers |
| **New Mexico** | Public electric and natural gas utilities are authorized to implement cost-effective energy-reduction programs; the programs may be funded through a tariff rider for energy-efficiency and loan management programs |

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| **New York** | New York's system benefits charge (SBC) program, branded as New York Energy $mart℠ was initiated in 1998 and was reauthorized in 2005 to provide annual funding of $175 million through 2011 to supports energy efficiency, peak load, education and outreach, research and development, and low-income energy assistance programs; the cumulative benefits through December 2007 of New York Energy $mart℠ which is administered by NYSERDA includes 3,060 annual GWh of electricity savings from energy efficiency and DG-CHP, 1,200 MW of peak demand reduction, and 4,660,000 MMBtu of net fuel savings; in addition to NYSERDA's New York Energy $mart℠ Program funded through the SBC, the New York Power Authority (NYPA) and Long Island Power Authority (LIPA) each offer complementary public benefits programs of their own; the three authorities coordinate program design and service delivery wherever practicable to maximize the use of public funds for the programs and to ensure a coordinated statewide effort to meet public policy goals; several investor-owned utilities offer low-income and other efficiency programs<br><br>By December 2009, the collective portfolio of New York Energy $mart℠ achieved 3,820 GWh of cumulative annual electricity savings, and 4.6 million MMBtu of natural gas, fuel oil and other fuel savings; NYSERDA's SBC portfolio also reduced peak demand by 1,415 MW, including 824 MW of permanent demand reduction measures and 590 MW of callable load reduction; through the RPS program, as of January 2009, more than 1,164 MW (28 projects) of renewable energy capacity are under contract as a result of three Main Tier procurements; of this, more than 1,100 MW of capacity are installed and operating at 23 sites; these facilities are expected to produce 2.9 million MWh annually |
| **Ohio** | Ohio's Advanced Energy Fund provides grants and low-interest loans to distributed energy resources projects, non-residential and residential renewable energy, and manufacturing facilities' energy efficiency<br><br>***Suspended all funding opportunities from the Advanced Energy Fund as of November 5, 2010, in order to allow the Ohio Department of Development to process applications that were previously submitted.*** |
| **Oregon** | See Below--Oregon Energy Trust |
| **Pennsylvania** | Four renewable and sustainable-energy funding programs were subsequently created through individual settlements with the state's five major distribution utilities |
| **Rhode Island** | The Rhode Island Renewable Energy Fund (RIREF) is administered by the Rhode Island Office of Energy Resources, and DSM programs are administered by the state's electric distribution companies |
| **South Dakota** | Under the State of South Dakota Energy Loan Fund, SD is using over $8 million of funds to provide no-interest loans to state projects; the loan payment is based on energy cost savings |
| **Vermont** | Efficiency Vermont provides technical assistance and financial incentives for energy-efficient building design, construction, renovation, equipment, lighting and appliances; its primary priorities are reducing the size of future power purchases, reducing the generation of greenhouse gases, limiting the need to upgrade the state's transmission and distribution infrastructure, and minimizing the costs of electricity<br><br>• PSB directed to develop energy efficiency pilot program for transmission and industrial utility customers whose contributions in a given year to public benefits fund exceeded $1.5 million |

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# ENERGY EFFICIENCY

## Financial and Other Incentives

### DEFINITION

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| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Alabama's Local Government Energy Loan Program offers zero-interest loans to local governments and schools in rural areas for energy efficiency improvements that will eventually have a payback through utility savings<br>• Revolving Loan Program to finance energy efficiency improvements and renewable energy installations for existing businesses and industry is currently underway<br>• Agriculture Energy Efficiency Program provides education and financial resources to farmers to utilize energy efficiency and renewable energy technologies; solicitation period every other year; past solicitation Spring 2009<br>***Created AlabamaSAVES under the Alabama Department of Economic and Community Affairs (ADECA) to provide energy efficiency retrofit and renewable energy loans to commercial facilities (see also Clean Energy Economic Development).*** |
| **Alaska** | The Alaska Housing Finance Corporation (AHFC) will fund homeowners' associations common area improvements, including energy efficiency; offers interest rate reductions to home buyers purchasing new and existing homes with 5 Star and 5 Star Plus energy ratings<br>The Weatherization Program is for individuals who meet certain income guidelines for eligibility; provides free weatherization assistance for homes, rentals, and multifamily dwellings; the program has been in existence almost 30 years<br>• The Home Energy Rebate Program operated by AHFC is designed to rebate to homeowners some of the expense of making energy-efficiency improvements to their homes<br>• Available one time for any family or home;<br>• The final rebate amount depends on steps and points achieved on post-improvement energy ratings for the home; and<br>• Maximum rebate is $10,000<br>• Created a new loan fund to encourage commercial energy efficiency upgrades<br>• The maximum amount of each loan is $50,000; and<br>• Due to the length of time it will take to implement regulations establishing the operations of this new revolving loan fund, no appropriation was made to capitalize this fund in the coming fiscal year (SB 220)<br>***Established a Residential Energy-Efficient Appliance Rebate Program, administered by the Alaska Housing Finance Corporation, that offers rebates for select Energy Star appliances installed in disabled Alaskans' households.***<br>***Launched a loan program for energy efficiency remodeling administered by the Alaska Housing Finance Corporation. Recipients of the loan contract with construction firms for fixes made under energy savings performance contracts and contractors guarantee the savings on electricity bills. The borrower uses the savings to repay the loans.***<br>***Increased the loan limit for the Second Mortgage for Energy Conservation program, which provides loans for energy upgrades, to $100,000.***<br>***Increased the loan limit for the Small Building Material program, which provides loans for energy efficiency upgrades to homes in "small communities", to $100,000.*** |
| **Arizona** | ***Created an individual income tax subtraction to taxpayers who sell one or more energy efficient single family residences, condominiums or town houses.*** |

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| **Arkansas** | ***Created a low interest-rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation. Loan rates are dependent on the loan length and are related to the current market interest rates (ARRA funded – See also Clean Electricity and Clean Energy Economic Development).***<br>***Created the Residential Energy-Efficient Appliance Rebate Program, administered by the Arkansas Energy Office, to offer rebates for select Energy Star appliances installed in households in Arkansas.*** |
| **California** | The School Facility Program (SFP), through grants approved by the State Allocation Board (SAB), provides funding to school districts for facility modernization. A school district is only eligible when previously un-modified permanent buildings are 25 years or older and relocatable classrooms are 20 years or older.<br>The California Energy Commission provides up to $26 million in loans to schools, hospitals, and local governments for the installation of energy-saving measures or for energy audits and studies<br>Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Clean Electricity and Clean Energy Economic Development)<br>Established the Energy Conservation Assistance Loan Program to provide low interest loans to local jurisdictions for energy efficiency retrofits<br>Personal tax deduction allows taxpayers to deduct the interest paid on loans used to purchase energy efficient products or equipment for a residence; the deduction is for loans from a publicly-owned utility company for the purchase of energy-efficient heating, ventilation, air-conditioning, lighting, solar, advanced metering of energy usage, windows, insulation, zone heating products, and weatherization systems<br>• Authorizes college campuses to receive a bill credit to be applied to a designated benefiting account for electricity exported to the electrical grid by an eligible renewable generating facility<br>• Energy Commission required to establish a plan for a program to achieve greater energy savings in the state's existing residential and nonresidential buildings<br>• The Public Utilities Commission asked to investigate the ability of electrical and gas corporations to provide customers with energy audits, energy efficiency financing options and to make reports<br>• Requires a local publicly owned utility to be responsible for implementing an energy efficiency program<br>• Public Utilities Commission and the State Air Resources Board authorized to treat advanced electrical distributed generation technology as cogeneration<br>• Makes existing limitations upon gas rates and surcharges charged cogenerators applicable to an advanced electrical distributed generation technology<br>• Prohibits placing alternative fuel capability requirements upon gas customers that use gas for cogeneration applicable to a generator using such advanced technology<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 77)<br>• The grant amount fund a large variety of work at an eligible school site including but not limited to air conditioning, insulation, roof replacement, as well as the purchase of new furniture and equipment. The amount of the grant depends on the number of students.<br>**Required the Alternative Energy and Advanced Transportation Financing Authority to administer a Clean Energy Upgrade Program to reduce the costs to property owners of a loan provided by a financial institution for energy efficiency or renewable energy upgrades (ABX 1 14).** |

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| **Colorado** | The Colorado Clean Energy Fund provides grants, loans and other financial incentives to attract manufacturers of energy efficient products to the state<br>• Creates a clean energy program fund (SB 184, Clean Energy Finance Program Act)<br>• Provides below market-rate clean energy loans in limited amounts to eligible homeowners for the purpose of financing clean energy and energy conserving home repairs, additions, or improvements<br>• Rural Clean Energy Project Finance program assists localities in financing eligible clean energy projects through issuance of private activity bonds<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1350, C.R.S. 30-20-601.5 et seq., SB 100)<br>***Established financing program for companies with building retrofit projects or that are directly involved in the renewable energy sector. The financing is intended to fill funding gaps or provide support to companies that have not been able to secure private investment (See also Clean Electricity and Clean Energy Economic Development).***<br>***Created rebate program for homeowners to purchase and install certain energy efficient appliances, heating equipment and weatherization materials (ARRA Funded).***<br>***Created the Green Colorado Credit Reserve, a loan program providing capital to small businesses for energy efficiency retrofits in business offices or manufacturing facilities (See also Clean Energy Economic Development).***<br>**The Governor's Energy Office established a pilot program offering grants to retrofit the current homes of homeowners selling their house and moving to a more energy efficient home (H.B. 11-1160).**<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector economic development (See also Clean Electricity and Clean Energy Economic Development).***<br>***Created an improvement district comprised of the entire state and authorized the improvement district to issue up to $800 million in bonds to fund PACE financing programs (HB1328 – See also Clean Electricity).***<br>***Required builders of single-family homes to offer certain water efficient appliances if the buyer is under contract (HB 1358).*** |
| **Connecticut** | Provides a sales and use tax exemption for certain energy efficiency products; residential Energy Conservation Loans are available for conservation improvements; revenue from $CO_2$ allowances under RGGI are invested in conservation programs<br>Connecticut's New Energy Technology program provides grants of up to $10,000 to applicants who submit promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy. Grants are awarded to as many as five "small firms" -- a firm that employs 30 or fewer people -- each year (See also Clean Electricity and Clean Energy RD&D).<br>**Launched a pilot program designed to help women- and minority-owned businesses reduce their energy costs and educate themselves about energy consumption. The program, conducted in five cities, offered 1,200 small business grants of up to $1,000 to help cover electricity costs. The program also offers education on energy efficiency and conservation (See also Clean Energy Economic Development).**<br>**Established a loan program for municipalities to finance energy efficiency and renewable energy projects, the costs of which are recovered by an assessment on the benefitted property (SB 1243).**<br>**Required the energy efficiency and renewable energy plans developed under current law to provide equitable funding for low-income neighborhoods (SB 1243).** |

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| **Delaware** | The Delaware General Assembly established the Sustainable Energy Unit (SEU) in 2007 to provide a one stop service for energy efficiency and renewable energy services in all sectors and for all fuels; the SEU is designed to advance energy efficiency and renewable energy and promote customer-sited renewable energy generation; the SEU offers loans, grants, third party financing and other financial and programmatic tools for energy efficiency and renewable energy technologies; the full range of SEU services are found on the SEU website<br>***The Delaware Sustainable Energy Utility (SEU) established a program that offers cash incentives of up to $20,000 to Delaware businesses, non-profits, and governmental organizations that make energy efficiency improvements in existing buildings or new construction.***<br>***The Delaware Sustainable Energy Utility (SEU) issued $67.4 million in revenue bonds payable to state appropriations to finance energy efficiency improvements for five state agencies. Proceeds from the bonds will be used by Energy Service Companies ("ESCOs") to install the efficiency improvements that are expected to yield savings of over $26 million.***<br>***Transferred $5 million in proceeds generated by the public utility tax to a new Energy Efficiency Investment Fund, which will be used to finance energy efficiency projects that will reduce overall energy use and create jobs (HB 129).*** |
| **Florida** | Offers a sales tax holiday for energy efficient products<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 7179)<br>***The Florida Energy & Climate Commission created a program to provide venture capital funds to Florida companies to improve their energy efficiency or demonstrate the use of renewable technologies (See also Clean Energy Economic Development).***<br>***The Florida Energy & Climate Commission administered the ENERGY STAR Residential HVAC rebate program (HB 15b).***<br>***Localities in Florida have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Georgia** | Offers a four-day sales tax exemption for energy-efficient residential appliances, lighting, doors and windows; products must meet or exceed the federal Energy Star program requirements in order to qualify<br>Created the Clean Energy Property Tax Credit, a 35% tax credit for energy efficient building projects and lighting retrofits that achieve an energy reduction standard<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1388)<br>***Established the Green Communities Fund to provide low-interest loans of up to $250,000 to businesses and property owners for energy efficiency upgrades that reduce energy use by 20% or yield a 10-year return on investment.***<br>***Administered Residential Energy-Efficient Appliance Rebate Program that offers rebates for select Energy Star appliances installed in households.***<br>***Authorized the development of a Guaranteed Energy Savings Performance Contracting Program is being developed for state facility retrofits, including a pre-qualified list of energy savings companies and standard statewide contracts for agencies to use (See also Clean Energy Economic Development).***<br>***Administered competitive energy efficiency grants for local governments, state government, and industrial, commercial and residential sectors.***<br>***Localities in Georgia have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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| **Hawaii** | Provides priority permitting processes for construction projects that are LEED Silver, two Green Globes, or other comparable certification<br>• Hawaii Public Utilities Commission (PUC) established a feed-in tariff program to be offered by the three investor-owned utilities: HECO, MECO and HELCO<br>• As a home rule state, allows counties to create special improvement districts for financing a variety of projects, including Property Assessed Clean Energy (PACE) financing<br>**Directed the Public Utilities Commission to investigate an On-Bill Financing Program for residential electric utility customers to finance purchases of energy efficient or renewable energy devices and systems through their regular electric utility bills. Also authorized the Commission to implement a program by decision and order or by rules if the program is found to be viable (HB 1520 – See also Clean Electricity).**<br>**Authorized the Public Utilities Commission to take into consideration the need to reduce the state's reliance on fossil fuels through energy efficiency and increased renewable energy generation when considering utility system capital improvements, despite the increased short-term costs (SB 1482 – See also Clean Electricity).**<br>**Created a requirement that at least ten percent of funds appropriated for school repair and maintenance be set aside and used to fund the repair, maintenance, and upgrading of school facilities to meet green building standards (HB 1639).** |
| **Idaho** | The Idaho Department of Water Resources administers low-interest loan programs for energy efficiency projects<br>Residents with homes built or under construction before 1976, or who had a building permit issued before 1976, qualify for an income tax deduction for 100% of the costs of installing new insulation<br>***Created the K-12 Energy Efficiency Project to provide building process changes, mechanical system tune-ups, and the installation of hard measures implemented through building envelope, lighting, mechanical and water savings retrofits to schools.***<br>***Developed Appliance Rebate Program to distribute rebates to residential citizens who replace a working appliance with a new ENERGY STAR appliance.***<br>***The Office of Energy Resources administered sub-grants totaling $7,364,522 to 72 cities and counties for energy efficiency and renewable energy technology projects throughout the state (See also Clean Electricity).*** |
| **Illinois** | The Illinois Clean Energy Community Foundation provides grants, on a competitive basis, to programs and projects that improve energy efficiency, develop renewable-energy resources, and preserve and enhance natural areas and wildlife habitats in Illinois; provides grants through the Energy Efficient Affordable Housing Construction Program to non-profit housing developers who include energy efficient building practices in the rehab or new construction of affordable housing units<br>Required the Capital Development Board, along with the Department of Commerce and Economic Opportunity, to initiate a study of building energy performance measures to identify a label for a building or facility that indicates its energy use (S 3429)<br>The Manufacturing Energy Efficiency Program targets manufacturers with energy costs greater than $500,000 per year and provides rebates to manufacturers of 50%, up to $10,000, towards the cost for developing an energy efficiency action plan and 50%, up to $10,000, for the cost of a technical assessment<br>The Green Business Building Pilot Program will provide grants of up to $100,000 per facility for design assistance for private-sector construction projects that meet a minimum LEED Gold standard and achieve energy performance of at least 20% above the minimum energy code, while achieving minimum standards for best practices in solid waste management |

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| **Illinois (continued)** | • The Illinois Finance Authority (IFA) provides loan guarantees to eligible renewable energy and energy efficiency projects to lower the cost of financing<br>• The IFA is authorized to provide up to $3 billion in "Additional Security" loan guarantees or bonds to help facilitate the development of renewable energy and clean coal projects in Illinois (Act 96-0103)<br>• This authorization was expanded to provide this "Additional Security" support for energy efficiency projects (Act 96-0817)<br>• The Illinois Treasurer's Office Green Energy Program encourages energy efficient development and improvements by offering low-interest loans to businesses, non-profit organizations and local governments in Illinois<br>• The Treasurer's Office secures below-market interest rates for borrowers who finance their purchase or installation of energy efficient and renewable energy equipment at participating lenders; projects can range from $10,000 to $10 million<br>***The Illinois State Board of Education established an Energy Efficiency Grants program, a dollar-for-dollar state matching grant program for energy efficiency projects in schools, offering $50 million in grants. The application deadline closed in January 2011.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,000 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030 – See also Clean Electricity and Clean Energy Economic Development).*** |
| **Indiana** | • Several utility rebate programs exist throughout the state provided by separate rural electric cooperatives<br>Provides up to $1 million in tax credits for individuals and small businesses investing in Energy Star compliant equipment<br>• Offers homeowners and small business owners a state income tax credit, up to $100, for the purchase of Energy Star rated equipment as of January 1, 2009<br>• Offered more than $8 million to county and city governments for lighting and structural retrofits<br>Promotes energy efficiency and conservation through ongoing education and outreach programs (compact fluorescent light bulb give-aways, anti-idling events, and energy conservation education); Purdue University's TAP Energy Efficiency Services program is educating large, industrial commercial, and institutional energy users on energy efficiency and conservation |
| **Iowa** | • Established an Energy City Designation Program and provided funding from loans and grants for energy reduction projects, building construction and rehabilitation (Code 473.41)<br>• The Office of Energy Independence established a community grant program for energy efficiency projects (SF 452) |
| **Kansas** | The Kansas Energy Efficiency Loan Program (KEEP) provides loans to resident homeowners that can be used to purchase energy efficient HVAC and weatherization equipment, as well as certain energy efficient appliances<br>Efficiency Kansas offers a revolving loan program for residential and small business energy efficiency improvements run by the Kansas Energy Office, Efficiency Kansas offers low-cost financing through 105 participating banks and 21 utilities that allow on-bill repayment for efficiency upgrades |

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| **Kansas (continued)** | The Kansas Weatherization Assistance Program (WAP), operated by the Kansas Housing Resources Corporation, provides housing improvements that increase energy efficiency in low-income households; the KCC may grant an additional 50 to 200 basis points on the utility's allowed rate of return on investment in energy conservation and efficiency<br>**Launched the 2011 Take Charge! Challenge, a grant competition between 16 communities and two universities, to determine which can save the most energy between January and September 2011. The winning community in each region will win a renewable energy or energy efficiency project valued up to $100,000 (See also Clean Electricity).** |
| **Kentucky** | Legislation enacted in 2008 establishes residential and commercial energy efficiency income tax credits for a percentage of installed costs of upgraded insulation, energy efficient windows and doors, and HVAC systems; also establishes tax credits for builders of Energy Star homes and purchasers of Energy Star manufactured homes; the state allows a sales tax exemption for manufacturers on the amount of sales or use tax paid on the purchase of new or replacement equipment for an energy efficiency project<br>• The Green Bank of Kentucky provides low-interest loans to state institutions for education, engineering analyses and building improvements that enhance energy efficiency<br>- The repayment of the loan is intended to come from future reduced energy usage<br>• Issuing approximately $4 million in rebates to residents who purchase Energy Star home appliances to replace older, less energy efficient models beginning April 2010 until the funding runs out<br>• The Governor's Office of Agricultural Policy is using ARRA funds to supplement tobacco settlement funding grants to multi-county collaboratives to enhance and advance renewable energy production at the farm level<br>• Awarding energy efficiency and renewable energy grants to industries locating or expanding operations in Kentucky that create or retain "green jobs" while saving energy and reducing carbon emissions<br>• Grants for local governments to improve the energy efficiency of local government buildings<br>• Kentucky's Public Service Commission will seek to implement a general policy that ensures utility financial incentives are aligned with helping customers use energy more efficiently and provides the utility with timely cost recovery and a timely earnings opportunity<br>• The Governor's Office of Agricultural Policy On-Farm Energy Efficiency and Production Program works to increase energy efficiency and opportunities for renewable energy improvements on Kentucky's farms and in farming communities<br>• Kentucky Housing Corporation, the State Housing Finance Agency, (KHC) in partnership with the Kentucky Department for Energy Development and Independence (DEDI) and Kentucky Revenue Cabinet has created KY Home Performance, a statewide $6.1 million dollar single family energy efficient retrofit program targeting households at 200% of poverty and above<br>• Kentucky's Clean Energy Corps set the goal of weatherizing 10,000 modest-income homes to make them 30% more efficient<br>• Since Feb. 2009, the state has weatherized approximately 4,200 low income housing units<br>• Kentucky Pollution Prevention Center performs energy analyses at industrial, commercial and institutional firms or organizations<br>• Establishing a program in partnership with electric utilities to explore development of smart grid concepts and their possible application in Kentucky |

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| **Louisiana** | Partners with lenders to offer homeowners a five year loan to improve the energy efficiencies of their existing homes<br>Residents can apply to receive cash rebates for energy efficient improvements to existing homes - the amount of the incentive depends on the resulting energy savings, or Energy Efficiency Premium<br>• Under a three-and-a-half year grant, the University of Louisiana at Lafayette's Industrial Assessment Center (IAC) will perform 14 one-day type assessments on low to medium size manufacturing facilities and approximately six one-day assessments within other areas, such as medical facilities<br>• The IAC will also perform six training assessments for large energy users and six Save Energy Now Workshops<br>• The Home Energy Rebate Option (HERO) Program provides residents a cash rebate for energy efficiency improvements to homes and businesses<br>• The amount of the rebate depends on the level of energy efficiency achieved<br>• The program includes three components: New Homes, Existing Homes, and Commercial Buildings Retrofit<br>• Residential appliance rebate program for the purchase of ENERGY STAR labeled appliances<br>• A grant program will assist local governments in creating and implementing strategies to implement energy efficiency, renewable energy and transportation efficiency projects<br>The Home Energy Loan Program (HELP), administered by the Louisiana Department of Natural Resources (DNR), allows homeowners to get a five-year loan to improve the energy efficiency of their existing home<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 224)<br>***Localities in Louisiana have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Maine** | The Home Energy Loan Program provides low-interest loans to residents for energy improvements recommended by an energy auditor; the Small Business Energy Efficiency Loan Program is available to small businesses ($5 million or less in annual sales) seeking to improve energy efficiency - to qualify, a business must undergo an energy audit to identify necessary improvements performed free of charge by a Maine Public Utilities Commission staff member or for a fee by a licensed energy auditor<br>Calls for the use of designated energy corridors if the corridor's use is likely to reduce electric rates and benefit the long-term public interest of the State, including the reduction of greenhouse gases (GHGs). Revenues from the use of state-owned lands or assets are directed to improve energy efficiency and increase renewable energy generation (LD 1786).<br>The Governor's Office of Energy Independence and Security launched the "Grants Connector" program to provide information support for businesses, non-profits, government entities and other interested parties to pursue federal, state and private energy efficiency, conservation and renewable energy project grants and financial incentives (See also Clean Electricity)<br>The Efficiency Maine Business Program offers both prescriptive incentives and custom incentives to commercial and governmental organizations for energy efficient measures |

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| **Maine (continued)** | The Efficiency Maine Residential Lighting Program works with retailers and manufacturers to encourage the purchase of energy-efficient lighting by residential customers by reimbursing retailers for coupons redeemed by customers<br>• Allows for Property Assessed Clean Energy (PACE) financing (LD 1717)<br>**Expanded the definition of energy savings improvement under the Property Assessed Clean Energy Program to include an upgrade of any heating equipment that will result in increased energy efficiency (SB 135).**<br>**Allowed school administrative units to enter into an agreement of up to 20 years with an energy services company to provides design, installation, operation, maintenance and financing of energy conservation or combined energy conservation and air quality improvements at existing school facilities (LD 776).** |
| **Maryland** | The Community Energy Loan Program provides financing for local governments and nonprofit organizations to identify and implement energy conservation improvements; SLAP is a revolving state agency loan program to be used for energy performance contracting or improvements<br>The Maryland Strategic Energy Investment Fund will direct proceeds from the RGGI auction to energy efficiency and renewable energy programs as well as bill payment assistance for low income consumers<br>Offers an income tax credit nonresidential and residential multifamily buildings of at least 20,000 sq. ft. that are constructed or rehabilitated to meet criteria set forth by the U.S. Green Building Council or other similar criteria (newly constructed buildings must be located on a qualified brownfields site, or in a priority funding area, and not in a wetlands area)<br>The Change a Light program encourages Marylanders to change at least one incandescent light bulb to a compact fluorescent light bulb annually; Home Performance with Energy Star is a market transformation program to train and certify contractors to provide whole-house diagnostics and improvements to customers' homes; the weatherization program provides assistance for low income energy efficiency improvements<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1567)<br>***Required the Department of Housing and Community Development to encourage the construction of new residential structures that are high–performance homes. High-performance homes are those that meet or exceed a LEED silver rating (HB 630).***<br>***Established a rebate program administered by the Maryland Energy Administration for energy efficiency improvements in single-family residences in Maryland through the Home Performance with Energy Star Program.***<br>***Created a sales and use tax "holiday" for certain energy-efficient appliances, beginning in 2011.***<br>***Localities in Maryland have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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# ENERGY EFFICIENCY

## Financial and Other Incentives

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| **Massachusetts** | Offers low-interest financing to help residential consumers increase the energy efficiency of their homes through the HEAT Loan Program<br>Offers a corporate excise tax deduction for any income received from the sale of a patent or royalty income from a patent deemed beneficial for energy conservation<br>***Allowed for Property Assessed Clean Energy (PACE) financing as part of a larger "Municipal Relief Bill" (H.B. 4877), authorizing local governments to establish an "Energy Revolving Loan Fund" to provide financing to private property for energy efficiency and renewable energy improvements.***<br>• ***Localities in Massachusetts have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Michigan** | Provides grants for community education programs to help consumers better understand energy efficiency and renewable-energy options; the energy-efficiency grant program, funded by the state's Low-Income and Energy Efficiency Fund, supports the implementation of energy-efficiency projects and renewable-energy projects in the state<br>• Taxpayers filing single returns with an annual income of $37,500 or less and married couples filing jointly with an annual income of $75,000 or less are eligible for a tax credit for the purchase and installation of qualifying energy efficient home improvements, limited to the following categories: insulation, water heaters, furnaces, windows, refrigerators, clothes washers, and dishwashers, all equipment must meet the EPA Energy Star efficiency criteria (MCL 206.253)<br>• Michigan SAVES finances the installation of energy measures with no upfront cost to utility customers<br>• For both the residential and nonresidential programs, the primary marketing vehicle and initial point of contact for the customer will be a network of contractors and other energy professionals qualified by Michigan SAVES<br>• The residential and nonresidential programs will be limited, at least initially, to energy efficiency upgrades and will not finance renewable energy systems<br>• Customers can choose from à la carte eligible energy-saving measures or an audit-based full response<br>• The Bureau of Energy Systems is administering 130 local government grants and four technical assistance grants for non-profits to upgrade energy efficiency in public buildings and facilities, increase recycling and/or put other policies and programs in place in communities that can create jobs and economic activity, reduce energy use and greenhouse gas emissions<br>• The state has launched a $9.6 million Appliance Rebate Program<br>• The Program is expected to last throughout 2010<br>• Certain appliance rebates are also offered through the utility based energy optimization programs<br>• See Energy Savings Targets<br>The RETAP provides onsite pollution prevention and energy efficiency assessments to businesses with 500 or fewer full-time employees in Michigan and institutions of any size<br>• The assessments are conducted by teams of retired professionals and are provided at no cost to the requesting organization<br>• The RETAP will conduct energy assessments on approximately 500 buildings by March 2012 |

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| **Michigan (continued)** | ***Launched the Michigan Energy Efficiency Network, a social media website, to provide a platform for local official and organization working on energy efficiency to communicate and collaborate with each other, state energy officials and energy business and contractors.***<br>***Authorized municipalities to establish a loan program to provide financing for clean energy improvements to commercial and industrial property owners via local ordinance (HB 5640).***<br>***Localities in Michigan have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Minnesota** | The Energy Investment Loan Program provides loans that can be applied to energy efficiency and renewable energy projects; offers low interest loans to homeowners who want to make energy improvements to their property; provides low interest financing for making energy conservation and other basic improvements to residential rental properties located in participating Minnesota communities; provides low-interest financing for energy conservation and other basic improvements to residential, owner occupied properties<br>• Established a microenergy loan program that includes anaerobic digester gas systems (Statute 216C.145)<br>• Allows for Property Assessed Clean Energy (PACE) financing (HF 2695, Sec. 3 & 4)<br>***Established Rental Energy Loan Fund to provide financial assistance to owners of residential rental properties to increase the energy efficiency of their buildings.***<br>***Localities in Minnesota have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Mississippi** | The Energy Efficiency Lease Program allows public institutions and private, non-profit hospitals the opportunity to lease-purchase energy efficient services and equipment for up to 10 years from the Energy Division of the Mississippi Development Authority; offers low interest loans for energy efficiency projects |
| **Missouri** | The Division of Energy of the Missouri Department of Natural Resources provides loans for energy efficiency and renewable energy projects for schools, colleges, universities and local government buildings and structures<br>• Expanded the linked-deposit loan program for eligible alternative energy operations producing and selling energy from alternative sources (SB 452)<br>• For expenses incurred on or after January 1, 2009, taxpayers can deduct energy audits and energy efficiency improvements from their income taxes up to $1000 per return and $2000 cumulatively per taxpayer (MRS 143.121(8))<br>• Provides rebates for purchase of Energy-Star rated appliances<br>• Provides grants or loans for energy audits and energy-efficiency projects in industries, commercial buildings, agricultural buildings and operations, local government buildings and schools<br>• Offers funding for innovative approaches to delivery of energy-efficiency projects and services to lower-income families<br>• Allows for Property Assessed Clean Energy (PACE) financing<br>• The "Show-Me Green Sales Tax Holiday" offers consumers a seven-day exemption from state sales taxes on certain Energy Star certified new appliances |

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| **Missouri (continued)** | ***Set aside $14 million in ARRA funds to assist water and wastewater facilities, K-12 schools, universities, local governments, and hospitals in identifying and implementing energy efficiency improvements. Also set aside $5 million in ARRA funds to assist animal agriculture farmers in identifying and implementing energy efficiency improvements.***<br>***Created Energize Missouri Homes initiative to provide single family residences with funding for the Homeowner Upgrades and Geothermal program, which provides homeowners with rebates up to $17,000.***<br>***Created Energize Missouri Agriculture and Industries programs that provide grants and loans for energy efficiency measures.***<br>***Enacted the "Property Assessed Clean Energy Act." The act allows municipalities to create Clean Energy Development Boards, which in turn are permitted to develop local PACE programs to finance energy efficiency improvements or renewable energy improvements.***<br>***Localities in Missouri have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Montana** | A taxpayer may deduct a portion of the cost of a capital investment in a building that demonstrably promotes energy conservation; taxpayers may claim a credit against their tax liability for up to 25% of the costs of investment for energy conservation purposes in a building<br>The State Buildings Energy Conservation Bond program is designed to finance energy improvement projects on state owned buildings |
| **Nebraska** | Provides low interest loans for residential and commercial energy efficiency improvements<br>• The Whole House Tune-Up program includes rebates for eligible efficiency technologies and retrofits; the maximum incentive is $200 |
| **Nevada** | Provides a partial abatement of property taxes for property that has a building or structure that meets or exceeds LEED Silver rating<br>• Renewable energy and energy efficient technologies added to the list of projects eligible for special financing districts (SB 358)<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 358)<br>***Adopted appliance rebate program for residents who purchase Energy Star certified refrigerators, freezers, washing machines and dishwashers.***<br>**Authorized loan Fund for Renewable Energy, Energy Efficiency and Energy Conservation for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Clean Electricity and Clean Energy Economic Development).**<br>***Localities in Nevada have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Adopted regulations that require providing energy use information for 12 months preceding the sale of the property as well as information about the energy efficiency characteristics of the property, if such information is reasonably available.*** |

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| **New Hampshire** | The Renewable Energy and Energy Efficiency Business Loan Program offers small businesses a reduced interest rate loan for the purchase of structural and equipment improvements that improve energy efficiency<br>***Launched the Pay for Peformance Program, which offers incentive payments to large energy consumers to increase energy efficiency in their facilities. Eligible participants include commercial and industrial companies, developers, municipalities, schools, universities, and other institutional entities that have an electrical demand of at least 100 kW. Participants must work with Pay for Performance Partners to develop and/or approve an "Energy Reduction Plan," which consists of three components: a comprehensive energy audit; a financing plan for making energy efficiency improvements; and a construction schedule.***<br>***Allowed local governments to establish Property Assessed Clean Energy (PACE) financing program.***<br>• ***Localities in New Hampshire have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **New Jersey** | Offers a Home Performance with Energy Star rebate and loan program for homeowners that want to improve the energy efficiency of their homes. Contractors must be BPU certified and accredited.<br>Established the Direct Install program, which provides incentivized direct installation of energy efficiency measures for small C&I customers less than 100 kW<br>Contractors that are certified and accredited can qualify for low-cost training and discounts on diagnostic equipment; offers the Energy Star Homes Program, with incentives available to builders who construct homes that are 30% more efficient than homes built to the national Model Energy Code<br>The COOLAdvantage Program offers rebates through participating utilities to improve the energy efficiency of new central electric air conditioners and heat pumps; the New Jersey Comfort Partners program is a free of charge, direct installation energy efficiency assistance program available to all New Jersey households with significant energy usage and an income at or below 175% of the federal poverty guidelines; the SmartStart Buildings program provides incentives and rebates to C&I customers for energy efficient new construction and retrofits; the WARMAdvantage Program offers rebates to improve the energy efficiency of natural gas heating systems and water heaters<br>New Jersey Comfort Partners program is a direct installation energy efficiency assistance program available to most New Jersey households with an income at or below 225% of the federal poverty guidelines<br>Provides low-interest loans for pollution prevention, energy conservation or sustainable production - eligible capital expenditures include, but are not limited to equipment, machinery, land, buildings, and production and marketing costs<br>• New Jersey ENERGY STAR Homes offers rebates for energy-efficient new home construction that target Smart Growth Areas; low-interest financing is also available<br>• Refrigerator/Freezer Recycling Program promotes responsible recycling of refrigerators and freezers in New Jersey and offers a $50 cash incentive<br>• New Jersey SmartStart Buildings Program Provides financial incentives, design support and technical assistance for energy efficient measures including high-efficiency lighting and lighting controls, heating and cooling equipment, water heating, motors and variable frequency drives |

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| **New Jersey (continued)** | • Local Government Energy Audit, for local governmental and non-profit entities, provides reimbursement for investment grade energy audits by a prequalified network of energy auditing firms<br>• Pay for Performance Program is a comprehensive, whole-building approach to energy efficiency that starts with an Energy Reduction Plan developed by an Energy Expert selected from a network of Program Partners and is available to existing commercial, industrial, institutional and multi-family buildings with peak demand over 200 kW in any of the 12 preceding months<br>• Direct Install targets small commercial and industrial facilities whose peak demand did not exceed 200kW in any of the preceding 12 months<br>• Combined Heat and Power (CHP) Program Offers incentives on various types of CHP units designed to enhance energy efficiency through on-site power generation with recovery and productive use of waste heat; CHP is now offered as part of the Pay for Performance Program<br>• Offers rebates on ENERGY STAR clothes washers, a seasonal rebate on room air conditioners (offered May-Aug only) and a rebate on ENERGY STAR dehumidifiers, as well as promoting the sale of ENERGY STAR qualified lighting products through major NJ retailers<br>***The New Jersey Economic Development Authority (EDA) created a loan program, offered through the Clean Energy Solutions Energy Efficiency Revolving Loan Fund (EERLF), to commercial, institutional, and industrial entities to finance improvements that receive support under the New Jersey Office of Clean Energy (OCE) Pay for Performance energy efficiency incentive program.***<br>***Created the New Jersey Energy Star Homes tiered incentive program to provide incentives for Climate Choice Homes with Home Energy Rating System (HERS) scores of 50 or lower to promote super efficiency and net zero energy homes.*** |
| **New Mexico** | • Two separate bills authorizing local governments to offer Property-Assessed Clean Energy (PACE) financing enacted<br>• Authorizes municipalities and counties to create renewable energy financing districts (REFD) for the purpose of providing financing for consenting property owners within the district to install renewable energy technologies (SB 647)<br>• Includes photovoltaics, solar thermal, geothermal and wind as eligible technologies<br>• Authorizes counties to pass an ordinance that creates a "solar energy improvement special assessment" provision (HB 572)<br>• County itself is not authorized to provide funding directly to property owners but is directed to create rules for certifying certain private banks and financing institutions as "solar energy improvement financing institutions"<br>• Certified institutions authorized to loan property owners up to 40% of the assessed value of the property for purposes of solar energy (photovoltaic or solar thermal) improvements<br>Provides Sustainable Building Tax Credits for constructing LEED Silver or better sustainable commercial, non-profit, institutional and residential buildings, with an additional energy efficiency standard beyond LEED; the Energy Efficiency and Renewable Energy Bonding Act allows state agencies and public schools to fund energy efficiency and renewable energy renovations from energy utility bill savings |

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| **New Mexico (continued)** | • Sustainable building tax credit provisions amended to clarify that manufactured and modular homes installed on a permanent pad qualify for the credit (even if manufactured out-of-state)<br>• Adds new Build Green New Mexico residential levels<br>• Allows EMNRD to categorize multi-family dwellings as "commercial" if the annual aggregate residential cap has been reached in a given year<br>• Allows non-profit organizations (such as affordable housing builders) to take the credit via transferability<br>• Allows for Property Assessed Clean Energy (PACE) financing The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs.<br>In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided. |
| **New York** | Provides low-interest loans to finance renovation or construction projects that improve a facility's energy efficiency or incorporate renewable energy systems<br>• Enacted legislation allowing for Property Assessed Clean Energy (PACE) financing<br>• Loans are not to exceed 10% of property value and are available for energy efficiency and distributed renewable energy installation<br>In 2000, New York enacted a Green Building Tax Credit for business and personal income taxpayers; the credit can be applied against corporate taxes, personal income, insurance corporation taxes and banking corporation taxes; the incentive applies to owners and tenants of eligible buildings and tenant spaces which meet certain "green" standards; these standards increase energy efficiency, improve indoor air quality, and reduce the environmental impacts of large commercial and residential buildings in New York State, among other benefits<br>Provides a cash incentive to certified builders who construct Energy Star homes; provides incentives and information for businesses to install energy-efficient lighting in small commercial spaces<br>Grants subsidies to low-income home owners for up to 50% of costs for energy efficient improvements<br>• "The New York's Great Appliance Swap Out" began providing $16.8 million in rebates to consumers all across New York State who purchase qualified energy efficient appliances (ARRA funded)<br>• The program requires consumers to replace old appliances, and encourages recycling by offering a larger rebate to consumers who recycle their discarded appliances<br>• Green Jobs Green New York Act includes innovative financing as a key aspect of the program including an On Bill Cost Recovery Pilot, PACE, and unsecured loans targeting the 1-4 residential, multifamily, and small business/not-for-profit sectors<br>• GJGNY will also provide reduced cost or free audits to these sectors<br>• Green Residential Building Program authorizes NYSERDA to develop a program to provide incentives to building owners for energy-efficient, green residential buildings with fewer than 12 dwelling units<br>• Residential buildings must be certified at the "Silver" level or above using the National Green Building Standard or Leadership in Energy and Environmental Design (LEED) for Homes Rating System to qualify<br>• Buildings with 1-4 dwelling units must exceed current New York Energy Star Homes efficiency requirements |

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| **New York (continued)** | • Allows for Property Assessed Clean Energy (PACE) financing (AB 8862, AB 40004A)<br>NYSERDA is soliciting proposals for innovative and emerging data center and server technologies that increase end-use efficiency and reduce electrical demand<br>• NYSERDA is soliciting proposals for innovative and emerging end-use technologies that increase energy efficiency and reduce electric demand<br>**Expanded the Green Jobs/Green New York program to allow homeowners and businesses to pay back loans for energy efficiency upgrades using a surcharge on local utility bills (SB 4490 – See also Clean Energy Economic Development).**<br>***Launched Energy Efficiency for Health, a partnership betweeen NYSERDA and National Grid, to provide hospital with targeted technical assistance and up to $10 million in funding for energy efficiency initiatives that are expected to generate as much as $5 million in annual energy savings.***<br>***Launched New York Green Residential Building Program which offers direct incentives to building owners for certified green residential buildings.*** |
| **North Carolina** | The Energy Improvement Loan Program (EILP) is available to businesses, local governments, public schools, community colleges and nonprofit organizations for projects that include energy efficiency improvements and renewable energy systems<br>• The Green Building Incentive, which provides reductions or partial rebates for building permit fees, originally designated for one county, seven cities and seven towns was extended to all counties, cities and towns<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1770. SB 97)<br>***Awarded $8.5 million to 43 public and private agencies to make downtown local government and small businesses more energy efficient, promote conservation and use of renewable fuels in industrial buildings and provide for greater energy efficiency in commercial and large nonprofit facilities.***<br>***North Carolina Housing Finance Agency adopted policy that encourages the construction of energy efficient affordable housing. The Agency will provide a construction subsidy of $4,000 to nonprofits and local governments for each home they develop according to guidelines that include specific energy efficiency standards.***<br>***Established rebate program for certain Energy Star appliances. Appliances must be replacing an existing less efficient appliance, and participants must have the old appliance recycled or ensure that they will recycle the old appliance themselves.***<br>***Authorized cities and counties to establish loan loss reserve funds to assist in the financing of eligible energy efficiency or renewable energy projects for residential or commercial property, or other types of finance programs funded through federal and state grants or their own general revenue (HB 1829 – See also Clean Electricity).*** |
| **North Dakota** | The North Dakota State Buildings Energy Conservation Program provides grant funding to state institutions and agencies for the installation and implementation of energy efficiency measures<br>• Weatherization assistance for those families whose income does not exceed 200% above the poverty level, depending on family size; online application<br>• Extended energy efficient home credit from December 2008 to December 2009 |

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| **Ohio** | Offers grants to support the implementation of certain energy-efficiency projects<br>Offers conduit financing with flexible structures and associated tax benefits<br>Provides an exemption from real and personal property taxation, the state's sales and use tax, and the state's corporate franchise tax for property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1, SB 232)<br>***Created Energy Conversation for Ohioans (ECO-Link) program that offers Ohio homeowners reduced rate financing for energy efficiency and renewable energy home upgrades.***<br>***Authorized cities and counties to establish revolving loan programs to finance renewable energy and energy efficiency projects that are permanently affixed to residential, commercial or other real property (SB 232).***<br>***Localities in Ohio have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Oklahoma** | The Oklahoma Department of Commerce has established a loan/lease fund for public and non-profit K-12 schools to improve energy efficiency: Category One funding will pay for technical and energy audits, the development of Energy Management Plans, and any professional services that contribute to the planning and design of energy reduction systems and measures and Category II funding covers the actual acquisition and installation of energy conservation measures<br>The Oklahoma Department of Commerce offers a revolving loan fund for local governments to make energy efficient improvements to government buildings<br>Offers an income tax credit for eligible expenditures to contractors for energy efficient homes or manufactured homes; offers a revolving loan fund for local governments to make energy efficient improvements to government buildings<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 668)<br>***Established a municipal energy district authority to make loans to finance the purchase and installation of distributed-generation renewable energy sources, for energy-efficient improvements or retrofits that are permanently affixed to residential, commercial, or industrial property (HB 1366 – See also Energy Efficiency).***<br>***Placed two-year moratorium on the income tax credits for manufacturers of energy efficient homes. This tax credit is unavailable for any project completed on or after July 1, 2010 and before July 1, 2012.***<br>***Localities in Oklahoma have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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| **Oregon** | The Energy Trust of Oregon offers incentives for commercial, agricultural and institutional consumers to increase the energy efficiency of new and existing buildings; offers homeowners a variety of rebates and services through their Home Energy Savings Program (analyze the home's energy use, recommend energy-saving measures, install up to four free compact fluorescent bulbs, and advise the homeowner on how to take advantage of Oregon's Residential Energy Tax Credit); the Multi-Family Home Energy Savings Program provides cash incentives to the owners of multifamily properties and will install up to eight free compact fluorescent light bulbs in each apartment unit as well as high performance shower heads and faucet aerators; the Energy Trust of Oregon's Small Wind Incentive program provides resources and cash incentives to help customers of Portland General Electric and Pacific Power install turbines up to 50 kW; the Solar-Electric Buy-Down Program offers funding for solar photovoltaic or solar home water or pool heating installations<br><br>Oregon's Business Energy Tax Credit is for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provides homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems<br><br>Homeowners and renters who heat with oil, wood, propane, kerosene, or butane are eligible for home-weatherization rebates of up to $500<br><br>Offers low-interest loans to projects that save energy and reduce energy consumption during construction or operation of another facility<br><br>• Oregon's Residential Energy-Efficient Appliance Rebate Program is offering rebates for selected ENERGY STAR appliances installed in low-income households<br>• Administers an energy efficiency and sustainable technology loan program to encourage investments in energy efficiency, renewable energy and energy conservation<br>• Authorizes the imposition of a special assessment on certain electric utilities, natural gas utilities or petroleum suppliers<br>• Allows local governments to establish programs to make loans for energy improvements to qualifying property<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 2626)<br><br>***Created grant program offering 1,200 women- and minority-owned small businesses grants of up to $1,000 to help pay their electric costs. The program also offers an educational component, teaching small business owners how to conserve energy and become more efficient.***<br><br>**Launched the Cool Schools Initiative, providing financing for school districts for upgrades to inefficient lighting and heating and other energy efficiency improvements. Program is administered through the Oregon Department of Energy's Clean Energy Deployment Fund (HB 2960).**<br><br>***Localities in Oregon have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br><br>**Created the Clean Energy Deployment Fund in the State Treasury to provide grants and loans to support energy efficiency or clean energy projects in the state (HB 2969 – See also Clean Electricity).** |

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| Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives include: tax incentives, rebates, grants, loans, bond programs and green building incentives. | |
| **Pennsylvania** | The Keystone Home Energy Loan Program (HELP) is a low-interest loan program for homeowners to make their homes more energy efficient (ARRA funded); the Pollution Prevention Assistance Account (PPAA) offers low-interest loans to help small business implement energy efficiency and pollution prevention projects<br>The Pennsylvania Energy Harvest program offers funding for a variety of types of renewable energy and energy efficiency projects<br>The PA Clean Air Interstate Rule (CAIR) allows for the distribution of free NOx allowances to qualified (under the AEPS) renewable energy and energy efficiency projects in PA<br>The Governor's Green Government Council of Pennsylvania provides an incentive (grants and/or reimbursements) for new schools to be built more efficiently (LEED Silver, Gold, or Platinum)<br>The governor's Energy Independence Strategy includes grant funding for high-performance green buildings in the private sector; additional pending legislation will require that all Commonwealth owned or leased facilities meet certain standards for high-performance green buildings--this legislation also will tie these green building standards to any private sector projects that receive significant funding from the Commonwealth<br>***Established Pennsylvania Green Energy Loan Fund, administered by The Reinvestment Fund (TRF), that provides loans to finance energy conservation and energy efficiency improvements in buildings throughout Pennsylvania.***<br>***Closed Pennsylvania Energy Harvest program as of October 2010. Interested applicants may sign up for notifications about the program status via the Energy Harvest Web site.***<br>***Created Small Business Advantage Grant Program that provides matching grants of 50%, or up to $7,500, for Pennsylvania small business that seek to adopt or acquire energy-efficient or pollution prevention equipment or processes.*** |
| **South Carolina** | The ConserFund Loan Program to fund energy efficiency improvements in state agencies, local governments, public colleges and universities, school districts and non-profit organizations<br>Sets a cap on sales taxes for manufactured homes if they meet or exceed energy efficiency standards specified by state law<br>• Energy Efficient Manufactured Homes Incentive Program provides an income tax credit of $750 for the purchase of a qualifying manufactured home<br>• Exempts from state sales tax the gross proceeds of sales or the sales price of energy efficient appliances for noncommercial home or personal use<br>***Placed cap on sales taxes for manufactured homes at $300 for homes that meet or exceed energy efficiency standards specified by state law.*** |
| **South Dakota** | Created the South Dakota Energy Efficient Government Loan program to provide loans to nonprofits, schools, and government agencies located in South Dakota to pay for energy audits, energy efficiency improvements, and renewable energy installations (See also Clean Electricity) |

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Clean State Energy Actions • 2011 Update

# ENERGY EFFICIENCY

## Financial and Other Incentives

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| Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives include: tax incentives, rebates, grants, loans, bond programs and green building incentives. | |
| **Tennessee** | The Small Business Energy Efficiency Loan Program makes loans to existing Tennessee small businesses of less than 300 employees or $3.5 million in annual gross receipts for energy efficiency retrofits--approved applicants are eligible for a low interest loan of up to $300,000 and repay it over a period of up to seven years; this program also provides free energy saving assessments to identify needed energy efficiency measures; the Local Government Energy Efficiency Loan Program makes loans to county/city owned local government facilities for energy efficiency retrofits--loans are made for up to $500,000 for each county or city government; these loans are 0% interest for Tennessee Three-Star communities and 3% interest for non Three-Star communities; this program also provides free energy saving assessments to identify needed energy efficiency measures<br>***Created rebate program for ENERGY STAR-qualified appliances purchased after August 24, 2010.***<br>***Established a loan program for Tennessee businesses to receive loans at below-market rates for financing up to 100% percent of the cost of energy improvements, such as building retrofits, equipment replacements or upgrades, lighting upgrades and renewable generation projects (See also Clean Electricity).*** |
| **Texas** | The LoanSTAR Program offers low-interest loans to all public entities, including state, public school, colleges, university, and non-profit hospital facilities for Energy Cost Reduction Measures<br>Purchases of certain energy-efficient products during Memorial Day weekend are exempt from the state sales and use tax<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1937)<br>***Created incentives for homeowners who replace older, less efficient appliances with ENERGY STAR appliances.***<br>***Established a pilot program under the LoanSTAR revolving loan program to provide loans to houses of worship and community-based organizations to finance the implementation of energy efficiency measures and renewable energy technologies (HB 2077 – See also Clean Electricity).*** |
| **Utah** | Created a $5 million revolving loan fund to provide zero-interest loans for energy efficiency projects in K-12 schools and school districts. Loans are provided for the retrofit of existing buildings as well as energy efficiency upgrades to new buildings. However, loans can not be used for new buildings to meet the Utah energy code.<br>***Created the Utah Home Performance Program to provide rebates of 50% or 80% of the cost (depending on income level) up to $2,000 for energy efficiency improvements in homes.*** |

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| **Vermont** | The Efficiency Vermont program includes the following incentives: incentives for energy efficient lighting; rebates to encourage the installation of efficient motors and variable frequency drives; rebates to encourage users to install energy efficient transformers; rebates to businesses that purchase high-efficiency HVAC equipment and controls; financial incentives for custom energy efficient measures and energy efficient design; rebates for the installation of energy efficient equipment in existing multifamily apartments; financial incentives for residential customers to install energy efficient equipment in their homes; coupons for Energy Star lighting equipment redeemable at participating retailers; financial incentives to cover the incremental costs of energy efficient refrigeration for commercial, industrial, agricultural and institutional buildings; rebates for the purchase of a plug-in vending machine controller<br>• Allows for Property Assessed Clean Energy (PACE) financing (Act 45)<br>***Localities in Vermont have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>**The Vermont Energy Act of 2011 created two reserve funds; one funded by participating homeowners via a one-time fee and managed by Efficiency Vermont, and another funded by the Regional Greenhouse Gas Initiative and managed by the Vermont's treasurer. These reserve funds are designed to cover losses in the event of foreclosure of participating properties and to lower the risk to financial institutions providing funding for PACE programs (See also Clean Electricity).** |
| **Virginia** | Allows a four-day sales tax exemption on Energy Star and Water Sense qualified products of $2,500 or less per product, purchased for non-commercial home or personal use; localities may provide a property tax exemption for buildings with efficiency at least 30% higher than code, or that meet LEED, Energy Star, or Green Globe certifications, or for buildings with green roofs<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 110)<br>• $7.5 million ARRA funds are being used for a rebate program for certain Energy Star qualified appliances<br>• $15 million ARRA funds are being used for a rebate program for energy efficiency retrofits to homes and commercial properties<br>• Localities may make gifts and donations to any nonprofit organization that is engaged in providing energy efficiency services or promoting energy efficiency within or without the boundaries of the locality<br>• The Virginia Resource Authority is authorized to issue bonds for local government energy efficiency programs<br>***Established financing program that provides lease financing funding for energy efficiency projects in state facilities operated by agencies, authorities and institutions of the Commonwealth of Virginia.***<br>***Added LEED or other green building rating systems to the list of development characteristics that earn points toward Low Income Housing Tax Credit allocations.*** |

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| **Virginia (continued)** | ***Created a rebate program for home energy efficiency improvements. Homeowners can receive funds for rebates for up to 20% of the costs of qualifying energy products and services, for up to $595.***<br>***Localities in Virginia have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created financial incentives to companies that manufacture or assemble equipment, systems, or products used to produce renewable or nuclear energy, or products used for energy conservation, storage, or grid efficiency purposes (HB 2316 – See also Clean Energy Economic Development and Clean Electricity).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs placing liens equal in value to the loan against any property where such renewable energy systems are being installed (SB 110 – See also Clean Electricity).*** |
| **Washington** | Created the Energy Efficiency Credit Enhancements program to Provide grants to financial institutions and entities working with financial institutions involved in energy efficiency lending, and to reduce the risk associated with energy efficiency lending<br>The state energy program awarded grants and loans to a variety of public and private entities statewide for energy efficiency, transportation, biomass, & clean technology<br>The Washington State University Extension Energy Office is providing grants to small and medium sized manufacturers pursue energy efficiency projects<br>***Allowed schools to begin using energy savings performance contracting (HB 2020).*** |
| **West Virginia** | Centers for Building Energy Use provide energy efficiency strategies to West Virginia public schools<br>Industries of the Future - West Virginia provides energy efficiency solutions to West Virginia manufacturers<br>• Sales tax exemption for ENERGY STAR products $5,000 or less for home or personal use effective until 2010.<br>• The Department of Environmental Protection will implement the West Virginia Energy Efficient Appliance Rebate Program as a mail-in rebate program to help West Virginia Consumers replace older, inefficient appliances with ENERGY STAR® qualified appliances. The program is in effect until August 2011.<br>***Implemented the West Virginia Energy-Efficient Appliance Rebate program for customers who replace older, inefficient appliances with approved energy efficient appliances.*** |
| **Wisconsin** | Through the Focus on Energy program and participating lenders, Energy Star Mortgages are available to those who purchase a Wisconsin Energy Star home; offers financial incentives to eligible customers who install qualifying energy-efficiency equipment; offers "Cash-Back Rewards" to eligible residents and businesses for purchasing and installing furnaces, air conditioners, boilers, or other energy efficient heating and cooling equipment; consumers who purchase and install qualifying Energy Star appliances and lighting are eligible for incentives through the Focus on Energy Program<br>• Allows for Property Assessed Clean Energy (PACE) financing (Statute 66.0627, SB 624)<br>***Localities in Wisconsin have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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## Financial and Other Incentives

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| **Wyoming** | Provides a matching grant for 75% (or $4,000) of the cost of an energy audit for small businesses; Pacific Power partners with Wyoming Energy Council, Inc. to replace inefficient appliances such as refrigerators and air-conditioners with Energy Star-certified models<br>• Wyoming Energy Conservation Improvement Program created (HB 156)<br>• Authorizes agencies, public hospitals and other public entities responsible for a facility or group of facilities to enter into contracts with energy service companies for energy or water conservation measures without upfront capital costs or capital appropriations<br>• Provides that such contracts are not considered to be a contract for public improvement<br>***Established a low-interest loan program for income qualified (50-80% less than the area median income) homeowners for energy efficient home retrofits.***<br>***Created a state-wide residential appliance rebate program for new energy-efficient appliances purchased after April 15, 2010 that replace existing appliances.***<br>**Authorized local governments to establish a loan program to provide financing for cost-effective energy improvements to existing residential, commercial and industrial properties. Local governments are authorized to secure loans under energy improvement programs through liens in the same manner as provided for special assessments (HB 179).** |
| **Guam** | ***Established a rebate program for the purchase and installation energy efficient ENERGY STAR certified products for the home.*** |
| **Puerto Rico** | • Buildings Energy Efficiency Retrofit Program provides rebates for energy efficiency retrofit projects for businesses for up to 50% of the total cost with a maximum of $300,000<br>• Weatherization Assistance Program enables low-income families to permanently reduce their energy consumption and their electricity bills through the use of energy efficient appliances and equipment<br>• Average expenditure limit is $6,500 per unit, with a estimated total of 5,500 units to be weatherized<br>• State Energy Efficiency Appliance Rebate Program provided a total of 18,021 vouchers<br>• A value of $200 each for the acquisition of applicable Energy Star appliances and correct disposal of replaced appliances<br>• Energy Efficiency and Conservation Block Grant provided funds to municipalities for the implementation of energy efficiency and conservation measures as well as the integration of distributed renewable energy sources |
| **Virgin Islands** | • Grant program for energy efficiency and renewable energy projects in existing buildings<br>• Eligible applicants are community groups and civic organizations with not-for-profit status<br>• Funding is also available for energy education outreach, solar outdoor lighting, and energy education mini-grants |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Renewable/Alternative Energy Portfolio Standards and Goals

### DEFINITION

Renewables Portfolio Standards (RPS) or Alternative Energy Portfolio Standards (AEPS) require that a certain percentage of a utility's overall or new generating capacity or energy sales must be derived from renewable or alternative resources. Portfolio Standards most commonly refer to electric sales measured in megawatt-hours (MWh), as opposed to electric capacity measured in megawatts (MW). Includes voluntary goals.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alaska** | Established the intent of the state to receive 50% of its electric generation from renewable and alternative energy sources by 2025 (HB 306) |
| **Arizona** | Renewable Energy Standard of 15% by 2025<br>• 4.5% of total retail electricity sales must come from distributed renewable resources for investor-owned utilities by 2012 |
| **California** | RPS program requires retail sellers of electricity to increase their sales of eligible renewable-energy resources by at least 1% of retail sales per year, so that 20% of their retail sales are served with eligible renewable energy resources by 2010, with a long-term goal of 33% by 2020<br>Has a feed-in tariff which allows eligible customer-generators to enter into 10-, 15- or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to 3 megawatts (MW) -- at time-differentiated market-based prices. All investor-owned utilities and publicly-owned utilities with 75,000 or more customers must make a standard feed-in tariff available to their customers.<br>**Updated the RPS program to require retail electricity sellers to meet 33% of their retail sales with eligible renewable energy resources by 2020.**<br>***The California Public Utilities Commission authorized the use of tradable renewable energy credits (TRECS) for RPS compliance. Utilities may use TRECS to satisfy up to 25% of their requirement, and the price of a TREC is capped at $50. Starting in 2014, there will no longer be restrictions on the sale price and number of TRECs.*** |
| **Colorado** | 20% by 2020 for investor-owned utilities (minimum 4% of total electricity from solar, half of which must be on-site with consumer), 10% by 2020 for electric cooperatives, and 10% by 2020 for municipal utilities (no solar requirement)<br>***Updated RPS to require 30 percent of Colorado's electricity come from renewable energy sources by 2020. 3 percent must be from local solar power providers.*** |
| **Connecticut** | 20% by 2020 from Class I renewables, 3% from Class I or II, and 4% from Class III by 2010; the state's two electric distribution companies are required to enter into long-term electricity purchase agreements to obtain at least 150 MW of Class I renewable energy |
| **Delaware** | Retail electricity suppliers are required to purchase 20% of the electricity sold in the state from renewable sources by 2019, of which 2% must come from solar photovoltaics; under Delaware's RPS, rural electric cooperatives and municipal utilities can opt out of the mandated portfolio requirements if they establish a green energy fund and a voluntary green power purchasing program<br>***Mandated that 25% of the electricity sold in the state from renewable resources by 2026 3.5% of that requirement must be from solar.*** |
| **Florida** | The PSC has been requested to adopt a 20% RPS by 2020, with a strong focus on solar and wind energy<br>**Amended the definition of renewable electrical energy to include customer-sited, grid-connected renewable energy generation (SB 1346). Requires utilities to provide an energy audits (SB 2078).** |

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| **Hawaii** | Requires the state's public utilities to provide 20% of their electricity from renewable sources by 2020; each electric utility company that sells electricity for consumption in Hawaii must establish the following percentages of "renewable electrical energy" sales: 10% of its net electricity sales by December 31, 2010; 15% of its net electricity sales by December 31, 2015; and 20% of its net electricity sales by December 31, 2020; under the Hawaii Clean Energy Initiative, the state set a goal in conjunction with USDOE to produce 70% of energy from clean, renewable sources by 2030<br>• Amount of renewable electrical energy generation required by utilities increased to 25% by 2020 and 40% by 2030 (Amendment to HB 1464)<br>• Hawaii's RPS includes renewable energy generation and energy efficiency savings in achieving the RPS goals until the end of 2014<br>• Beginning in 2015, the RPS will include only renewable energy generation<br>The Hawaii Public Utilities Commission established a feed-in tariff in Hawaii. Several renewable energy technologies are eligible for the feed-in tariff, including solar photovoltaics (PV), concentrating solar power (CSP), on-shore wind and in-line hydropower. Under this program, qualified projects will receive a fixed rate over a 20-year contract. There are three tiers for rates, with the tiers and rates differentiated by technology and system size.<br>**Amended the definition of renewable electrical energy to include customer-sited, grid-connected renewable energy generation (S 1346).** |
| **Illinois** | Goal to supply 25% of electricity from renewable sources by 2025, with 75% of the renewable energy from wind; the RPS ramps up over time to 2025; currently at 5-6% this calendar year; covers both the major utilities and the alternative retail electric suppliers<br>• Starting June 1, 2015, at least 6% of the renewable energy resources used to meet these standards shall come from solar photovoltaics (Act 96-0159)<br>***Authorized the state's utility companies to enter into long-term power purchase agreements with renewable energy generators to count toward fulfilling the state's Renewable Portfolio Standard. The new contracts for renewable energy include both solar photovoltaic and wind generation.*** |
| **Indiana** | ***Created a Clean Energy Portfolio Standard, which set a voluntary goal of 10% clean energy by 2025, based on 2010 levels.*** |
| **Iowa** | Enrolled 2008 legislation provides that the Iowa Utility Association conduct a technical study of the potential for achieving renewable generation by 2025; this must be presented to the Office of Energy Independence by December 1, 2008; requires its two investor-owned utilities to own or to contract for a combined total of 105 MW of renewable generating capacity and associated energy production, which can include small hydropower facilities, and which is allocated between the two utilities based on each utility's percentage of their combined estimated retail peak demand in Iowa |
| **Kansas** | ***Established a renewable portfolio standard in 2009 that requires the state's investor-owned utilities and cooperative utilities to generate a certain percentage of their electricity from eligible renewable resources, including 20% from peak demand by 2020. The Kansas Corporation Commission (KCC) established rules and regulations to administer the portfolio standard on October 27, 2010 (K.A.R. 82-16).*** |

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| **Kentucky** | Legislation enacted in 2008 directs a study of adoption of Renewable Portfolio Standards, with report due November 30, 2008<br>• Renewable and efficiency portfolio standard (REPS) denotes that 25% of Kentucky's energy needs will be supplied by 7% renewable energy sources and 18% reductions through energy conservation and efficiency (Kentucky's energy plan, Intelligent Energy Choices for Kentucky's Future)<br>• Set a target of producing 1000 MW of renewable energy by 2025<br>• Pending legislation regarding the enactment of a Clean Energy Portfolio Standard (HB 408, HB 3) |
| **Louisiana** | ***Approved a Louisiana Public Service Commission (LPSC) led Renewable Energy Pilot Program for the state. The goal of the pilot program is to determine whether a Renewable Portfolio Standard is suitable for Louisiana. The program has two components- the Research Component, for which each investor-owned utility must require at least 3 renewable energy projects in order to determine the feasibility of these kinds of projects, and the Request for Proposal Component for which must issue RFPs for new, long-term renewable resources that will come online between 2011 and 2014.*** |
| **Maine** | Requires each competitive electricity provider to supply at least 30% of their total retail electric sales using electricity generated by eligible renewable and resources and certain efficient resources; goal to increase new renewable-energy capacity by 10% by 2017 and for each year thereafter; three goals for wind-energy development in Maine: (1) at least 2,000 MW of installed capacity by 2015; (2) at least 3,000 MW of installed capacity by 2020, of which there is a potential to produce 300 MW from facilities located in coastal waters or offshore; and (3) At least 8,000 MW of installed capacity by 2030, of which 5,000 MW should be from facilities in coastal waters or offshore |
| **Maryland** | Requires that 20% of the state's electricity supply come from renewable sources by 2022; utilities demonstrate compliance by acquiring renewable energy credits (RECs)<br>• Altered the renewable energy portfolio standard by increasing the percentages of electricity sales that must be met in specified years through the accumulation of renewable energy credits from certain sources, redefines a specified renewable energy credit, increases the maximum allowable alternative compliance payment, subject to a certain limitation (COMAR 20.61.01 et seq.)<br>• Accelerated the annual solar energy requirements and the solar alternative compliance schedule, will take effect in 2011 (SB 277)<br>***Increased the annual percentage requirements under Maryland's Renewable Energy Portfolio Standard (RPS) for electricity from solar energy sources between 2011 and 2016 to 0.5% (SB 277).***<br>***Expanded the definition of a Tier 1 renewable sources to include waste-to-energy and refuse-derived fuel (S.B. 690).***<br>***Included energy from a specified solar water heating system as an eligible resource for meeting the renewable energy portfolio standard (S 717).*** |

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| **Massachusetts** | The state's RPS requires all retail electricity providers in the state to utilize new renewable-energy sources for at least 4% of their power supply by 2009; pending energy legislation will require an additional 1% each following year; pending legislation will also add small hydro to the list of RPS-eligible resources, create a second class of renewable resources for pre-existing facilities, create a new Alternative Energy Portfolio Standard for some non-traditional but non-renewable resources, and will add restrictions on the RPS-qualification of imports from renewable facilities outside ISO New England<br>• State Renewable and Alternative Energy Portfolio Standard, approved, effective January 2009 (225 CMR 14.00, 225 CMR 15.00, 225 CMR 14.00 16.00 for RPS Class I, RPS Class II, and APS respectively)<br>***Amended the state RPS to require 15% of electricity to come from Class I (New Resources) by 2020 and an additional 1% each year thereafter; 7.1% of electricity must come from Class II (Existing Resources) in 2009 and thereafter (3.6% renewables and 3.5% waste-to-energy). Has an overall solar carve-out of 400 MW.*** |
| **Michigan** | • Established a renewable energy standard, consisting of a renewable energy capacity portfolio and a renewable energy credit portfolio, under which 10% of an electric provider's energy must come from renewable sources by 2015 (Act 295, Clean, Renewable, and Efficient Energy Act)<br>• Requires electric and natural gas providers to file energy optimization plans<br>• Requires the Public Service Commission (PSC) and the Department of Management and Budget (DMB) to take certain actions related to energy efficiency and conservation<br>• Provides for the establishment of wind energy resource zones |
| **Minnesota** | Requires that 25% of Minnesota's power come from renewable sources by 2025; Xcel Energy, which currently generates about half of the state's electricity, will be required to produce 30% of its power from renewable sources by 2020; goal to develop an additional 800 MW of community-owned wind projects by 2010<br>• Revised the standard to include solar energy systems, with a limitation of 1% of the 25% requirement (SF 550, Sec. 13) |
| **Missouri** | Utilities must make a good-faith effort to generate or procure electricity generated by eligible renewable-energy resources, so that by 2012, 4% of total retail electric sales is generated by eligible renewables--the goal increases to 8% by 2015, and to 11% by 2020<br>• Renewable energy standard adopted by voters in November 2008 that requires investor-owned electric utilities to increase their use of renewable sources to 2% of total electricity generation by 2011, 5% by 2014, 10% by 2018 and 15% by 2021; also includes a specific solar-generation requirement (MRS 393.1020 et seq., 4 CSR 240-20.100)<br>***Revised the list of eligible renewable energy resources to include methane generated from agricultural operations and thermal depolymerization or pyrolysis for converting waste materials to energy (S.B. 795).*** |

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| **Montana** | Mandates that 15% of the state's energy come from renewable sources by 2015, and for each year thereafter (5% for years 2008-2009 and 10% for years 2010-2014)<br>• Certain amounts of generation capacity must be community renewable energy projects, no more than 25 MW in size and owned by Montana entities (69-8-1001 et seq. MCA)<br>• Compliance date for first tranche of community renewables moved from 2010 to start of 2012<br>• Eligible renewable resources owned by a public utility can be used to comply with the community renewable energy project requirements in the standard |
| **Nebraska** | Major electric utilities have set goals of a renewable energy standard of 10% by 2020 |
| **Nevada** | Nevada's Energy Portfolio Standard requires the state's two investor-owned utilities to derive or save 20% of retail sales from renewable energy resources or energy efficiency measures by 2015 (no less than 5% from solar energy); included in the standard is a Portfolio Energy Credit (PEC) trading program<br>• Energy Portfolio Standard increased the requirement to 25% by 2025 (SB 358)<br>• Utilities required to meet 6% of their portfolio requirement through solar energy beginning in calendar year 2016 |
| **New Hampshire** | New Hampshire's Electric RPS requires electricity providers to acquire renewable energy certificates (RECs) equivalent to 23.8% of retail electricity sold to end-use customers by 2025 |
| **New Jersey** | Requires each supplier/provider serving retail customers in the state to include in the electricity it sells 22.5% qualifying renewables by 2021, with set requirements for Class I and Class II renewables and solar energy; by reporting year 2021, 2.12% solar electricity is required<br>***Added an offshore wind provision to the RPS defined such that it will reduce the percentage of electricity sales that must be provided from other Class I renewable energy sources (S.B. 2036). A time line has not been established.*** |
| **New Mexico** | Investor-owned utilities are required to generate 20% of total retail sales to New Mexico customers from renewable energy resources by 2020, with interim standards of 10% by 2011 and 15% by 2015 and a standard for rural electric cooperatives of 10% by 2020 (utilities document compliance with the RPS through the use of renewable-energy certificates - RECs) |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Renewable/Alternative Energy Portfolio Standards and Goals

| DEFINITION | |
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| Renewables Portfolio Standards (RPS) or Alternative Energy Portfolio Standards (AEPS) require that a certain percentage of a utility's overall or new generating capacity or energy sales must be derived from renewable or alternative resources. Portfolio Standards most commonly refer to electric sales measured in megawatt-hours (MWh), as opposed to electric capacity measured in megawatts (MW). Includes voluntary goals. | |
| **New York** | New York's RPS was established in 2004 with a goal of increasing the proportion of renewable technology used by New York consumers from the 2004 baseline of 19.3% to at least 25% by 2013 with 1% of the goal coming from voluntary green power sales purchases made by retailers; the funding for the eight-year program is approximately $742 million; NYSERDA is administering these funds by issuing competitive solicitations; two competitive procurements have been completed with 837 MW of renewable capacity under contract (261 MW in service); as of May 2008, contracts from a third procurement are being negotiated<br>• In January of 2010 the RPS goal was increased to 30% by the year 2015 to augment the governor's clean energy policy of '45 by 15'--45% of NY's energy consumption met through renewables (30%) and energy efficiency (15%) by the year 2015<br>• The funding for NY's RPS has increased to approximately $3 billion<br>• As part of the program, 39 large scale generation projects representing more than 1,532 megawatts of new renewable capacity have been competitively selected to provide renewable electricity to NY consumers<br>• The 2010 PRS added solar thermal as an eligible technology and included a geographic rebalancing component that was designed to result in renewable capacity additions in the downstate region, particularly where capacity additions will have overall system benefits<br>***Established new PSC rules which (1) allow, with limitations, biomass sourced from mixed demolition debris to be considered a qualified biomass resource; (2) allow NYSERDA to issue solicitations for Main Tier projects at least once a year without an authorizing order from the PSC; and (3) allow in-state, behind-the-meter projects to qualify for Main Tier solicitations, subject to NYSERDA measurement and verification requirements.*** |
| **North Carolina** | North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard (REPS) requires all investor-owned utilities in the state to supply 12.5% of 2020 retail electricity sales from eligible energy resources by 2021; municipal utilities and electric cooperatives must meet a target of 10% renewables by 2018<br>***Included "electricity demand reduction" as a means through which utilities can meet the Renewable Energy and Energy Efficiency Standards. Defined the term as measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric public utility and the retail electric customer, and measured in real time, using two-way communications devices that communicate on the basis of standards (SB 75 – See also Utility Demand Side Management).*** |
| **North Dakota** | Has established a voluntary objective that 10% of retail electricity sold in the state be obtained from renewable energy by 2015--can be measured through renewable energy and recycled energy objective credits and through qualifying megawatt hours delivered at retail; state law supports the national 25 x 25 initiative<br>• States in the revised version of the comprehensive state energy policy plan, EmPower ND, a goal of increasing installed wind capacity to 5,000 MW by 2020 |
| **Ohio** | Electric distribution utilities must provide 25% of electricity sold through the use of advanced energy technologies by 2025; technologies include clean coal, nuclear, renewables and others; at least half (12.5% including a 0.5% carve-out for solar electric) must come from renewable sources |
| **Oklahoma** | • Set goal calling for 15% of electricity to be generated from renewable energy sources such as wind, solar and geothermal by 2015 (HB 3028, Oklahoma Energy Security Act) |

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| **Oregon** | Large utilities--those with 3% or more of the state's load--must ensure that a percentage of the electricity sold to retail customers in-state be derived from eligible renewable energy resources: 5% by 2011 and 25% by 2025; utilities with less than 1.5% of state load must meet a 5% RPS by 2025 and utilities with more than 1.5%, but less than 3% of state load must meet a 10% RPS by 2025<br>***Established that when a facility that burned coal as its fuel source completely ceases to burn coal and converts to generating electricity from renewable energy source, the facility may use electricity from renewable energy source to comply with renewable portfolio standard (HB 2622).*** |
| **Pennsylvania** | The Alternative Energy Portfolio Standard (AEPS) requires applicable electric distribution companies and electric generation suppliers to supply a portion (18% by 2020, split into two tiers) of the electricity sold in PA with renewable and alternative energy sources; AEPS Tier I is composed of traditional renewable energy sources (wind, solar, geothermal, biomass, etc.) and is set at 8%; AEPS Tier II is composed of alternative energy sources (waste coal, demand side management, IGCC, large-scale hydro, etc.) and is set at 10% |
| **Rhode Island** | Requires state electricity retailers to derive at least 3% of the electricity they sell in state from renewable energy by December 31, 2006, increasing 1% per year through 2020; existing renewable resources may only contribute 2% of the required amount of renewables in any year and the rest must be from new renewable energy production<br>• Long-term contracts established for distribution companies and developers of new renewable energy resources |
| **South Dakota** | The Renewable Energy Objective promotes a voluntary objective that, by 2015, 10% of all retail electricity sales be obtained from renewable and recycled resources; the law also calls for renewable electricity reporting requirements<br>• Amended their original RPS to allow "conserved energy" to count toward their 10% from renewable, recycled or conserved energy sources by 2015 goal |
| **Texas** | The Texas RPS, and renewable-energy credit (REC) trading program mandates renewable energy purchase requirements of 5,880 MW by 2015 (about 5% of the state's electricity demand), including a target of 500 MW of renewable-energy capacity from resources other than wind with a target of reaching 10,000 MW in renewable energy capacity by 2025 |
| **Utah** | Under Utah's renewable energy goal, subject to cost effectiveness determination, investor-owned utilities, municipal utilities, and cooperative utilities shall use renewables to provide 20% of their adjusted retail electric sales by 2025; RECs may be used for compliance |

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| **Vermont** | Calls for the state's electric utilities to meet any increase in statewide retail electricity sales between 2005 and 2012 by using renewable energy resources; Vermont also maintains a separate state goal of assuring that 20% of total statewide electric retail sales before July 1, 2017, are generated by qualifying renewables<br>***Required all retail electricity providers to purchase electricity generated by eligible renewable energy facilities through the Sustainably Priced Energy Enterprise Development (SPEED) Program, via long term contracts with fixed standard offer rates (See also Clean Energy Financial Incentives).***<br>***Revised the SPEED Program to assure, by January 1, 2022, that the amount of in-state qualifying renewable energy plants equals one-third of the state's highest annual energy usage on or before January 1, 2022, or of 6,000 GWH, whichever is greater (HB 56).***<br>***Amended the Renewable Energy Programs statutes to create a Baseload Renewable Power Portfolio Requirement. It stipulates that electricity supplied to customers must contain a portion of "baseload renewable power", defined as power from a wood biomass plant in Vermont with nominal capacity of 20.5 MW.*** |
| **Virginia** | Established voluntary, incentive-based renewable energy portfolio standard with the following goals (base year is 2007): 4% of base year sales by 2010; 7% of base year sales by 2016; 12% of base year sales by 2022; and 15% of base year sales by 2025<br>• Provides that an investor-owned electric utility will receive double credit toward meeting the goals of the renewable energy portfolio standard program for energy derived from onshore wind or solar and triple credit from offshore wind<br>***Required the State Corporation Commission to consider the rate impact of renewable resources before approving reliance on renewable resources (HB 1912).***<br>***Ruled that an investor-owned electric utility will receive triple credit toward meeting the goals of the renewable energy portfolio standard program for energy derived from offshore wind (HB 1022).*** |
| **Washington** | Electric utilities that serve more than 25,000 customers in the state of Washington to obtain 15% of their electricity from new renewable resources (or through renewable energy credits) by 2020 and to undertake all cost-effective energy conservation |
| **West Virginia** | • West Virginia's Alternative and Renewable Energy Portfolio Standard requires 25% of the electricity produced by investor-owned utilities to come from alternative and renewable sources by 2025, with interim goals of 10% by 2015 and 15% by 2020<br>• Advanced coal technology, solar PV, solar thermal, wind, run-of-river hydropower, geothermal, biomass, biologically-derived fuel, and fuel cell technology are all eligible resources |
| **Wisconsin** | Requires utilities to produce 10% of their electricity from renewable energy sources by 2015<br>***Expanded the definition of hydroelectric facilities eligible to meet the state's RPS requirement to those placed in service after December 31, 2010 with a capacity of 60 megawatts or more. This allows for the construction of new large hydroelectric facilities.*** |
| **American Samoa** | The Renewable Energy Action Plan for American Samoa evaluated major indigenous renewable resources and furnished budget estimates; the American Samoa Power Authority has set a goal that 10% of electricity production should come from renewable sources by 2010 (with 2-3 MW of installed wind capacity by 2010) |

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| **Guam** | Each utility that sells electricity for consumption on Guam must establish a renewable energy portfolio goal of 25% renewable energy by 2035; any permit issued for the construction of a base load electrical generation plant must include a requirement that 10% of total generation capacity must come from "alternative" energy sources |
| **Northern Mariana Islands** | The Commonwealth Utilities Corporation (CUC) seeks the development of Grid Supply Renewable Electricity Generation ("REG") projects for the Commonwealth of Northern Mariana Islands (CNMI) and intends to enter into long-term performance contracts, where the contractors will be fully responsible for construction and operation of these Renewable Electricity Generation ("REG") projects. This Request For Proposal (RFP) is the first in what the CUC envisions to be an ongoing process of growth and development of a comprehensive portfolio of increased energy efficiency in the CNMI islands, to reduce the islands' dependence on fossil fuels.<br>***Established benchmarks for the Commonwealth Utilities Corporation (CUC) to provide 80% of its electricity from renewable energy by 2015. There are stipulations within the law that allow for non-compliance if there is no "cost-effective" way to meet the benchmarks.*** |
| **Puerto Rico** | • The Department of Economic Development and Commerce together with the Energy Affairs Administration has enacted a new Renewable Energy Reform (HB 2611, Renewable and Alternate Renewable Energy Diversification Public Policy Act)<br>• Adopting a RPS requiring a minimum of 15% renewable energy generation by 2020<br>• Implementing a Renewable Energy Credits (RECs) system to ensure and promote the compliance of the proposed RPS<br>***Required the Puerto Rico Electric Power Authority (PREPA) to supply 20% of retail electricity sales from eligible "green energy" resources by 2035. Green Energy includes both renewable and alternative energy resources. Compliance for this standards does not begin until 2015.*** |
| **Virgin Islands** | The Islands' utility has issued a Request for Proposal (RFP) for Renewable/Alternative energy generation up to 21% by 2011<br>• Waste-to-Energy Plant selected from RFP applicant pool<br>• Requires peak demand generating capacity to be met by renewable energy sources on the following schedule: 20% by January 1, 2015, 25% by January 1, 2020, 30% by January 1, 2025 (12 VIC § 1151 et seq.)<br>***Signed a Memorandum of Understanding with the US Department of Energy and the US Department of Interior in early 2010 that set a goal that 60% of energy needs would be met by renewables by the year 2025.*** |

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# CLEAN ELECTRICITY

## Net Metering and Interconnection Standards

### DEFINITION

For those consumers who have their own electricity generating units, net metering allows for the flow of electricity both to and from the customer through a single, bi-directional meter. With net metering, during times when the customer's generation exceeds his or her use, electricity from the customer to the utility offsets electricity consumed at another time. In effect, the customer is using the excess generation to offset electricity that would have been purchased at the retail rate. Under most state rules, residential, commercial, and industrial customers are eligible for net metering, but some states restrict eligibility to particular customer classes.

Standard interconnection rules establish processes and technical requirements that apply to utilities within the state and reduce uncertainty and delays that clean distributed generation systems can encounter when obtaining electric grid connection.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Legislation has passed eliminating the requirement for liability insurance for individuals selling solar energy back to the grid<br>• Relieves utilities of the responsibility of maintaining a customer-owned or operated electrical facility (Act 2008-275, Alternative and Renewable Energy Act) |
| **Alaska** | • Net metering rules approved by the Regulatory Commission of Alaska (RCA)<br>– The rules must be finalized by an order and signed by the lieutenant governor;<br>• Utilities with retail sales of less than 5,000,000 kilowatt-hours (kWh) exempt from offering net metering;<br>• Renewable energy systems with a capacity up to 25 kilowatts (kW) eligible; and<br>• Overall enrollment is limited to 1.5% of a utility's retail sales from the previous year<br>***Approved final net metering rules were finalized in January 2010 (became effective January 15, 2010).***<br>• ***Exempted utilities that either generate 100% of electricity from approved renewable energy sources or from other low environmental impact sources approved by the RCA.***<br>• ***Net excess generation is reconciled monthly, with the utility crediting the customer-generator's account for the excess kWh generation multiplied by the "non-firm power rate." These dollar amount credits do not expire and can be applied to subsequent monthly bills.*** |
| **Arizona** | Three utilities have interconnection standards for distributed generation; Arizona Corporation Commission has initiated a rulemaking process to establish interconnection standards for distributed generation for investor owned and operated utilities and is also developing net metering rules pursuant to the Renewable Energy Standard; APS is conducting a 3-year pilot net metering program for systems that generate up to 100 kW from solar, wind, or biomass (capped at 15 MW) |
| **Arkansas** | Facilities producing electricity using solar, wind, hydro, geothermal and biomass resources are eligible to interconnect and net meter; microturbines and fuel cells using renewable resources are also eligible; currently, net metering is available to residential systems up to 25 kW in capacity and nonresidential systems up to 300 kW; net-metered customers own Renewable Energy Credits (RECs) |

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| **California** | Rule 21 specifies standard interconnection, operating and metering requirements for distributed generation systems up to 10 MW in capacity, including renewables, with separate simplified rules for small renewables under 10 kW; utilities are required to offer net metering to all customers for solar and wind-energy systems up to 1 MW, and investor owned-utilities are required to offer net metering for biogas-electric systems and fuel cells; The feed-in tariff allows eligible customer-generators to enter into 10-, 15-, or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to 1.5 megawatt (MW) -- at time-differentiated market-based prices.<br>• Public Utilities Commission required to determine the requirements for a smart grid deployment plan consistent with the policies set forth in federal law<br>• Each electrical corporation required to develop and submit a smart grid deployment plan to the Commission<br>***Raised the system-wide cap on net metering from 2.5% to 5.0%.***<br>***The Renewable Auction Mechanism program requires California's three IOUs to purchase electricity from renewable energy systems up to 20 MW in size within their service territories.*** |
| **Colorado** | IOUs - Systems up to 2 MW in capacity that generate electricity using qualifying renewable-energy resources are eligible for net metering; interconnection rules are based on the FERC interconnection standards for small generators (three levels of interconnection standards)<br>• Requires municipal utilities with more than 5,000 customers and all cooperative utilities to offer net-metering (HB 1160)<br>• Residential systems up to 10 kW in capacity and commercial and industrial systems up to 25 kW to be credited monthly at the retail rate for any net excess generation their systems produce; and<br>• Co-ops and municipal utilities are authorized to exceed these minimum size standards<br>• Amended the net metering rules for investor-owned utilities as they apply to solar electric systems (SB 51)<br>• Changes include shifting the maximum system size for solar electric systems from 2 MW to 120% of the annual consumption of the site;<br>• Redefines a site to include all contiguous property owned by the consumer; and<br>• Allows system owners to make a one-time election in writing to have their annual net excess generation carried forward as a credit from month to month indefinitely, rather than being paid annually at the average hourly incremental cost for that year |
| **Connecticut** | Interconnection guidelines for distributed energy systems up to 20 MW in capacity; net metering is required for customers that generate electricity using Class I renewable-energy resources, which include solar, wind, landfill gas, fuel cells, sustainable biomass, ocean-thermal power, wave or tidal power, low-emission advanced renewable-energy conversion technologies, and hydropower facilities up to 2 MW in capacity; net metering is also available for distributed generation units that operate on fossil fuels up to 50 MW and on other renewables up to 500 MW<br>**Established a program allowing municipal customers of electric companies to share net metering credits among buildings the municipality owns (SB 1243).** |

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Standard interconnection rules establish processes and technical requirements that apply to utilities within the state and reduce uncertainty and delays that clean distributed generation systems can encounter when obtaining electric grid connection.

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| **Delaware** | Delaware's only investor-owned utility has six categories of interconnection guidelines based on system size, system type (inverter-based or rotating), and energy source (renewable or non-renewable); residential renewable-energy systems 25 kW or less, non-residential customers of DP&L that are 2 MW or less, and non-residential customers of DEC and municipal utilities that are 500 kW or less are eligible for net metering<br>• Extended net metering to facilities of 100 MW (or more on a case-by-case basis), gave ownership of the renewable energy credits to the customers-generators allowing them to request payment for all excess electricity generated at the end of the calendar year and expanded the program capacity limit from 1% to 5% of peak load (CDR § 26-3000-3001)<br>***Expanded the state's net-metering policy: (1) allows a customer to aggregate individual meters, (2) allows customers to participate in net metering via a community-owned system, (3) allows net-metered systems to provide up to 110% of a host customer's expected aggregate electrical consumption, (4) extends net metering to leased systems and systems owned by third parties, and (5) extends net metering to fuel cells using non-renewable fuels. Rules must be adopted and implemented by July 2011 (S.B. 267).*** |
| **Florida** | Three tiers of interconnection standards and net metering for up to 2 MW of capacity; customer net excess generation (NEG) is carried forward at the utility's retail rate (i.e., as a kilowatt-hour credit) to a customer's next bill for up to 12 months at which point, the utility pays the customer for any remaining NEG at the utility's avoided-cost rate while renewable energy credits (RECs) remain with system owner, and customers may sell RECs back to the utility; there is no stated aggregate capacity limit for net-metered systems |
| **Georgia** | Interconnection standards are set for up to 10 kW (residential), 100 kW (commercial) with a limit on capacity of 0.2% of utility's peak load for previous year; customers are given a choice of net metering options<br>***The Public Service Commission is in process of working with Georgia Power to review proposals to add up to 50MW of solar PV at avoided cost. A 2015 in service date projected.*** |
| **Hawaii** | Simplified interconnection procedures for net metering are available for solar, wind, biomass and hydroelectric systems up to 50 kW in capacity on Kauai and 100 kW in capacity on the other islands; net metering is available on a first-come, first-served basis to residential and "small commercial" customers (including government entities) that generate electricity using solar, wind, biomass or hydroelectric systems; the PUC is considering a new docket to expand net metering across the state |
| **Idaho** | Each of the state's three investor-owned utilities has developed a net-metering tariff that has been approved by the Idaho Public Utilities Commission |
| **Illinois** | Net metering is available to electric customers that generate up to 2 MW of electricity using solar energy, wind energy, biomass energy and hydropower, and fuel cells and microturbines powered by renewable fuels; in the rulemaking process for interconnection standards for all distributed generation up to 10 MW |

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| **Indiana** | Three levels of interconnection standards; investor-owned utilities are required to offer net metering to residential customers and K-12 schools for solar, wind and hydroelectric projects with a maximum capacity of 10 kW<br>• Utilities are required to offer net metering to customers who generate their own electricity from renewable sources and buy back the surplus electricity of the renewable energy producers (SB 300) |
| **Iowa** | There is no explicit net metering rule; however, net metering is implicit under an Iowa Utilities Board sub-rule under which net metering is available to all customer classes of Iowa's two investor-owned utilities who generate electricity using alternate energy production facilities (with an unofficial individual limit of 500 kW); review of interconnection standards in progress by the Iowa Utilities Board<br>***Applied Interconnection standards to distributed generation facilities of up to 10 MWs that are not subject to the interconnection requirements of the Federal Energy Regulatory Commission (FERC), the Midwest Independent Transmission System Operator, Inc. (MISO), or the Mid-Continent Area Power Pool (MAPP).*** |
| **Kansas** | • Customers of investor-owned utilities can use net metering to offset up to 25 kW for residential systems and up to 200 kW for non-residential systems (HB 2369)<br>• If the customer produces net excess generation during a one-month period, that amount is carried over to the next month at full retail value until it is absorbed by the utility at the end of the calendar year<br>• Customers are not subject to any additional charges for the service and are provided with a bi-directional meter at no cost<br>• Utilities must offer net metering up to one percent of their peak demand during the previous year<br>***Adopted rules to implement HB 2369 in July 2010. These rules, created by the Kansas Corporation Commission are limited, and include additional protection for the utility in the event of disruptive problems to the system caused by a net-metered facility.*** |
| **Kentucky** | Legislation enacted in 2008 expands the state's net metering laws by raising the cumulative cap that a utility needs to allow from 0.1% of load to 1% of load, adding power from wind, water and other renewables to the solar allowable systems, and requiring the development of standardized rules for interconnecting<br>• Small generators (up to 30kW) of wind energy, hydroelectric power and biomass or bio-gas power were included in the already existing net metering policies for solar<br>• The Kentucky Public Service Commission issued an order establishing interconnection and net metering guidelines applicable to all jurisdictional electric utilities in the state (KY PSC Order 2008-00169)<br>• Utilities were required to file net metering tariffs and application forms to comply with these guidelines |

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| **Louisiana** | Net metering provisions: a statewide 25 kW maximum allowed for residential, 100 kW maximum for commercial and agricultural; all utilities must participate for renewable energy only; credits roll over to the next billing cycle if supply exceeds demand for the current cycle - now 300 kW maximum for commercial |
| **Maine** | Net metering is available for owners of qualified cogeneration and small power-production facilities with a maximum capacity of 100 kW<br>• Expanded net metering to increase eligible project types, including cogeneration, and capacity to 660 MW (LD 336)<br>• Established community-based renewable energy pilot program and allows for 1.5 credit multiplier for community projects<br>• Final state model wind ordinance released<br>• Establishing local guidelines for solar placement<br>**Required the PUC to amend the net energy rules to develop contract terms for net energy billing and interconnection agreements. The rulemaking process has not been completed.** |
| **Maryland** | Interconnection standards for all eligible systems up to 2 MW; systems owned or leased by residents, businesses, schools or government entities that generate electricity using solar, wind or biomass resources are eligible for net metering until the aggregate capacity of all net-metered systems reaches 1,500 MW; developing interconnection standards for all distributed generation<br>• Extended net metering policies to micro-combined heat and power systems and third-party ownership structures (HB 1057, SB 981)<br>• Extended net metering to qualifying fuel cell electricity generation equipment, effective October 2010 (HB 821)<br>• Revised how customer-generators are compensated for net excess generation (NEG) (HB 801)<br>• Requires NEG to be carried forward from month to month as a monetary credit whose value is determined by the prevailing market price<br>• Customer-generators may also receive payment for NEG remaining at the end of a 12 month period<br>• Maryland Public Service Commission (PSC) developing regulations to implement the revision, including a method for determining the value of NEG credits<br>• PSC to convene a working group to address time differentiated crediting, as well as meter aggregation and credit transfers for agricultural, non-profit, and governmental customer-generators<br>***Extended net metering policies to "closed conduit hydro" facilities (SB 271).*** |

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## Net Metering and Interconnection Standards

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For those consumers who have their own electricity generating units, net metering allows for the flow of electricity both to and from the customer through a single, bi-directional meter. With net metering, during times when the customer's generation exceeds his or her use, electricity from the customer to the utility offsets electricity consumed at another time. In effect, the customer is using the excess generation to offset electricity that would have been purchased at the retail rate. Under most state rules, residential, commercial, and industrial customers are eligible for net metering, but some states restrict eligibility to particular customer classes.

Standard interconnection rules establish processes and technical requirements that apply to utilities within the state and reduce uncertainty and delays that clean distributed generation systems can encounter when obtaining electric grid connection.

| | |
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| **Massachusetts** | Interconnection standards apply to all forms of distributed generation, including renewables, and to all customers of the state's four investor-owned utilities; the state's investor-owned utilities must offer net metering for renewable-energy systems and combined-heat-and-power facilities with a generating capacity up to 60 kW; pending legislation on net metering will increase the current net metering provision to 2 MW, primarily for solar and wind generation<br>***Included a new definition for "a net metering facility of a municipality or other governmental entity." This type of net metered facility must be either Class II or Class III and must be owned by a municipality or governmental entity or the entity must use all of the facility's output. Net metering facilities by a municipality or other governmental entity up to 10 MW are eligible.***<br>***Increased the state's net metering cap from 1% of each utility historical peak load to 1% for non-government and 2% for municipal and governmental entities.***<br>***The Department of Energy Resources filed a petition outlining recommendations for utilities to improve the process of connecting new renewable energy generation installations to the electric grid and calling for a Joint Proposal by late October 2011.*** |
| **Michigan** | Five levels of interconnection standards for distributed generation; offers voluntary statewide net-metering program for systems that generate electricity using solar, wind, geothermal, biomass (including waste-to-energy and landfill gas) or hydropower up to 30 kW<br>• Statewide net metering adopted for all systems up to 20kW (Act 295)<br>• Modified net metering for systems between 20 and 150kW (PSC Order, Docket U-15787) |
| **Minnesota** | Qualifying facilities up to 40 kW are eligible for net metering - there is no statewide capacity limit for net metering; the PUC adopted an order establishing generic standards for utility tariffs for interconnection and the operation of distributed-generation facilities up to 10 MW in capacity; Community-Based Energy Development (C-BED) Tariff requires each public utility in Minnesota to file with the state Public Utilities Commission to create a 20-year power purchase agreement for community-owned renewable energy projects - utilities are required to consider C-BED projects, but they are not required to sign C-BED contracts |
| **Missouri** | Requires all of the state's electric utilities -- including municipal utilities and electric cooperatives -- to offer net metering to customers with systems up to 100 kW in capacity that generate electricity using wind energy, solar-thermal energy, hydroelectric energy, photovoltaics, fuel cells using hydrogen produced by any of these resources, and other sources of energy certified as renewable by the Missouri Department of Natural Resources; customers may apply for interconnection up to 100 kW or 5% of a utility's single-hour peak load during the previous year |
| **Montana** | Net metering applies to systems up to 50 kW in capacity that generate electricity using hydropower, wind or solar energy (not applicable to all utilities) |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Net Metering and Interconnection Standards

### DEFINITION

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|---|---|
| **Nebraska** | • Electricity generating facilities using renewable energy sources at a capacity below 25 kW are eligible for net metering services (LB 436)<br>• Excess generation is carried forward to the next billing period and paid out at a rate equal to the local distribution utility's avoided cost of electric supply over the billing period to the customer at the year's end<br>• Utilities must offer net metering up to one percent of their average monthly peak demand<br>• Encourages private developers to develop, own, and operate renewable energy facilities for the export of wind energy from the state (LB 1048)<br>• Creates a Power Review Board (PRB) approval process, provides an exemption to public power's use of eminent domain<br>• Provides a new method for taxing wind generation facilities by creating an alternative to the current five-year depreciation of personal property schedule<br>• Creates a procedure requiring the county treasurer to distribute revenue received under this act to local taxing entities that would have received the personal property tax revenue that is currently collected |
| **Nevada** | Interconnection standards for customers of Nevada Power and Sierra Pacific Power with on-site generation up to 20 MW in capacity; systems up to 1 MW in capacity that generate electricity using solar, wind, geothermal, biomass and certain types of hydropower are generally eligible, although systems greater than 100 kW in capacity may be subject to certain costs at the utility's discretion<br>**Allows meter aggregation for owners of hydropower facilities up to 1 MW in capacity. Also allows meter aggregation for wind turbines installed in 2012 on property owned or leased by an institution of higher learning and used for research and workforce training (AB 359).** |
| **New Hampshire** | All electric utilities are required to provide, upon request, net metering to customers who generate electricity using renewable-energy systems with a maximum capacity of 100 kW; the aggregate limit on net-metered systems is 1% of each utility's annual peak load; provides interconnection rules for net-metered systems<br>***Increased the capacity limit from 100 kilowatt (kW) to one megawatt (MW).***<br>***Included combined heat and power as eligible for net-metering (HB 1353).*** |
| **New Jersey** | Requires electric distribution companies to offer net metering to residential and small commercial customers with photovoltaic and wind-energy systems--potentially caps statewide net-metering system capacity at 0.1% of New Jersey's peak electricity demand, or at an annual statewide financial impact to electric power suppliers and basic generation service providers of $2 million; provides three levels of interconnection standards<br>***Eliminated, as of July 2010, the maximum individual system capacity limit on net-metered systems. However, system size is limited to that needed to meet annual on-site electric demand.*** |
| **New Mexico** | Interconnection standards and net metering is available to qualifying facilities under PURPA, which generally includes all renewable-energy systems and combined-heat-and-power systems up to 80 MW in capacity (excludes municipal utilities) |

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| **New York** | Interconnection standards for distributed generation systems up to 2 MW; net metering up to 10 kW for solar, 25 kW for residential wind, 125 kW for farm-based wind, 400 kW for farm-based biogas<br>• The following changes were made to the net metering limits: up to 25 kW for residential solar, 2 MW for non-residential solar, 25 kW for residential wind, 500 kW for farm-based wind, 2 MW non-residential wind, 500 kW for farm-based biogas, 10kW for micro-combined heat and power (micro-CHP) and fuel cells, with excess generation over the billing period bought back at avoided cost rate rather than retail rate<br>***Increased the eligible system size for farm-based anaerobic digesters from 500 kW to 1 MW.***<br>**Permitted eligible farm-based and non-residential customer-generators to designate net metering credits from equipment located on property which they own or lease to any other meter that is located on property owned or leased by the customer, and is within the same utility territory and load zone as the net metered facility (AB 6270).** |
| **North Carolina** | Requires simplified interconnection standards for small distributed generation (DG) for renewable-energy systems and other forms of DG up to 20 kW in capacity for residential systems and 100 kW for non-residential systems; investor-owned utilities are required to make net metering available to customers that own and operate systems that generate electricity using photovoltaics (solar-electric energy), wind or biomass resources, or micro-hydro systems<br>• A North Carolina Utilities Commission (NCUC) order raised the system capacity to 1MW and specified that the utility owns the RECs unless the customer-generator chooses to net meter under an unfavorable demand tariff |
| **North Dakota** | Net-metering rules apply both to renewable-energy generators and cogenerators (combined-heat-and-power systems) up to 100 kilowatts (kW) in capacity |
| **Ohio** | Maintains three levels of interconnection standards for distributed generation up to 20 MW; net-metering law requires electric distribution utilities and competitive retail electric service providers to offer net metering to customers who generate electricity using wind energy, solar energy, biomass, landfill gas, hydropower, fuel cells or microturbines |
| **Oklahoma** | Requires investor-owned utilities and electric cooperatives under the commission's jurisdiction to file net-metering tariffs for customer-owned renewable-energy systems and combined-heat-and-power (CHP) facilities up to 100 kW in capacity |
| **Oregon** | Oregon has established separate net-metering requirements and interconnection standards for its primary investor-owned utilities (three levels of interconnection standards from 25 kW to 2 MW), and for its municipal utilities and electric cooperatives (must offer net metering up to 0.5% of a utility's historic single-hour peak load) |
| **Pennsylvania** | Interconnection standards for net-metered systems and other forms of distributed generation; investor-owned utilities must offer net metering to residential customers that generate electricity with systems up to 50 kW in capacity, nonresidential customers with systems up to 3 MW in capacity, and customers with systems greater than 3 MW but no more than 5 MW who make their systems available to the grid during emergencies, or where a microgrid is in place in order to maintain critical infrastructure |

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| **Rhode Island** | Requires the state's primary investor-owned utility to offer net metering to all customers generating electricity using renewable-energy systems with a maximum capacity of 1.65 MW for renewable-energy systems owned by cities, towns or the Narragansett Bay Commission, and 1 MW for systems owned by other customers; the limit on the aggregate capacity of all net-metered systems is 5 MW<br>• Gives regular customers the option of receiving compensation in the form of a monthly check or as credited to the following bill<br>• Allows for bill aggregation (up to 10 bills) by cities, towns, farms, non-profit affordable housing or the NBC<br>***Changed system maximum capacities to 3.5 MW for municipalities and Narragansett Bay Commission; 2.25 MW for certain systems serving municipalities; 1.65 MW for all other systems.*** |
| **South Carolina** | Provides a simplified interconnection standard for small distributed generation (DG) for renewable-energy systems and other forms of DG up to 20 kW in capacity for residential systems, and up to 100 kW in capacity for non-residential systems<br>• Public Service Commission issued a directive to standardize the net metering procedures for the three investor-owned utilities |
| **South Dakota** | The South Dakota Public Utilities Commission is in the final stages of completing standardized interconnection standards (will be completed in August 2008)<br>• Set 4 levels of interconnection standards for systems of up to 10 megawatts (MW) in capacity |
| **Tennessee** | At the present time, TVA encourages the development of consumer generation systems that use renewable resources through a demonstration project called Green Power Switch Generation Partners; TVA pays participating consumers for the energy generated by solar photovoltaic or wind turbine sources, up to 50 kW; the project uses a dual-metering arrangement, and TVA pays for all the energy generated by the consumer; this payment is made in the form of a credit on the customer's utility bill of 15 cents per kWh generated for non-demand metered customers and 20 cents per kWh generated for demand-metered customers; TVA reimburses the distributor for the total amount of the credit given to the customer<br>• Authorized the creation of non-profit generation and transmission cooperatives to supply electric power and energy services |
| **Texas** | Interconnection standards and net metering is provided to electrical generating facilities (consisting of one or more on-site distributed-generation units) located at a customer's point of delivery, with a maximum capacity of 10 MW and connected at a voltage less than 60 kV; the total capacity of a facility's individual on-site distributed generation units may exceed 10 MW |

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|---|---|
| **Utah** | Requires all investor-owned utilities and most electric cooperatives to offer net metering to customers that generate electricity using solar, wind, hydropower, hydrogen, biomass, landfill gas or geothermal energy for residential systems up to 25 kW in capacity and non-residential systems up to 2 MW<br>• Extended net metering benefit to allow development and installation of renewable energy sources by third parties on behalf of non-profits and public entities to sell excess power to public utilities<br>• State Energy Program directed to assess the need for model solar and geothermal ordinances at the local government level<br>• Local governments also urged to adopt a model ordinance for wind energy projects<br>***Maintained rules for interconnection include provisions for three levels of interconnection for systems up to 20 megawatts (MW) in capacity, based on system complexity.*** |
| **Vermont** | Requires separate interconnection standards for net-metered energy systems and for distributed-generation systems that are not net metered; requires electric utilities to offer net metering to all customers with photovoltaic systems, wind-energy systems, fuel cells or biomass-energy systems until the cumulative generating capacity of net-metered systems equals 1% of a utility's peak demand - the maximum system capacity is 15 kW for most net-metered systems and 150 kW for farm-based systems<br>***Raised system capacity to 2.2 MW for military systems; 250 kW for all other systems (20 kW for micro-CHP).***<br>***Allowed utilities to offer additional credits or incentives to net metering customers, above and beyond the benefits provided by net metering itself.***<br>***Allowed for net-metered solar power. Also stipulated that utilities will offer additional credits of $0.20 per kilowatt hour (kWh) minus the highest residential rate for solar net metering customers (HB 56).*** |
| **Virginia** | Net metering is available on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators in Virginia reaches 1% of each electric distribution company's peak load for the previous year - this includes residential systems up to 10 kW and commercial systems of up to 500 kW; customer-generators must notify the electric distribution company and the energy service provider prior to interconnecting<br>• Utilities may approve a higher capacity limit at their discretion; renewable energy certificates (RECs) are owned by the customer-generators<br>• The customer-generator has a one-time option to sell RECs to the utility upon entering into the power purchasing agreement<br>• Excess electricity produced can be sold under a voluntary agreement at any time<br>• Virginia provides a permit-by-rule for renewable projects less than 100 MW in size (20 MW for biomass and waste to energy) and exempts such projects from State Corporation Commission approval<br>***Increased the maximum capacity of a residential electrical generation facility to 20 kW (HB 1983).*** |

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| **Washington** | Interconnection standards provide for two separate levels of interconnection based on system capacity: the first level applies to systems up to 300 kW, and the second level, which applies to systems greater than 300 kW but not greater than 20 MW, embraces the Federal Energy Regulatory Commission's (FERC) interconnection standards; net metering applies to systems up to 100 kW in capacity that generate electricity using solar, wind, hydro, biogas from animal waste, or combined heat and power technologies (including fuel cells) - all customer classes are eligible, and all utilities - including municipal utilities and electric cooperatives - must offer net metering |
| **West Virginia** | Provides net metering to residential and commercial systems up to 25 kW in capacity that generate electricity using photovoltaics, wind, biomass, landfill gas, hydropower or fuel cells<br>• The West Virginia Public Service Commission (WVPSC) is considering raising the net metering limit to 500kW for commercial and 2MW for industrial, rules are expected July 2010 (HB 103)<br>• The same legislation suggested WVPSC require utilities to provide a rebate or discount at fair value for any excess generation from customer-generators<br>***Raised the net metering limit, via the West Virginia Public Service Commission (WVPSC), to 500kW for commercial and 2MW for industrial. Also increased the overall program capacity to 3% of utility peak load and allowed for meter aggregation and perpetual kWh rollover at the retail rate.*** |
| **Wisconsin** | Interconnection standards for distributed generation systems up to 15 MW in capacity; requires all regulated utilities to file tariffs allowing net metering to customers that generate electricity with DG systems up to 20 kW in capacity |
| **Wyoming** | Wyoming's net-metering law includes basic interconnection requirements for systems up to 25 kW in capacity that generate electricity using solar, wind, hydropower or biomass resources; a statewide interconnection policy is in place |
| **American Samoa** | Net metering and interconnection standards provide credits for electricity a resident produces through renewable energy generators (solar or wind), exceeding their monthly usage; the excess can be carried over as kilowatt hour credits until the end of the calendar year<br>• Net metering is available to residential and small commercial customers with wind or solar-energy systems up to 30 kilowatts (kW) in capacity (ASAC 12.06) |
| **Guam** | In 2003, Guam enacted legislation requiring the Guam Power Authority (GPA) to allow net metering for customers with fuel cells, microturbines, wind energy, biomass, hydroelectric, solar energy or hybrid systems of these renewable energy technologies; the eligible size for net-metered systems is limited to 25 kilowatts (kW) |

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| **Puerto Rico** | The law establishes a net metering program that limits residential clients to 25 kW and commercial, industrial, educational institutions, hospitals, agricultural operations to 1 MW; compensation is as follows: at the closing of the June billing period in each year, any accumulation of credits per kWh by clients will be compensated at the rate of 10 cents per kWh; however, only 75% of the accumulated credit will be paid to clients, and the rest will be used as a credit for the Department of Education<br>• Interconnection of distributed generation equipment should be in compliance with the Puerto Rico Electric Power Authority (PREPA) Regulation for the Interconnection of Generators to the Electric Distribution System<br>• Based on requirements established on IEEE 1547 (Standard for Interconnecting Distributed Resources with Electric Power Systems) |
| **Virgin Islands** | The Islands' utility allows up to 15 MW (11%) PV and wind systems to net meter up to 10 kW<br>• Raised the capacity limits to 20 kW for residential systems, 100 kW for commercial systems, and 200 kW for public systems |

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# CLEAN ELECTRICITY

## Shale Gas Development, Regulation, and Policy

### DEFINITION

New discoveries of "unconventional" sources of natural gas, primarily as shale gas (but includes coalbed methane, sandstones, and methane hydrates). Extraction techniques of shale gas - known as hydraulic fracturing or fracking - involve the injection of water and sand, treated with chemicals, into shale formations which fractures the shale \allowing the gas to escape and be captured. Shale gas deposits can increase state supplies of natural gas but also may necessitate new rules or regulations governing fracking.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| Arkansas | ***The Arkansas Oil & Gas commission approved a rule that requires natural gas companies to disclose the composition of fluids it injects to release natural gas as part of the hydraulic fracturing process.***<br>***Amended the Arkansas clean energy development act to include natural gas public utilities (S.B. 876).*** |
| Colorado | **Enacted a law that set disclosure requirements for the content as well as the concentrations of all chemicals used in fracking.** |
| Idaho | ***Established temporary rules, approved by the Oil & Gas Conservation Commission, to limit gas drilling operations to four wells per square miles and set parameters for hydraulic fracturing. The Department of Lands will write permanent rules to replace the temporary rules after the 2012 Legislature has reviewed them.*** |
| Maryland | ***The governor signed an executive order establishing the Marcellus Shale Safe Drilling Initiative to assist state policymakers and regulators in determining whether and how gas production from the Marcellus Shale in Maryland can be accomplished without unacceptable risks of adverse impacts to public health, safety, the environment and natural resources. The advisory committee will submit its recommendations for best practices for all aspects of natural gas exploration and production in the Marcellus Shale in Maryland by August 1, 2012. A final report which will include findings and recommendations relating to the impact of Marcellus Shale drilling including possible contamination of groundwater, handling and disposal of wastewater, environmental impacts, impacts to forests and important habitats, greenhouse gas emissions and economic impact will be issued no later than August 1, 2014.*** |
| Michigan | **Began publishing information, via the Michigan Department of Environmental Quality, about the chemicals used in the fracking process, requiring companies to disclose all Material Safety Data Sheets, and will post that data on the department's website for public review. The sheets list characteristics of the chemical additives and their potential health and environmental effects.**<br>**Required Michigan Department of Environmental Quality operators to document where they plan to get the fresh water used in the fracking process using the DEQ's water withdrawal tool, to ensure that neither surface water nor any neighboring water wells are impacted. They also will be required to report the total volume of fracturing water recovered during operation.** |
| New York | ***The governor issued an executive order prohibiting hydraulic fracturing while the state Department of Environmental Conservation (DEC) reviews the effect of drilling on water. The DEC released the results of the study and has 60-day public comment period for the recommendations, beginning in August. Drilling permits cannot be issued until public comments are considered and the final supplemental Generic Environmental Impact Statement is released.***<br>**Established a permitting process for water withdrawals of 100,000 gallons or more per day by any non-agricultural user for any purpose from any of the state's waters. Water withdrawals for hydraulic fracturing activities could be covered under this legislation (AB 5318).** |
| North Dakota | ***Provided $100 million to help communities in North Dakota's oil and gas counties offset direct impacts created by the rapidly developing energy industry (HB 1013).*** |

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| **Oklahoma** | ***Authorized the Corporation Commission to allow multiunit horizontal wells under certain conditions and unitize a shale reservoir for the drilling of horizontal wells.***<br>***Also stipulated the prerequisites for unitization, the size of a unit, provided for ownership of oil and gas rights within the unit, and detailed what must be included in the plan of development (SB 1909).*** |
| **Pennsylvania** | **The governor issued an Executive Order, creating the Marcellus Shale Advisory Commission to address the needs and impacts of natural gas development on local communities, as well as promote the efficient, environmentally sound and cost-effect development of Marcellus Shale and other natural gas resources.**<br>**The Department of Environmental Protection issued a voluntary request for Marcellus Shale drilling companies to stop sending their wastewater to 16 municipal sewage and commercial treatment plants. They will assess compliance to determine whether further action is needed. DEP require that all discharges to waterways must be of drinking-water quality.**<br>**Established a new requirement by the Department of Environmental Protection that requires that all discharges to waterways must be of drinking-water quality.** |
| **Texas** | ***Tightened air emission limits, via a vote of the Commission on Environmental Quality, for the release of toxic chemicals associated with natural gas drilling in the Barnett Shale area in north Texas and requires producers to test their drilling sites more stringently.***<br>***Passed legislation requiring operators of wells where hydraulic fracturing or "fracking" treatments are performed to disclose the identity and amount of each chemical used in the treatment as well as the total volume of water used. The disclosed information a will be posted on the public hydraulic fracturing chemical registry website of the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission (HB 3328).*** |
| **Virginia** | ***Established a joint legislative subcommittee to study the issues related to ownership of natural gas and regulation of the industry under the Virginia Gas and Oil Act (H.JR. 121).***<br>***Provided that the surface owner of real property shall be presumed to be the owner of any natural gas below the surface unless the right to ownership or possession of the natural gas has been expressly conferred by deed or other instrument (S.B. 376).***<br>***Exempted property used directly in the drilling, extraction, or processing of natural gas or oil and reclamation of the well areas from the retail sales and use (S.B. 1343).*** |

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|---|---|
| New discoveries of "unconventional" sources of natural gas, primarily as shale gas (but includes coalbed methane, sandstones, and methane hydrates). Extraction techniques of shale gas - known as hydraulic fracturing or fracking - involve the injection of water and sand, treated with chemicals, into shale formations which fractures the shale \allowing the gas to escape and be captured. Shale gas deposits can increase state supplies of natural gas but also may necessitate new rules or regulations governing fracking. | |
| **West Virginia** | ***Formed the Marcellus to Manufacturing Task Force to research and develop potential economic development opportunities related to Marcellus Shale and natural gas byproducts such as ethane and ethylene.***<br>***The Marcellus Gas and Manufacturing Development Act provides West Virginia companies a tax credit equal to 100% of the annual personal property taxes imposed for owning horizontal drilling rig and related equipment against corporation net income and franchise taxes, personal income tax, severance tax, and business occupation tax; a tax credit for purchases and conversions of alternative fuel vehicles (AFV) and purchases/installation of alternative fuel vehicle refueling infrastructures against the corporation net income and franchise taxes, personal income tax; a sales tax exemption for materials used for new or existing natural gas compressor stations and certain gas transmission lines; and a property tax break for qualified capital additions to a manufacturing facility (S 465).***<br>***The governor issued an executive order directing the state's Department of Environmental Protection to promulgate additional environmental regulations governing Marcellus Shale drilling activities. The order directs the DEP to develop regulations concerning water withdrawals, stream and groundwater protection, and public notice, and also instructs the DEP to pursue reasonable environmental regulations to ensure responsible development of the Marcellus Shale.***<br>**The legislature passed the Horizontal Well Act which: increases well permitting fees; requires a notice of drilling activity to surface owners; creates a water usage disclosure requirement; and calls for a study of job impacts related to natural gas drilling.** |
| **Wyoming** | ***Repealed certain limits on the amount of gas stored by natural gas utilities and related provisions regarding gas price regulation, customer rates, sales of stored gas and public service commission duties.***<br>***Required energy companies to disclose the chemicals they use in hydraulic fracturing.*** |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Advanced Coal and Clean Coal

### DEFINITION

Advanced clean coal policies (loans, incentives, grants, etc.) support Integrated Gasification Combined Cycle (IGCC), carbon capture and storage, and other reduced advanced generation technology.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alaska** | Requires the Commissioner of Natural Resources, in consultation with the Commissioner of Environmental Conservation, to prepare and submit a report to the legislature regarding carbon sequestration; the report may include discussions of increased carbon stores in soil, methods for measuring net carbon sequestration, recommendations and assessments |
| **Arizona** | The Clean Coal Technology Task Force was charged with developing a strategic plan to advance clean coal-fired plants and was scheduled to report in December 2007 |
| **Colorado** | The Colorado PUC is required to consider proposals of utilities to build plants using IGCC technology; allows utilities to recover extra costs associated with this technology |
| **Florida** | • Authorized the Department of Environmental Protection to adopt rules for a Cap-and-Trade Regulatory Program (HB 7135, Florida Climate Protection Act) |
| **Georgia** | The Georgia Carbon Sequestration Registry Act provides for a registry of offsetting reductions in greenhouse gases obtained by carbon sequestration |
| **Illinois** | Provides bond funds for new IGCC facilities; tax incentives for new large businesses or for power plants (including gasification); includes credits or exemptions to sales and use tax, income tax, retailer's occupation tax, and electricity excise tax<br>• Created the Carbon Capture and Sequestration Legislation Commission to make a report to the General Assembly by December 31, 2010, concerning specified legislation (Act 096-0754)<br>***Authorized the Illinois Finance Authority to issue bonds for clean coal projects (SB 1906).***<br>***Authorized the Chicago Clean Energy project, a $3 billion coal gasification project that will be located on a brownfield site. The project aims to reduce carbon emissions, while creating 1,500 jobs and saving consumers more than $100 million over the next several years (See also Clean Energy Economic Development).*** |
| **Indiana** | Provides financial incentives for clean coal projects using Illinois Basin coal or gas including clean coal at new or existing facilities and advanced technologies that reduce air emissions from existing facilities; also allows a coal gasification investment tax credit<br>***Expanded definition of renewable energy resources to include low temperature, oxygen starved gasification of municipal solid waste, methane recovered from landfills for the production of electricity, coal bed methane derived from a naturally occurring biogenic process and makes them eligible for financial incentives for clean coal and energy projects (SB 66).*** |
| **Kansas** | Tax credits for the development of new coal gasification facilities (12 year property tax exemption for new or expanded IGCC property and for purchased or installed IGCC property that complies with federal or state air emissions standards); enrolled 2008 legislation provides a property tax exemption for underground storage of carbon dioxide by allowing any carbon dioxide capture, sequestration, and utilization property and any electrical generation unit which captures and sequesters all carbon dioxide and other emissions to be exempt from all property taxes |

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| **Kentucky** | The Public Service Commission is required to approve certain long-term contracts by utilities for synthetic gas from coal; 2007-enacted legislation also stipulates that coal gasification projects that are eligible for incentives under the Incentives for Energy Independence Act must be carbon capture ready; 2007-enacted legislation also provided funding for carbon capture and storage research; additional funding appropriated by 2008-enacted legislation will be directed toward research on carbon capture from coal-fired electric generating units<br>• Developing carbon capture and sequestration projects so that 50% of the state's coal-based energy facilities will have these management technologies by 2050<br>• State funds are appropriated annually for research projects relating to clean coal, new combustion technology, thin-seam coal extraction, safety, tracking and communication devices, coal slurry disposal, synthetic natural gas produced from coal through gasification processes, and the development of alternative transportation fuels produced by processes that convert coal or biomass resources or extract oil from oil shale, and other coal research<br>***Directed the Energy and Environment Cabinet to seek one to five projects demonstrating injection of carbon dioxide into geologic storage; provide a process for pooling of pore space necessary to create underground carbon storage reservoirs; create a process whereby ownership of and liability for stored carbon dioxide will pass to the federal or state government following a period of monitoring of the storage facility; and directs the Energy and Environment Cabinet to undertake discussions with surrounding states concerning accidental migration of geologically stored carbon across state lines (H.B. 259). Also requires annual reports (See also Clean Energy RD&D).*** |
| **Louisiana** | • Regulates the development and operation of geologic carbon sequestration facilities and pipelines transmitting carbon dioxide to such facilities (HB 661) |
| **Minnesota** | Provides incentives and grants to Mesaba Energy gasification plant (2003) |
| **Mississippi** | Provides bond issuance for gasification<br>***Established standards by which the Mississippi Department of Environmental Quality and the Mississippi Oil and Gas Board will oversee and monitor the geologic carbon dioxide sequestration process used in the enhanced recovery of oil and gas in order to expand the state's energy portfollio and create jobs (S.B. 2723).*** |
| **Montana** | A property tax abatement of 50% for up to 19 years is available for coal gasification facilities with sequestration, including coal to liquid facilities, carbon pipeline and sequestration equipment, and clean advanced coal research and development equipment<br>• Working with US DOE and Province of Saskatchewan to develop carbon capture and storage pilot project<br>***Required the monitoring of carbon dioxide injection wells for 50 years unless an alternative timeframe is approved by the Board of Oil and Gas Conservation, requires an operator to continue to accept liability and provide adequate bond or surety for a carbon dioxide storage reservoir and the stored carbon for a minimum of 30 years (S 285).*** |
| **New Mexico** | Advanced energy facilities including advanced technology coal and solar thermal generation may qualify for up to $60 million in credits; the credit is equal to 6% of facility development and construction expenditures |
| **North Dakota** | ***Required the legislative management committee to study carbon dioxide storage easements and the duration of carbon dioxide storage easements during the 2011-2012 interim session. The legislative management will report its findings and recommendations together with any legislation necessary to implement the recommendations, to the sixty-third legislative assembly (SB 2318).*** |

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| **Ohio** | Offers conduit financing, loans, loan guarantees, grants, tax incentives, and funding for demonstration IGCC projects |
| **Oklahoma** | The "Oklahoma Carbon Sequestration Act" establishes requirements to document and quantify efforts on agricultural and nonagricultural land within the state to enhance the ability of the state's landowners to participate in carbon dioxide emissions marketing or trading systems |
| **Pennsylvania** | Includes IGCC as an alternative source under the Alternative Portfolio Standard; the Energy Deployment for a Growing Economy (EDGE) incentive, initiated by the governor in 2005, continues to offer low interest loans for IGCC and allows for long-term power purchasing contracts to assist with financing |
| **South Dakota** | Specified pipeline requirements and landowner approval for carbon sequestration projects |
| **Texas** | Funded the site screening process for a potential FutureGen plant; approved grants and incentives for low emissions projects; expedited permitting for FutureGen-type projects |
| **Utah** | • Methane gas recovered from an abandoned coal mines qualifies as a renewable energy source<br>• Resolution expressing support for producing hydrogen from coal with carbon capture and sequestration (CCS) technology adopted<br>• Public Service Commission urged to consider authorizing recovery of prudently incurred costs from advanced coal and CCS technology that reduces carbon emissions and improves energy security |
| **Virginia** | Promotes gasification research in state Energy Plan; A new coal/coal waste/biomass advanced fluid bed generation plant is under construction in Wise County; conducting research on carbon sequestration in unmineable coal seams<br>• The Virginia Coal and Energy Commission will study legal issues on indemnification of land owners on property used for carbon sequestration |
| **Washington** | Maintains a power plant performance requirement under which utilities may not own electric resources or hold five year or longer contracts for generating resources which emit more than 1100 pounds of $CO_2$ per MWh, effectively discouraging investment without carbon sequestration |
| **Wyoming** | Provides a sales and use tax exemption for equipment purchased to make new coal gasification or coal liquefaction facilities operational<br>• Codifies the Clean Coal Task Force (Statute 21-17-121)<br>• Extends its term to June 13, 2013<br>• Requires annual reports and reappropriates funds for clean coal research |

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# CLEAN ELECTRICITY

## Public Benefits Funds

| DEFINITION |
|---|
| SEE ENERGY EFFICIENCY – PUBLIC BENEFITS FUNDS |

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **California** | Investor-owned utilities' (IOU) "public goods surcharge" to be devoted to energy efficiency, renewable energy, and energy RD&D |
| **Colorado** | The Colorado Clean Energy Fund (see below) |
| **Connecticut** | The legislature has set a per-kWh charge on ratepayer bills to be dedicated for this purpose; Connecticut spends approximately $120 million per year in furtherance of developing programs and funding projects for renewable technologies through these funds |
| **Delaware** | Delaware's Green Energy Fund supports the state rebate program that provides up to 50% of installation costs for photovoltaic, solar water heating, fuel cells, and wind turbine systems |
| **Hawaii** | Starting in 2008, a third party administrator began operating a fund under the Public Utilities Commission<br>• The Hawaii Energy Efficiency Program and administration of the public benefits funds programs transitioned from the utilities to a third-party administrator (§269-121) |
| **Illinois** | The Renewable Energy Resources Trust Fund supports renewables through grants, loans and other incentives |
| **Kentucky** | Legislation enacted in 2008 directs, as part of an RPS study, funding mechanisms for financing incentives for energy efficiency and renewable energy, including evaluation of public or benefit funds utilized by other states<br>• As part of the Kentucky Energy Plan, will determine the impact, surcharge amount and cost of establishing a public benefit fund |
| **Maine** | Developed the Renewable Resource Fund, a voluntary program allowing customers to contribute to a fund that supports renewable-energy projects. Revenue for the fund also comes from RPS alternative complaince payments. The fund is now part of the Efficiency Maine Trust and funds renewable-energy demonstration projects to Maine-based nonprofits, consumer-owned electric transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts, and school administrative units.<br>**Authorized the Renewable Resource Fund to support the solar and wind rebate programs (HB 568).** |
| **Massachusetts** | The Renewable Energy Trust Fund, which provides funding in the areas of clean energy, green buildings and infrastructure, industry investment and development, and policy issues (market and regulatory barriers), is funded by a non-bypassable charge based on electricity use, imposed on customers of all investor-owned electric utilities in Massachusetts; a separate public benefits fund is assessed for energy efficiency, as noted above (see 1.5) |
| **Minnesota** | Xcel Energy's Renewable Energy Development Fund supports the research and development of new renewable-energy sources and energy production; project awards support wind energy, biomass energy, solar energy, hydropower, biofuels and a project involving coal gasification |
| **Montana** | The Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables |

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# CLEAN ELECTRICITY

## Public Benefits Funds

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| **New Jersey** | Maintains a societal benefits charge (SBC) to support investments in energy efficiency and Class I renewable energy; the SBC funds New Jersey's Clean Energy Program, a statewide initiative that provides technical assistance, financial assistance, information and education for all classes of ratepayers |
| **New Mexico** | Public electric and natural gas utilities are authorized to implement cost-effective energy-reduction programs; the programs may be funded through a tariff rider for energy-efficiency and loan mangement programs |
| **New York** | SBC funds may be used to support renewable-energy infrastructure; in April 2008, LIPA issued an RFP soliciting proposals to reduce dependence on fossil fuel electric generation resources by purchasing the full output of power and related energy produced by up to 50 MW of photovoltaic solar photovoltaic generating systems |
| **Ohio** | Ohio's Advanced Energy Fund provides grants and low-interest loans to distributed energy resources projects, non-residential and residential renewable energy, and manufacturing facilities' energy efficiency |
| **Oregon** | See Below--Energy Trust of Oregon |
| **Pennsylvania** | Four renewable and sustainable-energy funding programs were subsequently created through individual settlements with the state's five major distribution utilities |
| **Rhode Island** | Renewable-energy systems eligible for support from the RIREF include facilities in the New England Power Pool (NEPOOL) control area that generate electricity using solar, wind, wave, tidal, ocean-thermal, geothermal, hydro or sustainably-managed biomass resources; s solar-thermal systems (including solar space-heating systems) are eligible if installed on low-income housing projects certified by the Rhode Island Housing and Mortgage Finance Corporation. In addition, co-firing systems are eligible for funding, as well as fuel cells and microturbines using renewable fuels |
| **Vermont** | The Clean Energy Development Fund (CEDF) Loan Program seeks to promote the development of clean electric-energy technologies by providing funding for purchasing land and buildings (when specific to qualifying projects), purchasing and installing machinery and equipment, and working capital; low-interest loans are available to individuals, companies, nonprofits and municipalities--eligible clean electric-energy technologies generally include solar, wind, biomass, fuel cells and combined heat and power<br>***Authorized The CEDF to support natural gas vehicles and/or fueling infrastructure (H.781 – See also Alternative Fuels and Vehicles).*** |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Financial and Other Incentives

### DEFINITION

Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, industry recruitment/support, bond programs, green building incentives, leasing/lease purchase programs and production incentives.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| Arizona | Residential Solar and Wind Energy Systems Tax Credit is 25% of the cost capped at a maximum of $1,000. Commercial sector has a 10% renewable energy tax credit capped at $50,000. $1 million is available per year; Non-Residential Solar and Wind Tax Credit; Qualifying Wood Stove Deduction<br>• Property tax exemption expanded to include other renewable energy technologies, as well as combined heat and power systems and energy efficient building components<br>***Launched Arizona Goes Solar, a web resource for homeowners and businesses to learn about opportunities to adopt solar technology and a list of federal and state renewable technology incentives.***<br>***Established the Governor's Solar Energy Task Force to evaluate incentives provided to solar energy producers and manufacturers; identify barriers to solar energy projects; propose reforms to public agency processes and tax structures that advance solar energy development; and advise the governor on solar energy matters (See also Clean Energy Economic Development).***<br>***Convened industry representatives and other stakeholders to discuss the technology, industry standards, certification issues, financing options and the viability of the geothermal technology industry in Arizona (See also Clean Energy Economic Development).***<br>***The Arizona Corporation implemented a program where customers can purchase 150 kilowatt-hour (kWh) blocks of solar electricity at an extra cost of $3 per month. The power will be produced by local photovoltaic (PV) systems.***<br>***Established individual and corporate tax credits for "solar liquid fuels," also known as microbial fuels, that create renewable transportation fuels from bacteria using a combination of carbon dioxide, water and sunlight (SB 2730 – See also Clean Energy RD&D).***<br>***Established personal and corporate tax credits for qualified renewable energy systems. The credit is based on the amount of electricity produced each year for a 10-year period (SB 1254).***<br>***Exempted the retail sale of solar energy devices and installation of solar energy devices by contractors from the sales tax.*** |

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| **Arkansas** | • The Arkansas Energy Office, a division of the Arkansas Economic Development Commission, has partnered with John Brown University to launch the Arkansas Anemometer Loan Program (ALP)<br>• The ALP allows landowners to apply, and if selected, receive a free wind-resource assessment so they can make an informed decision regarding pursuing the installation of a wind turbine<br>***Created a low interest-rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation. Loan rates are dependent on the loan length and are related to the current market interest rates.***<br>***Provided funding through the The Arkansas Energy Office for solar PV, small wind, and solar water heating systems that are net metered and have an interconnection agreement.***<br>***Created a rebate incentive for school districts for the costs of converting diesel-powered and gasoline-powered school buses into dedicated or bi-fuel compressed natural gas school buses (H.B. 1050).***<br>***Amended the Arkansas clean energy development act to include natural gas public utilities, allows biofuel to satisfy the public utility's energy efficiency or conservation goals (S.B. 876 See also Shale Gas Development, Regulation and Policy).***<br>***Created the Wind Energy Manufacturing Tax Incentive, which provides a full income tax exemption for manufacturers of windmill blades or components that meet certain criteria, including showing significant investment and job creation (See also Clean Energy Economic Development).***<br>***Decreased the sales and use tax on natural gas and electricity used by manufacturers to operate a facility that uses combined-cycle gas turbine technology or for use directly in the actual manufacturing process to provide manufacturers with a way to increase the number of employees (SB 275- See also Clean Energy Economic Development).*** |
| **California** | Supplemental energy payments (SEPs), are available to eligible renewable generators for the above-market costs of eligible procurement by California's retail sellers to fulfill their RPS obligations; property tax exemptions are available for qualifying solar energy systems; loans are available for agriculture and food processing industries to purchase cost-effective energy efficient and renewable emerging technologies; the California Solar Initiative offers $3.2 billion over 10 years for solar energy projects with the objective of providing 3,000 MW of capacity by 2017; the California Energy Commission offers cash incentives to promote the installation of grid-connected small wind and fuel cell renewable energy electric-generating systems through its Emerging Renewables Program; the Self-Generation Incentive Program (SGIP) offers incentives to customers who produce electricity with wind turbines and fuel cells<br>• Authorize loans for the purchase of alternative source energy projects through various instruments including prepayment purchase contracts (SB 77, Alternative Energy and Advanced Transportation Financing Authority Act)<br>• Redefines alternative sources<br>• Requires contract by the authority for energy derived from an alternative source to the extent prepayment is intended to offset electrical requirements<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 77) |

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| **California (continued)** | Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Energy Efficiency and Clean Energy Economic Development)<br><br>The California Clean Energy Manufacturing Program encourages the production and manufacture of energy efficiency and renewable energy components; systems and technologies; alternative and renewable fuels; and vehicles and vehicle components. The program provides financial support for businesses; public-private partnerships; and technology developers, fleet owners, academic institutions, consortia, and collaboratives through a variety of financial mechanisms. These include grants, loans, loan guarantees, tax-exempt financing, production incentives, and credit enhancements (See also Clean Energy Economic Development).<br><br>**Required the Alternative Energy and Advanced Transportation Financing Authority to administer a Clean Energy Upgrade Program to reduce the costs to property owners of a loan provided by a financial institution for energy efficiency or renewable energy upgrades (AB 14a – See also Energy Efficiency).**<br><br>***Excluded expenses related to the design, manufacture, production, or assembly or renewable energy equipment, combined heat and power equipment, and alternative transportation equipment from the state's sales and use taxes. This includes any source of energy under 30 megawatts that reduces the use of fossil and nuclear fuels (SB 71 – See also Clean Energy Economic Development).***<br><br>**Developed the Clean Energy Jobs plan, which calls for 12,000 megawatts to come from localized energy sources—onsite or small systems located close to where energy is consumed that can be constructed quickly, without new transmission lines, and typically without any environmental impact (See also Clean Energy Economic Development).**<br><br>***The California Energy Commission awarded a $400,000 grant to a project whose goal is to demonstrate the benefits of using energy storage systems in conjunction with an on-site fuel cell power generation.***<br><br>**Streamlined the siting and permitting process for renewable energy projects within the state's Desert Renewable Energy Conservation Plan (DRECP) by adding wind and geothermal energy projects to a program currently in place for large-scale solar projects, whereby the Department of Fish and Game (DFG) may offer project developers the option of paying mitigation fees in-lieu of the traditional permitting process (ABx 1 13).**<br><br>**Extended the current exclusion from property tax reassessment for purchases of new "active solar energy systems" to active solar energy systems that are sold in sale-leaseback arrangements (ABX1 15).** |

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| **Colorado** | The Colorado Clean Energy Fund provides grants, loans and other financial incentives to attract manufacturers of renewable energy products to the state<br>Provides the Renewable Energy Property Tax Assessment, which disregards the additional cost of renewable technology property relative to nonrenewable property<br>***Companies with building retrofitting projects or that are directly involved in the renewable energy sector are eligible to obtain financing from the Governor's Energy Office.***<br>***Required municipal electric utilities serving more than 40,000 customers to offer a green-power program that allows retail customers the choice of supporting emerging renewable technologies.***<br>***Required Colorado electric utilities to provide customers with a comparison between photovoltaic (PV) systems to any proposed distribution line extension. Only customers with peak demand less than 25 kilowatts (kW) are eligible.***<br>***Provided rebates through the Governor's Energy Office for qualifying renewable energy systems at commercial and residential buildings.***<br>***Authorized counties and municipalities to offer property or sales tax rebates or credits to residential and commercial property owners who install renewable energy systems.***<br>***Created loans of over $100,000 for solar water heat, PV, wind and other distributed generation technologies.***<br>**Created a biomass working group to promote sustainable forest management and explore potential of woody biomass as an energy source. Also directed the PUC to study biomass as an energy resource for electricity and heating.**<br>***Created an improvement district comprised of the entire state and authorized the improvement district to issue up to $800 million in bonds to fund PACE financing programs (HB1328 – See also Energy Efficiency).***<br>***Required the state treasurer to transfer an amount equal to 50% of the clean technology income tax withholding growth to the clean technology discovery evaluation cash fund. Money from these funds are used to provide grants related to the clean technology industries (S.B. 11-047).***<br>***Allowed for the creation of community solar garden owned by a utility or any other for-profit or nonprofit entity or organization. The garden must have at least 10 subscribers who will receive kWh credits on their utility bills in proportion to the size of their subscription (HB 1342).***<br>***Exempted renewable energy property that is located on a property classified as residential, owned by the residential property owner, and produces energy that is used by the residential property from the state property tax (HB 1267).***<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector economic development (See also Clean Energy Economic Development).***<br>***Made rebates available to homeowners who install solar water heaters and solar or wind energy systems.***<br>***Extended the cap on the dollar amount that permitting authorities may charge for solar installations to July 1, 2018 . The cap is $500 for residential application and $1,000 for non-residential applications. For systems 2 MW and larger, the local government can charge no more than what it actually cost to issue the permit (HB 1199).*** |

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| **Connecticut** | Provides a property tax exemption for "Class I" renewable energy systems and hydropower facilities that generate electricity for private residential use; provides a sales and use tax exemption for solar and geothermal heat pumps; the Community Innovations Grants Program is a test pilot program that provides eligible communities with a $5,000 block grant to support local public awareness and education projects that promote renewable energy; Connecticut's On-Site Renewable Distributed Generation Program provides grants to support the installation of systems that generate electricity utilizing solar photovoltaic, wind, fuel cells, landfill gas, low-emission advanced biomass-conversion technologies, run-of-the-river hydropower, wave or tidal power, or ocean-thermal power are eligible; offers grants and low-interest loans to retail end-use customers of electric distribution companies for the installation of customer-side distributed resources; the Connecticut Clean Energy Fund offers rebates for the installation of solar photovoltaic systems; Project 150 allows for the sale of advanced long-term contracts to assist in the financing of the clean energy projects underlying the contracts<br>***Provided grants of up to $10,000 to small firm who employ less than 50 people that are working on promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy through the Connecticut's New Energy Technology program (See also Clean Electricity).***<br>***Exempted equipment, machinery and fuels used to manufacture solar thermal (active or passive) systems, solar electric systems, wind-power electric systems, or geothermal resource systems from the state sales and use tax (H.B. 5435 – See also Clean Energy Economic Development).***<br>***Created the Connecticut Clean Energy Fund to fund approximately 550 residential projects and 50 non-residential projects to support solar hot water heating in the State.***<br>***Launched the Connecticut Solar Lease program which allows homeowners to lease a photovoltaic (PV) system, with fixed monthly payments, for a term of 20 years. Homeowners may choose an eligible installer to design and price a PV system. All electricity generated by a leased PV system reduces the homeowner's electric bill.***<br>***Established grants for commercial, industrial, nonprofit and government entities for PV installations between 50 and 200 kW.***<br>***Created low-interest loans for PV, wind, fuel cells and CHP/cogeneration with a capacity of between 50 kW and 65 MW. The maximum loan amount is $150,000.***<br>**Required electric companies to enter into long-term contracts to buy renewable energy credits (RECs) from zero-emission generators (SB 1243).**<br>**Required the Clean Energy Finance and Investment Authority to establish a program to promote residential photovoltaic systems under which participants can choose to receive an up-front payment or a payment tied to the power the systems produce (SB 1243).**<br>**Allowed electric companies to own up to 10 megawatts of renewable energy generating capacity (SB 1243).**<br>**Allowed municipalities to establish a loan program to finance energy efficiency and renewable energy projects, whose costs are recovered by an assessment on the benefitted property (SB 1243).**<br>**Created the Clean Energy Finance & Investment Authority, which administers the Clean Energy Fund, to facilitate private capital investment in clean energy projects by pursuing maximum leveraging of public dollars (SB 1243).** |

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| **Florida** | Provides a renewable energy production tax credit and a renewable energy investment tax credit; provides a sales and use tax exemption for renewable energy equipment<br>The Solar Energy System Incentives Program provides rebates for the installation of a new photovoltaic system 2 kW or larger, a solar water heating system, or a solar pool heater*<br>• Further defined the rules for soliciting a rebate from the Solar Energy Systems Incentives Program<br>***Created the Capital Investment Tax Credit to provide an annual tax credit for 5% of eligible capital costs generated by qualifying renewable energy projects (maximum of 20 years).*** |
| **Georgia** | Offers a four-day sales tax exemption for energy-efficient residential appliances, lighting, doors and windows; products must meet or exceed the federal Energy Star program requirements in order to qualify<br>Created the Clean Energy Property Tax Credit, a 35% tax credit for energy efficient building projects and lighting retrofits that achieve an energy reduction standard<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1388)<br>***Created a 35% personal and corporate tax credits for clean energy equipment installed and placed into service.***<br>***Established the Green Communities Fund to provide low-interest loans of up to $250,000 to businesses and property owners for energy efficiency upgrades that reduce energy use by 20% or yield a 10-year return on investment.***<br>***Administered Residential Energy-Efficient Appliance Rebate Program that offers rebates for select Energy Star appliances installed in households.***<br>***Authorized the development of a Guaranteed Energy Savings Performance Contracting Program is being developed for state facility retrofits, including a pre-qualified list of energy savings companies and standard statewide contracts for agencies to use (See also Clean Energy Economic Development).***<br>***Administered competitive energy efficiency grants for local governments, state government, and industrial, commercial and residential sectors.***<br>***Localities in Georgia have suspended most PACE programs due to the the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

*There is no more funding available for the ARRA funded Solar Energy Systems Incentives Program. The Renewable Energy Production Tax Credit, the Renewable Energy Technologies Investment Tax Credit, and the Renewable Energy Equipment Sales Tax Exemption have all expired.

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| **Hawaii** | Hawaii Energy Tax Credits allow individuals or corporations to claim an income tax credit of 20% of the cost of equipment and installation of a wind system and 35% of the cost of equipment and installation of a solar thermal or photovoltaic system; 2008 legislation mandates solar water heaters for new homes starting in 2010<br>An amount of $5,000,000 was appropriated to develop a photovoltaic, net metered pilot project in the schools for the 2006-2007 fiscal year<br>• Renewable energy technologies income tax credit amended to make the credit refundable for certain taxpayers, prohibits special allocations of the credit by pass-through entities, and prevents passive activity losses from including a depreciation deduction<br>• As a home rule state, allows counties to create special improvement districts for financing a variety of projects, including Property Assessed Clean Energy (PACE) financing<br>***Established loans of up to 85% of the project cost for agriculture and aquaculture-based PV, hydroelectric, wind power,methane generation, biodiesel, and ethanol projects. The loan maximum is $1,500,000 for a term of up to forty years.***<br>***Localities in Hawaii have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>**Directed the Public Utilities Commission to investigate an On-Bill Financing Program for residential electric utility customers to finance purchases of energy efficient or renewable energy devices and systems through their regular electric utility bills. Also authorized the Commission to implement a program by decision and order or by rules if the program is found to be viable (HB 1520 – See also Energy Efficiency).**<br>**Established a working group to study the feasibility of requiring all new single-family residential construction to incorporate design elements and minimal equipment installation to make them photovoltaic-ready at the time of construction (SB 181).**<br>***The Public Utilities Commission approved feed-in tariffs (FITs) for Hawaiian Electric Company (HECO) and its subsidiaries for renewable energy resources up to 500 kilowatts in size.***<br>**Exempted third-party owners and operators of on-site renewable heat and energy generating equipment from being regulated as public utilities by the Public Utilities Commission (S 704).**<br>**Authorized the Public Utilities Commission to take into consideration the need to reduce the state's reliance on fossil fuels through energy efficiency and increased renewable energy generation when considering utility system capital improvements, despite the increased short-term costs (SB 1482 – See also Energy Efficiency).** |

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| **Idaho** | The Idaho Department of Water Resources administers low-interest loan programs for active solar, wind, geothermal, hydropower and biomass energy projects<br>Independent developers may request financing from the state bonding authority for renewable energy projects<br>Provides an income tax deduction of 40% of the cost of a solar, wind, geothermal, and certain biomass energy devices used for heating or electricity generation; provides a property tax exemption for wind and geothermal energy producers (in lieu of a property tax, producers must pay a tax of 3% of their gross energy earnings); offers a sales-and-use tax rebate for qualifying equipment and machinery used to generate electricity from fuel cells, low-impact hydro, wind, geothermal resources, biomass, cogeneration, solar and landfill gas<br>***The Office of Energy Resources administered sub-grants totaling $7,364,522 to 72 cities and counties for energy efficiency and renewable energy technology projects throughout the state (See also Energy Efficiency).***<br>***Dedicated $1.5 million for 12 projects through the Renewable Energy Enterprise Zone (REEZ) program. REEZ is designed to spur economic growth and job creation by encouraging renewable energy development collaboration between local authorities and energy developers (See also Clean Energy Economic Development).***<br>***Offered grants through the Solar Panels for Schools Project for the purchase and installation of large solar electric net-metered equipment systems on up to 15 public schools.***<br>***Granted the Idaho Land Board authority to reach longer-term lease agreements, negotiate rent and royalties over a wide area instead of one lease at a time. One bill also allows the Board to set bonding for each phase of a geothermal project (H.B 52, 53,54,56).***<br>***Created the Idaho Energy Primer, an educational booklet written by the Idaho Strategic Energy Alliance, designed to provide information on the sources, production, distribution and use of energy in the state to help Idaho citizens and businesses make informed decisions about our energy future.*** |

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| **Illinois** | The Wind Energy Production Development Program provides financial assistance up to $25,000 for the development of new wind energy production projects of at least 0.5 MW of nameplate capacity<br>Created the School Wind and Solar Generation Program to provide full or partial low-interest loans wind and solar generation projects for school and community college districts. Projects can include engineering studies, feasibility studies, research studies, and construction costs (SB 1570).<br>Solar energy equipment is valued at no more than a conventional energy system for property tax purposes<br>• Businesses that intend to establish a new wind power facility in Illinois may be considered high impact businesses and qualify for certain occupation tax exemptions (SB 1923)<br>• The Illinois Finance Authority (IFA) provides loan guarantees to eligible renewable energy and energy efficiency projects to lower the cost of financing (Act 96-0817)<br>• The IFA is authorized to provide up to $3 billion in "Additional Security" loan guarantees or bonds to help facilitate the development of renewable energy and clean coal projects in Illinois (Act 96-0103)<br>• This authorization was expanded to provide this "Additional Security" support for energy efficiency projects<br>• The Illinois Treasurer's Office Green Energy offers low-interest loans to businesses, non-profit organizations and local governments in Illinois<br>• The Treasurer's Office secures below-market interest rates for borrowers who finance their purchase or installation of energy efficient and renewable energy equipment at participating lenders<br>• Projects can range from $10,000 to $10M<br>• Allows for Property Assessed Clean Energy (PACE) financing, with detailed program specifications to be determined (Act 96-0481)<br>***Created the Lake Michigan Offshore Wind Energy Advisory Council to review the potential for offshore wind energy projects. The Council will identify areas that might be appropriate for offshore wind development and present its recommendations to the governor and the legislature by June 30, 2012. Also allowed counties to establish wind farm districts.***<br>***Exempted building materials incorporated into wind powered facilities from state and local sales tax.***<br>***Authorized the Illinois Finance Authority to issue tax-exempt bonds for renewable energy projects (including transmission) that provide a significant public benefit for the citizens of Illinois.***<br>***Prohibited homeowners' associations, common interest community associations and condominium unit owners' associations from preventing homeowners from using or installing solar energy systems.***<br>***Localities in Illinois have suspended most PACE programs due to the Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,00 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030 – See also Clean Energy Economic Development).*** |

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| **Indiana** | Offers residential homeowners a rebate for installing geothermal heat pumps<br>• Established the geothermal conversion revolving loan fund (HEA 1669)<br>Systems that generate energy using solar, wind, hydropower or geothermal resources--including geothermal heat pumps--are exempt from property tax; provides tax incentives to encourage capturing methane gas from Indiana landfills and utilizing it to generate electricity; Indiana has granted companies $190 million in tax-exempt certificates to upgrade and construct low emission facilities<br>The Alternative Power and Energy (APE) Grant Program provides a matching fund grant to non-profit, public and commercial entities to support the purchase and installation of alternative energy systems that offset fossil fuel usage and encourage public education (provided over $700,000 for the purchase of alternative energy systems)<br>***Created the Indiana Solar Thermal Grant Program that offers public institutions, nonprofit organizations and commercial entities that use over 100,000 gallons of hot water per year a grant that covers 25% of the cost of solar water heat, up to $25,000.***<br>***Allowed value assessed deductions for wind power devices of customers participating in net a metering program offered by a utility (S 481).***<br>• ***The Indiana Office of Energy Development (OED) offered $879,000 in grants to support the expansion of alternative energy technology; the Alternative Power and Energy Grant Program (APE) projects are to be fully constructed and operating by May 31, 2010*** |
| **Iowa** | A production tax credit is available for energy generated and sold by eligible wind energy generators and other renewable energy facilities, including biomass and solar; the market value added to a property by a solar or wind energy system is exempt from the state's property tax; exempts from the state sales tax the total cost of wind and solar energy equipment and all materials used to manufacture, install or construct wind energy systems<br>Legislation provides that 1) the tax credits approved in 2005 and in 2006 for alternative energy are extended for such generation from the current July 1, 2009, to July 1, 2012, and 2) such credits can be used not only against income tax liability, but against sales tax and against the utility replacement property tax as well<br>Exempted real and personal property used to decompose waste or utilize it for energy from property taxation for 10 years<br>• The Alternate Energy Revolving Loan Program received an additional $5 million from the sale of state bonds for deposit in the fund<br>• Wind energy generating systems up to 330 MW, increased from 180 MW, are eligible for the production tax credit (SF 456)<br>• The facility was granted 12 additional months, for a total of 24, to become operational if delayed by equipment availability issues<br>• Iowa enacted one of three bills establishing small wind innovation zones; the two pending bills will carry over to the 2010 session (HF 810)<br>***Extended and altered the renewable energy production tax credit to promote small-scall wind and biogas facilities by limiting the credit to individual facilties 5 MW or less, limiting total capacity to 50 MW, and allowing generators to receive RECs even if power is used on-site (Hb 672).*** |

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| **Kansas** | Provides a property tax exemption for renewable energy equipment; provides a property tax exemption for property with renewable energy generation facilities; provides income tax credits for investment in new renewable co-generation facilities and provides a property tax exemption for certain waste heat utilization systems<br><br>Requires electric utilities to pay no less than 150% of the utility's monthly system average cost per kWh to renewable energy producers with excess energy to sell; allows utilities to recover the cost of transmission construction through rate increases, subject to approval by the Kansas Corporation Commission; allows the formation of renewable energy co-ops consisting of five or more persons that produce at least 100 kW of renewable energy; has authorized two community colleges to install wind turbines for educational and electrical generation purposes; all renewable generation facilities, except nuclear, are exempt from the requirements of the Electric Generation Facility Siting Act<br><br>• Revised the state's recovery act in 2009 to provide economic incentives for solar and wind energy projects that invested at least $30 million in Kansas and provided full-time employment for 200 people within five years, at an average salary of at least $32,500<br><br>The wind and solar manufacturing tax incetives provides up to $5 million in bond financing for eligible projects<br><br>**The governor announced his Roadmap for Wind Energy in Kansas which: encourages commercial wind energy development as well as projects that expand transmission lines; continues to keep energy affordable; expands renewable energy production; and protects the environmentally sensitive Tallgrass Heartlands.**<br><br>***Created a revolving loan program to homeowners for up to $20,000 and to small business for up to $30,000 to help pay for renewable energy systems issued through the customer's utility or a partner lender. Customers have up to 15 years to repay the loan (See also Energy Efficiency).***<br><br>**Created the Interagency Working Group for Wind Energy, made up of ten state agencies, to align priorities around wind energy planning and provide information to the governor on the status of wind energy development in the state. The Working Group also monitors transmission activities, develops strategies for fostering renewable energy development and identifies workforce issues.**<br><br>**Launched the 2011 Take Charge! Challenge, a grant competition between 16 communities and two universities, to determine which can save the most energy between January and September 2011. The winning community in each region will win a renewable energy or energy efficiency project valued up to $100,000 (See also Clean Electricity) (See also Energy Efficiency).** |

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| **Kentucky** | Provides low interest loans for the installation of solar water heaters<br>Legislation enacted in 2008 establishes the State Income Tax Credits for a percentage of installed costs of active and passive solar space heating systems, solar water heating systems, wind turbines, and solar photovoltaic systems<br>Incentives to companies that build or renovate facilities that utilize renewable energy<br>• Incentives for energy efficient alternative fuel facilities which make fuel from densified feedstock coal, waste coal or biomass that have higher energy content than the feedstocks without densification (HB 552 and 589, 2010, and KRS 154.27-010 to 154.27-090)<br>• The Public Service Commission will study natural gas retail competition programs to determine if benefits can be derived from these programs (HB 542)<br>• The Kentucky New Energy Venture Fund (KNEV) supports the development and commercialization of alternative fuel and renewable energy products, processes, and services across the state<br>***Created a personal and corporate 30% state income tax credit for solar, wind, and geothermal systems that meet program guidelines.***<br>***The Tennessee Valley Authority (TVA) now compliments the small generation (up to 200 kilowatt (kW) systems) Green Power Switch Generation Partners Program by providing incentives for mid-sized renewable energy generators between 200kW and 20MW to enter into long term price contracts.***<br>***Tennessee Valley Authority (TVA) offers a production-based incentive program to Valley homeowners and businesses for the installation of renewable generation systems.*** |
| **Louisiana** | Provides personal and corporate refundable tax credits for up to 50% of the first $25,000 for the purchase and installation of solar and wind energy systems; provides an ad valorem tax exemption for any equipment attached to an owner-occupied residential building or swimming pool as part of a solar energy system<br>• Renewable Energy Grant program encourages the development, implementation, and deployment of cost-effective renewable energy technologies in the public and private sectors<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 224)<br>***Localities in Louisiana have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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| **Maine** | The Voluntary Renewable Resources Grant supports small-scale demonstration projects designed to educate communities on the value and cost-effectiveness of using natural resources to generate clean electricity<br>The Governor's Office of Energy Independence and Security launched the "Grants Connector" program to provide information support for businesses, non-profits, government entities and other interested parties to pursue federal, state and private energy efficiency, conservation and renewable energy project grants and financial incentives (See also Energy Efficiency)<br>Provides a rebate for solar-energy systems installed at homes or businesses<br>• Rebate funding expanded by $500,000 for FY10 and FY11<br>• Allows for Property Assessed Clean Energy (PACE) financing (LD 1717)<br>***Called for the use of designated energy corridors if the corridor's use is likely to reduce electric rates and benefit the long-term public interest of the State, including the reduction of greenhouse gases (GHGs). Revenues from the use of state-owned lands or assets are directed to improve energy efficiency and increase renewable energy generation (LD 1786).***<br>**Reinstated the solar and wind energy rebate program, which provided rebates for the purchase of certain solar and wind energy equipment, until June 30, 2015 (HB 568).**<br>**Proposed that the Efficiency Maine Trust develop a plan to reduce Maine's dependence on oil in order to strengthen energy security. The plan requires a cost and resource estimate for technology development and targets for reducing total oil consumption that equal the maximum economically achievable oil savings. provides that targets may not provide less than a 30% overall reduction in oil consumption from 2009 levels by 2030 and a 50% overall reduction from 2009 levels by 2050 (HB 436).**<br>**Directed the Governor's Office of Energy Independence and Security to consider issues relating to noise and visual standards, decommissioning plans, the criteria used during the permitting process to consider the visual impact of an expedited grid-scale wind energy development when asses the progress of wind energy development (HB 1005).**<br>**Required the director of the Governor's Office of Energy Independence and Security to identify opportunities to lower the cost of energy to Maine consumers, recommend appropriate actions to lower the cost of energy to Maine consumers and take action as necessary to carry out the goals and objectives of the comprehensive state energy plan including lowering the cost of energy to Maine consumers (HB 541).**<br>***Directed the Maine Public Utilities Commission to develop a program offering green power as an option to residential and small commercial customers in the state. The PUC issued rules in October 2010 and will issue a request for proposals (RFP) from green power providers in utility transmission and distribution territories.***<br>***Offered a rebate for residential wind energy systems of $500 per 500 W, up to 2,000 W. Non-residential systems are eligible for a $500 rebate per 500 W up to 4,000 W.***<br>***Established a 100% sales and use tax refund for qualified community wind generators under 10 MW.*** |

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| **Maryland** | The Maryland Strategic Energy Investment Fund will direct proceeds from the RGGI auction to energy efficiency and renewable energy programs as well as bill payment assistance for low income consumers; offers rebates for residential and commercial geothermal heat pump property; provides financial incentives to homeowners, businesses, local governments and non-profit organizations that install solar water-heating systems or solar-electric systems<br>Offers a production tax credit for electricity generated by wind, geothermal energy, solar energy, hydropower, small irrigation power, municipal solid waste and biomass resources; offers a corporate income tax credit for photovoltaics, wind turbines and fuel cells that serve a green whole building, a green base building, or green tenant space; provides a property tax exemption for residential solar energy systems; requires that solar heating and cooling system be assessed the same as traditional sources for tax purposes; exempts from the state sales tax all wood or refuse-derived fuel used for residential heating purposes<br>Provides grants for small wind energy systems through the Windswept program<br>Created an income tax credit of $0.03/gallon for purchases of biodiesel used for space heating or water heating<br>• Residential wind energy equipment and devices that use solar thermal electric energy are eligible for property tax exemption (HB 1171)<br>• Sales tax exemption for residential wind energy equipment<br>• Revised the definition of solar energy equipment so that other systems in a net metering type arrangement could also be sales tax exempt<br>• Reopened the Windswept Grant Program application period in 2009 to provide funds for the installation of wind energy systems of at least 1 kW (over 20 kW approved on a case-by-case basis)<br>• Revised corporate tax credit for renewable energy systems (HB 494)<br>• Extends the facility in service deadline from 2010 to 2015<br>• Sets a minimum tax credit limit of $1,000<br>• Makes excess tax credits refundable<br>• Established a fund for the management of coal combustion by-products, authorizes the Department of the Environment to establish and collect fees (HB 1556)<br>• Authorized political subdivisions to enact an ordinance or a resolution establishing a Clean Energy Loan Program to provide loans to residential and commercial property owners for the financing of energy efficiency and renewable energy projects (HB 1567)<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1567)<br>***Provided rebates via the Mid-Size Wind Energy Grant program, for the installation of non-residential wind energy systems from 20 - 200 kilowatts (kW).***<br>***Offered rebates for mid-sized solar photovoltaic systems at $500 per kW and for solar water heating systems at 15% installed cost.***<br>***Created rebates for residential and non-residential geothermal systems of offered $2,000 and $7,000, respectively.*** |

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| **Maryland (continued)** | ***Extended the income tax credit for purchases of biodiesel used for space heating or water heating until 2017 (SB 959).***<br>***Created a solar energy grant program to offer rebates for residential and non-residential solar PV (up to 20kW) and thermal systems.***<br>***Exempted sales of electricity generated by specified solar energy or wind energy equipment for use in residential property or for supply to the electric grid from the sales and use tax (SB 398).***<br>***Localities in Maryland have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Massachusetts** | The Massachusetts Technology Collaborative offers loans to support renewable energy companies entering or expanding within the manufacturing stage of commercial development<br>Commonwealth Solar (a rebate program that grossed $68 million in its first four years) uses renewable energy funds to defray the cost of solar installations with the goal of installing 250 MW in 10 years - the program offers rebates of up to 60% of the cost for homeowners and 40% for businesses<br>The state also offers a corporate excise tax deduction for any income received from the sale of a patent or royalty income from a patent deemed beneficial for alternative energy development; businesses may deduct from net income, for state excise tax purposes, costs incurred from the installation of any solar or wind powered climatic control unit and any solar or wind powered water heating unit; allows a 15% credit against the state income tax for the cost of a renewable-energy system (including installation costs) installed on an individual's primary residence; provides a property tax exemption for solar and wind energy systems and hydropower; provides a sales tax exemption for solar, wind, and heat pump systems and all related equipment; offers grants and loans to support the development of grid-connected renewable energy systems<br>Clean Energy Choice program allows Massachusetts electric customers to pay an additional premium each month to support green power<br>MassHousing's Green Affordable Housing Development Program seeks to promote the construction of renewable energy generation systems in affordable housing developments financed by MassHousing or the Affordable Housing Trust Fund; MassHousing, through the Renewable Energy Trust, offers feasibility grants, design grants and construction grants or loans for installing renewable energy systems; larger multifamily affordable rental housing developments that meet Energy Star standards may qualify for funding for a renewable energy system greater than or equal to 10 kW (100 kW for wind power projects)<br>***Signed a 20-year power purchase agreement with a renewable energy company to construct and operate solar panels on several state facilities and sell the power to the state at a lower cost than current rates. The agreement with the ESCO is part of a larger program to install 4 megawatts (MW) of solar capacity on 23 state facilities (See also Clean Electricity).***<br>***Localities in Massachusetts have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Allowed PACE financing as part of a larger "Municipal Relief Bill" (H.B. 4877), authorizing local governments to establish an "Energy Revolving Loan Fund" to provide financing to private property for energy efficiency and renewable energy improvements.*** |

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| **Michigan** | 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging companies from securitized tobacco settlement revenues<br>Property tax credits for methane digester operators and biomass gasification system operators; ADD - designated Alternative Energy Renaissance Zones and Renewable Energy Renaissance Zones offer a waiver of business taxes, most property taxes, and income taxes<br>The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations; provides grants for community education programs to help consumers better understand energy efficiency and renewable-energy options<br>• The state has developed a $10 million Revolving Loan Fund to provide low-interest loans to public buildings and to clean energy advanced manufacturing<br>• The state has received an allocation of Qualified Energy Conservation Bonds<br>• Established a program to provide allocations to local units of government for qualified projects<br>• Augmenting the Michigan Farm Energy Audit and Renewable Energy Assessment Program<br>• Michigan State University is exploring the feasibility of growing, harvesting and utilizing bioenergy crops on non-traditional cropland that include areas along Michigan roadways and vacant urban lots for energy use such as biofuel, heat and electricity production<br>• The Renewable Energy and Energy Efficient Technology Demonstration grant program provides matching funds to small businesses for projects that will demonstrate innovative renewable energy and energy efficient technologies not yet widely adopted in Michigan<br>• Established the MI Energy Efficient Appliance Rebate program<br>• Michigan companies make many of the products included in this program<br>• The Michigan strategy has the following objectives: 1) Complement the existing utility energy optimization programs by providing rebates for appliances not covered by utility programs; 2) Reach rural areas not served by utility natural gas programs; and 3) Push the marketplace by providing rebates for appliances that exceed the ENERGY STAR standards<br>***Created a 100% personal property tax exemption for alternative energy systems less than 2 MW, or less than 10 MW for a combination of technologies.***<br>***Offered a low interest loan program, which offers loans of up to $2 million to small businesses with 500 employees or less to incentivize high-growth clean energy sectors and encourage investment in advanced manufacturing of energy systems and components (See also Clean Energy Economic Development).***<br>***Authorized municipalities to establish a loan program to provide financing for clean energy improvements to commercial and industrial property owners via local ordinance (HB 5640).*** |

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| **Minnesota** | Provides loans for renewable improvements or additions to agricultural facilities; the Energy Investment Loan Program provides loans that can be applied to energy efficiency and renewable energy projects; the Rural Wind Energy Revolving Loan assists the funding of wind energy feasibility and transmission interconnection studies for community-based energy developments<br>Offers a per kWh payment for electricity generated by hydro facilities, on-farm anaerobic manure methane digesters, and new wind energy projects under 2 MW in capacity; offers a solar-electric rebate program, funded by Xcel Energy, to buy down the up-front costs of grid-connected solar-electric systems<br>Offers a sales tax exemption for solar and wind energy systems<br>• Revenues collected from production taxes on wind energy systems will be distributed as follows: 80% to counties and 20% to cities and townships (Statute 272.029)<br>• Allows for Property Assessed Clean Energy (PACE) financing (HF 2695, Sec. 3 & 4)<br>***Created rebates for in-state single family residential, multi-family residential and small business solar hot water heating systems and solar air heating systems.***<br>***Created a residential and commercial rebate of 35% of installed system costsfor small wind systems up to 35 kW.***<br>***Established low-interest loans of between $2,000 and $35,000 for residential renewable energy improvements.***<br>***Offered loans in amounts of up to $40,000 per farm family, with up to $160,000 available for joint projects, for on-farm energy production.***<br>***Created grants for low-income residences of up to $4,700 to install solar or biodiesel heating systems.***<br>***Localities in Minnesota have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Mississippi** | Offers low interest loans for renewable energy projects, including solar thermal, solar space heat, solar process heat, photovoltaics, alternative fuels, geothermal, biomass, landfill gas and hydropower<br>• Producers of firing or co-firing biomass are eligible for an annual investment tax credit for income taxes<br>• Amended a bill from 1972 exempting public storage warehouses of the raw materials for the firing or co-firing facilities from sales tax of their gross income |

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| **Missouri** | The Division of Energy of the Missouri Department of Natural Resources provides loans for energy efficiency and renewable energy projects for water and wastewater treatment facilities, schools, colleges, universities and local governmental buildings and structures<br>The Wood Energy Tax Credit allows individuals or businesses processing Missouri forestry industry residues into fuels an income tax credit per ton of processed material<br>***Launched the Energize Missouri Homes initiative to provide single family residences with funding for the Homeowner Upgrades and Geothermal program, which provides homeowners with rebates up to $17,000.***<br>***Created Renewable Energy Biogas Grants to support agricultural/industrial projects that use anaerobic digestion-to-energy systems and landfill biogas-to-energy projects.***<br>***Awarded Renewable Energy Studies Subgrantsto 17 entities under to increase the ability to make informed decisions about complex renewable energy systems.***<br>***Exempted, wholly or partially, improvements made to real property which are locally assessed and in a renewable energy generation zone designated as an enhanced enterprise zone from assessment and payment of ad valorem taxes of one or more affected political subdivisions for up to 25 years (HB 737).***<br>***Allowed renewable energy credit for a cleanfields renewable energy demonstration park, which contains a biomass facility, for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Energy RD&D and Clean Energy Economic Development).*** |
| **Montana** | The Alternative Energy Revolving Loan Program (AERLP) provides loans to individuals, small businesses, local government agencies, units of the university system, and nonprofit organizations to install alternative energy systems that generate energy for their own use<br>Commercial and net metering alternative energy investments of $5,000 or more are eligible for a tax credit of up to 35% against individual or corporate tax on income generated by the investment; allows a 50% property tax abatement for new renewable energy or clean coal production facilities, new renewable energy manufacturing facilities, and renewable energy or clean coal research and development equipment; offers a tax credit equal to the amount of the cost of renewable energy systems and installation of the system, up to $500<br>Offers a tax credit for the installation of a geothermal heating or cooling system, up to $1,500; new electricity generating facilities with a nameplate capacity of less than 1 MW and using an alternative renewable energy source are exempt from property taxes for five years after start of operation; provides a 10-year property tax exemption for renewable energy technology |
| **Nebraska** | Offers a production-based tax credit to any qualified producer of electricity generated by wind, solar, geothermal, hydropower, fuel cells or methane gas; an exemption from the sales and use tax imposed on the gross receipts from the sale, lease, or rental of personal property for use in a community-based energy development (C-BED) project (new wind energy projects that meet certain criteria)<br>• 2.5% loans are available for air- and ground-source heat pumps in the Nebraska Public Power District<br>***Removed the requirement that facilities eligible for renewable energy production tax credit must result in zero pollution (LB 360).*** |

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| **Nevada** | The Solar Generations Rebate Program offers rebates for grid-connected PV installations on residences, small businesses, public buildings, non-profits and schools<br>Provides a 10-year, 50% property tax abatement for real and personal property used to generate electricity from renewable energy resources (over 10 kW) or for a facility for the production of an energy storage device; subtracts any value added by a qualified renewable energy system from the assessed value of any residential, commercial or industrial building for property tax purposes<br>• Established the Fund for Renewable Energy, Energy Efficiency and Energy Conservation Loans and the Account for Set-Aside Programs (NRS 701.370)<br>• The Fund and the Account for Set-Aside Programs may be used only for the purposes set forth in the American Recovery and Reinvestment Act (ARRA) and to make loans available at a rate of not more than 3% to renewable energy systems for the construction of renewable energy projects<br>• Property tax abatement increased to 55% for 20 years (AB 522)<br>• Extended to additional technologies and increased the qualification requirements to ensure that incentivized projects result in more high quality jobs<br>• New or expanded businesses eligible to apply for a sales and use tax abatement for qualifying renewable energy technologies<br>• The amount of taxes abated can be everything in excess of 0.6% for a period of three years<br>• Generation facilities must have a capacity of at least 10 megawatts (MW)<br>• Applies to property used to generate electricity from renewable energy resources including solar, wind, biomass, fuel cells, geothermal or hydro<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 358)<br>**Expanded the Renewable Energy system Proprety Tax Exemption to include systems installed on one or more buildings and supplying energy to adjacent buildings or an irrigation system in an agricultural operation (SB 426).**<br>***Localities in Nevada have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs (SB 60 – See also Energy Efficiency and Clean Energy Economic Development).***<br>***Created a Renewable Generations Rebate Program for the installation of small wind, PV and hydroelectric systems which are sited at schools and at commercial, residential, public, nonprofit and agricultural locations.***<br>***Authorized loans from the Renewable Energy, Energy Efficiency and Energy Conservation Fund for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Clean Energy Economic Development).*** |

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| **New Hampshire** | Allows cities and towns to offer an exemption on residential property taxes in the amount of the assessed value of a renewable-energy system used on the property<br>***Allowed local governments to establish Property Assessed Clean Energy (PACE) financing programs.***<br>• ***Localities in New Hampshire have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created rebated from the New Hampshire Public Utilities Commission for non-residential solar photovoltaic (PV) and solar thermal installations. The program is funded through the state's renewable portfolio standard alternative compliance payments.***<br>***Established a PUC-funded rebate for solar thermal hot water heater systems or solar space heating systems and a federal rebate for solar thermal hot water heater systems that replace an existing hot water heater.***<br>***Created PUC-funded rebates of 30% of installed cost (up to $6,000) for residential bulk-fed, wood-pellet central heater boilers or furnaces (ARRA).***<br>***Funded a Renewable Energy Fund by alternative compliance payments made by utilities that have not met their percentage goals for renewable energy under the NH RPS. The fund is intended to support thermal and electrical renewable energy initiatives.***<br>***Created a requirement that all electricity providers must disclose the energy sources of their electricity and the environmental characteristics associated with their electric service (SB 327).***<br>***Created a New Hampshire Community Loan Fund by New Hampshire Community Development Finance Authority to fund and operate the Enterprise Efficiency Fund which provides loans to commercial and nonprofit entities to install certain renewable energy systems on their property.***<br>***Created low-interest loans under the Renewable Energy and Energy Efficiency Business Loan Program to help the commercial sector purchase equipment that reduces energy consumption or generates renewable energy (See also Clean Energy Economic Development).*** |

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| **New Jersey** | Offers a full exemption from the state's 7% sales tax for all solar and wind energy equipment<br>• Renewable Energy Incentive Program (REIP) provides rebates that reduce the upfront cost of installing renewable energy systems like solar, wind, and sustainable biomass projects<br>• SREC Registration Program (SRP) used to register non-rebated solar projects in New Jersey<br>• Renewable Energy Manufacturing Incentive (REMI) provides rebates to New Jersey residents, businesses, local governments, and non-profit organizations that purchase and install solar panels, inverters, and racking systems manufactured in New Jersey<br>• New Jersey Board of Public Utilities approved innovative financing programs at three of the state's electric utilities to support the installation of solar photovoltaic systems that produce clean renewable electricity for customers' onsite use<br>• Finance programs to help a manufacturer of clean energy systems or products, or an innovative company developing new, green technology<br>• Allows property owners to receive property tax exemption for the value of on-site renewable energy systems (Statute 54:4-3.113a et seq.)<br>***Created a robust package of financial incentives for offshore wind development and set a target of 1,100 megawatts of wind generation off of New Jersey's coast (SB 2036 – See also Clean Energy Economic Development).***<br>***Established an offshore wind renewable energy certificate program. Also authorized the Economic Development Authority to provide tax credits for qualified wind energy facilities in wind energy zones (SB 2036).***<br>***Made photovoltaic (PV) facilities connected to the distribution grid serving New Jersey eligible to generate Solar Renewable Energy Certificates (SRECs), which energy suppliers in New Jersey use to fulfill their obligations New Jersey's renewable portfolio standard (RPS).*** |
| **New Mexico** | The largest NM utility has a utility-commission approved solar REC 13 cent/kWh "buy back" program for residential PV systems, as part of complying with RPS requirements (likely to be expanded to include commercial this year)<br>In 2007, the State Legislature created the Renewable Energy Transmission Authority (RETA), a state-level financing authority whose primary focus is developing electric transmission infrastructure to facilitate the development and export of NM's renewable energy resources; RETA may finance or acquire interstate projects, coordinate with out-of-state authorities on transmission corridors, and fund energy storage projects |

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| **New Mexico (continued)** | Under the Renewable Energy Production Tax Credit, each renewable energy generator of 1 MW or more may earn an income tax credit (personal or corporate) averaging 2.7 cents per kWh for solar and 1 cent per kWh for wind or biomass over a 10-year period (available regardless of entity's NM tax liability); the Alternative Energy Product Manufacturer's Tax Credit provides manufacturers of photovoltaic, solar thermal, wind, biomass and electric generation systems, electric or hybrid vehicles, and fuel cell systems a tax credit of up to 5% of their capital expenses; Advanced Energy Tax Credits provide advanced energy facilities, such as solar thermal electric, advanced technology coal or recycled energy up to $60 million in credits up to 6% of facility development and construction expenditures; the Solar Market Development Income Tax Credit augments the federal solar tax credit by reimbursing 30% of the cost of a solar photovoltaic or solar thermal system up to $9,000; the Gross Receipts Tax Exemption for Solar Energy Systems provides a gross receipts (sales) tax exemption for solar electric and solar thermal energy systems where the generated power is used on-site; the Wind Energy Equipment Gross Receipts Tax Deduction provides a gross receipts tax deduction for receipts from selling wind turbines, nacelles, rotors, blades and related equipment to a state or federal government entity; the Biomass-Related Equipment Compensating Tax Deduction provides deducts the value of equipment such as a boiler, turbine-generator, storage facility, feedstock processor, interconnection transformer or biomass material used for biopower, biofuels or bio-based products from the computation of the compensating tax due<br>• House Bill 375 created a tax credit in New Mexico for geothermal heat pumps purchased and installed between January 1, 2010, and December 31, 2020, on property owned by the tax payer-- the credit is worth 30% of the system's cost up to $9,000 and can be applied to individual or corporate income taxes<br>• Advanced Energy Tax Credit amended to make the 6% (of project development costs) credit more "accessible" to renewable energy developers<br>• Personal and corporate income taxes are added as types of taxes that can be used toward the credit; carry forward period is extended from 5-10 years<br>• Geothermal and solar photovoltaic systems are added to the types of advanced energy technologies that qualify for the credit<br>***Allowed revenue generated by the sale and installation of a "qualified generating facility" to be deducted from gross receipts before the gross receipts tax is calculated. The deductions are allowed for a ten year period starting the year construction begins. Qualified generating facilities have a minimum nameplate capacity of 1 megawatt (MW) and include geothermal thermal electric, photovoltaic, solar thermal electric, and recycled energy systems.***<br>***Created a 10% personal income tax credit (up to $9,000) for residents and businesses that install solar thermal and electric systems.***<br>***Requested the Department of Economic Development to identify the benefitsand barriers to developing renewable energy resources and make recommendations to promote the development and use of renewable energy resources and associated transmission of electricity (HM 36).***<br>***Exempted any customer that is a political subdivision with consumption exceeding 20 million kilowatt-hours per year at any single facility that owns renewable energy generation from all charges by the utility for renewable energy procurements in a year (S.B. 549).***<br>***Exempted solar energy systems from property tax assessments at the time the system is installed (HB 233).***<br>***Offered a tax credit for agricultural biomass from a dairy or feedlot transported to a facility that uses agricultural biomass to generate electricity or make biocrude or other liquid or gaseous fuel for commercial use.*** |

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| **New York** | Provides low-interest loans to finance renovation or construction projects that improve a facility's energy efficiency or incorporate renewable energy systems<br>The Anaerobic Digester Gas-to-Electricity program provides incentive payments are available for both new installations and for the installation of new equipment on existing facilities<br>Provides a 15-year real property tax exemption for solar and wind energy systems constructed in New York; exempts the sale and installation of residential solar-energy systems from the state's sales and compensating use taxes<br>• Local governments now have the option to "opt-out" of exemption to state sales and other taxes; property tax abatement available for installed solar PV in cities with population greater than 1 million<br>• Qualifying energy-conservation improvements to homes are exempt from real property taxation to the extent that the addition would increase the value of the home<br>• The exemption applies directly to a variety of equipment and measures, but the statute also states that any conservation-related state or federal tax credit or deduction is also exempt from New York's property tax under this statute<br>• The federal energy efficiency tax credit can be applied to energy efficient central air conditioners, electric heat pump water heaters, natural gas, propane, or oil water heaters, advanced main air circulating fans, and certain biomass-fueled stoves<br>• In addition, the state Tax Assessor's Manual also specifically identifies solar and wind energy systems specifically as eligible for the exemption<br>Provides incentives for the purchase, installation, and operation of fuel cell systems used for electricity production; provides incentives for eligible small wind systems and grid-connected photovoltaic systems<br>• Program will add new incentives for Solar Thermal Application for domestic hot water production<br>• Allows for Property Assessed Clean Energy (PACE) financing (AB 8862, AB 40004A)<br>• Through the ARRA-funded SEP program, NYSERDA issued competitive solicitations and is in the process of contracting for the installation of over 11 MW of photovoltaic systems across New York State<br>**Created a "one-stop" multi-agency siting board to streamline siting and permitting decisions for power plants. Also lowered the threshold for plants requiring approval from 80 to 25 megawatts.**<br>***Created a personal income tax credit for expenditures on solar thermal and PV equipment used on residential property, equal to 25% of the cost of equipment and installation, up to $5,000.***<br>***Created refundable personal and corporate tax credits for the residential use of biodiesel for space heating or hot water, for 1 cent per gallon and a maximum incentive of 20 cents per gallon.***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.***<br>***NYSERDA established grants for clean energy business projects of up to 50% of a project's cost, with a maximum of $200,000 per project. The program is funded through the state's System Benefits Charge (SBC).*** |

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| **North Carolina** | The Energy Improvement Loan Program (EILP) is available to businesses, local governments, public schools, community colleges and nonprofit organizations for projects that include energy efficiency improvements and renewable energy systems<br>NC GreenPower offers production payments for grid-tied electricity generated by solar, wind, small hydro (10 MW or less) and biomass resources<br>Provides for a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year; active solar heating and cooling systems may not be assessed at more than the value of a conventional system for property tax purposes<br>• Tax credit against the Gross Premiums Tax for geothermal equipment was extended<br>• Provides that a city or county may establish a revolving loan fund to finance the purchase and installation of distributed generation renewable energy sources or energy efficiency improvements<br>Provides steam trap survey services to facilities that use steam for heating or processing<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1770. SB 97)<br>***Awarded $8.5 million to 43 public and private agencies to make downtown local government and small businesses more energy efficient, promote conservation and use of renewable fuels in industrial buildings and provide for greater energy efficiency in commercial and large nonprofit facilities.***<br>***Extended the Renewable energy tax credit to include combined heat and power systems.***<br>***Established the North Carolina Green Business Fund to provide businesses, organizations, and state and local government entities with grants up to $500,000 for deployment of renewable energy, biomass systems,waste-to-energy, and distributed transmission projects (See also Clean Energy Economic Development).***<br>***Reinstated a tax credit for costs incurred in the construction or retooling of a facility to manufacture renewable energy property or "a major component subassembly for a solar array or wind turbine". The credit is worth 25% of the eligible costs (See also Clean Energy Economic Development).***<br>***Authorized cities and counties to establish loan loss reserve funds to assist in the financing of eligible energy efficiency or renewable energy projects for residential or commerical property, or other types of finance programs funded through federal and state grants or their own general revenue (HB 1829 – See also Energy Efficiency).***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.*** |

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| **North Dakota** | Offers an individual or corporate income tax credit of 3% per year for five years for the cost of equipment and installation of a system that uses geothermal, solar, biomass or wind energy; offers property tax reductions for commercial wind energy generation devices constructed before 2011; provides a local property tax exemption for qualified wind, solar, or geothermal energy devices and also offers a property tax reduction centrally assessed wind energy systems larger than 100 kW; offers a sales tax exemption for qualifying wind energy systems greater than 100 kW<br>• Included geothermal energy devices in their Renewable Energy Tax Credit of 2009<br>• Extended the reduction of taxable value for wind energy systems for an additional four years<br>• Made permanent the sales and use tax exemption for materials used in the construction or expansion of a wind-powered facility<br>• Extended the income tax credit for the installation of renewable energy devices with a credit carryover of 10 years<br>***Amended the income tax credit for the cost of a geothermal energy device to include systems installed after December 31, 2008, and before January 1, 2015, in a building or on property owned or leased by the taxpayer in North Dakota. Required that the credit be in an amount equal to three percent per year for five years of the actual cost of acquisition and installation of the geothermal energy device (HB 1124).*** |
| **Ohio** | Offers conduit financing with flexible structures and associated tax benefits for technologies that improve air quality through production of cleaner energy<br>Offers grants for the installation of new distributed energy resources projects and non-residential renewable-energy projects in the service areas of certain utilities<br>Provides production-based incentives to support new wind-energy projects<br>Provides an exemption from real and personal property taxation, the state's sales and use tax, and the state's corporate franchise tax for property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1, SB 232)<br>***Established the Energy Conversation for Ohioans (ECO-Link) programs that offers Ohio homeowners reduced rate financing for energy efficiency and renewable energy home upgrades.***<br>***Exempted qualified energy projects in Ohio from public utility tangible personal property taxes and real property taxes (S.B. 232).***<br>***Provided assistance to small and large businesses for new air quality projects in Ohio.***<br>***Authorized cities and counties to establish revolving loan programs to finance renewable energy and energy efficiency projects that are permanently affixed to residential, commercial or other real property (SB 232).***<br>***The Federal Housing Financing Agency (FHFA) issued a statement in July 2010 concerning the senior lien status associated with most PACE programs. In response to the FHFA statement, most local PACE programs have been suspended until further clarification is provided.*** |

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| **Oklahoma** | Created a state income tax credit is available to producers of electric power using renewable energy resources from a zero-emission facility; offers an income tax credit to the manufacturers of small wind turbines (up to 50 kW)<br>Income tax credit for 40% of the installation of a wind energy and/or photovoltaic energy system on residential and nonresidential property for tax years 2010 to 2014<br>***Established a municipal energy district authority to make loans to finance the purchase and installation of distributed-generation renewable energy sources, for energy-efficient improvements or retrofits that are permanently affixed to residential, commercial, or industrial property (HB 1366 – See also Energy Efficiency).***<br>***Established a loan/lease fund for institutes of higher education to install renewable energy systems, including solar electric or thermal and wind systems.***<br>***Expanded a Oklahoma Department of Commerce-run revolving loan fund to distribute loans of up to $150,000 for local governments to install solar thermal or electric, wind, biomass and other certain renewable energy systems.*** |
| **Oregon** | Offers low-interest loans to projects that produce energy from renewable sources and use recycled materials to create products<br>• Broadened the definition of alternative fuel projects eligible for loan funds small scale local energy projects and provides for the eligibility of alternative fuel equipment (HB 2182)<br>• Increases the term of service for members of the Small Scale Local Energy Project Advisory Committee<br>Oregon's Business Energy Tax Credit is for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provides a tax credit for manufacturers of renewable energy systems; provides homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems; provides a property tax exemption for the added value for qualified renewable energy systems<br>• Established a pilot feed-in-tariff for solar photovoltaic (PV) systems<br>• All electric companies must offer this feed-in-tariff, though municipal electric utilities, public utility districts and electric co-operatives are excluded from the definition of electric companies<br>• The aggregate capacity for the pilot program is 25 MW alternating current (AC), with an individual system cap of 500 kW<br>• 75% of the cap must come from small-scale systems, though the Public Utility Commission (PUC) has the discretion to define small-scale systems and PUC rulings may reduce this target if necessary |

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| **Oregon (continued)** | • Directs the Public Utility Commission to establish a pilot program for each electric company to demonstrate the use and effectiveness of incentive rates and payments for electricity delivered from equipment and devices that have the primary purpose of collecting solar energy and generating electricity by photovoltaic effect (HB 3039)<br>***Provided grant through the Oregon Department of Energy (ODOE) to schools, goverments, non-profits and commercial businesses for feasibility studies for renewable energy, heat, and fuel projects under the Community Renewable Energy Feasibility Fund (CREFF).***<br>***Launched the Forest Products Energy Project, a competitive grant program providing funding to existing local forest product companies in Oregon can to evaluate the feasibility of using biomass for renewable energy production in Oregon's forest products industry.***<br>***Allowed homeowners to install solar panels for no money down with a monthly payment as low as $20 which cover covers installation, repair, insurance and other maintenance. If the homeowner's utility savings top that monthly payment, then the customer pockets the savings, in addition to solar tax credits. The monthly payment, in the case of the Oregon program, is fixed so customers' savings increase over time.***<br>**Allowed the State Forester to enter into contracts to provide a supply of woody biomass from forestlands managed by the State Forestry Department as needed to facilitate the development of projects, including but not limited to bioenergy projects (SB 862).**<br>**Created a tax credit of up to 50% for the cost of a renewable energy resource manufacturing facility during the period the facility is certified. Costs include capital construction costs and any other expenses incurred in the construction, installation or acquisition of the facility (HB 2523 – See also Clean Energy Economic Development).**<br>**Allowed the auction of tax credits, taxpayer contributions or direct appropriation by the legislature, to provide funds to award grants to renewable energy production systems (HB 3672).**<br>**Allowed tax credits for any capital investment whose payback period will be longer than 3 years, based on the first year's energy savings (HB 3672).**<br>**Created the Clean Energy Deployment Fund in the State Treasury to provide grants and loans to support energy efficiency or clean energy projects in the state (HB 2969) (HB 2969 – See also Energy Efficiency).**<br>**Limited the degree to which municipalities can restrict the location of solar panels. Authorizes installation and use of solar photovoltaic energy system on residential or commercial structure in zones in which residential or commercial structures are authorized (HB 3516).** |

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| **Pennsylvania** | Pennsylvania Energy Development Authority (PEDA) provides funding to support in-state projects, manufacturing or research involving the following types of fuels, technologies or measures: clean, alternative fuels for transportation, solar energy, wind; low-impact hydropower, geothermal, biologically derived methane gas (including landfill gas); biomass, fuel cells, coal-mine methane, waste coal, integrated gasification combined cycle, demand management measures (including recycled energy and energy recovery, energy efficiency and load management); the Pennsylvania Energy Harvest program offers funding for a variety of types of renewable energy and energy efficiency projects<br>Wind turbines and related equipment (including towers and foundations) may not be counted by tax assessors when setting property values<br>The PA Clean Air Interstate Rule (CAIR) allows for the distribution of free NOx allowances to qualified (under the AEPS) renewable and energy efficiency projects in PA<br>• Created the Alternative Energy Investment Fund<br>• Includes solar rebate program, PA Sunshine, for residents and small businesses, grant and loan program for wind and geothermal technologies, and a grant and loan program for alternative and clean energy technologies, among others<br>***Established incentives ranging from $0.40-$.060 per kWh for solar production to help electricity suppliers meet their compliance obligations under the state RPS.*** |
| **Rhode Island** | Offers financial incentives to in-state retail electricity suppliers who make available eligible green-power products to residential and small business consumers in the state: either "bundled" electricity supply offerings from competitive energy suppliers or tradable renewable certificate (TRC) offerings (either sold through the Narragansett Electric Company GreenUp Program or independently) that meet product-eligibility requirements<br>Offers a personal tax credit for qualified photovoltaic systems (on-grid and off-grid), solar hot-water systems, active solar-heating systems, wind-energy systems and geothermal-energy systems; provides that for purposes of local municipal property tax assessment, certain solar-energy systems may not be assessed at more than the value of a conventional heating system, a conventional water-heating system or energy production capacity that otherwise could be necessary to install in a building; certain renewable energy systems and equipment sold in Rhode Island are exempt from the state's sales and use tax<br>• Established the Municipal Renewable Energy Investment Program, which provides grants of up to $500,000 for municipal projects<br>• Established Nonprofit Affordable Housing Renewable Energy Investment Program; both programs use public benefit funds from the renewable energy surcharge<br>• Corporate tax credits now available for solar PV as well<br>**Created the Renewable Energy Coordinating Board to develop and recommend a strategic renewable energy implementation plan for the State (SB 722).**<br>***Provided funding of up to $200,000 per year for renewable energy projects through the Pre-Development Consultant and Technical Feasibility Program (See Clean Energy RD&D).***<br>***Established a feed-in tariff for new distributed renewable energy generators up to five megawatts (MW) in capacity. The law requires electric distribution companies to enter into standard contracts for an aggregate capacity of at least 40 MW by the end of 2014. Standard contracts include a fixed payment rate and a 15-year term, and vary by generator capacity and type.*** |

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| **South Carolina** | Provides low-interest loans to an individual or organization that plans to build a qualified renewable energy production facility<br>Homebuilders can receive a rebate for every home built with a solar hot water heating system, along with promotion from the State Energy Office as a builder with experience in installing solar hot water systems<br>Taxpayers are allowed a credit against the income tax and/or license fees for 25% of the costs incurred by the taxpayer for the purchase and installation of equipment used to create heat, power, steam, electricity or another form of energy for commercial use from a fuel consisting of at least 90% biomass resources; provides a credit for 25% of the costs of purchasing and installing a solar-energy system for heating water, space heating, air cooling or generating electricity in a building owned by the taxpayer (up to $3,500); offers a sales tax exemption for any device, equipment or machinery operated by or used to produce hydrogen or fuel cells for fuel cell application<br>• Solar income tax credits temporarily increased to 30% will revert back to 25% beginning January 1, 2010<br>Provides production incentives for qualifying biomass-energy facilities<br>***Created loans ranging from $25,000 to $500,000 for nonprofit, public, and institutional entities who install solar PV, biomass, geothermal heat pumps, and other unidentified renewable energy systems.*** |
| **South Dakota** | New and expanded renewable electricity generation facilities that have a nameplate capacity to produce 10 MW of electricity or less with costs greater than $500,000 are eligible for a 100% rebate of the project contractor's excise tax<br>Provides a special property tax assessment to qualified commercial wind facilities with an aggregate capacity under 5 MW; wind facilities with capacity greater than 5 MW are eligible for an alternative property tax structure of $3/kW of capacity and 2% of the wind farm's gross receipts, and wind farm property is exempt from taxes levied on real and personal property; exempts from local property taxes renewable energy systems on residential and commercial property; new and expanded renewable electricity generation facilities that produce more than 10 MW of electricity are eligible for a reduced contractor's excise tax rate of 1% instead of 2%--payment of the excise tax may be delayed into four equal annual payments; the Renewable Energy Systems Property Tax Exemption provides a local property tax exemption for renewable energy systems on residential and commercial property--the exemption applies to 50% of installed cost of commercial system and 100% of the installed cost of a residential system and can be transferred when property is sold (full exemption may be claimed for three years after installation with the exemption being reduced in the subsequent three years); anaerobic digester projects that sell electricity are eligible to qualify for the commercial property tax exemption<br>Created the South Dakota Energy Efficient Government Loan program to provideloans to nonprofits, schools, and government agencies located in South Dakota to pay for energy audits, energy efficiency improvements, and renewable energy installations (See also Energy Efficiency)<br>• Proposed legislation for the Public Utilities Commission's (PUC) Small Renewable Energy Initiative to address reducing up-front and ongoing taxes and ensuring a fair price<br>***Created a tax refund for new and expanded wind-energy facilities, new or upgraded electric transmission lines and associated facilities, and business facilities that manufacture or distribute wind or transmission components. Only facilities built after January 1, 2010 are eligible (See also Clean Energy Economic Development).*** |

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| **South Dakota (continued)** | **Created a Wind Energy Competitive Advisory Task Force to make recommendations as to the proper mechanisms to tax wind energy and compete with surrounding states for the construction and maintenance of wind energy installations (S.B. 194).**<br>***Allowed eligible facilities (Facilities that generate electricity using wind, solar, hydro, hydrogen generated by another eligible resource, or biomass resources) that generate less than five megawatts (MW) in capacity, all real property used or constructed for the purpose of producing electricity to be assessed in the same manner as other real property. However, the first $50,000 or 70% of the assessed value of eligible property, whichever is greater, is exempt from the real property tax.*** |
| **Tennessee** | Provides that wind energy systems operated by public utilities, businesses or industrial facilities shall not be taxed at more than one-third of their total installed cost<br>• Clean energy technology is eligible for the emerging industry tax credit<br>Offers a pilot grant program for businesses to install renewable energy systems at their facilities after undergoing an energy audit; the Tennessee Clean Energy Technology Grant Program (TN-CET) - makes grant funding available to assist Tennessee businesses install clean energy technologies like solar, wind and geothermal; grants must be used on buildings, located within the state, that are used for retail, commercial and/or industrial purposes and the maximum Grant Amount under this program is 40% of installed system cost up to a maximum of $75,000<br>***Created low-interest, seven year loans of up to $300,000 for solar electric and thermal, wind, biomass, and geothermal electric systems installed by commercial and industrial entities with fewer than 300 employees or less than $3.5 million in annual gross sales or receipts. The program is funded by oil overcharge restitution funds.***<br>***Allowed a taxpayer to take a credit, to apply for a refund of taxes paid, or to apply for authority to make tax-exempt purchases of machinery and equipment used to produce electricity in a certified green energy production facility (See also Clean Energy Economic Development).***<br>***Created the Solar Innovation Grant program to provide grants to commercial and industrial entities in the solar industry for a variety of purposes, including: training programs, reducing costs through process improvements, and increasing the use of renewable energy.***<br>***Established a loan program for state businesses to receive loans at below-market financing rates for up to 100% percent of the cost of energy improvements, such as: building retrofits, equipment replacements or upgrades, lighting and renewable enegy generation (See also Energy Efficiency).*** |

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| **Texas** | Allows a corporation to deduct the cost of a solar energy device from the franchise tax in one of two ways: (1) the total cost of the system may be deducted from the company's taxable capital; or, (2) 10% of the system's cost may be deducted from the company's income; offers a franchise tax exemption to companies engaged solely in the business of manufacturing, selling, or installing solar energy devices<br>Allows an exemption of the amount of the appraised property value that arises from the installation or construction of a qualifying solar or wind-powered energy device<br>• Incentives for projects to sequester carbon dioxide in geological formations<br>• Production of renewable methane defined as methane gas derived from animal waste or an agricultural byproduct is now eligible for the fuel ethanol and biodiesel incentive program<br>• Allows for Property Assessed Clean Energy (PACE) financing (HB 1937)<br>***Established energy storage equipment and facilities as generation assets.***<br>***Established a pilot program under the LoanSTAR revolving loan program to provide loans to houses of worship and community-based organizations to finance the implementation of energy efficiency measures and renewable energy technologies (HB 2077).***<br>***Prohibited property owners' association from including or enforcing any provision that prohibits or restricts a property owner from installing a solar energy device (HB 362).***<br>***Offered a LoanSTAR Program of low-interest loans of up to $5 million to public entities for the installation of solar electric and thermal, wind, and geothermal heat pump systems. Loans are repaid through energy cost savings over ten years or less, with interest rates at 3% APR.***<br>***Offered grant from the Texas Department of Rural Affairs to qualified local, non-entitlement governments (of under 50,000 residents) for the installation of renewable energy systems.***<br>***Required utility customers pay a Contribution in Aid to Construction (CIAC) or a pre-payment charge, or to sign a contract with a term of one year or longer if the electric utility must construct a line extension for a customer, and the utility must also provide the customer with information about on-site renewable energy and distributed-generation (DG) technology alternatives.***<br>***Localities in Texas have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |

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| **Utah** | Provides low-interest loans (2-3%) for energy efficiency projects in K-12 schools and school districts in Utah<br>• Program expanded to provide loans to cities and counties<br>Offers an income tax credit for renewable energy systems for both commercial and residential use; exempts the purchase or lease of equipment used to generate electricity from renewable resources from the state sales tax (See also Clean Energy Economic Development)<br>• Legislation created a system for the Governor's Office of Economic Development (GOED) in collaboration with local governments, to provide tax incentives to renewable energy producers and manufacturers who locate their projects in Utah<br>• The Renewable Energy Development Incentive (REDI) is a refundable tax credit for up to 100% of new state tax revenues (including, state, corporate, sales and withholding taxes) over the life of the project (See also Clean Energy Economic Development)<br>***Allowed commercial, utility, and industrial entities to be exempt from sales tax resulting in the purchase or lease of equipment for new renewable power systems of 20 kW or greater, or for expansions of 1 MW or greater.***<br>***Renamed the Renewable Energy Development Incentive (REDI) the Alternative Energy Development Incentive (AEDI). The program has expanded eligibility under the program to other forms of "alternative energy" including petroleum coke, shale oil, nuclear fuel, tar sands, and oil-impregnated diatomaceous earth (SB 242).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs by placing liens equal in value to the loan against any property where such renewable energy systems are being installed (S.B. 110).*** |

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| **Vermont** | Offers a corporate income tax credit in an amount equal to 100% of the "Vermont-property portion" of the federal business energy tax credit for solar; allows municipalities the option of offering exemption from real and personal property taxes for certain renewable energy systems; offers a sales tax exemption for renewable-energy systems; provides funding for new solar water heating, solar electric (photovoltaic) and wind energy system installations<br>• Allows for Property Assessed Clean Energy (PACE) financing (Act 45)<br>**Amended the Business Solar Tax Credit to allow businesses with an allocation to select a grant in lieu of the tax credit. The grant amount was either 50% the value of the tax credit allocation or 15% of the actual costs of the plant -- whichever is less.**<br>**The governor directed Efficiency Vermont and the state Department of Public Service to create an incentive program to assist Vermonters who choose to switch from oil heat to wood pellet options.**<br>**Replaced the permitting process for renewable energy systems 5 kW and smaller with a process that allows customers to install the system 10 days after completing a registration form and certificate of compliance with interconnection requirements. The utility has 10 days to raise any issues concerning the interconnection, otherwise a Certificate of Public Good is granted and the project may be installed (H.56).**<br>***Changed the business solar tax incentive to define the available funding from the Clean Energy Development Fund and relax project deadlines to ease pressure on state regulators (H.781).***<br>***Established Small Scale Renewable Energy Incentive Program rebates for new solar water heating, solar PV, wind, and micro-hydro energy installations in a variety of sectors. Incentives vary by technology,and range from $0.60/W to $4.50/W for power generating systems, with incentives of up to $255,000.***<br>***Required all retail electricity providers to purchase electricity generated by eligible renewable energy facilities through the Sustainably Priced Energy Enterprise Development (SPEED) Program, via long term contracts with fixed standard offer rates.***<br>***Localities in Vermont have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Created two reserve funds under The Vermont Energy Act of 2011: one is funded by participating homeowners via a one-time fee and managed by Efficiency Vermont, and the other is funded by the Regional Greenhouse Gas Initiative and managed by the Vermont's treasurer. These reserve funds are designed to cover losses in the event of foreclosure of participating properties and to lower the risk to financial institutions providing funding for PACE programs.*** |

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| **Virginia** | Localities may exempt or partially exempt solar energy equipment or recycling equipment from local property taxes; electric utilities may receive up to 200 basis point extra return for direct investments in electricity generation (renewable, nuclear, carbon capture compatible clean coal) that lessen or eliminate emissions<br>• State law requires the Southeastern Public Service Authority to entertain and negotiate any and all reasonable landfill gas-to-fuel or gas-to-electricity contract offers<br>• The Virginia Offshore Wind Development Authority was created to support the development of the offshore wind industry and wind-powered electric energy facilities located off the coast of the Commonwealth<br>• Allows for Property Assessed Clean Energy (PACE) financing (SB 110)<br>• Virginia offers the Solar Photovoltaic Manufacturing Incentive Grant Program to encourage the manufacture of solar photovoltaic panels in the state*<br>• $15 million in ARRA funds are being used for a rebate program for certain solar thermal heating, residential solar PV and small residential wind systems (up to 10 kW)<br>***Localities in Virginia have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.***<br>***Directed the State Corporation Commission)to consider approval of distributed solar generation facilities, constructed and operated by a utility, and special pricing of the power generated by those facilities. Encourages participation by local governments, schools and not for profits in providing locations for these projects (HB 1686- See also Clean Energy RD&D).***<br>***Created a Voluntary Solar Resource Development Fund. Utilities are required to provide a link to information about the Fund and to a web site where their customers can make donation to the fund. Money donated to the fund will be made available as loans to support construction of solar energy projects.***<br>***Created financial incentives to companies that manufacture or assemble equipment, systems, or products used to produce renewable or nuclear energy, or products used for energy conservation, storage, or grid efficiency purposes (HB 2316 – See also Clean Energy Economic Development and Energy Efficiency).***<br>***Created the Offshore Wind Development Authority to facilitate the development of the offshore wind industry and wind-powered electric energy facilities. Charged the Authority with identifying barriers to the development of the offshore wind industry, collecting metocean and environmental data, upgrading port facilities to accommodate the manufacturing and assembly of project components and vessels that will support such projects, and applying for loan guarantees for such projects (HB 389).***<br>***Authorized localities to secure loans for the initial acquisition and installation of clean energy programs placing liens equal in value to the loan against any property where such renewable energy systems are being installed (SB 110).***<br>***Created rebates for homeowners who replace their heat pumps, central heating, or central air conditioning systems with a geothermal heat pump.*** |

*Repealed the Solar Photovoltaic Manufacturing Incentive Grant Program effective July 1, 2013, and the Biofuels Production Incentive Grant Program effective July 1, 2017 to create the Clean Energy Manufacturing Incentive Grant Program (See below Clean Energy Economic Development).

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| **Virginia (continued)** | ***Added renewable energy projects to those which the Virginia Resources Authority may finance (HB 2389).***<br>***Ensured that if localities adopt local ordinances to address the siting of renewable energy facilities, that the ordinance will be consistent with provisions of the Commonwealth's Energy Policy. Also provides reasonable criteria for siting renewable energy facilities (SB 862).***<br>***Created the Virginia Universities Clean Energy Development and Economic stimulus foundation, which is tasked with identifying, obtaining, disbursing and administering funding to sutpport: the research and development of alternative fuel and clean energy technologies; economic development projects in rural areas; and commercialization of alternative fuels and clean energy technologies (See also Alternative Fuels and Vehicles and Clean Energy RD&D).*** |
| **Washington** | Provides a reduced business and occupation tax rate for manufacturers and wholesale marketers of solar-electric (photovoltaic) modules or silicon components of those systems; offers production incentives for individuals, businesses, and local governments that generate electricity from solar power, wind power or anaerobic digesters; tax does not apply to the sales of equipment used to generate electricity from wind, sun, landfill gas, and fuel cells<br>• Further reduced the business and occupation tax rate to 0.275%, which is 43% lower than the standard manufacturing business and occupation tax rate (SB 6170)<br>• Applicable to manufacturers of photovoltaic modules, solar grade silicon, silicon solar wafers, silicon solar cells, thin film solar devices or compound semiconductor solar wafers to be used exclusively in solar energy systems<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Energy RD&D and Clean Energy Economic Development).*** |
| **West Virginia** | Promotes gasification research in state energy plan<br>Wind operations pay a state business and occupation tax rate of 12% of nameplate capacity; by making payments to local community groups, a wind operation can receive a credit against the B&O tax<br>• American Electric Power's Mountaineer Plant at New Haven is the first coal-fired power plant in the world to capture a portion of its carbon dioxide emissions and inject them underground<br>• TransGas LLC is developing and permitting one of the first U.S. coal-to-liquid plants in West Virginia<br>• Developing a pilot project to capture about 1,800 metric tons of carbon dioxide a year from the flue gas of a coal-fired boiler at Dow Chemical Co. in South Charleston*<br>• Passed regulations regarding carbon sequestration and storage and established a working group to study and make recommendations regarding carbon dioxide sequestration<br>• Mapping geological sequestration opportunities within the state<br>• Solar energy tax credit for residential installations at 30% of cost, up to $2,000 |

*Discontinued the pilot project to capture about 1,800 metric tons of carbon dioxide a year from the flue gas of a coal-fired boiler at Dow Chemical Company.

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# CLEAN ELECTRICITY

## Financial and Other Incentives

| DEFINITION | |
|---|---|
| Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, industry recruitment/support, bond programs, green building incentives, leasing/lease purchase programs and production incentives. | |
| **West Virginia (continued)** | ***Allowed utility-owned wind projects to be assessed for property tax-purposes to have a value equal to their salvage value. In effect, the provisions lower the tax rate to 24.95% of fair market value.***<br>***The TransGas LLC coal-to-liquid plant broke ground in summer 2011.*** |
| **Wisconsin** | Any value added by a solar-energy system or a wind-energy system is exempt from general property taxes; provides financial support for developing business skills and marketing materials for organizations and businesses that provide renewable-energy services; provides financial support for assessing the feasibility of using complex, customer-sited renewable-energy systems; offers Cash-Back Rewards for installing or expanding renewable-energy systems on businesses and homes<br>• Allows for Property Assessed Clean Energy (PACE) financing (Statute 66.0627, SB 624)<br>***Established a program by the Wisconsin Department of Commerce that offers low-interest loans to for-profit renewable energy manufacturing companies in the state for up to 25% of project costs at a fixed interest rate of 2% for 5-10 years (ARRA funded).***<br>***Launched Wisconsin Focus on Energy to offer a competitive grant to support the deployment of large renewable energy projects. Grant recipients and projects must be located in a participating electric or gas utility's service territory and must result in electricity or natural gas savings. Also offers incentives for installing or expanding renewable-energy systems in residential and non-residential buildings.***<br>***Created tax credit from income or franchise taxes of 10% of the cost of equipment primarily used to harvest or process woody biomass for use as a fuel or as a component of fuel.***<br>***Exempted wind, solar, and anaerobic digester systems from the sales and use tax.***<br>***Localities in Wisconsin have suspended most PACE programs due to the The Federal Housing Financing Agency's (FHFA) July 2010 concerning the senior lien status associated with most PACE programs.*** |
| **Wyoming** | Provides a sales excise tax exemption for equipment used to generate electricity from renewable sources up to the point of transmission; the Photovoltaic Incentive Program offers grants of 50% (up to $3,000) to residents who install photovoltaic or photovoltaic hybrid systems on their homes<br>**Released a study by the Wyoming State and Energy Office and the Wyoming Infrastructure Authortiy that examines options for how the state can site and finance a "collector system" to bring wind energy to the grid.** |

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Clean State Energy Actions • 2011 Update

# CLEAN ELECTRICITY

## Financial and Other Incentives

| DEFINITION | |
|---|---|
| Financial incentives can help states address market barriers and leverage private sector resources for greater investment in energy efficiency or renewable energy systems. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, industry recruitment/support, bond programs, green building incentives, leasing/lease purchase programs and production incentives. | |
| **Puerto Rico** | • Revolving loan program, through Economic Development Bank for small and medium business; offers up to 50% of investment with a maximum of $300,000, at an interest of 4.95%--eligible projects include: wind, sun, and retrofits<br>• Sun Energy Program provides rebates for the purchase and installation of solar energy systems in homes, and businesses<br>• For homes: $4/watt based on the total system capacity up to 50% of the cost, $30,000 max<br>• For businesses: $4/watt based on the total system capacity up to 50% of the cost, $200,000<br>• Wind Energy Program provides rebates for the purchase and installation of small wind (<20kW) energy systems in businesses facilities, up to 50% of the cost, $100,000 max<br>• Agricultural Renewable Energy Program provides rebates for the construction of new renewable energy projects in the agriculture industry, up to 40% of the total cost, $100,000 max.<br>• Funds can be matched by other rebates or incentives awarded by the PR Department of Agriculture<br>• Solar Water Heater Program provides rebates to homeowners when they purchase a new solar water heater, $1000 per household/applicant<br>• Offers tax credits for the acquisition or installation of solar equipment, limited to: 50% of total cost (including installation) for FY 2009-2010 to 2010-2011, 25% of total cost (including installation) for FY 2011-2012 and so on (Act 248)<br>• Created a Green Energy Fund, an investment fund to promote and develop the clean energy industry<br>• Incentives will be divided into three main small-scale, medium-scale, and large/utility scale projects<br>• Small and medium-scale applicants will be eligible for a rebate based on a percentage of the total cost of installation, and will correlate with current market price for the desired technology<br>• Large-scale will be eligible to participate on the RECs compliance and voluntary markets<br>***Created a 30% tax deduction (up to $500) for expenses incurred in the purchase and installation of solar equipment for residential use and a 50% tax deduction (up to $3,000) for expenses incurred in the purchase and installation of a wind turbine to produce electricity for residential use.*** |
| **Virgin Islands** | Provides Renewable Energy Rebates on photovoltaic energy, solar water heaters, and wind turbines; offers 20% off Energy Star appliances<br>• Increased discount for Energy Star appliances to 30%<br>• Residents and small business owners with gross annual revenues of $500,000 or less, with electricity usage between 1,200 kWh and 2,000 kWh per month, may be eligible for loans covering 50% of the cost of solar hot water heaters |

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Clean State Energy Actions • 2011 Update

# ALTERNATIVE FUELS & VEHICLES

## Consumption Targets/Renewable Fuel Standards

### DEFINITION

Designed to ensure that gasoline sold in the state contains a minimum volume of renewable fuel; a certain amount of biofuels will be consumed in the state; or that a certain volume of petroleum will be replaced with alternative fuels.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Arkansas** | Arkansas Alternative Fuels Development Act established an annual goal of 50 million gallons of alternative fuels produced at production facilities in the state by October 6, 2008 |
| **California** | To increase the use of biomass in fuel production, the state will produce its own biofuels at a minimum of 20% by 2010, 40% by 2020, and 75% by 2050; goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020; by 2010, the state has committed to: 1) Build a network of hydrogen fueling stations; 2) ensure that hydrogen vehicles are commercially available for purchase; 3) incorporate hydrogen vehicles into the state fleet; 4) develop safety standards for hydrogen fueling stations and vehicles; and 5) establish incentives to encourage the use of hydrogen vehicles and encourage the development of renewable sources of energy for hydrogen production |
| **Connecticut** | The governor set a goal that by 2020, 20% of all energy used and sold in the state, including fuel, will come from clean renewable resources; in addition, the governor set a goal that by 2020, state fossil fuel consumption will be reduced by 20% and all commercial transportation fuels sold in the state will be required to include a mixture of 20% alternative fuels; by 2010, 10% biofuel mixtures will be mandatory for the state vehicle fleet |
| **Florida** | • Adopted the California Clean Car Standard (Statute 62-285.400)<br>• Created a Renewable Fuel Standard requiring that, beginning on December 31, 2010, all gasoline sold in Florida contain, at a minimum, 10 percent ethanol, by volume (HB 7135) |
| **Georgia** | ***Gasoline suppliers who provide fuel to distributors in the state must offer gasoline that is suitable for blending with fuel alcohol.*** |
| **Hawaii** | Goal that 85% of gasoline will contain 10% ethanol (2006); the state is responsible for supporting the attainment of an alternative fuels standard that will be as follows: 10% of highway fuel use to be provided by alternative fuels by 2010, 15% by 2015, and 20% by 2020 |
| **Illinois** | Goal to replace 50% of the state's energy supply with homegrown fuels by 2017<br>Increased the percentage of biodiesel blend required to be used by a diesel powered vehicle owned by the State or units of local government of the State when refueling at a bulk central fueling facility from 2% to 5% (HB 2535) |
| **Indiana** | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| **Iowa** | RFS goal to replace 25% of gasoline in the state with biofuels (ethanol or biodiesel) by January 1, 2020; enrolled 2008 legislation provides 1) that renewable fuels infrastructure is expanded to include blender pumps, 2) increased funding for biodiesel terminals from $50,000 to $100,000, and 3) tasks the Office of Energy Independence to create a renewable fuels marketing plan and a marketing campaign for owners of flexible fuel vehicles; participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |

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Clean State Energy Actions • 2011 Update

# ALTERNATIVE FUELS & VEHICLES

## Consumption Targets/Renewable Fuel Standards

| DEFINITION | |
|---|---|
| Designed to ensure that gasoline sold in the state contains a minimum volume of renewable fuel; a certain amount of biofuels will be consumed in the state; or that a certain volume of petroleum will be replaced with alternative fuels. | |
| **Kansas** | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; established shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| **Kentucky** | • Developing an Alternative Transportation Fuel Standard (KRS 152.720)<br>- The Kentucky Energy Plan outlined four sources of fuel for cars made in Kentucky that will offset foreign petroleum exports by 60%: plug-in hybrids, biofuels, coal-to-liquids and natural gas |
| **Louisiana** | Within six months following the point at which cumulative monthly production of denatured ethanol, biodiesel or other alternate renewable fuel produced in the state equals or exceeds an annual production volume of at least 50 million gallons (10 million for biodiesel and 20 million for other alternate renewable fuels), 2% of the total gasoline (or diesel or motor fuel) sold by volume in the state must be denatured ethanol (or biodiesel or other alternate renewable fuel) produced from domestically grown feedstock or other biomass materials |
| **Massachusetts** | The state's biofuels task force recommended the establishment of a regional Low Carbon Fuel Standard and interim policies to support advanced biofuels development, conditioned on meeting lifecycle greenhouse gas reduction standards; pending legislation would establish minimum biofuels standards for diesel motor fuel and a standard for home heating oil, beginning at 2% in 2010 and moving to 5% by 2013--both conditioned on fuel supplies meeting a lifecycle GHG reduction standard |
| **Michigan** | Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| **Minnesota** | Requires all gasoline to contain 10% ethanol increasing to 20% by 2013 and requires all diesel fuel to contain 2% diesel, increasing to 5% in 2009 and 20% by 2015; Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>• Established standards for biodiesel blends and fuels (Statute 239.75 and 239.77) |
| **Missouri** | All gasoline except premium grade must contain 10% ethanol |
| **Montana** | All gasoline must be blended with 10%, by volume, of agriculturally derived, denatured ethanol, within one year after the Montana Department of Transportation has certified that the state has produced 40 million gallons of ethanol and has maintained that level of production for at least three months |

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# ALTERNATIVE FUELS & VEHICLES

## Consumption Targets/Renewable Fuel Standards

| DEFINITION | |
|---|---|
| Designed to ensure that gasoline sold in the state contains a minimum volume of renewable fuel; a certain amount of biofuels will be consumed in the state; or that a certain volume of petroleum will be replaced with alternative fuels. | |
| **Nebraska** | Offered assistance to fuel marketers who wish to market E85 via direct marketing agreements with NE ethanol plants; technical and marketing assistance are available; E10 market share stands at 77%; NE fleet compliance for FFV use exceeds gubernatorial target; participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025; Participant in Midwest Energy Security and Climate Stewardship Platform Plan; establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| **New Hampshire** | The Biodiesel Study Commission was directed to study the biodiesel production capacity, state and regional feedstock sources for production, methods to encourage production, and the best methods of biodiesel distribution and potential barriers to increased use |
| **New Mexico** | After July 1, 2012, all diesel fuel sold to consumers for use in on-road motor vehicles must be B5<br>***Directed the Department of Agriculture to work with the biofuels industry, state universities, national laboratories, and industry groups to evaluate the economic opportunities of biofuel production in the state (See also Clean Energy RD&D).*** |
| **North Carolina** | Every school bus that is capable of operating on diesel fuel must be capable of operating on diesel fuel with a minimum content of 20% biodiesel (B20); at least 2% of the total volume of fuel purchased annually by local school districts statewide for use in diesel school buses must be a minimum of B20<br>***Required suppliers that imported gasoline for sale in North Carolina to offer fuel that was not pre-blended with fuel alcohol but that is suitable for future blending.*** |
| **North Dakota** | 75% of gasoline used in the state must be blended with ethanol by 2015 and the state will have a production capacity of at least 135 million gallons per year of biodiesel by 2015; participated in Midwest Energy Security and Climate Stewardship Platform Plan - established shared goals for the Midwest region: produced commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>• Set goal of producing 450 million gallons of ethanol by 2011<br>• Created an Ethanol Council that appropriates the ethanol fund and reports to the legislature |
| **Ohio** | Participated in Midwest Energy Security and Climate Stewardship Platform Plan - established shared goals for the Midwest region: produced commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increased E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduced the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |
| **Oregon** | All gasoline sold in the state must be blended with 10% ethanol and all diesel fuel must be blended with 2% biodiesel |

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# ALTERNATIVE FUELS & VEHICLES

## Consumption Targets/Renewable Fuel Standards

| DEFINITION | |
|---|---|
| Designed to ensure that gasoline sold in the state contains a minimum volume of renewable fuel; a certain amount of biofuels will be consumed in the state; or that a certain volume of petroleum will be replaced with alternative fuels. | |
| **Pennsylvania** | The PennSecurity Fuels Initiative, proposed in 2006, aims to reduce dependence on foreign oil by replacing 900 million gallons of the state's transportation fuels with alternative sources over the next decade<br>***Created a requirement that, within one year following in-state production of 350 million gallons of cellulosic ethanol, all gasoline sold in Pennsylvania must contain at least 10% cellulosic ethanol. All diesel fuel sold in Pennsylvania must contain at least 2% biodiesel (B2) one year after in-state production of biodiesel reaches 40 million gallons.*** |
| **South Carolina** | ***Created a requirement that fuel retailers that offer gasoline or diesel that is not blended with ethanol or biodiesel must ensure that their fuel is suitable for subsequent blending with biofuels.*** |
| **South Dakota** | Participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>***Required the South Dakota Department of Transportation and state employees using state diesel vehicles to stock and use a minimum of 2% biodiesel blended fuel (See also Lead by Example).*** |
| **Utah** | Utah has an extensive network of state-owned and commercial CNG refueling stations, which is accessible to government and private sector fleets as well as individuals' vehicles |
| **Virginia** | • The Department of General Services is required to establish the conditions under which state public bodies may procure diesel fuel containing, at a minimum, 2%, by volume, biodiesel fuel or green diesel fuel, for use in on-road internal combustion engines |
| **Washington** | At least 2% of the diesel sold in Washington must be biodiesel, beginning November 30, 2008, or when a determination is made by the Director of the Department of Ecology that feedstock grown in Washington State can satisfy a 2% fuel blend requirement - the biodiesel requirement would increase to 5% once in-state feedstocks and oil-seed crushing capacity can meet a 3% requirement; by December 1, 2008, at least 2% of the total gasoline sold in the state must be denatured ethanol - the ethanol requirement could be increased to 10% if the Director of the Department of Ecology determines that this would not jeopardize continued attainment of federal Clean Air Act standards<br>In May 2009, the governor issued Executive Order directing the Washington Department of Ecology to assess whether the California Low Carbon Fuel Standard or a modification of that standard would best meet Washington's greenhouse gas emissions reduction targets. The Department Ecology, along with the Departments of Transportation and Commerce will recommend whether to pursue adoption of a low carbon fuel standard for Washington, what LCFS policies would best fit Washington, and if not recommended what alternatives could help achieve state GHG targets. |
| **Wisconsin** | The state aims to generate 25% of its transportation fuels from renewable sources by the year 2025; participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025 |

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# ALTERNATIVE FUELS & VEHICLES

## Infrastructure Enhancement and Evaluation

### DEFINITION

Policies to establish new infrastructure for alternative fuel or electric vehicles or to initiate efforts to evaluate alternative fuel or electric vehicle infrastructure requirements.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| Arizona | Designated hybrid vehicles are allowed access to high-occupancy vehicle lanes<br>***Allowed an individual driving an alternative fuel vehicle to park in areas designated for carpool operators. Individuals driving conventional vehicles are not allowed to stop or park in a space designated for parking and charging electric vehicles.*** |
| California | Public Utility Commission required, in consultation with the Energy Commission, the State Air Resource Board, electric corporations, and the motor vehicle industry, to evaluate policies to develop infrastructure sufficient to overcome any barriers to the widespread deployment and use of plug-in hybrid vehicles, and to adopt rules that address a specified matter<br>***The Motor Vehicle Registration Fee Program provided funding for projects that reduce air pollution from on- and off-road vehicles. Eligible projects include purchasing Alternative Fuel Vehicles and developing alternative fueling infrastructure.***<br>**Mandated that by July 1, 2011, the California Energy Commission, in consultation with the Public Utilities Commission, must develop and maintain a Web site containing specific links to web sites that contain information specific to EVs and plug-in hybrid electric vehicles, including: Resources to help consumers determine if their residences will require utility service upgrades to accommodate EVs and PHEVs; Basic charging circuit requirements; Utility rate options; and load management techniques (SB 1455).**<br>**The California Public Utilities Commission, in consultation with the California Energy Commission, California Air Resources Board, electrical corporations, and the motor vehicle industry, evaluated policies and regulations to overcome barriers to the deployment and use of EVs. Directs utilities and automakers to collaborate in determining process by which consumers will notify utilities of EV purchases. Also holds rates for EV owners stable through 2013 while studying new rate strategies, including time-of-use pricing for EV charging, to go into effect in 2014.** |
| Hawaii | **Required all public, private, and government parking facilities with at least one hundred parking spaces to designate at least 1% of the spaces specifically for EVs by December 31, 2011. One of the parking spaces must be located near the building entrance and must be equipped with an EV charging unit.** |
| Indiana | • Maintains 102 E85 and 13 B20 biofuel pumps along the I-65 corridor as part of the U.S. DOE's Clean Cities Program<br>• Established a Biofuels Corridor, open as of October 2008, runs from Lake Michigan to the Gulf of Mexico |
| Iowa | • Provides for the dispensing of ethanol blended gasoline by authorizing the use of a secondary containment dispensing pump under specified conditions, requires compatibility, includes provisions for E-85 fuel (Iowa Code 455G.31)<br>• Iowa Office of Energy Independence (OEI) developed a renewable fuels marketing plan to promote the state's biofuels industry (HF 2689) |
| Maryland | ***Established the Maryland Electric Vehicle Infrastructure Council to develop an action plan to facilitate the successful integration of electric vehicles into the transportation network, to assist in developing and coordinating standards for streamlined permitting and installation of residential and commercial EV charging stations and supply equipment, to develop a statewide charging infrastructure plan, including public charging stations, and to increase consumer awareness and demand for such vehicles. The Council will submit a report with its recommendations by December 1, 2012 (SB 167).*** |

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# ALTERNATIVE FUELS & VEHICLES

## Infrastructure Enhancement and Evaluation

| DEFINITION | |
|---|---|
| Policies to establish new infrastructure for alternative fuel or electric vehicles or to initiate efforts to evaluate alternative fuel or electric vehicle infrastructure requirements. | |
| **New York** | ***NYSERDA's Flexible Technical Assistance Program provided assistance to public and private fleet managers who want to evaluate the feasibility and cost of adding AFVs and fueling facilities to their operations.*** |
| **Ohio** | ***Allowed an alternative fuel retailer to include a marking or symbol within their logo on state turnpikes directional signs indicating that it sells one or more types of alternative fuel.*** |
| **Oklahoma** | ***Increased the CNG fueling infrastructure in the state, with the overall goal of having one public fueling station located every 100 miles along the interstate highway system by 2015, and one public fueling station every 50 miles by 2025. May take steps to reach this goal by partnering with private entities.*** |
| **Tennessee** | • Defined standards for biofuels and petroleum blending<br>• Biodiesel blends made available for public use at a retail location may not exceed 20% biodiesel (B20) by volume and biodiesel blends containing more than 5% biodiesel (B5) by volume must be labeled as a biodiesel blend at the pump |
| **Utah** | • Utah Clean Cities received a $14.9 million dollar grant from U.S. DOE to upgrade compressors at existing stations and add numerous new CNG fueling sites for the public along the I-15 corridor |
| **Washington** | ***Created a partnership with the Washington Departments of Commerce and Transportation to fund the installation of qualified EV charging infrastructure along the I-5 corridor.***<br>***Any regional transportation planning organization containing a county with a population greater than one million must collaborate with state and local governments to promote EV use, invest in EV infrastructure, and seek federal or private funding for these efforts.***<br>***Publicly and privately owned EVs may be charged at state office locations where the vehicles are used for state business, commuter vehicles, or conducting business with the state. Contingent upon funding, the state must install electrical outlets suitable for charging EVs in each of the state's fleet parking and maintenance facilities as well as every state-operated highway rest stop by December 31, 2015.***<br>***Prohibited the Utilities and Transportation Commission from regulating the rates, services, facilities, and practices of an entity that offers charging facilities to the public if that entity is not otherwise subject to commission jurisdiction as an electrical company (H 1571).*** |
| **Wisconsin** | ***Directed the Wisconsin Department of Administration to pursue, in cooperation with the Department of Agriculture, Trade and Consumer Protection, the establishment and maintenance of sufficient alternative fueling infrastructure at public retail outlets to meet the public's traveling needs.*** |

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# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

### DEFINITION

States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | The Center for Alternative Fuels was established within the Department of Agriculture and Industries to promote alternative fuels as a viable energy source in the state and will also administer a grant program funded by an income tax check-off program through the Alabama Alternative Fuels and Research Development Fund<br>***Created a tax credit for companies that invest in the development of a biofuel production facility for up to 5% of the capital costs of the project. The tax credit can be claimed against the state income tax or financial institution excise tax liability the project generates each year for up to 20 years.*** |
| **Alaska** | ***Reduced the tax rate on fuel containing ethanol by $0.06 per gallon compared to the tax rate on other motor fuels in certain geographic areas.*** |
| **Arizona** | $75 personal tax credit for the installation of EV recharging outlets<br>***Set the initial annual vehicle license tax on an alternative fuel vehicle at $4 for every $100 in assessed value, lower than the license tax on a conventional vehicle.***<br>***Created Electric Vehicles Arizona, in collaboration with AZ SmartPower, to bring together stakeholders to advance understanding of the opportunities and barriers that electric vehicles face in Arizona.***<br>***Exempted natural gas or liquefied petroleum gas used in motor vehicles, alternative fuel vehicles manufactured as a diesel fuel vehicle and converted to operate on an alternative fuel, and equipment used to convert a conventional fuel vehicle to operate on alternative fuel from the Arizona use tax.***<br>***Required new car dealers to make information about alternative fuel vehicles and Arizona-based incentives for purchasing or leasing AFVs available to the public.***<br>***Established the Arizona Biofuels Conversion Program, which offers up to $75,000 to public and private entities for the incremental cost of projects that result in new or converted biofuel storage and dispensing equipment.***<br>***Allowed an individual driving an alternative fuel vehicle to park in areas designated for carpool operators. Individuals driving conventional vehicles are not allowed to stop or park in a space designated for parking and charging electric vehicles.*** |
| **Arkansas** | The Arkansas Alternative Fuels Development Fund offered three types of grants: 1) a production grant of $0.20 per gallon of alternative fuel (up to $2 million); 2) feedstock processors can receive up to $2 million in grant funding for the construction or modification of feedstock processing facilities; and 3) distributors are eligible for up to $50,000 in grant funding for storage and distribution of alternative fuels<br>• Biomass grown for the production of biofuel is exempt from severance tax<br>***The Arkansas Alternative Fuels Development Program provided rebates to assist in the purchase of a conversion kit used in the conversion of a diesel motor vehicle or gasoline motor vehicle to a dedicated or bio-fuel compressed natural gas motor vehicle as well as the differential and incremental cost associated with the conversion (H.B. 1914).*** |

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# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

### DEFINITION

States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs.

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| **California** | Grants of up to $5,000 will be made available to consumers who purchase or lease eligible zero emission vehicles (ZEVs), plug-in hybrid electric vehicles, and AFVs between May 24, 2007, and March 31, 2009<br>Alternative fuels production incentives<br>Qualified alternative fuels and hybrid electric vehicles can use HOV lanes<br>**The Hybrid Truck and Bus Voucher Incentive Project provided vouchers ranging from $10,000-$45,000 for eligible fleets to reduce the incremental cost of qualified medium- and heavy-duty hybrid electric vehicles at the time of purchase.**<br>**The California Public Utilities Commission voted to develop strategies for having buyers of electric vehicles tell utilities about their purchase.**<br>**The California Public Utilities Commission voted to keep electricity rates for EVs stable until at least 2013 for residential, commercial and industrial owners. Utilities and the CPUC will explore different rate strategies for 2014 and beyond, including basing rates on the time of day to shift EV charging to periods of low demand.**<br>***Created the Alternative and Renewable Fuel and Vehicle Technology Program to offer grants and loans for projects that: Develop and improve alternative and renewable low carbon fuels; Optimize alternative and renewable fuels for existing and developing engine technologies; Produce alternative and renewable low carbon fuels in California; Decrease the overall impact of an alternative and renewable fuel's lifecycle carbon footprint and increase sustainability; Expand fuel infrastructure, fueling stations, and equipment; Improve light, medium, and heavy-duty vehicle technologies; Retrofit medium- and heavy-duty on-road and non-road vehicle fleets; Expand infrastructure connected with existing fleets, public transit, and transportation corridors; and Establish workforce training programs, conduct public education and promotion, and create technology centers.***<br>***Established the Motor Vehicle Registration Fee Program to provide funding for projects that reduce air pollution from on- and off-road vehicles. Eligible projects include purchasing Alternative Fuel Vehicles and developing alternative fueling infrastructure.***<br>**Prohibited any common interest development from restricting the installation of electric vehicle charging stations (SB 209).**<br>***Created a $5,000 rebate for purchasers of zero-emission vehicles. All funding for this program has been exhausted.***<br>**The California Energy Commission awarded a $1.2 million grant to an electric vehicle project.**<br>***Provided financing for property used to develop and commercialize advanced transportation technologies including electric vehicles, fuel cells, and ultra-low emission vehicles that reduce pollution and energy use and promote economic development. Also provided financial incentives in the form of sales and use tax exclusions on qualified property.*** |

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| **Colorado** | Personal income tax credit for purchase of or conversion to low-emission, ultra low-emission and zero-emission vehicles; provides a state income tax credit for hybrid electric vehicles, and allows hybrid electric vehicles to use HOV lanes; provides an income tax credit for the cost of construction, reconstruction, or acquisition of an alternative fuel fueling facility that is publicly accessible; fuel tax exemptions are granted for compressed natural gas (CNG) and liquefied petroleum gas (LPG) vehicle owners; vehicles, vehicle power sources, or parts used for converting a vehicle power source certified to federal low emissions vehicle standards or better are exempt from state sales tax<br>• Extended financial incentives available to purchasers of efficient motor vehicles out to 2015 (HB 1331)<br>• Consumers can claim up to $6,000 in tax credits for the purchase of a hybrid, plug-in hybrid or alternative fuel vehicle<br>• Individuals that convert a personal vehicle to plug-in hybrid technology can claim up to $7,500 |
| **Connecticut** | Provided a tax credit for the construction of, improvements to, or equipment for any compressed natural gas, liquefied natural gas, or liquefied petroleum gas refueling station or an electric vehicle recharging station; provides a tax credit for the incremental cost of purchasing a new dedicated compressed natural gas, liquefied natural gas, liquefied petroleum gas, or electric vehicle; provides a sales tax exemption for certain alternative fuel vehicles; provides grants to qualified biodiesel producers and distributors<br>• On November 10, 2009, the governor issued Executive Order 34 to create the Electric Vehicles Infrastructure Council; the Council consists of several state agencies and other stakeholders<br>• A draft report was issued on February 1, 2010, and a final report will be issued by September 1, 2010<br>***The Connecticut Department of Transportation and the Connecticut Center for Advanced Technology developed a plan to implement zero emissions buses on a state-wide basis. The plan includes the technological, facility and financial arrangements necessary to fully implement a zero emissions bus fleet.*** |
| **Delaware** | • Grid-integrated electric vehicles can receive credit for the electricity they export to the grid as they are charging their vehicle; no net credit is obtained through this agreement |
| **Florida** | Provided a sales and use tax exemption and an investment tax credit for 1) hydrogen powered vehicles and related materials, and hydrogen refueling stations ($2 maximum for all taxpayers); 2) materials used in the distribution of biodiesel (B10-B100) and ethanol (E10-E100), including refueling infrastructure, transportation, and storage ($1 million maximum each fiscal year for all taxpayers); Inherently Low Emission Vehicles and hybrid electric vehicles that are certified and labeled may be driven in HOV lanes at any time |

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| **Georgia** | Offered an income tax credit of up to 20% of the cost to purchase or lease a ZEV, including battery-only electric vehicles and hydrogen fuel cell vehicles; offered an income tax credit of up to 10% of the cost of a new AFV or up to 10% of the cost of converting the vehicle to operation on an alternative fuel; there is a tax credit to any business enterprise for the purchase or lease of each electric vehicle charger that is located in Georgia<br>• Provided for income tax credits for wood residuals diverted or transported to renewable biomass qualified facilities for a limited period of time<br>• Telecommuting tax credit of up to $20,000 for qualifying employers<br>Provides hybrid vehicles access to HOV lanes<br>***Provided assistance to companies that are considering locating alternative fuels production facilities in Georgia.***<br>***Exempted personal property used in, or for, the construction of an alternative fuel production facility from the state sales and use tax. Qualifying Alternative fuels must be derived from biomass materials.*** |
| **Hawaii** | Provides an ethanol production incentive equal to 30% of nameplate capacity for qualifying facilities producing between 500,000 and 15 million gallons per year<br>Goal to further the state's transition to energy independence by defining hydrogen as a transportation fuel and allocating funds for the development of Hawaii's hydrogen industry through investment in the state's hydrogen infrastructure, integration of hydrogen powered vehicles into the state's automotive fleet, establishment of a hydrogen public awareness campaign, and the advancement of the construction of hydrogen demonstration refueling stations<br>• Established the Transportation Energy Transformation Grant Fund Program (SB 1202)<br>• Development of non-fossil fuel transportation established as a state policy goal (SB 1202)<br>• Requires the designation of parking spaces for electric vehicles and provides penalties for parking a nonelectric vehicle in reserved spaces<br>**Restricted any common interest development, from prohibiting or restricting the installation or use of an electrical vehicle charging station (SB 209).**<br>**Directed the energy resources coordinator to conduct a study and issue a preliminary and a final report on the conditions and policies necessary to expand biofuel production in the state to displace a significant amount of petroleum-based liquid fuel (HB 146).**<br>***Created the Hawaii EV Ready Rebate Program to provide rebates for the price of Electric Vehicles and Electric Vehicle Supply Equipment. EV rebates are in the amount of 20% of the vehicle purchase price, up to $4,500.***<br>**The Hawaii Public Utilities Commission created a pilot program offering customers lower off-peak electric rates for charging electric vehicles.**<br>***Offered a tax rebate for at-home Electric Vehicle Supply Equipment. The rebate is for up to 30% of charging system cost, including installation, up to a maximum of $500.*** |
| **Idaho** | The Rural Idaho Economic Development Biofuel Infrastructure Matching Grant Fund was established to provide grants for up to 50% of the cost of installing new fueling infrastructure dedicated to offering biofuels for retail sale, or for upgrading existing fueling infrastructure in order to be compatible with biofuels for the purpose of offering biofuels for sale<br>Qualified fueling infrastructure is eligible for up to a 6% tax credit; offers a tax deduction to licensed motor fuel distributors based on the renewable content of the fuel |

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# ALTERNATIVE FUELS & VEHICLES

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| **Illinois** | Created the Renewable Fuels Commission to recommend strategies for promoting the use of alternative fuels and vehicles that utilize alternative fuels (H 4245)<br>Offers a $1,000 rebate for the purchase of a new hybrid or other fuel efficient vehicles; $500,000 in funding is available for the Illinois E85 Clean Energy Infrastructure Development Program to establish new E85 fueling stations at retail gasoline facilities in Illinois; provides a rebate for 80% of the incremental cost of purchasing an AFV (up to $4,000), 80% of the cost of federally certified AFV conversions (up to $4,000), and for the incremental cost of purchasing alternative fuels<br>Illinois Clean School Bus Program provides funding to assist schools and school districts to reduce emissions from diesel-powered school buses through emission control retrofits, implementation of cleaner fuels, including biodiesel, propane, and natural gas<br>***The Illinois Tollway Congestion-Relief Program included a Dedicated Green Lanes Plan that will provide access to qualified hybrid electric vehicles.***<br>***Amended the Alternative Fuels Act to: require a specified sum of the amount that is appropriated for rebate programs under the Act during specified fiscal years to be designated to fund a grant program to support the adoption of electric vehicles; and authorize the Environmental Protection Agency to make grants for the purchase of electric vehicles (HB 2903).***<br>***Created the Plug-In Vehicle Initiative to prepare the state's electric grid and natural gas distribution network for the adoption of electric and natural gas vehicles.***<br>***Established the Alternate Fuels Commission to identify and recommend strategies to the governor and General Assembly for implementing and promoting the use of alternative fuels and alternative fuel vehicles.***<br>***Applied sales and use taxes to only 80% of the proceeds from the sale of fuels containing 10% ethanol.***<br>***Established a grant program to provide up to 25 percent of a project's total cost that will help eligible car-sharing organizations purchase and use electric cars in their fleets (HB 2903).***<br>***Created the Illinois Electric Vehicle Advisory Council to recommend strategies to encourage the use of electric vehicles (HB 2902).***<br>***Illinois and South Korea partnered to advance smart gird projects with an emphasis on clean energy and technology deployment. Energy related research is also a key focus on the project, with an emphasis on the development of renewable technologies (See also Clean Energy R&D).***<br>***Created a rebate for the cost of converting a conventional vehicle or a hybrid vehicle to an alternate fuel vehicle (H 6047).***<br>***Allowed Individuals to register an EV at a discounted registration fee of no more than $18 per year.*** |

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| **Indiana** | AFV and EV manufacturers are eligible for tax credits of up to 15% of the qualified investment for which the credit is claimed (See also Clean Energy Economic Development); offers a production tax credit of $0.125 per gallon of ethanol produced; offers a biodiesel production tax credit of credit of $1.00 per gallon<br>Grants of up to $5,000 are available toward the purchase of new E85 refueling equipment or the conversion of existing equipment to allow for E85 refueling<br>• An E85 retailer is entitled to a credit against the state gross retail tax in the amount of $0.18 per gallon of E85 sold<br>• Municipal corporations or special taxing districts are entitled to a monthly E85 incentive payment if at least 75% of the motor fuel purchased<br>• Biodiesel blenders located in Indiana are entitled to a credit of $0.02 per gallon<br>• A fuel retailer and distributes blended biodiesel for retail purposes is entitled to a credit of $0.01 per gallon<br>***Provided grants of up to $20,000 for installing new alternative fueling stations or converting existing fueling stations to dispense alternative fuels.***<br>***Offered grants of up to $2,000 to counties, cities, towns, townships, or school corporations to purchase original equipment manufacturer (OEM) Alternative fuel vehicles and for the cost of AFV conversions.*** |
| **Iowa** | A state cost-share program provides financial incentives for the installation or conversion of E85 refueling infrastructure and biodiesel storage facilities; the Renewable Fuel Infrastructure Program provides cost-share grants and supplemental incentives to E85 retailers and biodiesel wholesale distributors<br>Provides a tax credit to retail service stations at which more than 60% of the total gallons of gasoline sold through metered pumps are blended with ethanol or 50% of diesel sales are at least B2 biodiesel blends<br>Grants, loans, and tax credits are also available for alternative fuel production<br>• Iowa's Alternate Energy Revolving Loan Program provides loans for up to 50% of the cost of biomass or alternative fuels related fuel production projects, up to $250,000 (SF 376)<br>***Increased the amount of the Renewable Fuel Standard (RFS) incentive given to a retail station for meeting the Iowa RFS and provided additional incentives to retailers who meet the RF schedule established in 2006.***<br>***Extended the E-85 Promotion Credit at a stable level until December 31, 2017; created a new promotion tax credit for each gallon of E15 sold and provided an additional 3 cents for blends between E-15 and E-69.***<br>***Eliminated the 50% requirement for biodiesel tax credit eligibility and provided 4.5 cents per gallon on B5 blends.***<br>***Created a three-year biodiesel production incentives for biodiesel plants.***<br>***Provided $3 million per year for infrastructure such as blender pumps, E85, or biodiesel.*** |

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| **Kansas** | A licensed retail motor fuel dealer may receive a quarterly incentive for selling and dispensing renewable fuels, including biodiesel if a minimum percentage is sold: the incentive payment will increase on an annual basis from 10% for renewable fuel and 2% for biodiesel in 2009 to 25% beginning on January 1, 2024; provided a production incentive for qualified biodiesel and ethanol sold by a qualified Kansas fuel producer<br><br>Offered an income tax credit worth up to 40% of the incremental or conversion cost for qualified AFVs; offered an income tax credit for alternative fuel refueling stations; provided a 10% income tax credit for the first $10 million of qualified investment in equipment used to store and blend biofuels and petroleum-based fuels and a 5% credit for the amount of investment over $10 million; provided tax credits for retail dealers of biodiesel and renewable fuels; provided tax credits to distributors of renewable fuels--those in service between January 1, 1996, and January 1, 2005--who qualify for 50% of total expenditures up to $200,000 and those built after 2005 receive 40% of expenditures up to $160,000 (through 2008) or up to $100,000 after 1/1/2009; provided an income tax credit up to 40% of incremental/conversion costs of an AFV; provided a property tax exemption and Kansas Development Finance Authority financing for biomass to energy projects, excluding corn or grain sorghum; provided an income tax credit for new construction or expansion of a biomass-to-energy facility |
| **Kentucky** | Provided production tax credits for pure biodiesel, corn-based ethanol, or cellulosic-based ethanol<br><br>Provided incentives for eligible entities that construct, retrofit, or upgrade alternative fuel production or gasification facilities, under the 2007 Incentives for Energy Independence Act |
| **Louisiana** | Offered an income tax credit worth 20% of the cost of converting a vehicle to operate on an alternative fuel, 20% of the incremental cost of purchasing an Original Equipment Manufacturer AFV or hybrid electric vehicle, and 20% of the cost of constructing an alternative fuel refueling station; provided a sales and use tax exemption for qualifying biodiesel equipment and manufacturing property; all equipment for biodiesel production and industrial co-generation of electricity was exempt from state and local sales taxes; alternative fuels used by industry for power are exempt from all sales taxes<br><br>• Income tax credit increased to 50% of the cost of converting a vehicle to operate on an alternative fuel, 50% of the incremental cost of purchasing an Original Equipment Manufacturer AFV or hybrid electric vehicle, and 50% of the cost of constructing an alternative fuel refueling station (HB 110, LRS 47:6035)<br>• Transportation Efficiency & Alternative Fuels Grant program assisted in paying the incremental costs of converting or purchasing vehicles to CNG, in the development of CNG refueling stations, and in the deployment of energy efficient street lighting technologies<br><br>***Authorized local government to use hybrid or alternative fuel vehicles for law enforcement agencies and emergency vehicles (HB 70).***<br><br>***Directed the State Board of Elementary and Secondary Education to study issues related to using clean fuel in school buses (HR 72 – See also Lead by Example).***<br><br>***The Alternative Fuel Vehicle Revolving Load Fund Program provided loan assistance to local government entities for the cost of converting conventional vehicles to operate on alternative fuels, or the incremental cost of purchasing new AFVs.*** |

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| **Maine** | The Clean Vehicle Fund provided loans to finance all or part of any clean-fuel vehicle project; the Agriculturally Derived Fuel Fund provides direct loans and subsidies to a business or cooperative for the design and construction of a facility to produce agriculturally derived fuel<br>Provided an income tax credit for the commercial production of biofuels; provides a tax credit for the construction or installation of, or improvements to, any fueling or charging station<br>**The Transportation Efficiency Fund, a non-lapsing fund administered by the Department of Transportation, may be used for zero-emission vehicles, biofuel and other alternative fuel vehicles, congestion mitigation and air quality initiatives, rail, public transit, and car or van pooling.** |
| **Maryland** | Offered ethanol and biodiesel production tax credits<br>Created a state income tax credit for tax years 2011, 2012, and 2013 only, for 20% of the cost of qualified electric vehicle recharging equipment. The limit per recharging device is $400 (HB 163).<br>Created a grant program to aid the installation of electric vehicle recharging stations<br>Created a credit against the motor vehicle excise tax for certain qualified plug–in electric drive vehicles purchased between July 1, 2010 and June 30, 2013. This is a three year program and each vehicle is eligible for up to $2,000.<br>***Offered tax credits of up to $2,000 for use against the excise tax imposed for the purchase of qualified plug-in EVs.***<br>***Allowed permitted plug-in EVs to operate in Maryland HOV lanes regardless of the number of occupants.***<br>***Exempted Hybrid Electric Vehicles that obtain a fuel economy rating from the U.S. EPA of at least 50 miles per gallon during city driving from certain mandatory motor vehicle emissions and inspection testing requirements until September 30, 2012.***<br>***Launched The Maryland Hybrid Truck Initiative to deploy 143 hybrid trucks this year to be split between five Maryland companies. The hybrids are expected to cut up to 460,000 gallons of petroleum and cut 262,610 pounds of greenhouse gas emissions each year, all the while creating more than 200 jobs (ARRA funded).***<br>***Required the Public Service Commission to establish a pilot program for electric customers to recharge electric vehicles during off-peak hours, requires the program to include incentives for residential, commercial, and governmental customers to recharge electric vehicles in a specified manner, provides that incentives may include credits on distribution charges, and rebates on the cost of charging systems, demand response programs, or other approved incentives (S 179).***<br>***Allowed an income tax credit for 20% of the cost of qualified electric vehicle recharging equipment for the taxable years 2011-2013. The credit is limited to $400 per individual recharging system (HB 163).*** |
| **Massachusetts** | Proposed legislation to exempt advanced cellulosic ethanol from the state's gas tax<br>***The Green Communities Division of the Department of Energy Resources (DOER) made $200,000 available to local governments to fund the installation of publically available Electric Vehicle Supply Equipment.***<br>***Awarded funds for 48 electric vehicle charging stations to be installed at Logan Airport garages, parking lots, and at MBTA commuter parking locations.*** |

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| **Michigan** | Offers grants to service stations to convert existing and install new fuel delivery systems designed to provide E85 and biodiesel blends; provides a reduced tax to biofuel blends (at least 70% ethanol and 5% biodiesel)<br>Offers a tax credit for research and development of a qualified hybrid system that has the primary purpose of propelling a motor vehicle; businesses located within the state's designated Alternative Energy Zone that are engaged in qualified activities are eligible for exemption from state and local taxes; offers a tax exemption on industrial property used to make biodiesel; ADD - offers grant funds for pilot programs between universities, automakers and utilities to study Plug-In-Hybrid vehicle to grid integration; offers Forest Product Processing Renaissance Zones that waive business, property, and income taxes for alternative energy creation<br>The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations; 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging companies from securitized tobacco settlement revenues<br>• Provide a tax credit to a service station owner to convert to E85 or B5 (or greater) or for new fueling equipment to provide E85 or B5 (or greater) to the public (MCL 208.1460)<br>• The tax credit is 30% of eligible costs up to $20,000 per year<br>• Biofuel Signage Rebate Program provides rebates up to $1,500 to cover 50% of the costs to design, install, and pay the first year's annual fee for signs displaying the availability of E85 or B20 at a public service station<br>• Public service stations that are located within six miles of an interstate highway are eligible<br>• The Bureau of Energy Systems is a partner in the I-75 Green Corridor Project which will increase the availability of E85 and B20 to the public and to fleets along I-75 from Michigan to Florida<br>• The Bureau of Energy Systems is a project partner in a DOE grant awarded to Clean Energy Coalition of Ypsilanti for the Expansion of Infrastructure for Higher Ethanol Blends Program<br>• The grant is expected to result in 10 new E85 fueling sites in Michigan<br>• The Bureau of Energy Systems is a project partner providing capital and other support in a $30M project to help municipalities, companies, and transportation groups purchase alternative fuel vehicles and install alternative fueling infrastructure<br>• The project will result in the acquisition of 271 alternative fuel vehicles and the installation of 19 alternative fuel stations<br>• Offers a tax credit for research and development of a qualified hybrid system that has the primary purpose of propelling a motor vehicle (MCL 208.1101-208.1601)<br>• Businesses located within the state's designated Alternative Energy Zone that are engaged in qualified activities are eligible for exemption from state and local taxes<br>• Offers a tax exemption on industrial property used to make biodiesel<br>• Offers grant funds for pilot programs between universities, automakers and utilities to study Plug-In-Hybrid vehicle to grid integration<br>• Offers Forest Product Processing Renaissance Zones that waive business, property, and income taxes for alternative energy creation |

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| **Michigan (continued)** | ***Offered tax credits to manufacturers of traction battery packs for use in vehicles. After January 2012, a manufacturer may claim a tax credit of up to 75% of the qualified expenses for vehicle engineering to support battery integration, prototyping, and launching.***<br>**Created a nonrefundable credit for tax liability attributable to research, development, or manufacturing of qualified alternative fuel vehicles (AFVs) and renewable fuel.**<br>**Exempted dedicated AFVs powered by compressed natural gas, propane, electricity, or any other source as defined by rules the Michigan Department of Transportation promulgates from emissions inspection requirements.**<br>**The Local Development Financing Act allows municipalities to create a local development financing authority that may borrow against future tax increment financing to pay for public infrastructure improvements that will attract economic development projects. Qualified advanced vehicle research and development projects may be eligible.**<br>**Exempted small farms that produce ethanol or biofuels for their own use from requiring a special permit (SB 46).** |
| **Minnesota** | Offers an ethanol production incentive per gallon of ethanol produced for qualified facilities<br>Provides grants to service stations installing equipment or converting existing equipment for dispensing E85 fuel to flexible fuel vehicles<br>State agencies are required to take all reasonable actions necessary to strengthen the infrastructure for increasing the availability and use of E85 and biodiesel throughout the state<br>• $3M in state grants was awarded by the Next Generation Energy Board to eight projects focusing on biofuel development<br>**Offered tax credits to qualified small business that uses proprietary technology to add value to a product, process, or service related to cellulosic ethanol or is involved in the research or development of a proprietary product, process, or service related to cellulosic ethanol. The tax credit is equal to 25% of the qualified investment, up to $250,000 annually.**<br>**Made funding available to assist retailers with the installation and conversion of equipment to dispense biodiesel blends between 10% (B10) and 20% (B20).** |
| **Mississippi** | Offered low interest loans for alternative fuels projects; offered a direct payment incentive to qualified ethanol and biodiesel producers located in Mississippi |
| **Missouri** | Qualified ethanol producers were eligible for incentives through the Missouri Ethanol Producer Incentive Fund<br>The Missouri Qualified Biodiesel Producer Incentive Fund provided a monthly grant to qualified Missouri biodiesel producers<br>• Tax credit for processed biomass engineered fiber fuel (SB 635)<br>• Tax credit for costs of purchase and installation of equipment to store and dispense alternative motor fuels (MRS 135.710)<br>***Exempted vehicles that are powered exclusively by electric or hydrogen power, or by fuels other than gasoline that are exempt from motor vehicle emissions inspection under federal regulation from state emissions inspection requirements.***<br>***Exempted plug-in electric drive vehicles with batteries that can be re-charged by an on-board generator and an off-board electrical source from the federally mandated Air Quality Attainment Act and motor vehicle emissions inspection program (H.B. 354).*** |

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# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

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| States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs. | |
| **Montana** | Property tax rate abatements of up to 50% are available for new investments in facilities that manufacture, research, or develop products related to biodiesel, biomass, biogas, coal-to-liquid fuels, ethanol, pipelines carrying "clean" products, renewable energy manufacturing plants, and research and development equipment for renewable energy; provides an ethanol and biodiesel production incentive, a tax credit for the cost of biodiesel storage and blending equipment and a tax credit for the cost of constructing and equipping a biodiesel or bio-lubricant facility; a tax credit is available for converting vehicles to operate on alternative fuels<br>• License tax rate reduction each distributor pays for the privilege of engaging in and carrying on a business dealing with ethanol eliminated (SB 353)<br>• Certain biodiesel produced from waste vegetable oil feedstock exempted from the special fuel tax (HB 416)<br>***Allowed a licensed distributor who pays the special fuel tax on biodiesel to claim a refund equal to $0.02 per gallon of biodiesel sold during the previous quarter if the biodiesel is produced entirely from biodiesel components made in Montana.*** |
| **Nebraska** | The Dollar and Energy Saving Loans Program made low-cost loans available for a variety of alternative fuel projects including the replacement of conventional vehicles with AFVs; the purchase of new AFVs; the conversion of conventional vehicles to operate on alternative fuels; and the construction or purchase of a refueling station or equipment<br>Investors in Nebraska biodiesel production facilities were eligible to receive a tax credit of up to 30% of the amount invested in the facility, up to $250,000<br>• Sales and purchases of electricity, coal, gas, fuel oil, diesel fuel, tractor fuel, propane, gasoline, coke, nuclear fuel, butane, wood as fuel, and corn as fuel when more than 50% of the amount purchased for use directly in farming or irrigation are exempt from sales and use taxes (NRS 77-2704.13)<br>***Refunded taxes paid on compressed natural gas, liquefied natural gas, and liquefied petroleum gas when the fuel was used to operate buses capable of carrying seven or more passengers within or near a municipality.***<br>***Exempted motor fuels sold to an ethanol or biodiesel production facility and motor fuels manufactured at an ethanol or biodiesel facility from certain motor fuel tax laws.*** |
| **Nevada** | The Department of Conservation and Natural Resources is required to develop and administer a program to provide incentives to encourage the use of alternative fuels in motor vehicles, specifically by individuals and others not required by state statute to purchase alternative fuel vehicles<br>A portion of any penalty assessed for violations of air pollution control laws must be deposited in the county school district fund of the county where the violation occurred; expenditures from such a fund must be approved by the local air pollution control board and are limited to: 1) programs of education on topics relating to air quality; and 2) projects to improve air quality, including the purchase and installation of equipment to retrofit school buses within the school district using biodiesel, compressed natural gas, or a similar fuel formulated to reduce gasoline and diesel fuel emissions<br>• Provisions governing the use of alternative fuels and clean vehicles revised (NRS 486)<br>• Limits the applicability of provisions concerning acquisition to certain larger fleets<br>• Modified the tax on ethanol and methanol, subjecting dealers, suppliers, and transporters of such fuels to the same requirements applicable to gasoline, including licensing and bonding requirements (SB 332, 2009, NRS 366) |

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# ALTERNATIVE FUELS & VEHICLES

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| **Nevada (continued)** | • Provides for the taxation of biodiesel and blends of biodiesel<br>• Provides for the licensure of, and collection of taxes from, special fuels manufacturers<br>***Allowed hybrid electric vehicles (HEVs) operating as taxicabs may remain in operation for an additional 24 months beyond the existing limits, which restrict the operation of vehicles used as taxicabs to a period of up to 67 months for new vehicles or 55 months for used vehicles.***<br>***Exempted Alternative Fuel Vehicles from emissions testing requirements. A new Hybrid Electric Vehicle is exempt from emissions inspection testing for the first six years.***<br>**Allowed owners or long-term lessees of Alternative Fuel Vehicles to: apply to the local authority for a distinctive decal, label or other identifier that distinguishes the vehicle from other vehicles; and while displaying the distinctive identifier, park the vehicle without the payment of a parking fee at certain times in certain public parking lots, parking areas and metered parking zones. Directs local authorities to develop the parking plan for alternative fuel vehicles (AB 511).**<br>**Allowed drivers of Alternative Fuel Vehicles (AFVs) to use HOV lane regardless of the number of occupants in the vehicle (AB 511).** |
| **New Hampshire** | ***The New Hampshire Department of Environmental Services and the Granite State Clean Cities Coalition (GSCCC) provided competitive funding on a cost reimbursement basis for alternative fuel vehicle, advanced vehicle, and alternative fueling infrastructure projects.***<br>***Established the Alternate Fuel Vehicle Study Commission to study the existing road and taxation rules associated with alternative fuel and advanced vehicles, including, but not limited to, electric vehicles, hybrid electric vehicles, and any vehicles that are not powered completely by gasoline engines.*** |
| **New Jersey** | Offered an AFV Rebate Program to local government entities that convert vehicles to operate on alternative fuels or purchase original equipment manufacturer AFVs; offers a rebate to local governments, state colleges and universities, school districts, and governmental authorities for the incremental cost of using biodiesel over petroleum diesel and will reimburse farmers for using biodiesel in equipment; reimburse eligible local governments, state colleges and universities, school districts, and governmental authorities for 50% of the cost of purchasing and installing refueling infrastructure for alternative fuels (up to $50,000)<br>Zero Emissions Vehicles sold, rented, or leased in New Jersey were exempted from state sales and use tax<br>Offered hybrid electric vehicles and AFVs access to HOV lanes<br>***Began taxing propane used to operate a motor vehicle at a rate that is half the tax paid on the sale or use of gasoline.*** |

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| **New Mexico** | The Alternative Energy Product Manufacturer's Tax Credit provides manufacturers of electric or hybrid vehicles and fuel cell systems a tax credit of up to 5% of their capital expenses; the Biomass-Related Equipment Compensating Tax Deduction allows the value of equipment such as a boiler, turbine-generator, or feedstock processor used for biofuels or bio-based products to be deducted in computing the compensating tax cue; the Biofuels Infrastructure Tax Incentive provides a corporate income tax credit on fuel containing a minimum of 2% biodiesel and a tax deduction of up to $50,000 per biodiesel facility and infrastructure installation; the Hybrid Tax Exemption allows buyers of a hybrid-gasoline-electric vehicle that gets 27.5 mpg or better to receive a one-time exemption from the Motor Vehicle Excise Tax worth between $600 and $1,000<br>***Any alternative fuel distributed by or used for U.S. government, state government, or an Indian nation, tribe or pueblo purposes, was exempted from the state excise tax.***<br>***Requested the University of New Mexico Law School, the New Mexico Institute of Mining and Technology, New Mexico State University, Eastern New Mexico university, Western New Mexico university and New Mexico Highlands University to examine and report the use of natural gas as a transportation fuel. The groups testified that while there are significant infrastructure updates needed to make natural gas a widely used transportation fuel, its use would provide cost savings to consumers (HM 41 – See also Clean Energy RD&D).*** |
| **New York** | Made a state tax credit available for the installation of clean fuel vehicle fueling infrastructure located in the state and for production of biofuels (over 40,000 gallons)<br>The Biofuel Station Initiative Program provided a reimbursement of 50% of the cost of new installations of biofuel dispensing equipment, storage tanks, and associated piping equipment (up to $50,000); provides funds to state and local transit agencies, municipalities, and schools for up to 100% of the incremental cost of purchasing new alternative fuel buses and associated infrastructure<br>Eligible hybrid electric vehicles may use the Long Island Expressway HOV lanes, regardless of the number of occupants in the vehicle<br>• Financial incentives were made available to fleets to cost-share purchase of new alternative-fuel vehicles including hybrid-electric vehicles and to retrofit existing diesel vehicles with emission control technology<br>***Made biofuel producers eligible for a state tax credit of $0.15 per gallon of biodiesel (B100) or ethanol produced after the production facility has produced, and made available for sale, 40,000 gallons of biofuel per year. The maximum credit available is $2.5 million per taxpayer per taxable year for no more than four consecutive taxable years.***<br>***NYSERDA administered the New York State Clean Cities Challenge, which awards funds to New York Clean Cities Coalition members that acquired AFVs or installed AFV fueling or charging infrastructure. Funds may be used to cost-share up to 75% of the proposed project, including the incremental cost of purchasing AFVs, fueling and charging equipment installation costs, and the incremental costs associated with bulk alternative fuel purchases.***<br>***NYSERDA managed the New York State Clean Cities Sharing Network, which provides technical, policy, and program information about AFVs.***<br>***Exempted E85, compressed natural gas, and hydrogen fuel used exclusively to operate a motor vehicle engine from state sales and use taxes. Exemption expires September 2011.*** |

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Clean State Energy Actions • 2011 Update

# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

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| **North Carolina** | The Alternative Fuel Revolving Fund enabled state agencies to offset the incremental costs of alternative fuel, related fueling infrastructure, and purchasing AFVs<br>• Allowed use of the Alternative Fuel Revolving Fund to offset the incremental fuel cost of biodiesel blend fuel<br>A biodiesel provider that produced at least 100,000 gallons of biodiesel during the taxable year was allowed a credit equal to the per gallon excise tax the producer paid in accordance with the motor fuel excise tax rate; a tax credit was available for processing or dispensing of biodiesel, 100% ethanol, or ethanol/gasoline blends consisting of at least 70% ethanol; taxpayers who constructed, purchased, or leased renewable energy property were eligible for a tax credit equal to 35% of the cost of the property<br>• Tax credit for purchase of alternative fuel vehicle<br>Clean Fuel Advanced Technology (CFAT) is a three-year project focused on reducing transportation related emissions in North Carolina's non-attainment and maintenance counties for National Ambient Air Quality Standards and covers three broad areas: education and outreach, project funding; and recognition of exemplary activities--funding for up to 80% of project costs is available for AFVs, fueling infrastructure, idle reduction technologies, heavy-duty HEVs, heavy-duty buses, and diesel retrofits<br>School Bus Emission Reduction Grants is a pilot program will be established within the North Carolina Department of Environment and Natural Resources to provide grants towards the required 20% state funding match for the federal Safe Accountable, Flexible, Efficient Transportation Equity Act–A Legacy for Users (SAFETEA-LU), specifically for diesel school bus retrofits or repowers that reduce particulate matter emissions<br>***Made grants available for the incremental cost of purchasing original equipment manufacturer alternative fuel vehicles, vehicle conversions, implementing idle reduction programs, and constructing or installing public alternative fueling facilities. The 2011 funding cycle is reserved for projects related to diesel vehicles.***<br>***Exempted the retail sale, use, storage or consumption of alternative fuels from the state retail sales and use tax.***<br>***Exempted plug-in electric vehicles from HOV lane vehicle occupancy restrictions (SB 194).***<br>***Exempted plug-in electric vehicles from state emissions inspections requirements (SB 194).*** |
| **North Dakota** | The Biofuels Partnership in Assisting Community Expansion (PACE) Loan Program will provide a 5% interest buy down to the following: biodiesel and ethanol production facilities, livestock operations feeding byproducts of a biodiesel or ethanol facility, biofuels retailers for refueling infrastructure installation, and grain handling facilities which provide condominium storage of grain used in biofuels production<br>The ethanol production incentive program provided funds for an incentive per gallon of ethanol produced and sold in North Dakota<br>• Allocated $2 million to the Biofuels Blender Pump Program to continue funding service station retailers to upgrade their equipment<br>Offered a five-year corporate income tax credit for equipment that enables a facility to sell or produce diesel fuel containing at least 2% biodiesel by volume; offered a retailer an income tax credit for biodiesel blends; provided sales tax exemptions for sales of hydrogen to power an internal combustion engine or fuel cell and for sales of equipment to a facility that was used to sell diesel fuel containing at least 2% biodiesel<br>***Made new ethanol, biodiesel, and biogas producers eligible for income tax credit equal to a percentage of wages and salaries paid each year.*** |

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# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

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| **Ohio** | Provided grants and loans to reduce emissions from diesel engines<br>The Department of Development was required to establish a biodiesel school bus program that will provide grants to school districts that use biodiesel fuel for student related transportation to help offset the incremental cost of using biodiesel fuel instead of 100% petroleum diesel fuel<br>Provided a per gallon tax credit to retailers who sell E85 or biodiesel<br>Offered grants for the purchase and installation of alternative fuel fueling and blending facilities, and for the purchase and use of alternative fuel by businesses, nonprofit organizations, public school systems, and local governments<br>***Created a tax credit for investments in a certified ethanol production plant. The credit is equal to 50% of the investment, up to $5,000 per taxpayer per certified plant against the state corporation franchise tax and income taxes.***<br>***The Ohio Bioproducts Development Program offered grants and loans to support the development of biobased products and the production of advanced energy in the state, including biofuels.***<br>***Created the Clean Diesel School Bus Fund Retrofits Grant Program, which offers grants to retrofit school buses operating on diesel fuel.***<br>**The Ohio Third Frontier Fuel Cell Program provided direct financial support of up to $1 million to accelerate the development and growth of the fuel cell industry in Ohio.**<br>***The Diesel Emissions Reduction Grant Program and the Diesel Emission Reduction Revolving Loan Program provided funding for: projects related to certified engine configurations, including new, rebuilt, or remanufactured engine configurations the U.S. Environmental Protection Agency has certified; the purchase or use of hybrid electric and alternative fuel vehicles; and Installation of verified technology including pollution control devices, retrofits, and development of truck stop electrification and auxiliary power units.*** |
| **Oklahoma** | The Alternative Fuels Loan program provided 0% interest loans to help convert government-owned fleets to operate on alternative fuels; offered low-interest loans to convert private fleets to alternative fuel vehicles<br>Provided a motor fuel excise tax exemption for individuals who produce and utilize biofuels; provided a one-time income tax credit for 50% of the cost of converting a vehicle to operate on an alternative fuel, or for 50% of the incremental cost of purchasing a new Original Equipment Manufacturer alternative fuel vehicle (AFV); provides a tax credit for up to 50% of the cost of installing refueling infrastructure for AFVs; biodiesel (B100) and ethanol production facilities were allowed a per gallon tax credit for production of biofuels; a retailer of ethanol-blended fuel may claim a motor fuel tax credit for each gallon of ethanol fuel sold<br>• Extended the tax credit for purchase of alternative fuel vehicle<br>***Made manufacturer of EVs that can legally be operated on interstate highways and turnpikes in the state eligible for a $2,000 credit per vehicle. Manufacturers of Four-wheeled medium-speed EVs are eligible for a $1,000 credit per vehicle. Manufacturers of Four-wheeled low-speed EVs are eligible for a $500 credit per vehicle (See also Clean Energy Economic Development).***<br>***Provided a tax credit for up to 75% of the cost of installing alternative fueling infrastructure.*** |

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| **Oregon** | Offered low-interest loans to projects that create alternative fuels<br>Oregon's Business Energy Tax Credit was created for investments in energy conservation, recycling, renewable energy resources, or less-polluting transportation fuels; provided homeowners and renters an income tax credit for the purchase of premium-efficiency appliances, heating and cooling systems, duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling system; a resident who purchased E85 or B99 is eligible for a per gallon tax credit; offers a property tax exemption for property used to produce biofuels; offers a tax credit to residents and business owners towards the purchase of AFVs and HEVs<br>• The Oregon Department of Energy adopted temporary administrative rules that more stringently define criteria for separate and distinct facilities for the purpose of applying for multiple tax credits<br>• The new rules also allow the Oregon Department of Energy to revoke certificates and recapture the tax credit if a project does not produce the amount of energy, jobs, or conservation described in the application<br>***The Oregon Department of Transportation funded the installation of qualified EV charging infrastructure in rural areas along the I-5 corridor.*** |
| **Pennsylvania** | PEDA funding is available for projects involving clean, alternative fuels for transportation, biomass, and fuel cells<br>The Pennsylvania Energy Harvest Grant, seeks to deploy cleaner energy sources by providing funding for renewable energy technologies, such as biomass energy projects<br>The Alternative Fuels Incentive Grant (AFIG) Fund provides grant funding and information on alternative fuels, AFVs, HEVs, anti-idling technologies that use alternatives to diesel fuel for heavy-duty trucks, and advanced vehicle technology research, development, and demonstration |
| **Rhode Island** | Offers loans for up to five years, with low administrative fees, to state agencies and municipal governments to cover the incremental cost of purchasing original equipment manufactured AFVs<br>Provides a qualified electric vehicle tax credit; provides a tax credit equal to 50% of the capital, labor, and equipment costs associated with the construction of, or improvement to, any alternative fuel fueling or recharging station<br>***Exempted biodiesel from the $0.30 per gallon state motor fuel tax. Biodiesel may be blended with other fuel for use in motor vehicles, but only the biodiesel portion of the blended fuel is tax exempt.***<br>**Established a commission to study the feasibility and effectiveness of various forms of incentives to promote the development and use of advanced biofuels in the state (HB 5390).** |

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| **South Carolina** | A sales tax rebate may be applied to in-state purchases of the following: flexible fuel vehicles capable of operating on E85 motor fuel, hydrogen fuel cell vehicles, electric vehicles, hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEV), and vehicles with a U.S. EPA city fuel economy rating of at least 30 mpg; an income tax credit is available for the in-state purchase or lease of a PHEV; offers a state income tax credit for fuel cell, advanced lean burn, HEV, and alternative fuel vehicles; offers tax credits for the production, distribution, and construction of a production facility for qualifying biofuels<br>An incentive payment is available to E85 retailers for each gallon of E85 fuel sold<br>***Qualified corn-based ethanol and soy-based biodiesel producers were eligible for an income tax credit of $0.20 per gallon of fuel produced through 2016.***<br>***Made ethanol retailers selling fuel blends of at least 70% ethanol (E70) eligible for a $0.05 incentive for each gallon of ethanol blended fuel sold.***<br>***Created an income tax credit for qualified research and development expenditures for taxable years through 2011. This includes developing feedstocks and production processes for cellulosic ethanol, and algae-derived and waste grease-derived biodiesel (See also Clean Energy RD&D).***<br>***Provided funding for grants that promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enabled the growth of hydrogen and fuel cell technologies (See also Clean Energy RD&D).***<br>***Exempted the following from state sales tax: 1) any device, equipment, or machinery operated by hydrogen or fuel cells; 2) any device, equipment, or machinery used to generate, produce, or distribute hydrogen and designated specifically for hydrogen or fuel cell applications; and 3) any device, equipment, or machinery used predominantly for manufacturing, or research and development involving hydrogen or fuel cell technologies.***<br>***Exempted alternative fuels and blended fuels (propane and CNG) from the state sales and use tax. These fuels are, however, subject to a state fuels user fee of $0.16 per gallon.*** |
| **South Dakota** | An ethanol production incentive payment of 20 cents/gallon is available to ethanol producers for ethyl alcohol which is fully distilled and produced in SD (for plants in production before 2007); the 2008 South Dakota Legislature provided a 2-cent tax incentive for blends of biodiesel of 5% or higher to encourage growth of a biodiesel industry in SD and to further use of biodiesel blended fuel at the pump<br>A tax refund is available for contractors' excise taxes and sale or use taxes paid for the construction of a new agricultural processing facility, which includes an expansion to an existing ethanol processing or soybean processing facility if the expansion will be used for the production of biofuels (the project must exceed $4.5 million to qualify); a tax report credit for gasoline blended with ethanol or methanol to create E85 of M85 is available to licensed blenders - the tax report credit is granted on a per gallon basis, in the amount that the rate for motor fuel exceeds the rate for E85 or M85 (the credit is used to offset any tax liability resulting from the blending of previously untaxed ethanol or methanol) |

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| **South Dakota (continued)** | Infrastructure grants are provided for infrastructure to many of the different ethanol facilities--over $10 million as of spring 2008<br>South Dakota provides a supportive regulatory inspection policy for blender pumps<br>***Licensed biodiesel blenders were eligible for a per gallon tax credit for special fuel blended with biodiesel to create a biodiesel blend.***<br>***Allowed a licensed biodiesel producer to apply for and obtain a tax refund for state fuel taxes paid on methanol used to produce biodiesel.***<br>**Created the Ethanol Infrastructure Investment Fund which will be used to give grants to encourage the purchase of flex fuel vehicles in the state and pay for the purchase and/or installation of ethanol blender pumps and other infrastructure that allows for the sale of ethanol as a motor fuel (S.B. 0196).** |
| **Tennessee** | Offered grants to county governments for the installation of biodiesel infrastructure; the Tennessee Department of Transportation (TDOT) was authorized to undertake public-private partnerships with transportation fuel providers, including, but not limited to farmer cooperatives, to install refueling facilities for alternative fuels including, but not limited to, E85 and B20<br>The Green Island Corridor program was an important component of the state's comprehensive strategy for supporting biofuels in Tennessee: this program is working to establish a statewide network of E85 and B20 no more than 100 miles apart along interstate and major highway corridors to make these fuels available to citizens, travelers and fleets; the Green Island Corridor grant program, administered by TDOT, assists retail vehicle fuel stations and farm co-ops with up to 80% of the costs to convert or install storage and fuel dispensing equipment for E85 and B20 pumps, with a cap of $45,000 per pump<br>TDOT advertised biofuel station locations on the Official State Map and provides interstate signage at exits with participating biofuel stations; biofuel stations are also listed at **www.biotenn.org**; as of May 2008, there are 14 E85 pumps and 33 B20 pumps now selling biofuel; several pumps are scheduled to open in the next few months and other stations are in the contract preparation process<br>***Offered grants to local governments' and public universities to support the use of E85 and biodiesel blends of at least 20% (B20). Grants could be used for incremental fuel costs; engine maintenance; conversion or installation of infrastructure; and promotional materials.***<br>***The FastTrack Infrastructure Development Program offered funding for alternative fueling infrastructure improvement to private sector businesses to locate or expand fueling infrastructure that create or retain jobs for Tennesseans.***<br>***Permitted vehicles that the U.S. EPA defines as Inherently Low Emission Vehicles or Low Emission and Energy-Efficient Vehicles to operate in HOV lanes.***<br>**Offered a $2,500 point of purchase rebate on the first 1,000 electric vehicles purchased in Tennessee. The rebate is funded from the state's petroleum violation escrow account. This tax rebate applies primarily to the Nissan Leaf.** |

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| States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs. | |
| **Texas** | The Adopt-A-School Bus Program provides grants to aid local school districts replacing their aging, diesel school bus fleets with new clean fuel buses<br>• Loan program for the advancement of alternative energy<br>• Fuel derived from cellulosic biomass and blended with gasoline is exempt from the motor fuels tax<br>• Incentive and rebate programs for appliances and equipment fueled by LPG or other environmentally beneficial alternative fuels<br>• Established the Clean Fleet Program to provide grants to encourage a person that has a fleet of diesel-powered vehicles to replace them with alternative fuel or hybrid vehicles<br>***Offered competitively-priced natural gas available to school districts and other state and local public entities for use in natural gas vehicles.***<br>***Offered incentives to buyers who wished to replace aging medium-duty diesel school bus or delivery vehicles with qualified propane vehicles that met or exceeded current U.S. EPA emissions standards.***<br>***Exempted the biodiesel or ethanol portion of blended fuel containing taxable diesel from the diesel fuel tax.***<br>***Allowed the Texas Department of Transportation to seek funding from public and private sources to acquire and operate hydrogen vehicles and establish and operate publicly-accessible hydrogen fueling stations.***<br>***Ruled that money from the Texas Emissions Plan Reduction Fund could be used for: the alternative fueling facilities program (2%); the natural gas vehicle grant program (not less than 16%); and natural gas fueling stations (no more than 4%) (SB 385 – See also GHG Emissions).***<br>***Authorized the Commission on Environmental Quality to establish and administer the state natural gas vehicle grant program to encourage an entity that has a heavy-duty or medium-duty motor vehicle to convert the vehicle to a natural gas engine or replace the vehicle with a natural gas vehicle by offsetting the incremental cost (SB 20).*** |
| **Utah** | Provides grants to assist businesses and government entities in covering: 1) the cost of converting a vehicle to operate on clean fuels, 2) the incremental cost of purchasing an Original Equipment Manufacturer (OEM) clean fuel vehicle, and 3) the cost of retrofitting diesel vehicles with U.S. EPA verified closed crankcase filtration devices, diesel oxidation catalysts, and/or diesel particulate filters<br>Provides an income tax credit for 50% of the incremental cost (up to $3,000 maximum) of a clean fuel vehicle built by an OEM and/or an income tax credit for 50% of the cost (up to $2,500 maximum) of converting the vehicle to operate on an alternative fuel<br>Vehicles with clean fuel license plates are authorized to travel in HOV lanes<br>***The Utah Clean Fuels and Vehicle Technology Grant and Loan Program provided grants and loans to assist businesses and government entities in covering: 1) the cost of converting vehicles to operate on clean fuels; 2) the incremental cost of purchasing clean fuel vehicles; and 3) the cost of retrofitting diesel vehicles. The Program also provided loans for the purchase of fueling equipment for public/private sector business and government vehicles.***<br>***Began taxing clean special fuels used to operate motor vehicles, including propane and electricity, at 3/19 of the rate of $0.0245, which is imposed on traditional motor fuels. The tax on compressed natural gas is $0.085 per gasoline gallon equivalent.***<br>***Modified the Motor and Special Fuel Tax Act by amending provisions relating to a tax on liquified natural gas, amends the definition of clean fuel, provides that beginning on July 1, 2011, a tax is imposed at a reduced rate on liquified natural gas per gasoline gallon equivalent.*** |

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Clean State Energy Actions • 2011 Update

# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

| DEFINITION | |
|---|---|
| States use financial incentives to provide initial capital costs for deployment of alternative fuel or electric vehicles and refueling infrastructure needs. Types of financial incentives state governments offer include: tax incentives, grants, loans, rebates, and bond programs. | |
| **Vermont** | Vermont businesses involved exclusively in the design, development, and manufacture of electric vehicles (EVs), AFVs, HEVs, as well as energy technology involving fuel sources other than fossil fuels, and qualify as a "high-tech business" are eligible for up to three of the following tax credits: 1) payroll income tax credit; 2) qualified research and development income tax credit; 3) export tax incentive; 4) small business investment tax credit; and 5) high-tech growth tax credit<br>***Made Funding from the Clean Energy Development Fund available to projects that involved the purchase of dedicated NGVs and development of natural gas fueling infrastructure (See also Clean Electricity).*** |
| **Virginia** | School systems may use funding from the Literary Loan program to convert school buses to alternative fuels or construct alternative fuel refueling stations<br>Provides grants and an income tax credit to producers of biofuels, specifically ethanol, biodiesel, and green diesel<br>• A higher per gallon grant is available for biofuels produced from advanced feedstocks<br>Businesses involved with the manufacture of AFVs, AFV conversions, or the production or storage of dispensing hydrogen are provided a job creation tax credit; localities may exempt or partially exempt AFVs from personal property taxes<br>Grants are available for alternative fuel infrastructure at retail gas stations<br>• Localities may give preferential treatment to electric vehicles when establishing rates of taxation on personal property<br>• Use of HOV lanes by clean special fuel vehicles, regardless of the number of occupants<br>***The Alternative Fuels Revolving Fund was used to distribute loans and grants to municipal, county, and state governments to support alternative fuel vehicle programs; pay for AFV maintenance, operation, evaluation, or testing; pay for vehicle conversions; or improve alternative fuel infrastructure.***<br>***The governor issued an executive order directing the release of a Public-Private Partnership solicitation to further the Commonwealth's interest in partnerships with and among alternative fuel source providers, infrastructure developers, vehicle manufacturers, and other industry leaders to expand alternative fuels refueling infrastructure, and provision of alternative fuel vehicles to support the Commonwealth's vehicle pools and fleets.***<br>***Excluded any person who is not a public service corporation and who provided electric vehicle charging service at retail from the meaning of the terms "public utility," "public service corporation," or "public service company" (H.B. 2105).***<br>***The Virginia State Corporation Commission (Commission) directed public utilities to evaluate time-differentiated rates and other incentives to encourage off-peak all-electric (EV) and plug-in hybrid electric vehicle charging. The Commission authorized public utilities to conduct pilot programs to determine the feasibility and implications of offering off-peak rates and other incentives (H.B. 2105).***<br>***The Clean Fuel Vehicle Job Creation Tax Credit provided a corporate income tax credit for the creation of full-time clean fuel vehicle jobs. The allowable credit was $700 per qualifying job created for the first taxable year and the two succeeding taxable years, for a maximum "per job" credit of $2,100. The credit is available until the 2014 taxable year (SB 1236 – See also Clean Energy Economic Development).***<br>***Created the Virginia Universities Clean Energy Development and Economic stiumulus foundation, which was tasked with identifying, obtaining, disbursing and administering funding to support: the research and development of alternative fuel and clean energy technologies; economic development projects in rural areas; and commercialization of alternative fuels and clean energy technologies.*** |

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# ALTERNATIVE FUELS & VEHICLES

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| **Washington** | Grants may be awarded to projects involving the purchase or conversion of existing vehicles to plug-in hybrid electric vehicles or battery electric vehicles for use in an applicant's fleet or operations (available to state agencies, public school districts, public utility districts, or political subdivisions of the state)<br>Beginning January 1, 2009, new passenger cars, light-duty trucks, and medium-duty passenger vehicles that are dedicated AFVs are exempt from the state sales and use tax; a tax deduction is available for the sale or distribution of biodiesel or E85 motor fuel; fuel delivery vehicles and machinery, equipment, and related services that are used for the retail sale or distribution of a biodiesel blend or E85 motor fuel are exempt from state retail fuel sales and use taxes; qualifying buildings, equipment, and land used in the manufacturing of alcohol fuel, biodiesel, or biodiesel feedstocks are also exempt from state and local property and leasehold taxes; retail sales and use tax does not apply to sales of new passenger cars and light duty trucks which utilize hybrid technology and have a mileage rating of at least 40 miles per gallon (takes effect 1/1/2009 and expires 1/1/2011)<br>***Exempted public lands used for installing, maintaining, and operating EV infrastructure from leasehold excise taxes. Additionally, the state sales and use taxes did not apply to EV batteries; labor and services for installing, repairing, altering, or improving EV batteries and EV infrastructure; and the sale of property used for EV infrastructure.***<br>***The Green Energy Incentive Account provided financial assistance for alternative fueling infrastructure along Interstate corridors.***<br>***Electric, compressed natural gas, and liquefied petroleum gas vehicles are exempt from emission control inspections. HEVs that obtain a U.S. EPA fuel economy rating of at least 50 miles per gallon of gasoline during city driving are also exempt.*** |
| **West Virginia** | • West Virginia established a hydrogen fueling station at Yeager Airport in the state's capital city, Charleston<br>***Established an income tax credit for eligible taxpayers who convert a vehicle to operate exclusively on alternative fuel or purchase a new original equipment manufacturer dedicated or bio-fuel AFV.***<br>***Created an income tax credit for the construction, purchase and installation of qualified alternative fueling infrastructure. The tax credit is 50% of the total allowable costs associated with construction or purchase and installation of the equipment, up to $250,000.*** |

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# ALTERNATIVE FUELS & VEHICLES

## Financial and Other Incentives

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| **Wisconsin** | The state aims to generate 25% of its transportation fuels from renewable sources by the year 2025; participant in Midwest Energy Security and Climate Stewardship Platform Plan - establishes shared goals for the Midwest region: produce commercially available cellulosic ethanol and other low-carbon fuels in the region by 2012; increase E85 availability at retail fueling stations in the region to 15% of stations by 2015, 20% by 2020, and 33% of all fueling stations in the region by 2025; reduce the amount of fossil fuel that is used in the production of biofuels by 50% by 2025<br>***Created a tax credit for 25% of the cost to install or retrofit fueling stations in Wisconsin that dispense motor vehicle fuel blends of at least 85% ethanol or at least 20% biodiesel fuel.***<br>***Exempted the first 1,000 gallons of renewable fuel an individual produces each year for personal use from the motor vehicle fuel excise tax, the petroleum inspection fee, and any petroleum inspection requirements not required under federal law.***<br>***Made a corporation involved in qualified research eligible for a tax credit equal to 10% of the qualified research expenses the corporation incurred during the taxable year. Qualified research includes automotive batteries for use in hybrid electric vehicles that reduce the demand for natural gas or electricity or improve the efficiency of its use (See also Clean Energy RD&D).***<br>***Allowed a person using alternative fuel to operate a taxi used to transport passengers to be reimbursed for the amount of Wisconsin fuel tax paid.***<br>***Prohibited any county, city, village, town, or other political subdivision from levying or collecting any excise, license, privilege, or occupational tax on motor vehicle fuel or alternative fuels, or on the purchase, sale, handling, or consumption of motor vehicle fuel or alternative fuels.***<br>***Allowed the Wisconsin Department of Public Instruction (DPI) to provide financial aid to school districts that use biodiesel fuel to operate school buses.*** |
| **Wyoming** | Offers a production tax credit for ethanol<br>***Allocated $200,000 for the Wyoming Department of Transportation and the Department of Administration and Information to purchase 10 natural gas motor vehicle conversions each for the two departments (See also Lead by Example).*** |
| **Puerto Rico** | Act No. 182 (2007) offers a tax credit for the purchase of vehicles that operate with alternative or combined energy; a total of $2,000 will be given for the tax year in which the vehicle is acquired<br>**Signed a MOU with Nissan to explore the deployment of Evs in Puerto Rico including designing a pilot program for EV use, creating a plan for installing charging infrastructure, and developing incentives for EV use or purchase.** |

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Clean State Energy Actions • 2011 Update

# LEAD BY EXAMPLE

## Appliance/Equipment Efficiency

### DEFINITION

Lead-by-Example appliance efficiency standards set minimum energy efficiency standards for equipment and appliances purchased for use in state government facilities.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Legislation is pending that would allow life-cycle costing for the purchase of energy efficient appliances and equipment by state government<br>• Allows life-cycle costing for the purchase of energy efficient vehicles and property by state government (Acts 2009-652 and 653) |
| **Arizona** | State agencies must purchase ENERGY STAR products if they are cost effective over the lifecycle of the appliance |
| **Arkansas** | Act 1597 of 2007 requires state agencies to use high efficiency lighting, where feasible, and if the price is competitive with consideration given to the long term cost effectiveness and savings |
| **California** | State agencies must purchase ENERGY STAR appliances when it is cost-effective to do so |
| **Colorado** | Participant in the Climate Savers Computing Initiative |
| **Connecticut** | ***Created a requirement that agencies procure equipment and appliances that meet or exceed the energy conservation standards set forth in the federal Energy Policy and Conservation Act, and meet or exceed federal Energy Star standards.*** |
| **Delaware** | State agencies are required to purchase Energy Star qualified products if they are available competitively and within a reasonable time frame, and if they meet appropriate performance standards |
| **Florida** | • Adopted Climate Friendly Public Business requirements for the use of "green" products, lodging, vehicles, and fuel (Statute 286.29) |
| **Hawaii** | Agencies should use life-cycle cost-benefit analysis to purchase energy efficient equipment, using utility rebate programs whenever possible to reduce costs; agencies are required to purchase environmentally preferable, resource-efficient products and materials |
| **Idaho** | The state is in the process of developing purchasing efficiency standards for state agency purchased appliances and equipment |
| **Illinois** | • Requires every state-owned building to establish a green cleaning policy whereby the building purchases and uses only environmentally-sensitive cleaning products (Green Cleaning for State Facilities Act)<br>• The adoption of such policy is only required if the transition does not increase the cleaning costs<br>• Established several Lead-by-Example initiatives including a goal to attain a 10% reduction in office paper consumption by July 1, 2010, when compared to paper consumption for fiscal year 2008 (Executive Order 11-2009)<br>• By July 1, 2012, agencies shall achieve a 20% reduction in office paper consumption from fiscal year 2008 levels |
| **Indiana** | Five new state buildings have been constructed to LEED energy efficient certification standards<br>An Executive Order signed in June 2008 stated that all new state building construction and renovations should be completed with the highest energy efficiency that is cost-effective, based on life-cycle cost analyses; locally-sourced and historic materials were to be given additional value in the analyses; the building construction standards are to be based on nationally recognized standards such as ENERGY STAR, LEED, Green Globes or equivalent |

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Clean State Energy Actions • 2011 Update

# LEAD BY EXAMPLE

## Appliance/Equipment Efficiency

| DEFINITION | |
|---|---|
| Lead-by-Example appliance efficiency standards set minimum energy efficiency standards for equipment and appliances purchased for use in state government facilities. | |
| **Iowa** | State agencies must reduce energy use in buildings by an average of 15% by 2010, relative to their energy use in 2000; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |
| **Kansas** | Participant in the Climate Savers Computing Initiative |
| **Kentucky** | Requires Energy Star qualified products in state agency procurements where economically feasible using a life-cycle cost analysis |
| **Louisiana** | Louisiana has set Energy Star as the minimum performance standard for all purchases of appliances, light bulbs, smart chargers and computers for state agencies |
| **Maryland** | Requires all new energy-using products in state buildings to carry the Energy Star label or be in the top 25% in energy efficiency when products with labels are unavailable |
| **Massachusetts** | Requires Energy Star for all computers, copiers, and printers; the state will be requiring EPEAT Silver rating for all computers in its next contract; Executive Order No. 484 bans the use of incandescent bulbs at state facilities unless required for a specific and unique purpose<br>Implemented a Computer Power Management Standard, which set standards and protocols for powering down equipment at executive branch agencies. The standard is expected to result in $2 million of savings to the Commonwealth. |
| **Michigan** | Participant in Climate Savers Computing Initiative; equipment should meet Energy Star standards when available |
| **Minnesota** | Participant in the Climate Savers Computing Initiative |
| **Missouri** | • Appliances used in state-owned buildings/facilities must be Energy Star-rated (SB 376)<br>• Requires 2% reduction in energy use during each of 10 years in state buildings and operations (Executive Order 09-18) |
| **Montana** | State government is purchasing Energy Star equipment and appliances as part of the governor's 20 x 10 initiative to reduce energy use 20% by 2010 |
| **Nebraska** | • Current copy equipment purchases are Energy Star compliant and use soy based ink |
| **Nevada** | Requires the Chief of Purchasing Division to adopt regulations establishing standards favoring the procurement of appliances, equipment, lighting, and other equipment that bear the ENERGY STAR label (SB 395) |
| **New Hampshire** | Required to purchase Energy Star appliances |
| **New Jersey** | Public buildings must purchase Energy Star products |

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# LEAD BY EXAMPLE

## Appliance/Equipment Efficiency

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| **New York** | New York State has several minimum product efficiency requirements for State agencies and authorities; Article 5, Section 5-108a of State Law established efficiency requirements for 31 product categories; in addition, since 2001 Executive Order No. 111 establishes efficiency requirements for all products that are Energy Star rated, supplemented by FEMP standards, supplemented by life-cycle costing analysis; in 2008, the governor furthered New York's product standards work by issuing Executive Order No. 4, which will expand product categories and include many additional environmental attributes to existing requirements product purchasing requirements |
| **North Carolina** | No later than December 31, 2009, all existing State-owned buildings must make specific lighting upgrades including the replacement of standard exit signs with ones that utilize LEDs and the replacement of incandescent light bulbs with compact fluorescent bulbs; existing buildings must also install faucet aerators and low-flow shower heads, and adopt other methods to reduce either outdoor or indoor water consumption by 20% relative to a 2002-2003 baseline; when replacing HVAC equipment in an existing building, the specifications of the new system must be reviewed to ensure it is properly sized; when purchasing new office equipment and appliances, the new equipment must be Energy Star certified |
| **Ohio** | ***Created a requirement for state agencies and state colleges and universities to give buying preference to products made with agricultural materials such as soybeans and wood pulp when available.*** |
| **Oklahoma** | • Requires state agencies to develop energy efficiency and conservation plans with provisions for purchasing energy-efficient products and vehicles that use alternative fuel sources (HB 3394) |
| **Tennessee** | • Executive branch state agencies must purchase Energy Star qualified products |
| **Texas** | Requires state buildings, schools and state universities to purchase energy efficient light bulbs; requires state agencies to purchase other qualified appliances |
| **Vermont** | Requires state agencies to purchase only Energy Star or comparable products and to use them in a manner that maximizes their energy efficiency potential |
| **Virginia** | Requires Virginia agencies and institutions to purchase or lease ENERGY STAR-rated appliances and equipment for all classifications for which an ENERGY STAR designation is available<br>• Guidelines are being developed for executive branch agencies to reduce energy consumption and water use, promote waste reduction and reduce travel |
| **Puerto Rico** | Executive Order No. 40 (2007) requires all government agencies and entities to purchase Energy Star equipment and products and mandates said entities to purchase efficient lighting systems |
| **Virgin Islands** | Enforcement of Executive Order 231-1979 - energy efficient procurement practices for the government, requiring energy equipment to be procured based on life cycle costs |

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# LEAD BY EXAMPLE

## Building Efficiency

### DEFINITION

Lead-by-Example building efficiency standards establish energy savings goals for state government facilities that can include leased office space, schools, colleges, and universities. These often include use of ENERGY STAR tools, guidelines, partnerships, LEED, Green Globes, or other certification, or specific beyond-code energy efficiency requirements.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | State departments and agencies shall encourage and promote conservation so as to reduce energy consumption 10% from 2005 levels in facilities owned and operated by that agency by the end of 2008 and 20% by the end of 2010; Alabama Building Energy Conservation Code (ABECC) is a mandatory building code for state government buildings; the Alabama Building Commission is in the process of adopting the 2006 IECC as the mandatory code for state-funded buildings; legislation is pending to require that state-funded buildings be designed and built to high-performance standards at least equivalent to 30% more efficient than ASHRAE 90.1-2004<br>• 2006 IECC is mandatory for government-owned buildings<br>***Launched the Local Government Energy Loan Program, through a public-private partnership with PowerSouth, to offer zero-interest loans to local governments, K-12 schools, and public colleges and universities for renewable energy systems and energy efficiency improvements that will have a payback through utility savings.*** |
| **Alaska** | ***Offered loans or energy efficiency improvements, issued by the Alaska Energy Efficiency Revolving Loan Fund Program and administered by the Alaska Housing Finance Corporation (AHFC), to schools, the University of Alaska, state, and municipal governments.*** |
| **Arizona** | LEED Silver certification required for new state buildings; ASHRAE 90.1-2004 is mandatory for state-owned and state-funded buildings ONLY; most communities adopt IECC 2006<br>***Required the Departments of Administration and Transportation and the Arizona Board of Regents to reduce their energy use by 15% by July 1, 2011 (A.R.S. § 34-451).*** |
| **Arkansas** | • The Arkansas Energy and Natural Resources Conservation Act encourages all state agencies, including institutions of higher education, to use LEED and Green Globes rating systems whenever possible and appropriate in conducting or funding a public building project<br>• The governor's office partnered with the William J. Clinton Foundation's Clinton Climate Initiative (CCI) to provide resources, staff support, and expertise in retrofitting state buildings and changing habits to reduce energy consumption<br>• Requires that the Arkansas Energy Office, a division of the Arkansas Economic Development Commission, develop an energy program to manage energy, water, and other utility uses for public agencies (Act 1494)<br>• Agencies must reduce total energy consumption per gross square foot for all existing state buildings by 20% by 2014 and 30% by 2017 based on energy consumption for the 2007-2008 fiscal year if the savings can be justified by a life-cycle cost analysis<br>• Requires all executive branches of government to develop strategic energy plans with the goal of reducing their annual maintenance and operating budgets that pay for energy (Executive Order 09-07)<br>• Created the Sustainable Building Design Program for State Agencies to make energy efficient capital improvement projects in state-owned buildings (Acts 1363 and 1372)<br>***Created a loan program through the Arkansas Building Authority which will administer the $9,500,000 program to state buildings incorporating new energy efficiency measures.***<br>***Required public agencies occupying a state-owned building to complete an energy audit using American Society of Heating, Refrigerating and Air-Conditioning Engineers audit procedures and report the findings to the Arkansas Energy Office (S.B. 823).*** |

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| **California** | The goal of the Green Building Action Plan is to improve the energy performance of all state buildings and reduce grid-based energy usage in state buildings by 20% of 2003 levels by 2015; all new and renovated state buildings must be constructed to LEED Silver standards; state agencies are required to cooperate in developing benchmarking and commissioning guidelines, suggesting plans for retrofitting existing buildings, and ensuring builder and contractor compliance |
| **Colorado** | All state facilities are charged with reducing overall energy use by at least 20% by the end of FY2011-2012; LEED certification is required for state buildings (LEED Gold for buildings over 5,000 square feet that receives at least 25% of its funding from the state); affordable housing projects must adopt and comply with a green building standard<br>***Required a reduction in greenhouse gas emissions and waste sent to landfills, as well as reduced consumption of paper, petroleum and bottled water; required agencies to include energy savings opportunities in their capital construction request, including use of third-party power purchase agreements; required agency directors to conduct an internal review at least annually to make sure their agency is on track to meet their targets.*** |
| **Connecticut** | Certain state construction projects must meet the state-developed design standards based on LEED or Green Globes<br>**Created a requirement for a 10% reduction in energy use in state buildings by 2013 and a 20% reduction by 2018 (SB 1243).** |
| **Delaware** | • Requires energy efficiency reductions of 10% by close of FY 2011, 20% by 2013 and 30% by 2015 (Executive Order 18)<br>• Buildings need to be benchmarked by the end of 2011 and report energy usage and carbon emissions annually |
| **Florida** | Law encourages the use of solar technologies and energy efficiency strategies in state buildings when life-cycle costs indicate they are economically feasible; all new education facilities must include a passive solar design; the Department of Management Services has been directed to adopt the LEED-NC for all new buildings, and to strive for Platinum Level certification and must also renovate all existing buildings they own and operate on behalf of client agencies to earn certification under LEED for Existing Buildings (EB); all state agencies and departments under the direction of the Governor may not enter into new leasing agreements for office space that does not meet Energy Star building standards<br>• Requires that state agency leasing agreements for office space are allowed only if ENERGY STAR standards are met (HB 7135)<br>• Requires all new construction and renovation of state agency buildings to meet increased energy standards (HB 7135) |

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| **Georgia** | The Governor's Energy Challenge requires state facilities to reduce energy consumption 15% by 2020 (from 2007 baseline); Georgia General Assembly encourages, but does not require, the construction of energy efficient facilities<br>• Provides standards for state buildings, including optimizing energy performance, increasing demand for materials produced in the state, utilization of local and renewable energy sources, water conservation, protection of natural resources, and Energy Star designation (OCGA 50-8-18, Energy Efficiency and Sustainable Construction Act)<br>***Seven state agencies met the Governor's Energy Challenge of a 15% energy reductions by 2020 (See also Energy Efficiency).***<br>***Authorized the development of a Guaranteed Energy Savings Performance Contracting Program being developed for state facility retrofits, including a pre-qualified list of energy savings companies and standard statewide contracts for agencies to use (See also Clean Energy Economic Development).*** |
| **Hawaii** | • Present data collection and analysis of state agencies' electricity consumption and costs are used to identify and compare consumption patterns<br>• By the end of 2010, state agencies are to evaluate the energy efficiency of all existing public buildings that are larger than 5,000 square feet or use more than 8,000 kilowatt-hours (kWh) annually (HB 1464)<br>• Opportunities for increased energy efficiency must be identified by setting benchmarks for these buildings using Energy Star Portfolio Management or another similar tool<br>• Buildings must be retro-commissioned every five years |
| **Idaho** | Agencies are beginning to include Energy Star rating requirements in bid proposals for new office space and eventually this will be required for all agencies<br>• ***To the extent feasible and practical, all major facility projects must be designed, constructed and certified to meet an energy efficiency target of at least 10% to 30% better efficiency than a comparable building on a similar site (HB 422, Energy Efficient State Building Act)*** |
| **Illinois** | • Requires all state-funded building construction and major renovation to seek LEED, Green Globes, or equivalent certification of the highest level within the project budget (HB 1013, Green Buildings Act)<br>• Agencies to employ cost-effective efficiency measures to reduce electricity consumption and natural gas consumption at State-owned facilities by 25% each by July 1, 2025, as compared to fiscal year 2008 levels (Executive Order 11-2009)<br>• Goal to divert at least 20% of their solid waste from disposal facilities by July 1, 2012, referenced to the 2010 baseline, and divert at least 40% by July 1, 2015, referenced to the 2010 baseline, through source reduction, recycling and composting activities (Executive Order 11-2009)<br>***Created a requirement that each public university set a goal of reducing its footprint for power, gas, and water consumption by at least 15% within 2 years (HR 120 – See also GHG Emissions).***<br>***Created the School District Intergovernmental Cooperation Renewable Energy Act which allows multiple school districts to form a joint action agency for the purpose of acquisition, construction and operation of renewable energy facilities (H 6419).*** |

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| **Indiana** | State buildings located in Marion County, which encompasses Indianapolis, will purchase 10% of their energy from renewable energy resources by 2010; the state Strategic Energy Plan released in 2006 calls for increasing the percentage to 25% by 2025; the Indiana Department of Corrections is creating a wind-powered generator to help power a prison facility |
| **Iowa** | State agencies must obtain at least 10% of their electricity from renewable energy sources by 2010<br>***Created a requirement for the state to reduce energy use in its buildings 15% by 2015, relative to their energy use in 2008.*** |
| **Kansas** | The Facilities Conservation Improvement Program facilitates performance contracting in public buildings by connecting pre-approved Energy Service Companies to potential public sector clients |
| **Kentucky** | Legislation enacted in 2008 requires that, beginning July 1, 2009, all construction or renovation of public buildings for which 50% or more of the capital cost is paid by the Commonwealth shall meet high performance building standards established in the Act, for projects that have not entered the design phase before January 1, 2009; requires properties leased by the state to meet high performance building standards (beginning July 1, 2018)<br>• The Kentucky Energy Plan sets efficiency targets for state government buildings of 15% and 25% in 2015 and 2025, respectively, using 2009 as the baseline year<br>• The governor ordered certain state-owned facilities required to reduce their energy use on nights and weekends<br>• Energy efficiency and renewable energy measures for the High Performance Sustainable Research Laboratory building at the University of Kentucky will take the building from a "meets code" building to a better-than-code building that will support a new state-of-the-art Advanced Battery Strategic Planning (ABSP) facility utilizing $11.8M in funds received from the National Institute for Standards and Technology (NIST)<br>• Kentucky Energy Efficiency Program for Schools (KEEPS) helps Kentucky school districts reduce energy consumption and operating expenses (HB 2, Section 16)<br>• The Kentucky School Energy Managers Program provides energy managers at the school district level with tools that will help promote and achieve the goals and objectives of the Kentucky Energy Efficiency Program for Schools<br>• The Kentucky Green and Healthy Schools program is designed to improve the knowledge base about energy and related environmental topics for students, teachers and administrators in all Kentucky schools<br>• The Kentucky National Energy Education Development (NEED) program focuses on the scientific concepts of energy and provides objective, grade-appropriate information about conventional and emerging energy sources—their use and impact on the environment, economy, and society<br>• Funding is being provided for photovoltaic systems to bring two schools to near net zero or net zero energy use<br>• Established a Green Schools Caucus (HR 24)<br>• Established a Kentucky Efficient School Design Trust Fund and required the Department of Education to develop and publish guidelines for efficient school design (SB 132) |

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| **Kentucky (continued)** | ***Launched "Greening Kentucky" website, which highlights state "lead by example" efforts around energy savings and environmental sustainability. Includes catalog of ongoing and completed projects as well as information on programs and efforts that individual citizens can undertake to save money through energy or water conservation.*** |
| **Louisiana** | The Governor issued a Green Government Executive Order requiring the Division of Administration to set energy efficiency goals for state facilities, office buildings or complexes and to work with each state agency in the development of the sustainability and energy efficiency goals, the purchasing of alternative and renewable energy, and the implementation of the sustainable building guidelines; Louisiana encourages the construction and renovation of major facility projects funded by the state to achieve the Energy Star designation; over the next three years, the new requirements will be phased in to ensure that each major facility project will be designed, constructed, and certified to exceed the requirements of the state energy code by at least 30% when such improvements prove to be cost-effective based on a life cycle cost analysis with a payback of no more than 30 years<br>• Grant program to encourage the implementation of energy efficiency and energy conservation projects for buildings and facilities in the higher education system<br>• The program will fund the purchase and installation of energy efficient equipment |
| **Maine** | Requires state buildings owned or operated by any state agency, board, office, commission, or department, including institutions of higher learning, to incorporate LEED standards into the design, construction, operation, and maintenance of any new, expanded, or existing building, provided it is cost-effective; requires all planning and design for the construction of new or substantially renovated buildings owned or leased by the state to involve consideration of energy efficiency, to include an energy-use target that exceeds standards for commercial and institutional buildings by at least 20%, and to include a life-cycle cost analysis over a minimum of 30 years that explicitly addresses the costs and benefits of efficiency improvements; participates in the Energy Star Challenge; the state measures and tracks energy use and greenhouse gas emissions from government buildings<br>***Directed the Efficiency Maine Trust to allocate $200,000 for the completion of the energy audit and the implementation of cost effective energy efficiency measures in the State House and the Burton M. Cross State Office Building (HB 287).*** |
| **Maryland** | The Maryland Energy Administration provides loans through the State Agency Loan Program to state agencies for cost-effective energy efficiency improvements in state facilities; requires energy consumption in state buildings by reduced by 5% by 2009 and 10% by 2010 relative to a 2005 baseline; LEED or Green Globes certification required for all capital projects over 5,000 sq. ft.; the Green Buildings Act requires all new schools and state buildings to meet the LEED Silver standard; the Clean Energy Schools program is working towards have a renewable demonstration project in at least one school in each county in Maryland<br>***Enabled the adoption of the International Green Construction Code (IGCC) by all local governments across the state (HB 972).*** |

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| **Massachusetts** | Requires new state buildings and major renovations over 20,000 sq. ft. to be LEED certified plus 20% more efficient than the Massachusetts Energy Code; the Green Schools Initiative provides grants for the design and construction of energy efficient schools; Executive Order No. 484 requires a 20% reduction in energy use per square foot by 2012 and a 35% reduction by 2020; the state is developing a plan to conduct retro-commissioning at a number of large state facilities; the state is initiating a task force that will develop recommendations on how to move toward zero net energy buildings, including developing specifications for such a state building by 2010; goal to reduce emissions from state energy use 25% by 2012, 40% by 2020, and 80% by 2050<br>New buildings owned or operated by state must minimize life-cycle costs through efficiency or renewable energy procurement (SB 2768)<br>Implemented an Enterprise Energy Management System at over 17 million square feet of state-owned building space to provide monitoring of energy usage to inform decisions about energy efficiency investment<br>Launched the Commonwealth Clean Energy Investment Program (CEIP), a financing program through which the state can use low-interest capital bonds to finance clean energy projects (renewable and efficiency) at state facilities. The bonds are paid back out of the projects savings.<br>***Constructed the first state-owned Zero Net Energy Building at North Shore Community College. The state has another state-owned Zero Net Energy Building in design.*** |
| **Michigan** | Goal to reduce energy use in state agencies 10% by the end of 2008; goal to reduce electricity purchases 20% from 2002 levels by 2015; LEED certification is required for state-funded new construction and renovations over $1 million - projects should strive to score at the LEED Platinum level on the Existing Building, New Construction, and Commercial Interiors scorecards -Goal of reducing state government grid-based energy purchases 25% by 2015 compared to a 2002 baseline. As of July 2010, Michigan had achieved a 22% reduction in energy use in state facilities. |
| **Minnesota** | New state construction must exceed the state energy code in effect as of January 2004 by at least 30%; participates in the Energy Star challenge; when practicable, geothermal and solar thermal heating and cooling systems must be considered when designing, planning, or letting bids for necessary replacement or initial installation of cooling or heating systems in new or existing buildings that are constructed or maintained with state funds<br>• Reviewing geothermal and solar thermal applications as possible uses for heating or cooling for all state building projects<br>**The governor issued an executive order which directs state agencies to identify and make cost-effective energy improvements in state facilities, and sets a goal of a 20 percent reduction in state energy consumption.**<br>**The governor issued an executive order that requires state agencies to create annual sustainability plans that identify specific, measurable goals, to include reducing greenhouse gas emissions by 80 percent by 2050, reducing waste disposal by 60 percent, and other similar measures of sustainability.** |
| **Mississippi** | • Enacted rules and regulations regarding energy performance of state-funded buildings |
| **Missouri** | Set the 2006 IRC as the minimum energy efficiency standard for construction or renovation of a state building over five thousand square feet (SB 1181 – See also Energy Efficiency) |

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| **Montana** | Goal to achieve a 20% reduction in state government energy consumption by 2010<br>• ***Created energy efficiency standards for state-owned and state-leased buildings (SB 49)***<br>• ***Applies to new construction and major renovation projects for state-owned buildings and new construction projects for state-leased buildings***<br>• ***Buildings must exceed the effective International Energy Conservation Code by 20%, to the extent that it is cost effective***<br>• ***State agencies are authorized to enter into energy performance contracts to promote energy and water efficiency*** |
| **Nebraska** | All state-owned and state-funded buildings must comply with 2003 IECC for buildings<br>***Updated code for state-owned and state-funded buildings to 2009 IEEC.*** |
| **Nevada** | Requires state agencies, departments, and other entities in the Executive Branch to reduce grid-based energy purchases for state-owned buildings by 20% by 2015; must adopt guidelines establishing Green Building Standards for all occupied public buildings whose construction will be sponsored or financed by the State or a local government; two public buildings biennially must meet LEED Silver requirements; all school districts in Nevada that are reconstructing older schools are encouraged to use daylighting, multiple stories, solar and other renewable energy sources, and other innovative building designs and plans |
| **New Hampshire** | Participates in the Energy Star Challenge with the goal of improving energy efficiency in state-occupied buildings by 10%; the Department of Administrative Services (DAS) is required to implement an energy information system, including an energy efficiency rating, to measure agencies' progress towards achieving this goal; new construction and renovation designs must exceed state energy code by at least 20%, should include energy modeling during the design processes, and require third-party commissioning as designated by the DAS<br>***Issued an executive order by the governor, setting a goal of reducing the use of fossil fuels in state government by 25 percent, compared to 2005 levels, by 2025.***<br>***Adopted new building requirements for public buildings, which leave much of the details up to individual departments, including which green building standards new state-owned buildings and major renovations using public funding will be required to follow (SB 0409).*** |
| **New Jersey** | LEED certification recommended; goal to have 1,000 public buildings certified; requires all new school designs to incorporate LEED Version 2.0 guidelines mandates the use of high performance green building standards in new state construction. The standard requires that new buildings larger than 15,000 square feet constructed for the sole use of state entities achieve US Green Building Council LEED Silver certification, a two-globe rating on the Green Building Initiative Green Globe rating system, or a comparable numeric rating.<br>***Established a State Energy Office within NJBPU/Treasury to develop energy efficiency and renewable energy projects within state managed buildings.*** |
| **New Mexico** | All Executive Branch state agencies, including the Higher Education Department, are required to adopt the US Green Buildings Council's LEED rating system; new construction of public buildings over 15,000 square feet or using over 50 kW peak electrical demand and renovations involving the replacement of more than three major systems (HVAC, lighting, etc.) must achieve a minimum rating of LEED Silver; projects between 5,000 and 15,000 square feet must achieve a minimum delivered energy performance standard of one half of the US energy consumption for that building type as defined by the US Department of Energy; New Mexico has set a goal for all Executive Branch state agencies to achieve a 20% reduction below 2005 levels in energy usage in state buildings for all Executive Branch state agency operations by 2015 |

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| **New York** | Since 2001, New York State agencies and authorities have had a requirement to reduce their energy consumption by 35% as compared to 1990 levels; in addition, Executive Order No. 111 has required that all facilities constructed or renovated for New York State agencies and authorities be at least 20% more efficient than the code in effect at the time the building permit is issued, as well as comply with U.S. Green Building Council requirements, though formal certification is not required; in addition, the New York State Education Department in partnership with NYSERDA and an Advisory Council, established a voluntary high performance school guideline as part of the Collaborative for High Performance Schools (CHPS) program to encourage efficient and healthy design in the State's public and private schools; during the period of 2002/03 to 2007/08, based on a comprehensive energy benchmarking program, NYSERDA has documented an average reduction in energy consumption in New York State's K-12 school sector of 23% |
| **North Carolina** | All new buildings owned by the State, the University of North Carolina, and the North Carolina Community College system larger than 20,000 sq. ft. must be designed, constructed and certified to exceed the energy efficiency requirements of ASHRAE 90.1-2004 by 30% for new buildings, and 20% for major renovations; state buildings are required in total to reduce their energy consumption per square foot by 20% by 2010 and 30% by 2015 relative to energy consumption levels during the 2003-2004 fiscal year |
| **Ohio** | Requires that all state agencies perform life-cycle cost analyses prior to the construction of new buildings, and energy consumption analyses prior to new leases; requires that an inter-university council composed of the presidents of state institutions of higher education or their designees develop energy efficiency and conservation guidelines for their respective Boards of Trustees that must include: 1) a goal to reduce energy consumption 20% from 2004 levels by 2014; 2) minimum energy efficiency standards for capital improvement projects worth more than $100,000; 3) minimum efficiency standards for leases on buildings over 20,000 sq. ft.; 4) a 15-year plan for each Board; and 5) periodic progress reports; the Ohio School Facilities Commission launched a $4 billion school construction and renovation program that requires all projects to achieve at least a LEED Silver certification; Executive Order 2007-02S directs all agencies to reduce energy consumption by 5% by the end of the current fiscal year and by an aggregate total 15% by the end of four fiscal years - this includes transportation energy and requires higher use of biofuels and other petroleum alternatives |
| **Oklahoma** | • All new state-owned buildings or major renovations must meet minimum LEED standards (HB 3394)<br>• Revolving loan fund available to local governments to make energy efficient improvements for government buildings<br>• State agencies, boards and commissions are required to appoint an Energy Efficiency Coordinator |
| **Oregon** | Requires that all public building projects must include solar technologies to be utilized by the building in an amount determined by the total cost of the contract - the investment in solar technology for a public building must amount to at least 1.5% of the total contract price; requires that all state facilities exceed the energy conservation provisions of the Oregon State building code by 20% or more |

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| **Pennsylvania** | The High Performance Green School Planning Grants provide financial incentives to public schools to cover specific costs associated with obtaining LEED for Schools certification; through Act 46 of 2005, the PA Department of Education can offer additional reimbursement of up to 10% to school districts that build LEED for Schools (Silver or higher) or Green Globes (two Globes or higher) certified buildings; through Act 57 of 1998, the Guaranteed Energy Savings Performance Contracting program allows PA agencies to participate in ESCO contracts-- this program also enables school districts, local government agencies, and other political subdivisions to participate in ESCO contracting; PA is in the process of getting LEED Gold certification for two existing state buildings, one of which is the Governor's Residence; PA is also developing an effort that would seek to obtain EPA Energy Star certification for all future ESCO contracting, where financially feasible |
| **Rhode Island** | Required any new, substantially expanded, or renovated building owned by the state, and state agencies, departments, offices, boards, commissions, and institutions of higher learning to meet LEED design, construction, operation, and maintenance standards; buildings must be designed to qualify for LEED Silver certification<br>• Set a goal of achieving an additional 10% reduction in energy use in state buildings by 2010 (Management Directive No. 720.5) |
| **South Carolina** | All major facility projects in the state must be designed, constructed, and at least certified as receiving two globes using the Green Globes Rating System or receiving the LEED Silver standard<br>• Amended the State Energy Efficiency Act to require state agencies to consider and implement energy, water, and wastewater conservation and efficiency measures |
| **South Dakota** | South Dakota adopted legislation that requires LEED Silver rating standard for all new construction and remodeled state facilities, including Board of Regents facilities (Public Universities and Technical Schools); the state is in the process of replacing every light bulb (and, when needed, light fixtures) with more modern energy efficient models on the Pierre campus |
| **Tennessee** | • The Clean Energy Future Act outlines a five-year accelerated program to improve energy efficiency in state buildings (Public Chapter 529) |
| **Texas** | Requires state government departments to compare the cost of providing energy alternatives for new and reconstructed state government buildings and for certain construction or repair to energy systems and equipment; requires the board of trustees of a school district to establish a goal to reduce the school district's annual electric consumption by 5% each state fiscal year for six years beginning September 1, 2007<br>• Critical government buildings must obtain a combined heat and power (CHP) feasibility study prior to construction or major renovation<br>***Created a requirement that newly constructed or renovated state buildings must meet an approved high performance building standard that: is developed through a nationally recognized process or by a municipally owned utility in the state; provides minimum requirements for energy use, natural resources use, and indoor air quality; encourages the use of materials manufactured or produced in the state; and requires a post-construction review (SB 1318).*** |

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| **Utah** | The Utah Department of Administrative Services manages the state Energy Efficiency Program, which includes state and higher-education buildings and vehicle fleets; new buildings must be constructed to high-efficiency building requirements<br>• All new state buildings, including higher education buildings, must be designed and constructed to meet LEED Silver certification<br>• Established a revolving loan program to fund efficiency improvements in state facilities (HB 198)<br>• The State Building Board to make rules to establish criteria to determine loan eligibility and to prioritize energy efficiency measures including project feasibility, estimated payback period and other criteria |
| **Vermont** | Requires state buildings to be designed to be "highly efficient" and to exceed state efficiency codes for existing buildings by 30%; existing buildings must meet 10 criteria for energy efficiency, including Energy Star requirements |
| **Virginia** | Requires state agencies to reduce the annual cost of non-renewable energy purchases by at least 20% of fiscal year 2006 expenditures by fiscal year 2010; state agencies and institutions use energy saving performance contracting and internal funding to reduce energy use and participate in the PJM Demand Response program to reduce peak electric demands; the Commonwealth purchases natural gas to optimize use of natural gas storage and financial hedging instruments<br>• State agencies and institutions required to reduce energy use by 5% below base line use by 2012, in addition to the previous 15% to 20% savings targets<br>• All construction and renovation of buildings for the executive branch agencies and institutions should meet LEED-Silver or Green Globes two-globe standards |
| **Washington** | Requires major facility projects for all state agencies, institutions of higher education, and other entities receiving state funding to meet at least the LEED Silver Standard in design, construction, and maintenance, to the extent appropriate; goal to achieve a 10% reduction in energy purchases from fiscal year 2003 levels |
| **West Virginia** | • Upgraded the state building code to the 2009 IECC and ASHRAE 90.1-2007<br>• Using ARRA funding, West Virginia is increasing energy efficiency in 5.9 million square feet of its state-owned and operated facilities through lighting, HVAC and fuel-switching projects<br>• The program is also funding the development of a geothermal system at a new primary school<br>• ARRA funding also is supporting energy efficiency projects at city halls and county courthouses |
| **Wisconsin** | Calls for the Department of Administration to set energy efficiency goals for state facilities, office buildings, and campuses; the Department of Administration is to work with the Building Commission and the Energy Center of Wisconsin to ensure that new state facilities are constructed to be 30% more energy efficient than commercial code; the facilities of the six state agencies that use the largest amounts of electricity must develop energy cost reduction plans that identify opportunities to increase the energy efficiency in their facilities |

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| **Puerto Rico** | Executive Order No. 41 requires all new construction and major renovations of government buildings to obtain a LEED certification according to the following conditions: buildings that are 10,000 sq. ft. and up must be LEED Certified; buildings that are 30,000 sq. ft. and up must be LEED Silver<br>• Requires an energy reduction of at least 10% for all government agencies (Executive Order 2009-004)<br>• Based on this order, the energy consumption of government agencies decreased by 7.6 million kWh (approx. 2%) for the year 2009 resulting in savings of approximately $96.24 million, equivalent to a 19.12% overall reduction in annual expenditures related to energy consumption and an equivalent of 11.4 million pounds of avoided $CO_2$ emissions |
| **Virgin Islands** | Enforcement of Executive Order 278-1985 requiring air conditioning in government to be maintained at 76 degrees; enacted legislation mandates that government reduce energy consumption 20% by 2012 |

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# LEAD BY EXAMPLE

## Green Power Purchasing

**DEFINITION**

Requirements that a certain percentage of electricity purchased for state government buildings come from renewable resources.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Arizona** | As of 2005, new state buildings had to obtain at least 10% of energy from renewable sources (solar, wind, biomass, or the purchase of renewable energy credits) |
| **California** | Environmentally Preferable Purchasing guidelines for procurement agencies; state agencies and the legislature are required to buy products with recycled content in order to reduce waste |
| **Connecticut** | State government must increase Class I renewable energy purchases to 20% of electricity used in 2010, 50% in 2020, and 100% in 2050; annual voluntary green power purchase of nearly 84 million kWh (12% of total annual electricity use) |
| **Delaware** | Bulk purchasing actions by the state for state facilities and school districts enabled a 5% green power purchase in FY2008 escalating to 6% in FY2010<br>• Recent bulk purchasing actions by the state for state facilities and school districts enabled a 32% green power purchase in 2011 and will continue for three years - saving the state over $11M |
| **Idaho** | Some individual agencies participate in voluntary Green Power programs offered by utilities |
| **Illinois** | Goal for state agencies to purchase 3% of their power from renewable sources by the end of 2007, 4% by the end of 2008, and 5% by the end of 2009<br>• Goal for agencies shall seek to purchase sufficient quantities of energy certified by Green-e or generated from renewable energy sources in Illinois so that 50% of the overall annual electrical energy requirements of buildings owned or leased by agencies will be met through these technologies by July 1, 2015, increasing to 100% by July 1, 2025 (Executive Order 11-2009) |
| **Indiana** | Provides a price preference of 10% for the purchase of qualifying fuels; a state governmental body or educational institution must purchase bio-based products whenever possible; the state fleet includes 1,196 E85 Flex-Fuel vehicles and 1,889 diesel vehicles capable of using biodiesel; Indiana is leading the development of a $1.3 million development of a Bio-fuels corridor from Gary, IN to Mobile, AL<br>Allotted $10.1 million to convert hundreds of state and city vehicles to run on alternative fuels; the Indiana DOT will convert many light-duty trucks to run on bi-fuel propane and dump trucks to run on compressed natural gas; state educational institutions are required to purchase E85 blends and biodiesels; the state educational institutions are now eligible for the E85 fueling station grant program |
| **Iowa** | The state's light-duty vehicle fleets must consist of hybrid-electric vehicles and/or vehicles that use alternative fuels, with the exception of law-enforcement vehicles; bulk diesel fuel purchased by the state must contain 5% renewable fuel by 2007, increasing to 20% by 2010; by June 30, 2009, at least 60% of fuel purchases for the state's flexible fuel vehicles must be E85; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |
| **Louisiana** | The Department of Administration shall adopt best energy purchasing practices |
| **Maine** | Goal for the state government to buy at least 50% of its electricity from renewable-power sources, paid for by energy conservation improvements in all state buildings. As of March 2007, Maine's state government was purchasing 100% of its power from renewable energy resources. |

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## Green Power Purchasing

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| Requirements that a certain percentage of electricity purchased for state government buildings come from renewable resources. | |
| **Maryland** | At least 6% of the electricity consumed by state-owned facilities must be generated from "green" energy sources, such as wind, solar, landfill gas, and other biomass resources |
| **Massachusetts** | Massachusetts is developing a contract to purchase approximately 55 million kWh of new renewable electricity from New England sources not yet on-line; two state campuses have contracted for the purchase of 7.500 MWh of Renewable Energy Certificates; there are currently more than 24 on-site renewable energy installations at state facilities totaling over 4.6 MW of capacity; by the end of 2008, 12 new solar photovoltaic installations totaling 1 MW will be installed at state colleges, prisons, and a veterans home; a 660 kW wind turbine is currently operating at a state community college with another community college contracting for a 600 kW turbine for installation in 2009. State government agencies must obtain 15% of annual electricity consumption from renewable sources by 2012 and 30% by 2020.<br>***Signed a 20-year power purchase agreement with a renewable energy company to construct and operate solar panels on several state facilities and sell the power to the state at a lower cost than current rates. The agreement with the ESCO is part of a larger program to install 4 megawatts (MW) of solar capacity on 23 state facilities (See also Clean Electricity).*** |
| **New Mexico** | By 2011, all state agencies must purchase 100% of their electricity from renewable resources |
| **New York** | The state government is required to purchase a portion of its electric power from renewable energy resources - at least 10% from resources such as wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste and fuel cells, increasing to 20% by 2010; this requirement applies to over 200 million square feet of space owned or operated by New York State; authorizes the aggregate purchase of renewable energy and alternative fuels by state agencies |
| **Pennsylvania** | In 2006, the Commonwealth of PA redoubled its renewable electricity purchase to 20%, from 10%; currently, 28% of the Commonwealth's electricity is supplied by renewable resources |
| **Rhode Island** | Goal for the state government to buy 20% of its electricity from renewable-energy resources by 2011 |
| **South Dakota** | The state of South Dakota will purchase green power from a 50 MW wind energy project; the project is under construction and expected to be providing electricity in the fall of 2008 and will make two universities--SDSU and USD--more green-friendly campuses |
| **Utah** | Blue Sky (wind energy) credits may be purchased to offset carbon emissions |
| **Vermont** | Directs the Department of Buildings and General Services to investigate cost-effective opportunities to purchase renewable energy for state facilities |
| **Virginia** | The Commonwealth has funded equipment changes to use switchgrass and wood fuels for various state-owned boiler plants, and provides a central, all public body contract for purchase of fuel oils, including bio-based heating oil<br>• The Department of General Services is required to establish the conditions under which state public bodies may procure diesel fuel containing, at a minimum, 2% by volume, biodiesel fuel or green diesel fuel, for use in on-road internal combustion engines |

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# LEAD BY EXAMPLE

## Green Power Purchasing

| DEFINITION | |
|---|---|
| Requirements that a certain percentage of electricity purchased for state government buildings come from renewable resources. | |
| **Wisconsin** | Calls for the Department of Administration to set energy efficiency goals for state facilities, office buildings, and campuses; the Department of Administration is to work with the Building Commission and the Energy Center of Wisconsin to ensure that new state facilities are constructed to be 30% more energy efficient than commercial code; the facilities of the six state agencies that use the largest amounts of electricity must develop energy cost reduction plans that identify opportunities to increase the energy efficiency in their facilities |
| **Puerto Rico** | • Several agencies have started negotiations for Power Purchase Agreements (PPAs) |

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# LEAD BY EXAMPLE

## Alternative Fuel and Vehicle Fleets

### DEFINITION

State governments may establish purchase requirements for alternative fuel or electric vehicles and may set standards regarding the use and promulgation of alternative fuel or electric vehicles within state fleets and the public transportation system.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | • Urges the use of biodiesel in diesel-powered public school buses (Act 2009-231)<br>• Directs state-owned vehicles to use biodiesel containing a minimum of 5% solution (Act 2009-231)<br>• Alternative Fuels Working Group provides annual reports on alternative fuel use (Act 2009-797)<br>• Procedure in place for transitioning to more fuel-efficient vehicles with Green Fleets Review Committee to ensure compliance in the transition (Act 2009-650) |
| **Alaska** | The state Department of Transportation (DOT) is required to consider using alternative fuels for automotive purposes whenever practicable<br>• The state DOT is directed to review existing programs and incentives of other states to determine how Alaska can best implement a pilot program promoting the use of compressed natural gas vehicles<br>***Completed a review by the DOT of existing programs and incentives of other states to determine how Alaska can best implement a pilot program promoting the use of compressed natural gas vehicle.*** |
| **Arizona** | All state agencies, boards and commissions shall continue to purchase only vehicles that are hybrids, meet low-GHG emission standards, or use E-85 fuel, bio-fuels, or other low-GHG alternative fuels, with the goal that by 1/2012 all state vehicles shall be hybrids that meet the previously mentioned criteria; certain state law enforcement vehicles, including "pursuit-rated" and covert vehicles shall be exempt from these requirements |
| **Arkansas** | By January 1, 2009, all diesel-powered motor vehicles, light trucks, and equipment owned or leased by a state agency must be operated using diesel fuel that contains a minimum of 2% biofuels by volume |
| **California** | 75% of cars and trucks in the state fleet must be energy efficient; 50% of the state fleet should be flex fuel vehicles by 2010; provides grant funding for new school buses and for air pollution control equipment to retrofit existing buses |
| **Colorado** | State fleets are required to utilize a blend of 20% biodiesel and 80% petroleum diesel (B20) by 2010; 10% of all state-owned by-fuel vehicles must use ethanol; offers a rebate for the purchase or conversion of alternative fuel vehicles for state use<br>• Department of Personnel required to purchase motor vehicles that operate on compressed natural gas, unless the cost of the vehicle is prohibitive |
| **Connecticut** | State fleets must meet a 40 mpg efficiency requirements, and all state-owned alternative fuels vehicles are required to use alternative fuels; in considering bids for state contracts, a price preference of up to 10% is allowed for the purchase of AFVs, or for the purchase of vehicles powered by fuel other than a clean alternative fuel plus conversion equipment to convert the vehicles to dual or dedicated alternative fuel use; in addition, some municipalities have provided free parking for alternative fuel vehicles<br>***Established the Connecticut Clean Fuel Program which provides funding to municipalities and public agencies that purchase, operate, and maintain alternative fuel and advanced technology vehicles as well as funding for diesel retrofit technologies.***<br>***Required that at least 50% of all cars and light-duty trucks the state purchases to be hybrid electric vehicles, plug-in hybrid electric vehicles, or capable of using alternative fuel.***<br>***Established the Connecticut Clean School Bus Program that provides grants for municipalities and local and regional school boards for reimbursement of the cost of retrofitting school buses.*** |

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| **Delaware** | Tax exemption for alternative fuels used for state (and federal) vehicles<br>• Requires a reduction in petroleum consumption and vehicle emissions by 25% and VMT's by 15% by the end of FY 2012 (Executive Order 18) |
| **Florida** | State fleets are required to be fuel efficient and use biodiesel and ethanol when available |
| **Georgia** | State agencies and departments are required to prioritize the procurement of high fuel efficiency and flexible fuel vehicles when such technologies are commercially available and economically practical |
| **Hawaii** | Agencies must also track vehicle data such as fuel consumption, EPA fuel economy ratings, and acquisition cost, and use alternative fuels when available; newly purchased light-duty vehicles must be 20% more energy efficient in 2006, 30% in 2007, and 40% in 2008 with a 5% increase each subsequent year until vehicles are 75% more energy efficient; maintains a biofuels preference in the state procurement law<br>• Requires state and county agencies to follow a priority list when purchasing energy-efficient vehicles, including electric vehicles, includes requirements for developing an electric vehicle infrastructure (HB 2175) |
| **Idaho** | Executive Order No. 2007-21 establishes a policy to reduce fossil fuel use and GHG emissions from state vehicles by establishing minimum purchasing requirements for fuel and operating efficiencies |
| **Illinois** | State fleets are required to use a 2% biodiesel blend (B2) when refueling at bulk central fueling facilities; all gasoline-powered vehicles purchased from state funds must be flexible fuel vehicles or fuel efficient hybrid electric vehicles<br>• Goal to achieve a target of 20% reduction in petroleum use in the operation of State vehicles by July 1, 2012, when compared to fiscal year 2008 levels (Executive Order 11-2009)<br>• By July 1, 2015, at least 20% of new passenger vehicles purchased for the state fleet shall be hybrid and 5% purchased shall be electric, rising to at least 60% hybrid and 15% electric by July 1, 2025 (Executive Order 11-2009)<br>***The governor signed a memorandum of understanding Mitsubishi Motors North America to support the advancement of electric vehicle and renewable energy technologies in Illinois. As part of the agreement, Illinois will receive a limited number of Mitsubishi Motors "i" battery electric vehicles to evaluate on a temporary basis as part of the state's fleet.*** |
| **Indiana** | Provides a price preference of 10% for the purchase of qualifying fuels; a state governmental body or educational institution must purchase bio-based products whenever possible; the state fleet includes 1,196 E85 Flex-Fuel vehicles and 1,889 diesel vehicles capable of using biodiesel; Indiana is leading the development of a $1.3 million development of a Bio-fuels corridor from Gary, IN to Mobile, AL<br>• Allotted $10.1 million to convert hundreds of state and city vehicles to run on alternative fuels (HEA 1554)<br>• The Indiana DOT will convert many light-duty trucks to run on bi-fuel propane and dump trucks to run on compressed natural gas<br>• State educational institutions are required to purchase E85 blends and biodiesels<br>• The state educational institutions are now eligible for the E85 fueling station grant program<br>***Created a requirement for each state entity to purchase or lease a clean energy vehicle, unless the purchase or lease of the vehicle is inappropriate for its intended use, or the purchase or lease would cost 10% more than a comparable non-clean energy vehicle.*** |

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| **Iowa** | The state's light-duty vehicle fleets must consist of hybrid-electric vehicles and/or vehicles that use alternative fuels, with the exception of law-enforcement vehicles; bulk diesel fuel purchased by the state must contain 5% renewable fuel by 2007, increasing to 20% by 2010; by June 30, 2009, at least 60% of fuel purchases for the state's flexible fuel vehicles must be E85; Green Government--the governor issued an Executive Order calling for each state agency to become part of a "Green Government Initiative" setting goals for energy efficiency in state government covering buildings, new and existing, materials procurement and disposal, and biofuel use and efficiency of use |
| **Kansas** | A 2% or higher blend of biodiesel must be purchased for use in state-owned diesel powered vehicles and equipment; 75% of new light-duty motor vehicles acquired by the state fleet and its agencies, which are used primarily within a metropolitan statistical area or a consolidated metropolitan statistical area, are required to be AFVs; requires state agencies to purchase E85 flex fuel vehicles unless the cost of the vehicles is $250 more than the regular gasoline version; directs the Department of Administration to ensure that vehicles purchased and leased in 2010 are 10% more efficient than 2007 average and that the average EPA mileage rating for cars under the 2010 lease is at least 10% higher than the average under the 2007 lease |
| **Kentucky** | Through a 2006 Executive Order, the state has developed a strategy to replace at least 50% of the state motor fleet light-duty vehicles with energy efficient vehicles including hybrid-electric vehicles, fuel cell vehicles, and alternative fuel vehicles and to increase the use of ethanol, biodiesel, and other alternative fuels in the state motor fleet; fleet vehicles are to be fueled with either a 10% blend of ethanol (E10) or a 2% blend of biodiesel (B2) as the primary fueling option; the Transportation Cabinet is directed to maximize the use of E85 in its fleet of flexible fuel vehicles<br>• Carpool KY and flexible work options help state employees reduce their commuting costs and impact on the environment<br>• The Kentucky Energy Plan calls for efficiency targets in the state vehicle fleet of 30% below 2007 levels by 2015 and 50% below 2007 levels by 2025 |
| **Louisiana** | The Department of Administration shall develop average fuel economy goals for the state automobile fleet; motor vehicles purchased for use by any state agency are required to be capable of and equipped for using an alternative fuel which results in lower emissions of oxides, nitrogen, VOCs, CO, particulates, or any combination thereof, and which meet federal Clean Air Act standards<br>***Created a requirement that AFVs purchased or leased by a state agency must have a minimum fuel economy of 18 miles per gallon for city driving, 28 mpg for highway driving, or a combined city/highway driving of 24 mpg. Law enforcement vehicles, certified emergency vehicles, and state agency vehicles with prior written authorization are exempt from this requirement.***<br>***Gave state government agencies and educational institutions that perform essential governmental functions on a statewide or local basis the ability to purchase advanced ethanol blends of 20%, 30%, or 85% directly from a qualified small advanced ethanol manufacturing facility at a discounted price of 15% less than the per gallon price of unleaded gasoline.***<br>***Directed the State Board of Elementary and Secondary Education to study issues related to using clean fuel in school buses (HR 72).*** |
| **Maine** | The State Purchasing Agent may not purchase or lease any car or light-duty truck for use by the state or any department or agency unless the car has fuel efficiency of at least 45 miles per gallon (35 mpg for light-duty trucks); state agencies shall promote the procurement of dedicated alternative fuel vehicles, dual fuel vehicles and supporting refueling infrastructures |

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# LEAD BY EXAMPLE

## Alternative Fuel and Vehicle Fleets

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| **Maryland** | At least 50% of state vehicles must use a minimum biodiesel blend of B5 beginning in fiscal year 2008; the state will revise fleet policy and purchasing guidelines to offer more flexibility in purchasing, where practical, low emission vehicles and AFVs for its fleet; the state must help develop the refueling and maintenance infrastructure required to make using certain types of AFV use practical |
| **Massachusetts** | State agencies must use a minimum of 5% biodiesel in all on- and off-road diesel engines increasing to 15% by Fiscal Year 2010; currently developing a green fleets program that will raise the overall fuel efficiency of the state's light duty (under 10,000 lbs.) fleet; developing a plug-in hybrid program that will test the performance of plug-in technology on at least 10 Toyota Prius vehicles; at least 10% of the total non-excluded vehicles purchased by DPGS must be zero emissions vehicles<br>***Created a requirement for purchasing new motor vehicles directing the Commonwealth of Massachusetts to purchase HEVs or AFVs to the maximum extent feasible and consistent with the ability of such vehicles to perform their intended functions. HEVs and AFVs must be acquired at a rate of at least 5% annually for all new motor vehicle purchases so that not less than 50% of the motor vehicles the Commonwealth owns and operates will be HEVs or AFVs by 2018.*** |
| **Michigan** | • The Michigan Biomass Energy Program provides funding for state bioenergy and biofuels projects in education, biofuels infrastructure, and biomass technology development and demonstrations |
| **Minnesota** | Goal to reduce state fleet gasoline consumption by 50% and diesel consumption by 25% from 2005 levels by 2015; state agencies are required to use alternative fuels (B20-B100 biodiesel blends, compressed or liquefied natural gas, E70-E100 ethanol blends, hydrogen, or liquefied petroleum gas) in state motor vehicles if the clean fuels are reasonably available; requires that 75% of new vehicles be AFVs or have a fuel efficiency rating of at least 30 mpg; the state will purchase plug-in hybrid electric vehicles and neighborhood electric vehicles for the state fleet when they become commercially available and cost no more than 10% above the price of comparable gasoline-powered vehicles; the state Department of Administration is required to identify opportunities for demonstrating the use of hydrogen fuel cells within state-owned facilities, vehicle fleets, and operations<br>• Specifies electric vehicles as the vehicles that should be purchased by state agencies (HF 1250) |
| **Mississippi** | The Bureau of Fleet Management will encourage the use of fuel efficient or hybrid vehicles appropriate for the state agency's intended purpose and, when feasible, the use of alternative fuels<br>• All state agencies and institutions must develop and adopt travel policies that include strategies to reduce petroleum consumption, such as carpooling to meetings and purchasing alternative fuels where available (Executive Order 82) |

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| **Missouri** | State agencies must ensure that 70% of new vehicle acquisitions be flexible fuel vehicles capable of operated on fuel blended with 75% ethanol (E85); through the 2011-12 school year, school districts are allowed to establish contracts with nonprofit, farmer-owned new generation cooperatives to purchase biodiesel blends of 20% (B20) or higher for use as bus fuel; the Biodiesel Fuel Revolving Fund uses the money generated by the sale of Energy Policy Act credits to cover the incremental cost of purchasing fuel containing B20 or higher biodiesel blends for use by state fleet vehicles; the Missouri Department of Transportation (MoDOT) is required to develop a program that provides opportunities to use B20 or higher biodiesel blends in its vehicle fleet and heavy equipment that use diesel fuel; at least 75% of the MoDOT vehicle fleet and heavy equipment that uses diesel fuel must be fueled with B20 or higher biodiesel blends, if such fuel is commercially available<br>***Required state agencies operating a vehicle fleet consisting of 15 vehicles or more to ensure that at least 50% of new vehicles purchased are capable of operating using an alternative fuel. 30% of the fuel purchased annually for use in operating state fleet vehicles must be alternative fuels.***<br>***Created a requirement that state agencies must develop fleet management plans to encourage fleet efficiencies.*** |
| **Montana** | State vehicles must meet or exceed federal CAFE standards; State government agencies and universities owning or operating motor vehicles capable of burning ethanol-blended fuel gasoline must take all reasonable steps to ensure that the operators of those vehicles use ethanol-blended gasoline |
| **Nebraska** | By Executive Order, a 10% ethanol blend is required to be used in all state vehicles; all state employees operating state fleet flexible-fuel or diesel vehicles are required to use E85 or biodiesel blends whenever reasonably possible |
| **Nevada** | Fleets containing 10 or more vehicles that are owned, leased, or operated by the state, a state agency, or a political subdivision of the state in a county whose population is 100,000 or more are mandated to acquire AFVs or certified ultra low emission vehicles (ULEVs); requires 90% of new vehicles obtained by covered fleets to be either AFVs or certified ULEVs<br>***Required fleets containing 50 or more vehicles that are owned, leased, or operated by the state, a state agency, or a political subdivision of the state in a county with a population of 100,000 or more must acquire AFVs or certified Ultra Low Emission Vehicles.***<br>***Created a requirement that transportation equipment purchased with county school district general funds and used for transporting pupils must fall into one of the following categories: 1) motor vehicles that use biodiesel, compressed natural gas, or similar fuels that reduce emissions; 2) equipment to retrofit motor vehicles to use these fuels; or 3) equipment for the transportation, storage, or dispensing of these fuels.*** |
| **New Hampshire** | ***Required diesel fuel purchased by the NH Department of Transportation under the Motor Fuel Inventory Fund must contain at least 5% biodiesel (B5), unless the fuel is unavailable or more expensive than 100% petroleum diesel.***<br>***Created a requirement for New Hampshire state agencies and departments to implement a Clean Fleets Program in accordance with the recommendations of the Energy Efficiency in State Government Steering Committee, including: an anti-idling policy, a highway fuel economy rating of at least 27.5 miles per gallon for all new passenger and light-duty vehicles and at least 20 mpg for all new light-duty trucks, all new passenger and light-duty vehicles certified as low emission vehicles, all vehicle purchases be in compliance with the Energy Policy Act of 1992, and any additional measures to promote fuel conservation.*** |

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## Alternative Fuel and Vehicle Fleets

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| State governments may establish purchase requirements for alternative fuel or electric vehicles and may set standards regarding the use and promulgation of alternative fuel or electric vehicles within state fleets and the public transportation system. | |
| **New Jersey** | All buses purchased by the New Jersey Transit Corporation must be 1) equipped with improved pollution controls that reduce particulate emissions or 2) powered by a fuel other than conventional diesel; the Department of Treasury will develop specific targets and strategies for reducing GHG emissions by reducing the state motor fleet's fuel consumption<br>***Required state entities to purchase biofuels in place of fossil fuels when it is reasonable and cost effective (AB 1052).*** |
| **New Mexico** | After July 1, 2010, all diesel fuel sold to state agencies, political subdivisions of the state, and public schools for use in operating on-road motor vehicles must contain at least 5% biodiesel (B5); all state agency fleets in the executive branch must reduce their transportation energy consumption 20%, based on 2005 levels, by 2015; By 2010, all cabinet-level state agencies, public schools (K-12), and institutions of higher education are required to take action toward obtaining 15% of their total transportation fuel requirements from renewable fuels such as ethanol and biodiesel; requires that 75% of state government and educational institution fleet vehicles purchased be bi-fuel or dedicated AFVs or HEVs |
| **New York** | To the extent that gasoline powered state agency vehicles use central fueling stations, all state agencies and public authorities must use E85 in flexible-fuel vehicles whenever it is feasible to do so; the governor's Clean Fueled Vehicles Council is required to detail how agencies and authorities can purchase, allocate, distribute and use biodiesel in state agency and public authority fleets; at least 10% of fuels used in the state fleet must be biodiesel by 2012; by 2010, 100% of all new light-duty vehicles must be AFVs, with the exception of designated specialty, police, or emergency vehicles<br>***Developed the Alternative Fueled Vehicles Program within the New York State Office of General Services to: assist New York State agencies, authorities, state universities and community colleges in acquiring and using alternative fueled vehicles; satisfy federal and state requirements for purchasing such vehicles; and develop a comprehensive, conveniently accessible statewide fueling station network to support the vehicles.***<br>***Required any new light-duty passenger car, light-duty truck, or medium-duty passenger vehicle sold, leased, imported, delivered, purchased, or acquired in New York State must be certified to the California emissions standards set forth in Title 13 of the California Code of Regulations.*** |
| **North Carolina** | Through a provision in the 2005 state budget, the North Carolina legislature set a goal to reduce petroleum use in state fleets 20% by 2010; the provision requires any agency with 10 or more vehicles to create a plan to reach this goal, and the plan was to be submitted to the State Energy Office; to date, a vast majority of all agencies have submitted a plan, and the State Energy Office is working with these agencies to ensure that each plan is met; most of these plans rely on the use of alternative fuels; flex fuel vehicles make up a high percentage of the state fleet; to date, every gasoline pump is blended with at least 10% petroleum; E85 is available at a few spots around the state, with more currently being considered and constructed; conservation is also an important part of petroleum displacement plans; agencies are encouraged to conduct meetings via conference calls or webinars whenever possible<br>***Required all new state government diesel vehicles must have a manufacturer's warranty that allows the use of biodiesel blends of 20% (B20) in the vehicle unless there is no vehicle available that is suited for the intended use and that has a manufacturer's warranty allowing the use of B20.***<br>***Required the North Carolina Department of Administration give purchase preference to new state vehicles with fuel economy ratings that rank among the top 15% of comparable vehicles in their class.***<br>***Required that at least 75% of new or replacement state government light-duty cars and trucks must be AFVs or low emission vehicles.*** |

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| **Ohio** | All new motor vehicles acquired by state agencies must be capable of using alternative fuels and must use that alternative fuel if it is reasonably available and priced; by January 1, 2007, state flexible-fuel vehicles were required to use at least 60,000 gallons of E85 per calendar year, increasing by 5,000 gallons per year thereafter; vehicles that operate on diesel fuel must use at least one million gallons of biodiesel, increasing by 100,000 gallons per year thereafter; Executive Order 2007-02S directs all agencies to reduce energy consumption by 5% by the end of the current fiscal year and by an aggregate total 15% by the end of four fiscal years - this includes transportation energy and requires higher use of biofuels and other petroleum alternatives |
| **Oklahoma** | All school and government vehicles may be converted to operate on an alternative fuel, and all school districts should consider only purchasing school vehicles which have the capability to operate on an alternative fuel; requires all school and government vehicles capable of operating on an alternative fuel to use the fuel whenever possible<br>• Authorized the construction and operation of alternative fueling infrastructure by the State Fleet Management Division |
| **Oregon** | All state agencies and transit districts purchase AFVs and use alternative fuels in these vehicles to the maximum extent possible<br>• Requires all school buses with diesel engines to be retrofitted with 2007 equivalent engines and 2007 fine particulate matter capture technology or replaced by recently manufactured school buses by 2025 (HB 2795) |
| **Pennsylvania** | The Commonwealth has purchased nine additional hybrid vehicles this past fiscal year and is developing a separate hybrid vehicle contract for use by all agencies; a contract for 99 hybrid vehicles was issued but could not be accommodated by the manufacturer; the Commonwealth is developing provisions for manufacturers to provide flex fuel vehicles as the standard offering whenever available in a given model line; the Commonwealth has established a purchasing contract available to all agencies for biodiesel fuels<br>***Called for the Pennsylvania Department of General Services to conduct a study that will determine the associated costs and feasibility of modernizing the state fleet by retrofitting current state-owned vehicles with compressed or liquefied natural gas engines.*** |
| **Rhode Island** | At least 75% of state motor vehicle acquisitions must be AFVs, and the remaining 25% must be HEVs to the greatest extent possible; all new light-duty trucks in the state fleet must achieve a minimum city fuel economy of 19 mpg and achieve a minimum certification of a Low Emission Vehicle, and all new passenger vehicles in the state fleet must achieve a minimum city fuel economy of 23 mpg; all state agencies must purchase the most economical, fuel-efficient, and low emission vehicles appropriate to meet any needed requirements and discourage the purchase of sport utility vehicles; low rolling resistance tires with superior tread life should be purchased for state vehicles when possible; and all state vehicles must be maintained according to manufacturer specifications, including specified tire pressures and ratings; Clean School Bus Program specifies that by September 1, 2010, no full-size school bus equipped with an engine from model year 1993 or older may be used to transport school children in Rhode Island; providing there is sufficient federal or state funding, by September 1, 2010, all full-sized school buses transporting children in Rhode Island must be retrofitted to achieve lower emissions |
| **South Carolina** | All state-owned diesel refueling facilities must provide fuel containing at least 5% biodiesel (B5) in all diesel pumps; the South Carolina Department of Education is required to fuel the state school bus fleet with biodiesel when feasible; all state agencies operating alternative fuel vehicles are required to use alternative fuels in those vehicles when practical and economical; where performance and life expectancy are equivalent or better than other vehicles, preference is given to hybrid and plug-in electric hybrid vehicles |

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| **South Dakota** | The governor implemented a flex-fuel vehicle (FFV) purchasing policy and has purchased 1037 FFVs, or about 45% of the state fleet; SD is committed to purchasing more FFVs as the option becomes available in a larger variety of vehicle models with the ultimate goal of having 100% of the state fleet as FFVs<br>***Directed the South Dakota Department of Transportation and state employees using state diesel vehicles to stock and use a minimum of 2% biodiesel blended fuel.*** |
| **Tennessee** | All state agencies, universities, and community colleges that have more than 10 state-owned vehicles in their fleet are required to develop and implement plans to increase the state's use of alternative fuels and hybrid electric or other fuel-efficient or low-emission vehicles; each plan must incorporate a goal to reduce or displace at least 20% of the fleet's consumption of petroleum by January 1, 2010; state fleets are encouraged to make every effort to ensure that at least 30% of newly purchased motor vehicles are energy-efficient vehicles<br>• Mandates that 25% of newly purchased vehicles must be hybrid electric or compact fuel-efficient with an eventual goal of 100% energy-efficient cars in the passenger motor vehicle fleet |
| **Texas** | • Adopted provisions for a fuel mitigation pilot grant program by the state forest service for fire departments<br>***Created a requirement that state fleets with more than 15 vehicles, excluding emergency and law enforcement vehicles, must purchase or lease a motor vehicles that use compressed natural gas, liquefied natural gas, propane, ethanol or fuel blends of at least 85% ethanol (E85), methanol or fuel blends of at least 85% methanol (M85), biodiesel or fuel blends of at least 20% biodiesel (B20), or electricity including plug-in hybrid electric vehicles. Covered state agency fleets must consist of at least 50% of vehicles that are able to operate on alternative fuels and use these fuels at least 80% of the time the vehicles are driven.*** |
| **Utah** | The Utah Air Quality Board is authorized to mandate fleet vehicles to use clean fuels; vehicle fleet purchases are based on specific criteria, including energy efficiency and emissions impacts |
| **Vermont** | Requires all state fleet vehicles to be "right-sized" and among the most fuel-efficient and lowest emission vehicle models in each class, including advanced-technology vehicles such as hybrids; encourages the use of video and online conferencing, as well as carpooling, to reduce vehicle trips and vehicle miles traveled; directs state fleet users to purchase vehicles that have the highest available fuel efficiency in each respective vehicle class pursuant to performance specifications approved by the Climate Neutral Working Group<br>***Required state agencies to consider AFVs when purchasing vehicles for state use, via the Vermont Department of Buildings and General Services, providing the alternative fuel is suitable for the vehicle's operation, is available where the vehicle will be used, and is competitively priced with conventional fuels.*** |
| **Virginia** | Agencies and institutions are to purchase and lease the most fuel-efficient vehicle that meet operational needs<br>• Procurement of diesel fuel containing at least 2% biodiesel fuel or green diesel fuel, will be required for all agencies except for public safety agencies<br>***Required the Director of the Department of General Services, in conjunction with the Secretary of Administration and the Governor's Senior Advisor on Energy, to develop a plan providing for the replacement of vehicles in the centralized fleet that are rotated out of service with vehicles that operate using natural gas, electricity, or other alternative fuels, to the greatest extent practicable (H.B. 2282).*** |

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| State governments may establish purchase requirements for alternative fuel or electric vehicles and may set standards regarding the use and promulgation of alternative fuel or electric vehicles within state fleets and the public transportation system. | |
| **Washington** | Sets requirements for fuel efficiency in state vehicle fleets; publicly and privately owned plug-in electric vehicles may be recharged at state office locations where the vehicles are used for state business, commuter vehicles, or conducting business with the state; at least 20% of all diesel used by state agencies must be biodiesel by June 2009; all state and local government agencies are required to satisfy 100% of their fuel usage for operating publicly owned vehicles by using biofuels or electricity by June 2015; the Clean School Bus Program provides funding to retrofit school buses with exhaust emission control devices or for refueling infrastructure needed to allow school bus fleets access to use alternative, cleaner fuels; at least 30% of all new vehicles purchased through a state contract must be clean-fuel vehicles<br>• All alternative fuel vehicles are exempted from state sales and use tax<br>• Hybrid electric vehicles achieving a minimum of 40 mpg according to U.S. EPA estimates also qualify for exemption<br>***Required Washington state agencies to consider purchasing ultra low carbon fuel vehicles or converting conventional petroleum-based vehicles to use ultra low carbon fuels when financially comparable. State agencies must purchase ultra low carbon fuel vehicles or, when purchasing new conventional vehicles, achieve an average fuel economy of 40 miles per gallon (mpg) for light-duty passenger vehicles and 27 mpg for light-duty vans and sport utility vehicles.*** |
| **Wisconsin** | Calls for 10% renewable energy for state government by 2008 and 20% by 2012<br>***Required that all state-owned or state-leased motor vehicles are hybrid electric vehicles or operate on gasohol or alternative fuels whenever feasible.***<br>***Required the Wisconsin Office of Energy Independence adopt and implement a plan to facilitate alternative fuel use in flexible fuel vehicles and other vehicles the state owns. The plan must ensure that all state-owned FFVs and other alternative fuel vehicles are identifiable, all state employees driving FFVs and other vehicles powered by an alternative fuel other than gasohol are made aware of the alternative fueling stations in the vicinity of their travel routes, and all state employees strive to use alternative fuels when operating state FFVs and diesel-powered vehicles.***<br>***Created a requirement that all state agencies must collectively reduce gasoline use by at least 20% by 2010 and 50% by 2015 in state-owned vehicles as compared to the total amount used in 2006. In addition, state agencies must reduce petroleum-based diesel fuel use by 10% by 2010 and 25% by 2015.*** |
| **Wyoming** | ***Allocated $200,000 for the Wyoming Department of Transportation and the Department of Administration and Information to purchase 10 natural gas motor vehicle conversions each for the two departments.*** |
| **Puerto Rico** | • The Energy Affairs Administration is developing an state program consistent with a federal Executive Order (Executive Order 13514) |

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Clean State Energy Actions • 2011 Update

# GHG EMISSIONS

## GHG Policies

### DEFINITION

These policies include a variety of emissions measurement, planning, and reduction activities: Greenhouse Gas (GHG) registries, emissions reductions targets, utility sector or economy-wide caps, climate action plans, and participation in regional initiatives such as the Regional Greenhouse Gas Initiative (RGGI).

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Participant in Climate Registry; climate action plan: "Policy Planning to Reduce Greenhouse Gas Emissions in Alabama" (1997) |
| **Alaska** | 2008 Climate Action Plan<br>• Released four reports as part of their Climate Action Plan on the following topics: 1) Adaptation Advisory; 2) Mitigation Advisory; 3) Immediate Action Work; and 4) Research Needs Work |
| **Arizona** | Participant in Climate Registry; goal to reduce GHG emissions to 2000 levels by 2020 and 50% below 2000 levels by 2040; Air Quality Improvement Action Plan (particulate matter and ozone pollution); Climate Change Action Plan (2006); WCI participant;* ADOT and ADEQ Clean Car Program; will adopt CA vehicle emissions standards pending EPA approval<br>• Established the Climate Change Oversight Group to monitor any legislation, rules or executive orders introduced at the national level, which address climate change, GHG emissions, or cap and trade of emissions (Executive Order 2010-06) |
| **Arkansas** | The Arkansas Climate Change Plan is due in October 2008<br>• The Arkansas Governor's Commission on Global Warming submitted its final report in November, 2008, with over 50 recommendations to reduce GHG emissions |
| **California** | Participant in Climate Registry; goal to reduce emissions levels to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050; caps emissions from electricity retailers and natural gas utilities over the long-term; Proposed Early Actions to Mitigate Climate Change (2007); WCI participant; pending EPA approval: reduce GHG emissions from vehicles 16% from 2002 levels by 2012 and 30% by 2016; provides incentive-based funding for the incremental cost of purchasing cleaner than required engines and equipment for significant near-term reductions in nitrogen oxide emissions, Reactive Organic Gases, and particulate matter emissions<br>• Global Warming Solution Act of 2006 amended to include in the definition of greenhouse gas nitrogen trifluoride<br>• Updated the State Transportation Plan to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of GHG emissions to certain levels by 2020 and 2050<br>• Requires the Transportation Commission to submit a report providing information on sustainable communities and alternative planning strategies<br>California is a member of the West Coast Governors' Climate Change Initiative along with Oregon and Washington. The three states must act individually as well as regionally to reduce greenhouse gas (GHG) emissions. The Initiative includes adopting standards to reduce GHG emissions from vehicles by expanding markets for efficiency, renewable energy and alternative fuels, including creating a working group on developing hydrogen fuel.<br>***Established rules requiring that heavy-duty diesel vehicles must meet Best Available Control Technology standards, which specify maximum exhaust particulate matter and nitrogen oxide levels.*** |

*The governor issued an executive order providing that the state would not implement the WCI's cap-and-trade program and clarified that any state-level rules regulating greenhouse gas emissions would require clear statutory authority. The governor also prohibited state agencies from adopting or enforcing a state or regional program to regulate greenhouse gas emissions without express legislative authorization.

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| **California (continued)** | ***Adopted regulations to reduce greenhouse gas emissions from vehicles with a gross vehicle weight ratings of 10,000 pounds of less operating inefficiently with under-inflated tires. Also directed the California Energy Commission to must adopt and implement a state-wide Fuel Efficient Tire Program that includes a consumer information and education program and minimum tire efficiency standards.***<br>***The California Air Resources Board adopted a regulation to limit and monitor sulfur hexafluoride (SF6) emissions from electric power sector equipment which is expected to achieve a 70 percent reduction of SF6 emissions statewide from electrical utilities – a total reduction of 250,000 metric tons of carbon dioxide equivalent by 2020. The measure ratchets down the allowable SF6 emission rate from 10 percent in 2011 to 1 percent in 2020.***<br>**Adopted a cap-and-trade regulation that sets a statewide limit on the emissions from sources responsible for 80 percent of California's greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. By the end of the program in 2020 there will be a 15 percent reduction in greenhouse gas emissions compared to 2010, reaching the same level of emissions as in 1990. The California Air Resource Board will begin enforcement in 2013.** |
| **Colorado** | Participant in Climate Registry; issued Climate Action Plan (2007); WCI observer; adopted a GHG goal of 20% reduction below 2005 levels by 2020 and 80% below 2005 levels by 2050 |
| **Connecticut** | Participant in Climate Registry; Goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; requires coal-fired power plants to comply with an emissions rate equal to or less than 0.6 pound of mercury per trillion BTU of heat input, or alternatively, an emissions rate comparable to a 90% reduction in mercury emissions; power sector cap through RGGI; Connecticut Climate Change Action Plan (2005); RGGI participant; adopted CA vehicle emissions standards; school bus emissions reduction program<br>Established a greenhouse gas (GHG) labeling program for new motor vehicles model years 2009 and later that includes the vehicle's GHG score and the average GHG score for vehicles in the same class |
| **Delaware** | RGGI state - with 10% by 2019 reduction target for the power sector; participant in Climate Registry; Delaware Climate Change Action Plan (2000) |
| **Florida** | Participant in Climate Registry; goal to reduce emissions to 2000 levels by 2017, 1990 levels by 2025, and 80% below 1990 levels by 2050; Phase One report of the Action Team on Energy and Climate Change completed in 2007 - Part Two is scheduled for October 2008; adopted CA vehicle emissions standards; state government goal to reduce emissions from state energy use 10% by 2012 and 40% by 2025 |
| **Georgia** | Participant in Climate Registry; the Georgia Carbon Sequestration Registry Act provides for a registry of offsetting reductions in greenhouse gases obtained by carbon sequestration<br>***Established an income tax credit equal to 10% of the cost of the equipment and installation of diesel particulate emissions reduction technology equipment at any truck stop, depot, or other facility, available the first year the taxpayer places the equipment in use.*** |
| **Hawaii** | Participant in Climate Registry; statutory goal to reduce statewide emissions to 1990 levels by 2020; Climate Change Action Plan (1998)<br>• Global warming task force created to assess the impacts of climate warming trends on the visitor industry, intrastate and interstate air and sea transportation of cargo and persons, existing buildings and the public utilities infrastructure, the health of people, and native plants, animals, and ecosystems (Act 234, Hawaii's Global Warming Solutions Act) |

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| **Idaho** | Participant in Climate Registry; Climate Action Plan in progress; GHG inventory is a component of the Climate Action Plan; WCI observer |
| **Illinois** | Goal to reduce emissions to 1990 levels by 2020 and 60% below 1990 levels by 2050; Illinois Climate Change Advisory Group (June 2007); goal to reduce emissions from state energy use 6% by 2010 (joined Chicago Climate Exchange)<br>***Mandated that each public university in the state have a target goal of reducing its expense footprint for power, gas, and water consumption by at least 15% within 2 years or show how it has previously met this goal (HR 120).*** |
| **Indiana** | Midwestern Regional Greenhouse Gas Reduction Accord observer |
| **Iowa** | Participant in Climate Registry; voluntary GHG registry (publicly available in January 2009); Climate Action Plan will evaluate a range of policies for reductions of statewide greenhouse gas emissions, including the possibility of cutting emissions 50% by 2050, and recommending the best strategies for statewide emissions reductions; strategy for emissions data collection established January 2008<br>• The Iowa Climate Change Advisory Council released its final report in December 2008 with five key outcomes: 1) an Iowa Greenhouse Gas (GHG) Emissions Inventory and Forecast, 2) fifty-six different policy options to reduce GHG emissions, 3) evaluation of the direct costs and savings of the policy options, 4) two GHG Reduction Scenarios - a 50% and a 90% - and 5) proposed corresponding strategies |
| **Kansas** | Participant in Climate Registry; the Kansas Energy and Environmental Policy Advisory Group will recommend steps that the state can take to reduce its GHG emissions, as well as a proposed timetable for implementation of those recommendations; WCI observer; participant in Midwestern Regional Greenhouse Gas Reduction Accord<br>• The Kansas Energy and Environmental Policy Advisory Group (KEEP) released their interim report in January 2009 with a final report due early 2010 |
| **Kentucky** | Climate Action Plan<br>• The strategic action plan released in November 2008 outlines the three key areas for reducing carbon emissions in 2025 by 50% of what they would be under business-as-usual circumstances: nuclear energy, carbon capture/storage and energy efficiency<br>• The Kentucky Climate Action Plan Council (KCAPC) was established to identify opportunities for Kentucky to respond to the challenge of global climate change and any federal legislation or regulation to address greenhouse gas emissions while becoming more energy efficient, more energy independent, and spurring economic growth |
| **Louisiana** | • A comprehensive statewide GHG inventory is being developed<br>• The second element of the project will be a thorough review of measures being taken or contemplated by other states to accommodate expected federal GHG regulation or climate change concerns<br>• The third project element will be a high-level assessment of the impacts of the most likely federal GHG regulatory schemes on Louisiana's economy<br>• The fourth element will be a list of potential state and industry strategies for responding to requirements and opportunities brought by federal GHG regulation |

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| **Maine** | Participant in Climate Registry; goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; utility cap through RGGI; Climate Action Plan (2004); RGGI participant;* will adopt CA vehicle emissions standards pending EPA approval |
| **Maryland** | Participant in Climate Registry; utility cap through RGGI; Climate Action Plan in progress, due 2008: the Climate Change Commission will assess the possible impacts of climate change; calculate Maryland's contribution to the climate change problem; work together with various state agencies, energy providers, business leaders and other groups to develop a greenhouse gas reduction strategy; and develop a plan for reducing the state's vulnerability to sea level rise and other effects of climate change; RGGI participant; adopted CA vehicle emissions standards<br>• Requires the Department of the Environment to publish and update an inventory of statewide greenhouse gas emissions for calendar year 2006, and develop a specified plan to reduce greenhouse gas emissions and develop renewable energy (SB 278)<br>• Requires the state to reduce statewide greenhouse gas emissions by 25% from 2006 levels by 2020<br>• Requires specified erosion protection projects to include specified nonstructural shoreline stabilization measures, requires the Department of the Environment, in consultation with the Department of Natural Resources, to adopt regulations |
| **Massachusetts** | Completed regulations for the Regional Greenhouse Gas Initiative (RGGI), a partnership with 10 states to develop a flexible, market-based system for reducing carbon dioxide emissions from power plants (RGGI implementation begins January 1, 2009, and pending legislation will specify that all allowances be offered for auction, and will also specify the uses of the auction revenue); requires analysis of GHG emissions - and options to avoid, minimize, and mitigate them - as part of the state's environmental review procedures for large development projects; participant in Climate Registry, the largest multi-state effort to track the emissions associated with global warming; maintains a goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term per NEGC-ECP commitments; state regulations that will be phased out as RGGI is phased in caps emissions from six older fossil fuel power plants at approximately 10% below 1997-1999 levels by 2006-2008, and requires new power plants to make a monetary contribution intended to fund projects to offset 1% of the plant's $CO_2$ emissions over 20 years; adopted CA vehicle emissions standards; implementation pending EPA approval of CA waiver; SB 2540, signed in August 2008, as the Global Warming Solutions Act, covering requirements on monitoring and regulating emissions and climate protection and stressing the importance of state government leading by example in GHG emissions<br>***Increased goal to cut greenhouse gas (GHG) emissions 25% below 1990 levels by 2020.*** |
| **Michigan** | Created a Climate Action Council by Executive Order to inventory the state's GHG footprint and develop a comprehensive climate action plan with policy recommendations<br>***Set a goal to reduce the state's greenhouse gas (GHG) emissions to 20 percent below 2005 levels by 2025 and 80 percent below 2005 by 2050 (Executive Directive 2009-4). Policy measures to reach this goal include agricultural education programs aimed at teaching farmers practices that enhance biological carbon sequestration; building code revisions designed to improve energy efficiency; state and local plans to alleviate vehicular congestion and improve the efficiency of transport; and the development of a program that will curb state vehicle idling times.*** |

*Passed legislation providing that the State shall withdraw from the regional greenhouse gas initiative when a sufficient number of other independent system operator participating states have withdrawn such that the total carbon dioxide emissions budget for the calendar year 2009, as specified in the Memorandum of Understanding, of the remaining other independent system operator participating states is less than 35,000,000 tons.

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| **Minnesota** | Participant in Climate Registry; goal to reduce statewide GHG emissions 15% by 2015, 30% by 2025, and 80% by 2050, based on 2005 levels; the Minnesota Climate Mitigation Action Plan is in progress, due 2008: will develop a set of state-level policy recommendations for reducing or sequestering greenhouse gas emissions and will also identify opportunities to promote energy-efficient technologies and clean, renewable energy resources that will enhance economic growth<br>• The Minnesota Climate Change Advisory Group released their final report in April 2008<br>• Creating a coordinated process for reducing greenhouse gas emissions (Statute 216H) |
| **Missouri** | Participant in Climate Registry; Missouri Action Options for Reducing Greenhouse Gas Emissions (2002); Kansas City Climate Protection Partnership |
| **Montana** | Participant in Climate Registry; Climate Action Plan (2007): 54 policy recommendations; GHG emissions inventoried in 1990; WCI participant<br>Established framework for carbon storage (SB 498, 82-11-181 et seq. MCA)<br>• Default presumption is owner of surface rights owns geologic storage reservoir<br>• Affirms the dominance of any mineral estate<br>• Montana Board of Oil and Gas Conservation Commission (board) designated to have regulatory oversight for developing the specific rules for carbon sequestration<br>• Allows for eventual transfer of ownership of the sequestered carbon dioxide to the state<br>• Established pipelines carrying $CO_2$ from fossil fuel combustion or gasification or products derived from coal as common carriers and therefore have power of eminent domain (HB338, amended 69-13-101 MCA) |
| **Nebraska** | Nebraska has a statutorily created Carbon Sequestration Advisory Committee appointed by the Governor that helped finance a 2002 effort qualifying the change in GHG emissions due to conservation practice application in Nebraska |
| **Nevada** | Participant in Climate Registry; Climate Action Plan in progress, due 2008; WCI observer |
| **New Hampshire** | Participant in Climate Registry; goal to reduce GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-80% below 2001 levels in the long-term; caps emissions from three existing fossil fuel power plants at 1990 levels (2006); utility cap through RGGI; New Hampshire Climate Challenge Plan (2001); RGGI participant<br>***Required that each school district must develop and implement a policy to minimize or eliminate emissions from buses, cars, delivery vehicles, maintenance vehicles, and other motor vehicles used on school property.***<br>***Funded the Greenhouse Gas Emissions Reduction Fund (GHGER Fund) with proceeds of the State's share of RGGI carbon allowance auctions. Supported energy efficiency, conservation and demand response programs with monies from this fund.*** |
| **New Jersey** | Participant in Climate Registry; requires entities that report other air emissions (including $CO_2$ and $CH_4$) to the NJ Department of Environmental Protection; goal to reduce emissions to 1990 levels by 2020 and 80% below 2006 levels by 2050; Climate Action Plan; will adopt CA vehicle emissions standards pending EPA approval; RGGI participant* |

*As of May 2011, New Jersey is no longer a member of the Regional Greenhouse Gas Initiative

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| **New Jersey (continued)** | ***Adopted California motor vehicle emissions standards as set forth in Title 13 of the California Code of Regulations.***<br>***Established greenhouse gas emissions reduction targets including stabilizing GHG emissions to 1990 levels by 2020 and reducing GHG emissions to 80% below 2006 levels by 2050.*** |
| **New Mexico** | Sets statewide GHG emission reduction targets of 2000 emission levels by 2012, 10% below 2000 levels by 2020, and 75% below 2000 emission levels by 2050; the New Mexico Climate Advisory Report was completed in 2006; WCI participant; will adopt CA vehicle emissions standards pending EPA approval; goal to reduce emissions from state energy use 4% by 2006 and 6% by 2010<br>***Adopted Carbon Plan that requires carbon emissions to be 25 percent below 1990 levels in 2020. Implementation requires 3 percent annual reduction in emissions starting in 2013.*** |
| **New York** | Participant in Climate Registry; goal to reduce statewide GHG emissions to 5% below 1990 levels by 2010, and 10% below 1990 levels by 2020; power sector cap through RGGI; RGGI participant; climate action plan - "Recommendations to Governor Pataki for Reducing NY State Greenhouse Gas Emissions" (2003); will adopt CA vehicle emissions standards pending EPA approval<br>• New York is currently preparing a Climate Action Plan based on stakeholder and multi-agency input in response to an Executive Order by the Governor |
| **North Carolina** | • Climate Action Plan<br>• Legislative Commission on Global Climate Change received an extension until October 2010 to submit its final report<br>• Provides resources for Title V facilities to voluntarily report GHG emissions to the Division of Air Quality |
| **Ohio** | Participant in Climate Registry; Midwestern Regional Greenhouse Gas Reduction Accord observer |
| **Oregon** | Requires new power plants to offset approximately 17% of anticipated $CO_2$ emissions; completed the Oregon Strategy for Greenhouse Gas Reductions in 2007; requires the state to stop the growth of GHG emissions by 2010 and to reduce GHG emissions to 10% below 1990 levels by 2020 and to 75% below 1990 levels by 2050; WCI participant; Will adopt CA vehicle emissions standards pending EPA approval<br>• Established new greenhouse gas emission performance standards for electric generation facilities (SB 101)<br>• Generators of baseload power must have emissions equal to or less than 1,100 pounds of carbon dioxide ($CO_2$) per megawatt-hour, and electric utilities may only enter into long-term agreements to purchase baseload power from complying entities regardless of whether this power is generated in-state or out-of-state<br>• Directs the state Environmental Quality Commission to create greenhouse gas emission reporting rules for electricity or fossil fuels that are imported, sold, or distributed in the state (SB 38)<br>• Directs the Department of Environmental Quality to develop recommendations for legislation that fosters motor vehicle greenhouse gas emissions reductions, creates the Metropolitan Planning Organization Greenhouse Gas Emissions Task Force for the purpose of studying alternative land use and transportation scenarios that reduce greenhouse gas emissions from motor vehicles with a gross vehicle weight of a specified number of pounds or less (HB 2186) |

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| **Oregon (continued)** | ***Directed Oregon Transportation Commission to develop and adopt a statewide strategy to reduce GHGs from transportation. To do this they must: Establish guidelines for developing and evaluating transportation scenarios that may reduce GHGs; Develop a toolkit to assist local governments and metropolitan planning organizations in reducing GHGs from motor vehicles with a gross vehicle weight rating of 10,000 pounds or less; Educate the public about the need to reduce GHG emissions from motor vehicles and the related costs and benefits; and Report progress and recommendations to the state legislature.***<br>***Required that all new passenger cars, light-duty trucks, and medium-duty vehicles sold, leased, licensed, or delivered for sale in the state must meet California vehicle missions standards.***<br>**Established a requirement for the Energy Facility Siting Council to establish global warming potential of certain greenhouse gases for purposes of determining net carbon dioxide emissions (HB 3538).**<br>**Banned commercial trucks from idling their engines for more than five minutes in a 60 minute period in order to reduce greenhouse gas emissions and pollution in concentrated urban areas (H.B. 2081).** |
| **Pennsylvania** | Participant in Climate Registry; the Local Government Greenhouse Gas Pilot Grant (2008) provides municipal governments with funding to develop GHG inventories and action plans to reduce emissions; RGGI observer; will adopt CA vehicle emissions standards pending EPA approval<br>***Established Pennsylvania Clean Vehicles Program which requires that all new passenger cars and light-duty trucks sold, leased, titled, or registered in the Commonwealth must meet California vehicle emissions and compliance requirements.*** |
| **Rhode Island** | Goal to reduce statewide GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-85% below 2001 levels in the long term; the Rhode Island Greenhouse Gas Action Plan was completed in 2002; power sector cap through RGGI; RGGI participant; will adopt CA vehicle emissions standards pending EPA approval<br>***Required that passenger vehicles, light-duty trucks, and medium-duty vehicles must meet California vehicle emissions standards.*** |
| **South Carolina** | Participant in Climate Registry; the South Carolina Climate Plan |
| **South Dakota** | Midwest Governors Association Greenhouse Gas Reduction Accord observer; South Dakota is currently tracking $CO_2$ emissions from large $CO_2$ emitting projects |
| **Tennessee** | Participant in Climate Registry |
| **Texas** | TERP provides grants for various types of clean air projects in 41 counties to improve air quality in the state's non-attainment areas; grants are available for new, converted, or repowered on-road and off-road vehicles and equipment<br>***Ruled that money from the Texas Emissions Plan Reduction Fund can be used for: the alternative fueling facilities program (2%);the natural gas vehicle grant program (not less than 16%); and natural gas fueling stations (no more than 4%) (SB 385).***<br>***Created a pollutant watch list of air contaminants that may cause short-term or long-term adverse human health effects or odors in a given area. Also created a system for public notification of emergency releases by a facility (HB 1981).*** |

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| **Utah** | Participant in Climate Registry; as a member of the Western Climate Initiative,* Utah supports the regional goal of 15% reduction in GHG emissions by 2020<br>• Utah established a state GHG emissions reduction goal to reduce emissions to 2005 levels by 2020 |
| **Vermont** | Participant in Climate Registry; goal to reduce GHG emissions to 1990 levels by 2010, 10% below 1990 levels by 2020, and 75-80% below 2001 levels in the long-term; caps emissions from the state's existing fossil fuel power plants at 1990 levels; Climate Action Plan; RGGI participant; will adopt CA vehicle emissions standards pending EPA approval<br>***Required that new vehicles sold in Vermont must meet California emission and compliance requirements.***<br>**The governor established a Climate Commission made up of senior administration officials charged with leading the state toward reduced greenhouse emissions and reliance on fossil fuels. It is tasked with implementing Vermont's 2011 energy plan.** |
| **Virginia** | • Virginia exempts certain pollution control equipment and facilities from local property taxes |
| **Washington** | Participant in Climate Registry; requires new power plants to offset approximately 20% of anticipated $CO_2$ emissions; Climate Action Plan; statute requires the reduction of statewide emissions to 1990 levels by 2020, 25% below 1990 levels by 2035, and 50% below 1990 levels by 2050; WCI participant; will adopt CA vehicle emissions standards pending EPA approval<br>• Requires the Department of Community, Trade, and Economic Development to develop a strategic plan for enhancing energy efficiency in, and thereby reducing greenhouse gas emissions from, homes, buildings, districts, and neighborhoods, specifies the reduction in annual net energy consumption required for residential and nonresidential construction by a certain date, requires utilities to maintain records of energy consumption data, establishes energy benchmarks for public buildings (SB 5854)<br>***Washington is a member of the West Coast Governors' Climate Change Initiative along with California and Oregon. The three states must act individually as well as regionally to reduce greenhouse gas (GHG) emissions. The Initiative includes adopting standards to reduce GHG emissions from vehicles by expanding markets for efficiency, renewable energy and alternative fuels, including creating a working group on developing hydrogen fuel.***<br>***Established standards to decommission its only remaining coal-fired electric generating facility and provided the means to mitigate the economic impacts following decommissioning (SB 5769).*** |
| **Wisconsin** | Participant in Climate Registry; requires entities that emit 100,000 or more tons of $CO_2$ to report their emissions to the state Department of Natural Resources; Midwestern Regional Greenhouse Gas Reduction Accord<br>• State Climate Action Plan |
| **Wyoming** | Participant in Climate Registry; the Department of Environmental Quality is authorized to establish an intrastate, or participate in an interstate, emissions trading program; WCI observer |
| **Puerto Rico** | Executive Order 2008-09 was adopted on February 28, 2008 regarding global warming; the purpose of the Order is to create a Strategic Commission for the Mitigation and Adaptation to Climate Change; the Commission must submit a series of recommendations to the Governor by August 2008 |

*As of December 2011, Utah is no longer a member of the Western Climate Initiative

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# CLEAN ENERGY RD&D

## Partnerships, Grants, Awards, and Dedicated Funding

**DEFINITION**

Partnerships with universities, research institutions, or private industries and the provision of financial support to the development or distribution of clean and advanced energy technology.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | Alabama Alternative Fuels and Research Development Fund<br>• Research and development institutions now eligible for the financial incentives under the Capital Credit Program |
| **Alaska** | The legislature requested that representatives of the University of Alaska (UA), the Alaska Science and Technology Foundation (ASTF), the North Pacific Research Board (NPRB), and the US Arctic Research Commission (ARC) develop a Research and Development (R&D) plan to help expand and diversify Alaska's economy,protect the health of Alaskans and the environment of Alaska, and strengthen and maintain the health of state research institutions<br>The Alaska Hydrokinetic Energy Research Center, part of the University of Alaska, focuses on applied research and engineering specifically related to extracting power from the kinetic energy of moving water in rivers and tidal basins<br>The Alaska Center for Energy and Power (ACEP) maintains and operates a Diesel Engine Test Bed at the University of Alaska to demonstrate, test and document diesel engine and fuel parameters that can help improve engine efficiency<br>***Established the Emerging Energy Technology Fund, a grant program used to: test emerging energy technologies or methods of conserving energy; Improve an existing energy technology; and Deploy an existing technology that has not previously been demonstrated in Alaska.***<br>***Created the Wood Energy Pre-Feasibility Grants to provide funding to parties to explore the feasibility of community heating projects of individual facility, community, and/or district heating projects with high-efficiency, low-emission, wood-fired systems (See also Clean Electricity).*** |
| **Arizona** | Created an R&D tax credit for investments in research and development in excess of expenditures from the previous year. The existing program provides a state tax credit between 15% and 24% of qualified R&D expenses, depending on the level of the increase.<br>***Invested $2 million to support research and development of new methods of extracting oil-rich algae strains to produce biodiesel.***<br>***Established the Venture Catalyst at Arizona State University to help faculty, students and companies launch new startups or accelerate existing ventures.***<br>***Established individual and corporate tax credits for "solar liquid fuels," also known as microbial fuels, that create renewable transportation fuels from bacteria using a combination of carbon dioxide, water and sunlight (SB 2730 – See also Clean Electricity).***<br>***Enhanced the R&D tax credit by 10% if increased R&D expenditures are made in cooperation with an Arizona university.*** |
| **Arkansas** | • Created the Alternative Energy Commission to study the needs and impacts of various forms of alternative energy on the economic future of the state (Act 1301)<br>• Established the Arkansas Sustainable Energy Collaborative to assist the Public Service Commission in its inquiry regarding the further development of sustainable energy resources (Docket No. 08-144-U, Order No. 1)<br>***Established the Statewide Energy Consortium and the Electrical Energy Advancement Program Fund Board. Directed the Board to make recommendations to the Consortium concerning funding for competitive undergraduate and graduate scholarships for residents in the field of electrical and electronic engineering and some research project costs (HB 2219 – See also Clean Energy Economic Development).*** |

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| **California** | The California Solar Initiative dedicated $2.6 million to a pilot solar water heating program; investor-owned utilities charge a "public goods surcharge" to be devoted to energy efficiency, renewable energy, and RD&D; incentives for funding dedicated to research, development, and testing of alternative fuels and advancing vehicle technology; grants and loans to public agencies, businesses, fleet owners, consumers, and academic institutions to develop and deploy innovative technologies that transform California's fuel and vehicle types; the Bioenergy Action Plan includes: research and development of commercially viable biofuels production and advanced biomass conversion technologies; evaluation of the potential for biofuels to provide a clean, renewable source for hydrogen fuel; and increases the purchase of flexible-fuel vehicles to 50% of total new vehicles purchased by state agencies by 2010; participant in the PIER Program<br>***Directed the California Public Utilities Commission and utilities to evaluate and plan for increasing electricity storage capacity to inform potential targets for cost-effective electricity storage expansion (AB 2514 );***<br>***Granted $724,998 for R&D in to high-tech efficient windows and creating a ten year plan for energy storage technology*** |
| **Colorado** | The Bioscience Discovery Evaluation Grant Program provides grants to research institutions for biofuels research projects; NEED (New Energy Economy Development) grants are provided for innovative clean energy projects from the Colorado Clean Energy Fund; SIG (Solar Innovation grants) are provided for market transforming solar energy projects from the Clean Energy Fund; grants for biomass projects, geothermal feasibility studies and small hydro feasibility studies are also provided from the Clean Energy Fund<br>• Clean technology discovery evaluation grant program created in the Office of Economic Development and International Trade (OEDIT) for the purpose of improving and expanding the development of new clean technology discoveries at higher education research institutions<br>• Requires the OEDIT to administer the program and the director of the office to consult with a Colorado-based clean technology industry association in implementing the program<br>**Formed the Colorado Center for Renewable Energy Economic Development (CREED) to expand cleantech entrepreneurship with a partnership with U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) (See also Clean Energy Economic Development).** |
| **Connecticut** | Provides funding to Connecticut institutions of higher education or Connecticut institutions of agricultural research for purposes which may include research to promote biofuel production from agricultural products, algae and waste grease, as well as biofuel quality testing; Connecticut Innovations, Inc., through the Clean Energy Fund serves as the state's entrepreneurial risk pool and financing vehicle for such projects; the Connecticut Hydrogen-Fuel Cell Coalition is responsible for developing a plan for fuel cell economic development<br>**Launched the Alpha program under the Connecticut Clean Energy Fund (CCEF) to provide up to $200,000 per clean energy technology project that is in the early stage development.**<br>**Established a three-year pilot program to develop combined heat and power and anaerobic digester projects by providing $2 million annually for each of the programs (SB 1243).**<br>***Provided grants of up to $10,000 to small firm who employ less than 50 people that are working on promising pre-commercial technologies that conserve energy or facilitate the use of renewable energy through the Connecticut's New Energy Technology program (See also Clean Electricity).*** |

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| **Delaware** | The Delaware Green Energy Fund's Research and Development Program offers grants to projects that develop or improve renewable energy technology in the state; the Technology and Demonstration Program provides grants to projects that demonstrate the market potential for renewable technologies and accelerate the commercialization of these technologies<br>***Provided grants to renewable energy demonstration projects for up to 25% of equipment costs through the Green Energy Fund.*** |
| **Florida** | The Farm to Fuel Grants Program provides grants for demonstration, commercialization, research and development of renewable energy technology or projects that produce bioenergy from Florida-grown crops or biomass; provides an investment tax credit for 75% of all capital, operation and maintenance, and research and development costs incurred in connection with an investment in hydrogen-powered vehicles and hydrogen vehicle fueling stations in the state, biodiesel, and ethanol, up to a maximum of $3 million in each fiscal year for all taxpayers<br>• Created the Florida Energy Systems Consortium comprised of experts from the State University System to share energy-related expertise and assist in developing a strategic energy plan for the state (HB 7135)<br>The Innovation Incentive Program provides resources for business projects that allow the state to compete effectively for high-value research and development. Includes alternative and renewable energy projects that: partner with a college or university, provide the state a minimum return on the investment, include matching funds and are located in Florida |
| **Georgia** | The Georgia Energy Innovation Center is dedicated to the development of Georgia-based clean energy technologies and businesses by attracting and linking academic research, commercialization and business development services, including the "One-Stop Shop" that streamlines business start-up services and facilities' access to available state funding and incentives<br>Created the Research and Development Tax Credit which allows companies to claim ten percent of a company's increased qualified research and development expense over its gross receipts as a credit |
| **Hawaii** | Offers a 100% tax credit on an equity investment in a qualified high tech business that conducts more than 50% of its activities in qualified research in non-fossil fuel energy-related technology - energy produced by wind, solar energy, hydropower, geothermal resources, ocean thermal energy conversion, wave energy, hydrogen, fuel cells, landfill gas, waste to energy, biomass including municipal solid waste, and biofuels<br>***Created the Hydrogen Investment Capital Special Fund to provide seed capital for, and venture capital investments in, private sector and federal projects for research, development, testing, and implementation of the Hawaii Renewable Hydrogen Program, which manages the state's transition to a renewable hydrogen economy.*** |
| **Idaho** | **Created a public-private partnership between the state, universities, private companies and other partners to create the Energy Efficiency Research Institute to focus on the science, policy and implementation of energy efficiency.** |
| **Illinois** | The Illinois Ethanol Research Advisory Board's manages and operates the National Corn-to-Ethanol Research Center (NCERC) Pilot Plant that aims to reduce the cost of new production technologies, equipment, processes, feedstocks, and new value added co- and by-products; the Renewable Fuels Research, Development, and Demonstration Program promotes and expands the use of biofuels such as ethanol and biodiesel as clean, renewable transportation fuels, and accelerates the commercialization of new renewable fuel technologies and products<br>***Launched Smart Grid Illinois in partnership with South Korea to advance smart grid projects with an emphasis on clean energy and technology deployment.*** |

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| **Indiana** | Requires that the Center for Coal Technology Research investigate the use of coal bed methane as a renewable energy source and in the production of renewable and alternative fuels; the Energy Center at Purdue University is working on developing coal into combustible gases and liquids; the Indiana Twenty-First Century Research and Technology Fund provides grants and loans to support proposals for economic development in areas including alternative fuel technologies and fuel efficient vehicle production<br>Biomass and algae production systems required to be included in utility forecasting |
| **Iowa** | The Iowa Energy Center provides grants for renewable energy and energy efficiency to Iowa's college and universities, Iowa-based non-profit organizations, and Iowa-based foundations for energy research on topics that have strong relevance to Iowa (private sector research partnerships are encouraged); the $100 million Iowa Power Fund supports research, development, commercialization, and deployment of biofuels, renewable energy technologies, and energy efficiency technologies, while seeking to reduce GHG emissions; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>• Passed legislation regarding membership and administration of the Propane Education and Research Council and their activities related to energy efficiency (Rule 599) |
| **Kansas** | KSU and the Department of Agriculture are members of the North-Central Bioeconomy Consortium, a public sector partnership networking land grant institutions and state departments of agriculture to study biofuels and bio based products; the Kansas Bioscience Authority provides R&D funding to government and private organizations investing in bioscience in Kansas<br>**Launched the University Economic Growth Initiative to provide $15 million for research in areas seen critical to growing the state's economy.** |
| **Kentucky** | The Kentucky Alternative Fuel and Renewable Energy Fund Program provides funding to Kentucky-based companies for research, development, and commercialization of alternative fuels and renewable energy<br>• Funding the Kentucky Geological Survey carbon sequestration research<br>• Funding the Kentucky Renewable Energy Consortium for renewable energy-related grants<br>***Directed the Energy and Environment Cabinet to seek one to five projects demonstrating injection of carbon dioxide into geologic storage; provide a process.*** |
| **Louisiana** | Under a one year grant with the University of Louisiana at Lafayette's College of Engineering, the Department of Natural Resources is providing an engineering assessment that details the potential and preliminary design strategy of three candidate power production options for small, rural communities that include both technical and economic considerations - solar technologies, biogas, and thermal conversion of biomass opportunities will be explored to identify the optimum energy cost savings; the state is undertaking a "Biomass Assessment" through a $93,000 contract with LSU to collect data on all available biomass organized by parish or plant to be placed on a state map for economic development to be used as a resource<br>***Awarded demonstration grants for the purchase of fueling infrastructure that can dispense advanced ethanol blends of 10% 20% (E20), 30%, or 85%, and for conducting research and developing guidelines on this infrastructure through the Louisiana Department of Agriculture and Forestry.***<br>***Renewed the Research and Development Tax Credit, which provides a 40% tax credit to businesses conducting research and development in Louisiana, for another six years (SB 135).*** |

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| **Maine** | The Renewable Resource Fund supports grants for renewable-energy research and development to the University of Maine System, the Maine Maritime Academy and the Maine Technical College System as well as grants for renewable-energy demonstration projects to Maine-based nonprofit organizations, consumer-owned electric transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts, and school administrative units<br>***Signed an MOU with Nova Scotia in July 2010 to work cooperatively on tidal and offshore wind development efforts by furthering academic research and establishing a formal council.*** |
| **Maryland** | ***Created income tax credits of up to 10% to individuals or corporations for qualified research and development expenses for cellulosic ethanol technology. The total amount of the credit may not exceed $250,000 per calendar year.*** |
| **Massachusetts** | The Massachusetts Sustainable Energy Economic Development (SEED) Initiative provides financial assistance to support renewable-energy companies in the early stage of development - these companies generally have a unique technology but have not yet demonstrated commercial viability to an extent sufficient to attract venture capital; offers feasibility study and design and construction grants for distributed renewable energy technology; passed legislation to develop a comprehensive management plan for state waters, including identification of sites appropriate for renewable energy developing, including offshore wind, wave, and tidal power generation<br>Established the Wind Technology Testing Center (WTTC), the first commercial large blade test facility in the nation to test the next generation of wind turbine blades |
| **Michigan** | Offers tax credits, property tax exemptions, and payroll credits to businesses that participate in NextEnergy, a comprehensive economic-development plan to position Michigan as a world leader in the research, development, commercialization and manufacture of alternative-energy technologies; establishing Centers of Excellence which partner an anchor company with on-site university research partners to commercialize renewable energy and alternative energy technologies<br>• Partnered with Michigan based solid-state lighting companies and universities to form the Michigan Solid-State Lighting Association (MSSLA)<br>• Mission is to ensure Michigan is a global leader in solid-state lighting manufacturing, research, and development through knowledge sharing, education, and public policy advocacy<br>***Created a non-refundable business activity credit for businesses engaged in the research, development, and manufacturing of alternative energy technologies.*** |
| **Minnesota** | The state's public research and higher education institutions are encouraged to collaborate to establish a regional energy research and education partnership for the production of renewable energy and products, including hydrogen, fuel cells, and related technologies; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects |
| **Mississippi** | The Energy Investment Loan Program provides loans to businesses that promote the development and demonstration of efficient, environmentally acceptable and commercially feasible technology and processes |
| **Missouri** | ***Allowed the owner of a cleanfields renewable energy demonstration park, which contains a biomass facility, to receive double renewable energy credits for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Electricity).*** |

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| **Montana** | Allows a 50% property tax abatement for renewable research and development equipment; the Universal System Benefits Program (USBP) supports cost-effective energy conservation, low-income customer weatherization, renewable-energy projects and applications, research and development programs related to energy conservation and renewables |
| **Nebraska** | The University of Nebraska maintains a Carbon Sequestration Program for research purposes in addition to conducting climate change workshop efforts; in addition, the Nebraska Center for Energy Sciences Research (NCESR), a collaboration between the Nebraska Public Power District (NPPD) and the University of Nebraska-Lincoln (UNL), was established in April 2006 to conduct research on renewable energy sources, energy efficiency and energy conservation; and to expand economic opportunities and improve quality of life for Nebraska and the nation<br>***Established the Business Innovation Act to provide competitive grants, technical assistance, outreach efforts, and funding to Nebraska institutions (See also Clean Energy Economic Development).*** |
| **Nevada** | Established the Nevada Renewable Energy Consortium consisting of the Desert Research Institute, the University of Nevada-Las Vegas Renewable Energy Center and the University of Nevada-Reno Renewable Energy Center to strengthen the Southwest's renewable energy research, and development capabilities |
| **New Jersey** | ***Launched the Edison Innovation Green Growth Fund offering loans up to $1 million with a performance grant component to support technology companies. The money is to be used as growth capital to advance newly discovered energy efficient, renewable energy or supply chain products that will assist Class I renewable energy or energy efficient technologies in becoming competitive with traditional sources of electric generation.*** |
| **New Mexico** | The Economic Development Department is directed to establish the Hydrogen and Fuel Cell Technologies Development Program to foster the development of hydrogen and fuel cell-related commercialization and economic development in the state; the Program will establish a public-private partnership to provide guidance and support for hydrogen and fuel cell initiatives; the Energy Innovation Fund, established in 2007 with an initial $2 million appropriation was created to accelerate innovation and commercial adaptation of clean energy technologies in New Mexico--"The Clean Energy State"<br>***Requested the University of New Mexico Law School, the New Mexico Institute of Mining and Technology, New Mexico State University, Eastern New Mexico university, Western New Mexico university and New Mexico Highlands University to examine and report the use of natural gas as a transportation fuel. The groups testified that while there are significant infrastructure updates needed to make natural gas a widely used transportation fuel, its use would provide cost savings to consumers.***<br>***Directed the Department of Agriculture to work with the biofuels industry, state universities, national laboratories, and industry groups to evaluate the economic opportunities of biofuel production in the state (See also Alternative Fuels and Vehicles).*** |

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| **New York** | NYSERDA's Clean Energy Growth and Development program provides grants for clean energy related business projects that may include developing a new or expanded clean energy business for sales and service or manufacturing, expanding a current business model into a new market area, or introducing into New York a commercial technology developed in another state (does not apply to transportation fuels); offers competitive R&D grants for solar thermal electric, photovoltaics, hydropower, alternative fuels, wind, landfill gas, and biomass; NYSERDA's Transportation Research Program sponsors a wide variety of product development efforts aimed at improving efficiency and increasing the use of alternative fuels<br>***NYSERDA launched the Environmentally Preferred Power Systems program, offering competitive R&D grants for solar electric, photovoltaics, hydropower, fuel cells, wind, landfill gas, biomass, and anaerobic digester gas.***<br>***NYSERDA began the Innovation in the Manufacturing of Clean Energy Technologies program to support projects to research, develop, demonstrate or commercialize innovative technologies that provide an energy benefit to a Clean Energy Technology manufacturing process in New York State.*** |
| **North Carolina** | Provides funding to organizations to encourage the development and commercialization of "promising" renewable energy and green building technologies |
| **North Dakota** | The North Dakota Board of Education is encouraged to establish biomass energy centers at institutions to conduct research and provide education and technical assistance related to biomass production, harvesting, transportation, and conversion; the State Industrial Commission administers renewable energy and dedicated biomass grant programs; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>• Created an Energy Policy Commission to monitor energy, water, and biofuel issues through studies and legislative councils (HB 1462)<br>• Legislative council study for the development of energy from wind and other natural resources and of wind easement and wind energy leases<br>• Revised the Biomass Incentive and Research Program law and provided funding for future projects<br>***Created the Small Business Technology Investment Program to allocate grants of up to $50,000 to technology-based start up companies (See also Clean Energy Economic Development).*** |
| **Ohio** | Any Edison technology center is eligible to apply for and receive assistance for the purposes of creating an advanced energy manufacturing center in this state that will provide for the exchange of information and expertise regarding advanced energy, assisting with the design of advanced energy projects, developing workforce training programs for such projects, and encouraging investment in advanced energy manufacturing technologies for advanced energy products and investment in sustainable manufacturing operations that create high-paying jobs; the Ohio Fuel Cell Initiative provides grants to support the growth of Ohio's fuel cell industry through collaborations that involve companies, higher education institutions, and non-profit research organizations - projects must focus on research and development that addresses technical and cost barriers to commercialization and adapting fuel cell components produced in Ohio for use in fuel cell systems; in addition, Ohio's Third Frontier technology development program added an advanced energy component to its targeted solicitations, and the state continues its commitment to clean coal technology through its Ohio Coal Development Office; a new economic stimulus plan will make $150 million available for advanced energy technology development over the next three years |

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| **Oklahoma** | The Oklahoma Bioenergy Center (OBC) was created in 2007 and is a four-year, $40 million research initiative focused on achieving the competitive and sustainable production of advanced liquid biofuels in Oklahoma; the OBC is a collaboration of the University of Oklahoma, Oklahoma State University and the Samuel Roberts Noble Foundation; the OBC will establish production-scale demonstration fields--totaling more than 1,300 acres--for cellulosic energy crops, including sorghum and switchgrass; in addition to the demonstration fields, the OBC will conduct research on crop production and development, conversion technologies and harvest collection and transportation of energy crops; external contributors to the OBC include Abengoa Bioenergy, Idaho National Laboratory, Ceres, Inc., and Hitch Enterprises, Inc.; the Oklahoma Biofuels Development Act was created to encourage the processing, market development, promotion, distribution, and research of fuels derived from grain, ethanol or ethanol components, biodiesel, bio-based lubricants, co-products, or by-products<br>• Created the Clean Energy Independence Commission; reports to the Secretary of Energy |
| **Oregon** | The Northwest National Marine Renewable Energy Center (NNMREC) is a partnership between Oregon State University (OSU) and the University of Washington (UW). Both universities collaborate with each other and the National Renewable Energy Laboratory (NREL) on research, education, outreach, and engagement. OSU focuses on wave energy and UW focuses on tidal energy. |
| **Pennsylvania** | The Pennsylvania Energy Development Authority (PEDA) issues funding solicitations to support advanced energy research and deployment projects, and to assist businesses interested in locating or expanding advanced energy operations in Pennsylvania; the PA Department of Community and Economic Development has several large funding programs (Ben Franklin Funds) that frequently give money to "clean tech" or the clean energy sector; the Department of Agriculture has used funds to promote non-animal health agricultural research projects including carbon sequestration, renewable energy development (especially related to cellulosic ethanol), alternative uses of agricultural waste for energy production, improvements to ethanol and biodiesel quality, etc.; The Energy Independence Strategy includes significant financial investment in renewable energy research, development, manufacturing, and deployment |
| **Rhode Island** | The Rhode Island Research Alliance runs an annual Collaborative Research Grant competition which provides up to $200K to multi-institutional, multi-disciplinary teams of investigators who propose a project that has a clearly identified plan for follow-on funding or commercialization<br>***Provided funding of up to $200,000 per year for renewable energy projects through the Pre-Development Consultant and Technical Feasibility Program (See also Clean Electricity).*** |
| **South Carolina** | The South Carolina Renewable Energy Grant Program provides grants to private and public entities to assist those involved in renewable energy-related research and projects to become more competitive in obtaining federal and other grants; an income tax credit is available for up to 25% of qualified research and development expenditures, which include developing feedstocks and production processes for cellulosic ethanol and algae-derived biodiesel; Created the South Carolina Hydrogen Infrastructure Development Fund to fund grants administered by the South Carolina Research Authority to promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enable the growth of hydrogen and fuel cell technologies in the state<br>***Created an income tax credit for R&D projects on developing feedstocks and production processes for cellulosic ethanol, and biodiesel derived from algae or grease.***<br>***Provided funding for grants that promote the development and deployment of hydrogen production, storage, distribution, and dispensing infrastructure and related products and services that enable the growth of hydrogen and fuel cell technologies.*** |

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| **South Dakota** | South Dakota has created and funded two 2010 Research Centers at state universities: the 2010 Bioprocessing Research Center is doing research on the next generation of alternative fuels, including cellulosic ethanol and has been funded with $1 million in state funding with an additional commitment of $1 million; the 2010 Light Activated Materials Research Center is doing research on photovoltaic solar energy and has been funded with over $2 million in state funding with an additional commitment of $1 million; the Wind Resource Assessment Network provided funds for 11 different wind resource assessment stations across SD to verify the state's wind resource potential; participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects |
| **Tennessee** | The Department of Agriculture is authorized to develop and implement an alternative fuel research program to stimulate public and private research in conversion technology; the University of Tennessee Biofuels Initiative (UTBI) is a state sponsored plan to decrease our dependency on foreign oil while simultaneously increasing rural economic development and domestic energy production within Tennessee; the UTBI proposes to jump-start a new bioenergy industry in the state by building and opening a 5-million-gallon-per-year cellulosic ethanol biorefinery in East Tennessee; the principal product of the refinery will be Gasoline (TM) ethanol fuel that is derived from plant material such as switchgrass, wood chips and other forest and agricultural biomass<br>• Creating a solar farm/research institute at the University of Tennessee's Knoxville campus<br>**Created a $50 million INCITE initiative focused on building innovation-based economic development and driving growth in the creation of knowledge-based jobs by funding business incubators and creating co-investment funds for early stage companies, including clean technology.** |
| **Texas** | The Texas Emissions Reduction Plan (TERP) provides grants for alternative fuel and advanced technology demonstration and infrastructure projects under the New Technology Research and Development Program, which provides incentives to encourage and support research, development, and commercialization of technologies that reduce pollution in Texas<br>***Established the Air Quality Research Support Program to, along with a nonprofit organization or institute of higher education, administer a program to support research related to air quality (SB 527).*** |
| **Utah** | Researchers in Utah's USTAR program, with funding support from DOE, will conduct a demonstration carbon sequestration project in central Utah<br>***Created the Bingham Entrepreneurship and Energy Research Center at Utah State University to serve as a regional research hub. It houses offices of the Utah State University Research Foundation's Energy Dynamics Laboratory and the Idaho National Laboratory. USTAR staff will also be housed in the facility to assist with research commercialization and outreach to local companies and entrepreneurs.*** |
| **Vermont** | The Department of Agriculture will develop an economic initiative to provide business and technical assistance for research and planning to aid farmers in developing business enterprises that harvest biomass, convert biomass to energy, or produce biofuels such as biodiesel and ethanol |

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| Partnerships with universities, research institutions, or private industries and the provision of financial support to the development or distribution of clean and advanced energy technology. | |
| **Virginia** | $1.6 million in new state general funding is being added to a previous $1.5 million state general funding appropriation, to be matched 50/50 with private funds, for the Virginal Coastal Energy Research Consortium; $2 million is being appropriated for competitive R&D grants under the Commonwealth Technology Research Program, with energy as one of three priority areas; ongoing appropriations provided to the Virginia Center for Coal and Energy Research, helping support carbon sequestration in unmineable coal seam research; 10 state universities support energy R&D with internal and external fund sources<br>• Established, under Governor McDonnell's 2010 energy legislative package, the Universities Clean Energy Development and economic Stimulus Foundation<br>• Requires that any royalties from offshore oil and gas leasing and production be distributed to transportation, local infrastructure, and the Virginia Coastal Energy Research Consortium<br>• The Virginia Tobacco Indemnification and Community Revitalization Commission has funded five energy research and development facilities and made up to $100 million available for energy research and development<br>• Broadened the responsibilities of the Coastal Energy Research Consortium to include studies on all domestic forms of coastal energy<br>• State research institutions have also allocated internal funds to provide energy research and development in areas such as offshore wind, fuel cells, materials research, building efficiency, and other topics<br>***Created a new tax credit program in which companies can claim a 15% credit for qualified research. Companies that conduct research in partnership with a Virginia university are eligible for a 20% credit.***<br>***Created the Commonwealth Research Commercialization Fund to provide grants to technology firms for a variety of purposes, such as matching federal research funding.***<br>***Directed the State Corporation Commission to consider approval of distributed solar generation facilities and special pricing of the power generated by those facilities. Allows such projects to be treated as demonstration projects for purposes of assessing their benefits to the utility's power distribution system for improving reliability (HB 1686 – See also Clean Electricity).***<br>***Appropriated $6 million for the FY2012 Commonwealth Research Commercialization Fund, providing funding for Virginia-based research and commercialization, as well as financing science and technology facilities.*** |
| **Washington** | The Energy Freedom Program awards low-interest loans and grants through a competitive application process; eligible projects include: research and development of new and renewable energy and biofuel sources, including biomass, solar, and wind power; renewable energy and alternative fuel infrastructure, facilities, and technologies, and research and development to develop markets for alternative fuel byproducts<br>The Northwest National Marine Renewable Energy Center (NNMREC) is a partnership between Oregon State University (OSU) and the University of Washington (UW). Both universities collaborate with each other and the National Renewable Energy Laboratory (NREL) on research, education, outreach, and engagement. OSU focuses on wave energy and UW focuses on tidal energy. |

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# CLEAN ENERGY RD&D

## Partnerships, Grants, Awards, and Dedicated Funding

| DEFINITION | |
|---|---|
| Partnerships with universities, research institutions, or private industries and the provision of financial support to the development or distribution of clean and advanced energy technology. | |
| **Washington (continued)** | ***Exempted machinery and equipment used primarily in technological research and development operations by the state's four-year institutions of higher education from the state sales and use tax (HB 1347).***<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Electricity and Clean Energy Economic Development).*** |
| **West Virginia** | West Virginia funds research into the economics of residential photovoltaics<br>• Renewable Energy Projects on Surface-Mined Lands, an Appalachian Regional Commission-support initiative, will drive solar, biomass and wind developments on post-mined properties<br>• As part of the partnership, a SODAR unit will study commercial opportunities on surface-mine sites<br>• West Virginia University and the U.S. EPA will create an inventory of mine-scarred land throughout the state suitable for redevelopment into biofuels, such as switchgrass and other alternative energy production<br>• These sites, known as sustainable energy parks, will promote renewable energy, offset greenhouse gases and contribute to local economies<br>• One community will be selected for the development of a comprehensive pilot to showcase the sustainable energy park concept |
| **Wisconsin** | Participant in Powering the Plains multi-state initiative to address energy and agricultural issues through the development of an integrated energy strategy, policy recommendations, and demonstration projects<br>Offered a tax credit equal to 10% of the qualified research expenses for hybrid electric vehicle battery research that reduce the demand for natural gas or electricity |
| **Puerto Rico** | • Ordered the Commission on Socio-Economic Development, Planning, Trade and Industry and Communications to conduct a study on public policy promoting renewable energy<br>• Ordered the Agriculture Committee of the Senate of Puerto Rico to conduct a thorough and detailed investigation into the cultivation of micro-algae in pools of salt water and/or alternative energy crops<br>• Ordered the Committee on Natural Resources, Environment and Energy to conduct a comprehensive study on the implementation of laws, regulations and environmental and energy policy in Puerto Rico<br>• The Economic Incentive Law allows for a wide array of tax incentives and credits to retain and attract investment local and foreign corporate investment in the areas of manufacturing, science and technology and research and development |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

### DEFINITION

Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alabama** | • Participant in the Economy, Energy, and Environment Initiative (E3), a joint collaboration among five federal agencies (Department of Commerce, Small Business Association, Department of Labor, Department of Energy, and the Environmental Protection Agency)<br>• Coordinates efforts to help manufacturers adapt and thrive in a new business era focused on sustainability, both economic and environmental; and<br>• Provides industry assistance through special assessments, green skills training for workers, and funding assistance to make identified improvements<br>***Created AlabamaSAVES under the Alabama Department of Economic and Community Affairs (ADECA) to provide energy efficiency retrofit and renewable energy loans to commercial facilities (See also Energy Efficiency).***<br>***Created the Alabama Economic Development Alliance. The Alliance is charged with more effectively utilizing the job creation and workforce assets of the state and creating a statewide economic development strategic plan. The group will focus on recruitment of new business and industry, retaining and expanding existing businesses and creating jobs through innovation, entrepreneurship, research and development.*** |
| **Alaska** | The Alaska Wind-Diesel Applications Center, part of the University of Alaska, supports the broader deployment of cost-effective wind-diesel technologies |
| **Arizona** | • Renewable Energy Business Tax Incentives created to draw renewable energy product manufacturers to Arizona (ARS §41-1511)<br>• Governing body of a city or town authorized to designate renewable energy incentive districts to encourage the construction and operation of renewable energy equipment in the district (See Clean Electricity - Financial Incentives)<br>• Renewable Energy Business Tax Incentives created to draw renewable energy product manufacturers to Arizona (ARS §41-1511)<br>• Income tax credits and property tax incentives available for companies choosing to establish or expand their manufacturing facilities and corporate headquarters in Arizona<br>***Established the Quality Jobs Program, with corporate tax credits of up to $9,000 for each qualifying new job. The Quality Jobs Program provides a $3,000 tax credit, which can be claimed for up to three years, for qualifying new jobs.***<br>***Established the Governor's Solar Energy Task Force to: evaluate incentives provided to solar energy producers and manufacturers; identify barriers to solar energy projects; propose reforms to public agency processes and tax structures that advance solar energy development; and advise the governor on solar energy matters (See also Clean Electricity).***<br>***Launched the Growth Fund Collaborative program to provide credit to small businesses, infrastructure construction, specialized job training and other programs to spur economic development. The main finance mechanism is volume capital bonding which allows businesses to issue tax-exempt bonds in a partnership with the government.***<br>***Convened industry representatives and other stakeholders to discuss the technology, industry standards, certification issues, financing options and the viability of the geothermal technology industry in Arizona (See also Clean Electricity).***<br>***Created the Quality Jobs Tax Credit, a performance based incentive based on net new job creation with minimum capital investment and job quality eligibility qualifications for urban and rural businesses. The credit for each new qualified job created is $3,000 per year for three years and is limited to 400 jobs per employer per year.*** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Arkansas** | • Created an income tax abatement incentive for qualifying windmill blade and windmill component manufacturers (Act 736)<br>• Created a low interest rate loan program for industries in Arkansas to implement new energy efficient measures or install renewable energy generation<br>***Established the Statewide Energy Consortium and the Electrical Energy Advancement Program Fund Board. Directed the Board to make recommendations to the Consortium concerning funding for competitive undergraduate and graduate scholarships for residents in the field of electrical and electronic engineering and some research project costs (HB 2219 – See also Clean Energy Economic Development) (See also Clean Energy RD&D).***<br>***Decreased the sales and use tax on natural gas and electricity used for combined-cycle gas turbine technology (SB 275).*** |
| **California** | New Solar Homes Initiative promotes a self-sustaining market for solar homes as part of the 2007 California Solar Initiative; in February 2008, formed the Green Workforce Coalition, a public-private partnership to define labor market demand for green jobs<br>• Established an intergovernmental Green Jobs Council to develop a strategy for meeting emerging workforce needs (AB 3018)<br>• Began Green Technology Partnership Academies for high school education programs<br>• CPUC required to grant incentives eligible green-technology manufacturers<br>• Launched the Green Jobs Corps, a program focused on workforce training and job placement for at-risk youth<br>• Public-private partnership manages the Clean Energy Workforce Training Program providing grants for retraining, pre-apprenticeship training partnerships and alternative and renewable fuel and vehicle technologies workforce development<br>Created the Clean Energy Business Financing program to Provides low interest loans that improve or expand energy efficiency or renewable energy manufacturing facilities in California (See also Energy Efficiency and Clean Electricity)<br>The California Clean Energy Manufacturing Program encourages the production and manufacture of energy efficiency and renewable energy components; systems and technologies; alternative and renewable fuels; and vehicles and vehicle components. The program provides financial support for businesses; public-private partnerships; and technology developers, fleet owners, academic institutions, consortia, and collaboratives through a variety of financial mechanisms. These include grants, loans, loan guarantees, tax-exempt financing, production incentives, and credit enhancements.<br>**Excluded expenses related to the design, manufacture, production, or assembly or renewable energy equipment, combined heat and power equipment, and alternative transportation equipment from the state's sales and use taxes. This includes any source of energy under 30 megawatts that reduces the use of fossil and nuclear fuels (SB 71 – See also Clean Electricity).**<br>**Established a dedicated funding stream of up to $8 million available from the state Renewable Resource Trust Fund for partnership academy programs that focus on employment in clean technology, renewable energy, energy and water conservation, or pollution reduction (SB 148).**<br>***Required the allocation of funds from the Renewable Resource Trust Fund, and if needed, another specified fund, for expenditure in the form of grants to school districts to create and maintain partnership academies that focus on employment in clean technology businesses and provides skilled workforces for the products and services for energy or water conservation, renewable energy, pollution reduction, or other technologies (S 1a).***<br>**Developed the Clean Energy Jobs plan, which calls for 12,000 megawatts to come from localized energy sources—onsite or small systems located close to where energy is consumed that can be constructed quickly, without new transmission lines, and typically without any environmental impact.** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Colorado** | The Green Jobs Working Group, a part of the 2007 Governor's Energy Office reorganization, released a Green Jobs Guidebook outlining different job opportunities in the green economy<br>• Created the Clean Technology Discovery Evaluation Grant program to support research and development at higher education institutions<br>***Provided funding through the Governor's Energy Office to companies with building retrofitting projects or that are directly involved in the renewable energy sector to fill funding gaps or provide support to companies that have not been able to secure private investment.***<br>**Formed the Colorado Center for Renewable Energy Economic Development (CREED) to expand cleantech entrepreneurship with a partnership with U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) (See also Clean Energy RD&D).**<br>***Created the Green Colorado Credit Reserve, providing loans for energy efficiency retrofits in small business offices or manufacturing facilities (See also Clean Energy RD&D).***<br>***Created the Governor's Energy Office Revolving Loan Program to finance energy efficiency and renewable energy projects in the state. Projects eligible for loans include large scale retrofits of buildings, and companies whose products directly impact the renewable energy sector's economic development (See also Clean Electricity).*** |
| **Connecticut** | The Connecticut Clean Energy Fund, established in 2000, provides support to academic institutions for workforce development; required the Renewable Energy Investments Board, as of May 2008, to convene a working group on maximizing the use of solar energy with recommendations on workforce development and job creation<br>• Established the Green Jobs Partnership ("Green Jobs Council") with representatives from state agencies (environmental protection, economic development, education, transportation and labor), business and industry for the purpose of developing green job opportunities, public-private partnerships and job training programs (Executive Order 23)<br>• Connecticut has established a green chemistry and science advisory group<br>• Connecticut's College system has utilized federal funding to develop certificate credit programs and train students in the emerging fields of alternative and renewable energy<br>• The governor signed legislation (HB 5435, An Act Concerning the Recommendations of the Majority Leaders Job Growth Roundtable) that:<br>• Provides the following financial incentives: sales tax exemption for machinery, supplies and fuel used in renewable energy industries, personal income tax credits for green technology investments, loan reimbursement and training grants for education and careers in green technology;<br>• Establishes a Community-Technical College advisory board to assess training needs of unemployed residents; and<br>• Creates a Department of Economic and Community Development pilot program to encourage Connecticut small manufacturers implement green technologies and efficiency measures<br>• Exempted sales and use tax for equipment, machinery and fuels used to manufacture solar thermal (active or passive) systems, solar electric systems, wind-power electric systems, or geothermal resource systems (H.B. 5435)<br>**Launched a pilot program designed to help women- and minority-owned businesses reduce their energy costs and educate themselves about energy consumption and conservation. The program, conducted in five cities, offered 1,200 small business grants of up to $1,000 to help cover electricity costs (See also Energy Efficiency).**<br>**Established a green jobs task force to study the state's current and potential green jobs industry and corresponding workforce. Also provided for angel investor tax credits and applications to Connecticut Innovations (HB 6399).** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Delaware** | • Created a Green Global Supply Chain Service to identify how businesses could participate in the green economy<br>• Launched the Green Talent Initiative to develop eco-knowledge networks in emerging industries<br>• Partnered with Delaware Technical and community college in green trades training program<br>• Formed partnership between Workforce Investment Board, DNREC and other agencies to participate in federal WIB grant opportunities<br>• Provided loans and grants to Fisker Automotive to re-open a shuttered GM plant to make plug in hybrid electric vehicles and putting potentially thousands of unemployed auto workers back into the workforce; additional aid was obtained through US DOE and ARRA funding to re-open the plant<br>***Expanded the Blue Collar Jobs Tax credit program by: eliminating the program's sunset provision, increasing the amount of the corporate or personal income tax credits, and including provisions to attract manufacturers of advanced clean energy technology power generating devices and systems, including solar, wind, and geothermal power devices and fuel cells (SB 40).*** |
| **Florida** | • Greenforce Florida working group promotes secondary and postsecondary career pathways in alternative energy and other green jobs<br>• Florida Energy Systems Consortium (FESC) works with the State University System to develop and implement a strategic energy plan, along with education and outreach programs to prepare a clean energy workforce (HB 7135) |
| **Hawaii** | • The Hawaii Clean Energy Initiative connects reducing dependence on imported fossil fuels with supporting a variety of clean energy jobs<br>• Workforce Development Council released the "Green Workforce Report: State of Hawaii" in October 2009<br>• Creating a job training program for employment in the transportation, green construction, sustainable agriculture, recycling and waste reduction and electricity generation sectors |
| **Idaho** | **Dedicated $1.5 million for 12 projects through the Renewable Energy Enterprise Zone (REEZ) program, designed to spur economic growth and job creation by encouraging renewable energy development collaboration between local authorities and energy developers.** |
| **Illinois** | Created the 21st Century Workforce Development Fund to provide competitive grants to support workforce development activities to prepare individuals for occupations in the energy efficiency and renewable energy industries<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Directed the Illinois State Board of Education to establish a grant program to develop two-year pilot programs to assist in the creation and promotion of green career and technical education programs in public secondary schools.***<br>***Created the Higher Education Green Jobs and Technology Act to further promote collaboration between the state and Illinois' colleges, universities and research centers focused on green technology. This may include the development of courses and initiatives to align green job programs with employer needs (HB 166).*** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Illinois (continued)** | ***Provided grants for the construction or expansion of biodiesel and ethanol production facilities. The grant awarded may be up to 10% of the total construction costs of the facility or $4 million, whichever is less.***<br>***Authorized the Chicago Clean Energy project, a $3 billion coal gasification project that will be located on a brownfield site. The project aims to reduce carbon emissions while creating 1,500 jobs and saving consumers more than $100 million over the next several years.***<br>***Created the Green Manufacturing Grant Program to provide loans of up to $250,000 to manufacturers of energy efficiency or renewable energy products toward the cost of capital equipment that will reduce environmental impact and achieve cost savings (HB 6030).*** |
| **Indiana** | • Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>AFV and EV manufacturers are eligible for tax credits of up to 15% of the qualified investment for which the credit is claimed (See also Alternative Fuels and Vehicles) |
| **Iowa** | Provides loan funds to individuals and organizations that seek to build renewable energy production facilities<br>• Created the Iowa Green Jobs Task Force to coordinate workforce development and help manage ARRA funding (Executive Order 16)<br>• The Enterprise Zone Program and the High Quality Jobs Program offer state tax incentives to business projects for the production of biomass or alternative fuels<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy |
| **Kansas** | • The Kansas Building Science Institute in Manhattan, Metropolitan Energy Center in Kansas City, and Neosho County Community College in Chanute have partnered with the state to offer training programs for energy auditors<br>• Additional funding designated for 100 full scholarships for the above training<br>• Kansas is a participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy |
| **Kentucky** | Created the Energy Technology Career Track Program in April 2008<br>• Mandates the Department for Workforce Investment to establish an energy technology career track program (HB 2, KRS 158.808)<br>• Kentucky's Clean Energy Corps set the goal of weatherizing 10,000 modest-income homes to make them 30% more efficient<br>• Since Feb. 2009, the state has weatherized approximately 4,200 low income housing units<br>• Formed the Kentucky Consortium on Energy Workforce Development |
| **Louisiana** | • Authorized a base investment tax credit for certified, verified, and approved expenditures in the state for a capital infrastructure project directly related to green job industries (HB 733, 2009, and LRS 47:6035) |
| **Maine** | • Created the Green Energy Jobs Growth Initiative to provide funding for workforce development and facilitating industry partnerships |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Maryland** | In April 2008, created the Maryland Strategic Energy Investment Program to provide grants and training funds for clean energy jobs - Trained 2,000 Marylanders for green jobs in the sectors of manufacturing, construction, environmental technology and solar energy through a $5.8 million grant from the U.S. Department of Labor.<br>• Opened the Maryland Clean Energy Center in 2009 to promote and coordinate the expansion of the green economy<br>• Requires the Secretary of Budget and Management to develop and implement a plan for hiring current and former Family Investment Program recipients, their children, foster youth and certain obligors<br>• Requires that the job skills enhancement program include job training for employment in energy efficiency and renewable energy industries<br>• Maintains the Maryland Green Registry, a free, voluntary self-certification program for organizations of all types to promote their best practices for environmental protection<br>• The registry provides checklists and innovative ideas to encourage members to take further action<br>• The Maryland Energy Administration (MEA) created the Clean Energy Economic Development Initiative (CEEDI) Support Program to assist in achieving the goal of 100,000 "green-collar" jobs by 2015<br>• Uses this program to help attract emerging clean energy companies and to expand existing clean energy companies including the generators, component producers and the associated supply chain producers<br>• To implement this program, MEA has issued guidelines and application instructions in line with DOE parameters on its website<br>• All grant awards are expected to be performance based with payment made against attainment of certain pre-determined milestones<br>• Trained 2,000 Marylanders for green jobs in the sectors of manufacturing, construction, environmental technology and solar energy through a $5.8 million grant from the U.S. Department of Labor |
| **Massachusetts** | Environmentally Preferable Products Procurement Program established with one of its goals to provide support and guidance for sustainable business solutions (Executive Order 279, 1988)<br>• The Massachusetts Technology Collaborative offers loans to support renewable energy companies entering or expanding within the manufacturing stage of commercial development<br>• Developed a clean energy cluster approach to promote clean energy and jobs<br>• Created the Massachusetts Clean Energy Technology Center, in charge of the Massachusetts Alternative and Clean Energy Investment Trust Fund, providing funds for R&D, green curriculum development, leveraging for federal loans and grants, and to promote manufacturing for clean technology products |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Michigan** | • Advancing stewardship activities through the Michigan Turfgrass Environmental Stewardship Program<br>• Focus on pollution prevention, energy efficiency, and water conservation leading to a strong "greening" of small business<br>• Green Lodging Michigan is an environmental certification program for lodging facilities<br>• Voluntary program that establishes environmental guidelines for the hospitality industry and is designed to promote green lodging throughout the state by encouraging hospitality facilities to adopt cost-saving "green" practices<br>• Green Venues Michigan is a statewide "green" certification program for entertainment venues, convention centers, and similar facilities<br>• Designed to encourage and assist facilities to adopt cost saving, green practices which conserve natural resources and prevent pollution<br>• The 21st Century Jobs Fund provides $2 billion to finance renewable energy and other emerging sectors (HB 5047)<br>• A portion of the funds were used to establish the Centers of Energy Excellence (COEE) program in 2008 to promote the development, acceleration, and sustainability of energy excellence sectors in the state through collaboration between the private sector, academia, and government<br>• This initiative has made investments in projects designed to help develop, grow and sustain alternative energy clusters which will accelerate the commercialization of innovative energy technologies, with a primary goal of leveraging federal funding opportunities<br>• The No Worker Left Behind Green Jobs program was established to provide assistance for unemployed and/or low-income workers to re-train for a job in a high-demand field, and has been focused on the green economy<br>• The Michigan Academy for Green Mobility provides training for high-tech jobs in renewable energy<br>• Building Operator Certification (BOC®) program trains individuals directly responsible for day-to-day building operations<br>• Competency-based training and certification program that provides energy-saving operational strategies for maintenance and operations staff and technicians<br>• The DELEG Bureau of Energy Systems is working with Midwest Energy Efficiency Alliance to become the state licensee for this program by mid-2010<br>• A Michigan pilot BOC training program, sponsored by Consumers Energy and DTE Energy is currently underway<br>• The 2009 Green Jobs for Blue Waters Initiative promotes offshore energy development<br>• The Michigan Industrial Energy Center (MIEC) will help industries in Michigan by delivering a comprehensive integrated energy savings program by (a) Offering a two-part, intensive energy education and certification program for current and future industrial energy managers; (b) Assisting energy-intensive industries by identifying, recommending and helping them implement specific measures to save energy; and (c) Helping energy-intensive industries to deploy state-of-the art energy-efficient furnace technology at two industrial demonstration sites in Michigan<br>**Offered a refundable tax credit equal to 25% of the capital costs of building a PV manufacturing facility.**<br>**Offered low-interest loans of up to $2 million to small businesses with 500 employees or less to incentivize high-growth clean energy sectors and encourage investment in advanced manufacturing of energy systems and components (See also Clean Electricity).** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
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| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Minnesota** | • Created a Green Jobs Task Force, an Energy Improvement Loan Program, a Microenergy Loan Program, and mandated the completion of the "Green Economy Report" (SF 3096, Minnesota Green Jobs Act)<br>• Released the MN Green Jobs Task Force Draft Action Plan in 2009<br>• Created the Green Economy Transformation Task Force as an advisory council and to develop a statewide action plan (SF 3669)<br>• Requires the task force to analyze labor force needs relative to the green economy, including educational, training, and retraining needs<br>• Created Green JOBZ tax free zones for renewable energy jobs, part of the current JOBZ program (SF 1062)<br>• Funding available for business and community development and workforce development in clean energy industries<br>• Participant in the participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>**Created the Minnesota Science and Technology Authority to stimulate innovation and encourage investment in new technology products, companies, industries and jobs in the state.** |
| **Mississippi** | ***Provided state income tax and sales and use tax exemptions as incentives for companies that manufacture systems or components used to generate renewable energy, nuclear and biomass through the Mississippi Clean Energy Initiative. To qualify, a business entity must have a minimum investment of $50 million and create 250 full-time jobs.*** |
| **Missouri** | • Missouri initiated the Show Me JOBS Initiative that includes:<br>• Training programs to educate Missourians in high-tech fields<br>• Summer employment programs that helped prepare more than 7,000 young Missourians to compete for and excel in the high-tech, high-paying careers of the 21st century<br>• Financial incentives for small business development<br>• Special energy economic development team exists to help existing businesses and new businesses provide goods, services, and jobs for the green economy<br>***Permitted the owner of a cleanfields renewable energy demonstration park, which contains a biomass facility, to receive double renewable energy credits for certain energy generation and purchases. To receive such credits, the project must create at least fifty new jobs, with an average wage equal to or in excess of the county average wage, and retain at least fifty existing jobs (SB 48 – See also Clean Electricity).*** |
| **Nebraska** | ***Created the Angel Investment Tax Credit to provide refundable state income tax credits to investors in early-stage companies, encouraging investment in high-tech and startup enterprises.***<br>***Established the Business Innovation Act, which provides competitive grants for private sector research at Nebraska institutions, technical assistance in new product development and testing, and helps expand small businesses and entrepreneur outreach efforts. In addition the Business Innovation Act expands Small Business Innovation Research programs, including offering grants for application development, and providing funding to help with prototype development, commercialization and applied research at Nebraska institutions, and provides assistance to microenterprise projects.*** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

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|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Nevada** | • Green Jobs Initiative provides job training and promotes energy efficiency and renewable energy (SB 152)<br>• Requires the Department of Employment, Training and Rehabilitation and the Housing Division to contract with nonprofit collaboratives to provide training in weatherization, energy retrofitting and audits<br>• Requires the Public Works Board, schools and universities to contract for projects to weatherize and retrofit public buildings, facilities and structures<br>***Authorized loans from the Renewable Energy, Energy Efficiency and Energy Conservation Fund for the construction of an energy efficiency project or an energy conservation project, related to construction, expansion or operation of a renewable energy system or the manufacturing of components of a renewable energy system. Also authorized the use of third party agreements to leverage additional funding. Allowed the use the interest earned from money in loans from the Fund and interest earned on loans made from the Fund to defray certain costs and expenses (SB 60 – See also Energy Efficiency and Clean Electricity).*** |
| **New Hampshire** | • Established a job creation credit against the business profits tax and the business enterprise tax for businesses manufacturing energy efficient products and increasing employment in New Hampshire<br>***Strategically invested stimulus job training funds and state energy funds in projects that increase energy efficiency and renewable energy for homes, businesses and public buildings, through the Green Jobs Initiative. Investments are made through several funds (Greenhouse Gas Emissions Reduction Fund, the Renewable Energy Fund, ARRA funding, Energy Efficiency Loans and the Business Energy Efficiency Program).***<br>***Created low-interest loans under the Renewable Energy and Energy Efficiency Business Loan Program to help the commercial sector purchase equipment that reduces energy consumption or generates renewable energy (See also Clean Energy Economic Development).*** |
| **New Jersey** | • Green Jobs Training Partnership Program and the New Jersey Center for Energy and Environmental Training for entry-level workers<br>• Green Corps training programs trains out-of-school youth in green jobs<br>***Provided incentive payments to developers for the construction of 2,000 megawatts of natural gas-fired generation and guarantees a minimum return to developers to build plants.***<br>***Provided tax incentives equal to 100% of the qualified capital investment made by a business for certain businesses engaged in manufacturing wind energy equipment. Businesses must demonstrate the state's financial support of the facility will yield a net positive benefit for the state.***<br>***Created a package of financial incentives for offshore wind development and set a target of 1,100 megawatts of wind generation off of New Jersey's coast (SB 2036- See also Clean Electricity).*** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **New Mexico** | Established the Clean Energy Development Council a multi-agency one-stop-shop to facilitate the development of clean energy<br>• Established a Green Jobs Cabinet to develop recommendations for meeting the education and workforce training needs in the green economy (Executive Order 2009-002)<br>• Acting on recommendations issued by the Green Jobs Cabinet, called for the development of a "green grid", established a Research Applications Center, a Deep Source Geothermal Commercialization Working Group, and charged several departments with different roles in promoting the green economy (Executive Order 2010-001)<br>• Created the Higher Education Alternative Energy Program Awards which funds the development of courses of instruction and degree programs in the fields of alternative energy and energy efficiency at four-year public institutions and two-year institutions to provide alternative energy and energy efficiency programs and courses of instruction for students seeking licensure or certification as electricians, plumbers, mechanics, welders and heating, ventilation and air conditioning personnel or similar professions (SB 288)<br>• Green Jobs Development Training Fund allows the Industrial Training Board to spend up to $1 million of development training funds for the development of training in green industries (SB 318)<br>• Green Jobs Act authorizes the establishment of a "Green Jobs Fund" and directs the Higher Education Department to develop a plan for the development of green jobs training programs (HB 622)<br>• Established Renewable Energy Transmission Authority<br>• As a means of stimulating or guaranteeing demand at state and local levels for the production of existing clean tech manufacturers and producers, and assisting in attracting new businesses three pieces of legislation were passed: Solar Energy Improvement Special Assessments (HB 572), Renewable Energy Financing District Act (SB 647) and Public Building Energy Efficiency Standards (SB 200)<br>In order to provide incentives for job creation, New Mexico offers tax credits in the following categories: renewable energy production, advanced energy, biodiesel blending facility, biodiesel fuel tax, solar market development income, sustainable building, R&D small business, and technology jobs; offers tax exemptions for hybrid vehicles and solar energy systems gross receipts; and offers tax deductions available for research and development gross receipts<br>• The following financial incentives were updated or added in 2009 or 2010: tax credits for renewable energy, sustainable building, geothermal heat pumps, solar market development, solar and wind energy equipment gross receipts and electric generating facility gross receipts<br>• The film and television production tax credit is coupled with the "Green Filmmaking" program |
| **New York** | • Energy Efficiency Portfolio Standard (EEPS) provides $6.6M for workforce development activities targeted at the energy efficiency sector<br>• The Green Jobs-Green New York (GJ-GNY) Program provides $8M in workforce development funds for retrofit and energy auditing, solar thermal, and oil efficiency training<br>• GJ-GNY is designed to create job opportunities for new entrants into the state's workforce and to retrain long-term unemployed and displaced workers<br>• Activities will enhance EEPS funded activities<br>• Established six clean energy business incubators throughout New York State<br>• Established a NYSERDA Entrepreneurs-in-Residence program to provide mentors to clean energy startup companies |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **New York (continued)** | • Established the CleantechExecs program to transition experienced executives from other sectors into clean energy<br>• Established several clean energy entrepreneurial development and training programs throughout the state<br>• Saratoga Technology + Energy Park (STEP) is a public-private partnership developing a 280-acre site into a clean energy knowledge community that offers lab, manufacturing, office and training space to companies involved in energy and environmental technologies<br>**The 'Recharge New York' program gives New York businesses the opportunity to buy low-cost power and spend the savings on retaining and creating jobs. Businesses participating in the program must also demonstrate a commitment to maximizing energy efficiency.**<br>**Expanded the Green Jobs/Green New York program by allowing homeowners and businesses to pay back loans for energy efficiency upgrades using a surcharge on local utility bills (SB 4490 – See also Energy Efficiency).** |
| **North Carolina** | The North Carolina Green Business Fund was established to provide grants to private businesses with fewer than 100 employees, nonprofit organizations, local governments, and state agencies to encourage the expansion of small and medium sized businesses to help grow a green economy<br>***Awarded grants to private businesses with fewer than 100 employees, nonprofit organizations, local governments, and state agencies through the North Carolina Green Business Fund to maximize development, production, distribution, retail infrastructure, and consumer purchase of biofuels, including grants to enhance biofuels workforce development.***<br>***Reinstated a tax credit for costs incurred in the construction or retooling of a facility to manufacture renewable energy property or "a major component subassembly for a solar array or wind turbine". The credit is worth 25% of the eligible costs (See also Clean Electricity).*** |
| **North Dakota** | ***Created the Small Business Technology Investment Program to allocate grants of up to $50,000 to technology-based start up companies (See also Clean Energy Economic Development).*** |
| **Ohio** | In May 2008, provided funding for Edison Technology Centers to establish an advanced energy manufacturing center; allows any Ohio university or independent research group addressing green economic development issues to be eligible for assistance<br>• Ohio Green Pathways projects links training opportunities with jobs in green industries<br>• Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Awarded funds through the Ohio Job Stimulus Plan Advanced Energy Program to renewable energy projects that serve to attract new investment to Ohio. It reserves $84 million for non-coal projects, and seeks to build upon Ohio's manufacturing strength, advance energy technology development toward commercialization, and prepare Ohio's workforce for the future.*** |
| **Oklahoma** | • Establishing and implementing an energy efficiency and renewable energy worker training program in 2009 (HB 1682, Green Jobs Act)<br>***Enabled a $2,000 credit per electric vehicle for manufacturer of EVs that can legally be operated on interstate highways and turnpikes in the state. Manufacturers of four-wheeled medium-speed EVs are eligible for a $1,000 credit per vehicle. Manufacturers of four-wheeled low-speed EVs are eligible for a $500 credit per vehicle.*** |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Oregon** | Incorporated clean energy into the Sustainable Oregon Workforce Initiative in 2007 to coordinate and enhance clean energy workforce development<br>• Instructs the State Workforce Investment Board to develop a plan for an initiative to promote the growth of green jobs (HB 3300)<br>• Requires the plan to identify high demand green industries and promote certain workforce development activities<br>• Requires the board to define terms related to green jobs and the green economy<br>• Requires the Economic and Community Development Department to develop criteria for and make recommendations about promoting green industries, technology and innovation<br>**Added the forest product industry to the industries the State Workforce Investment Board must take into consideration when developing their green jobs plan (HB 2840).**<br>***Created a tax credit of up to 50% for the cost of a renewable energy resource manufacturing facility during the period the facility is certified. Costs include capital construction costs and any other expenses incurred in the construction, installation or acquisition of the facility (HB 2523).*** |
| **Pennsylvania** | • Provided $5 million in funding for Career Opportunity grants in green collar jobs<br>• Released the Pennsylvania Green Jobs Report in January 2010<br>**Amended the Workforce Develop Act to establish statutory guidelines for the establishment and operation of "Industry Partnerships" to foster workforce development (SB 552).** |
| **South Carolina** | ***Reduced 20% from the cost and taxable fair market value for manufacturing machinery and equipment purchased for use at a renewable energy manufacturing facility including those manufacturing batteries for hybrid electric, fuel cells or other certified motor vehicles.*** |
| **South Dakota** | • Participant in the Platform for Creating and Retaining Midwestern Jobs in the New Energy Economy<br>***Established a tax refund for new and expanded wind-energy facilities, new or upgraded electric transmission lines and associated facilities, and business facilities that manufacture or distribute wind or transmission components. Only facilities built after January 1, 2010 are eligible.*** |
| **Tennessee** | • Released the report, "Growing Green: The Potential for Green Job Growth in Tennessee"<br>**Launched Startup Tennessee to link entrepreneurs with training opportunities, mentors, and potential capital investors.**<br>***Allowed a taxpayer to take a credit, to apply for a refund of taxes paid, or to apply for authority to make tax-exempt purchases of machinery and equipment used to produce electricity in a certified green energy production facility (See also Clean Electricity).***<br>***Reduced tax rate for manufacturers of clean energy technologies to 0.5% if they make a minimum $100 million investment, create and maintain 50 full-time jobs for 10 years that pay 150% above the state occupational average wage.***<br>***Created the Biodiesel Manufacturers' Incentive Fund, which provides Tennessee biodiesel producers with payments for up to 10 million gallons of biodiesel fuel produced and sold annually to Tennessee distributors.*** |
| **Texas** | Exempted corporations engaged solely in the business of manufacturing, selling, or installing solar energy devices from the franchise tax |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
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| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Utah** | Created the Alternative Energy Development Incentive to provide post-performance refundable tax credit for up to 100% of new state tax revenues as a way to attract to renewable energy producers and manufacturers who locate their projects in Utah (See also Clean Electricity)<br>Exempted the purchase or lease of equipment used to generate electricity from wind, solar, biomass, landfill gas, anaerobic digestion, hydroelectricity, and geothermal resources from the state sales tax (See also Clean Electricity)<br>Established the Custom Fit training program to provide e subsidized, specialized employee training for Utah companies. The program is administered through the Utah College of Applied Technology centers and state colleges and universities. This incentive typically supplies a match grant up to $20,000 per company per year for professional training programs.<br>The Utah Department of Workforce Services has created an educational initiative focused on training incumbent workers to improve their skills for the Utah workforce. This training program encourages and rewards workers already in the workforce to improve their knowledge and skills within their industry. |
| **Vermont** | • Vermont Sustainable Jobs Fund has provided grants and technical assistance to businesses with natural resources based sectors since 1995<br>• Formulated a strategy for environmental technology sector workforce development and training |
| **Virginia** | • The Virginia Community College System offers green job training across the community college system<br>• New or expanded programs are being implemented in wind turbine service, HVAC systems, and other areas<br>• Numerous community based organizations are providing green jobs training, including groups such as the Community Housing Partnership, Dan River Region Collaborative, Shenandoah Valley Workforce Investment Board, and Green Jobs Alliance<br>• Grants to accelerate development of Virginia energy production from renewable biomass and waste streams<br>• Funds to support new or grow existing energy efficiency or renewable energy businesses and manufacturers<br>• The governor's legislation to establish a $2500 per green job tax credit (over five years) for green jobs paying an annual salary in excess of $50,000<br>• This credit will be available for green jobs created<br>• The taxpayer is allowed a credit for up to 350 new green jobs<br>• Provides a tax credit for job creation in the fields of cellulosic ethanol production, vehicle conversion to ethanol, and manufacturing of vehicle parts for conversion<br>• Created a $500 income tax credit for the creation of green jobs (SB 623) |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Virginia (continued)** | Created a $2,500 per green job tax credit (over five years) for green jobs paying an annual salary in excess of $50,000<br>***Offered a job creation tax credit of up to $700 per full-time employee for businesses involved in alternative fuel vehicle (AFV) and component manufacturing, alternative fueling equipment component manufacturing, AFV conversions, and advanced biofuels production. Qualified AFVs include vehicles that operate using natural gas, propane, hydrogen, electricity, or advanced biofuels (SB 1236).***<br>***Created financial incentives through the Clean Energy Manufacturing Incentive Grants to companies that manufacture or assemble equipment used to produce renewable, nuclear, conservation, storage, or grid efficiency purposes. To be eligible for a grant, the manufacturer must make a capital investment greater than $50 million and create at least 200 full-time jobs that pay at least the prevailing wage (SB 1360 / HB 2316).***<br>***Directed the utility regulators to consider "furtherance of the economic and job creation objectives of the Commonwealth" among the factors when they decide whether or not to approve a proposed electric generation facility (HB 1912).***<br>***Provided a corporate income tax credit for the creation of full-time clean fuel vehicle jobs. The allowable tax credit under the Clean Fuel Vehicle Job Creation Tax Credit is $700 per qualifying job created for the first taxable year and the two succeeding taxable years, for a maximum "per job" credit of $2,100. The credit is available until the 2014 taxable year (SB 1236).***<br>***Extended the sunset date of the Clean Fuel Vehicle and Cellulosic Biofuels Job tax credit to 2016 (SB 1236).*** |
| **Washington** | In 2007, set the goal of reducing global-warming pollution and increasing the number of green jobs in the state to 25,000 by 2020; HB 2815, signed in June 2008, created initiatives for workforce training and education in green jobs, including grants for curriculum development and retraining<br>• Released the reports "2008 Green Economy Jobs in Washington State" and "Washington State's Green Economy: A Strategic Framework" outlining the current state of the green economy, the benefits, and barriers to further development<br>• Additional research to this report was commissioned<br>• The Evergreen Jobs Initiative is a public-private partnership to coordinate green economic development<br>• The Clean Energy Leadership Council is charged with aligning policies, technologies and capital<br>***Combined the Washington Technology Center (WTC) and the Spokane Intercollegiate Research to create Innovate Washington to: facilitate research supportive of state industries and provides mechanisms for collaboration between technology-based industries and higher education institutions; help businesses secure research funds and develops and integrates technology into new products; offer technology transfer and commercialization training opportunities; and serve as the lead entity for coordinating clean energy initiatives (SB 5764 – See also Clean Energy RD&D and Clean Electricity).*** |
| **West Virginia** | • West Virginia's new Green-Up Council is developing an energy sector education and training plan that aligns with the state's energy plan and supports job expansion and creation in the energy efficiency, renewable energy, alternative energy and advanced traditional energy fields<br>• Using ARRA funding, West Virginia is establishing curriculum at selected community and technical colleges on wind, solar, building energy efficiency and energy codes |

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# CLEAN ENERGY ECONOMIC DEVELOPMENT

## Task Force, Workforce Development, Incentives, Analysis, Etc.

| DEFINITION | |
|---|---|
| Policy and research initiatives, education, training and workforce development efforts, and financial incentive programs to stimulate the demand for clean energy, increase workforce opportunities and enhance economic development. | |
| **Wisconsin** | • A $100 million fund that streamlines and aligns existing state and federal resources, including 100% of Wisconsin's $55.5 million SEP ARRA allocation, to assist manufacturers in retooling their facilities to create and retain jobs<br>• Regional Industry Skills Education (RISE), Opportunity Grants, and Skill Jump Start Grants fund training workers in green jobs<br>• The Wisconsin Department of Workforce Development (DWD) awarded 10 Emerging Industries Skills Partnership (EISP) grants totaling $850,000 in 2008 and six grants totaling $600,000 in 2009, all leveraging additional funding by workforce region for job training projects to help ensure skilled workforce in emerging sectors of advanced manufacturing, biotechnology and renewable energy<br>• Nearly $3 million in Wisconsin Industry Partnership Grants support a new, industry-driven approach to training by targeting resources to meet sector needs on a regional basis<br>• Using a $6 million ARRA 2009 grant to expand its Apprenticeship Program and train nearly 3,000 workers for clean energy jobs in the building trades and manufacturing, including weatherization technician and energy auditor<br>• Launched an "Energy Advocate Youth Pilot" to help disadvantaged youth gain employment and homeowners save on energy costs<br>• Wisconsin Technical College System (WTCS) encourages energy conservation and promotes improvements in energy efficiency through education and training<br>• WTCS leadership established a steering committee for the purpose of implementing collaborative and comprehensive strategies to meet the need for Green Jobs at the local, regional and state levels |
| **Puerto Rico** | • The Department of Labor and Human Resources, in collaboration with the Energy Affairs Administration is developing an information system for identifying green jobs |

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# OTHER

## Miscellaneous Categories

**DEFINITION**

This includes items not covered in the categories above.

| STATE | ACTIONS BEING TAKEN |
|---|---|
| **Alaska** | **Nuclear Power**<br>• Pending legislation proposes numerous statutory changes to remove language that would prohibit future consideration of nuclear energy (SB 220)<br>• The advancement of technology and design for micro reactors is being watched closely by some rural Alaska communities that have limited local opportunities for renewable power generation |
| **Arkansas** | **Arkansas Alternative Energy Commission**<br>• ***Created the Arkansas Alternative Energy Commission, which is tasked with studying the needs and impacts of various forms of alternative energy on the economic future of Arkansas (Act 1301)*** |
| **California** | **Nuclear Power**<br>Before any new nuclear facilities will be considered, the federal government must have a means of disposal for nuclear waste. Also requires legislative ratification for their commission's decision to license nuclear power plant. |
| **Connecticut** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste. Does not allow any public service company to charge rates which include costs associated with the construction of a nuclear power generating facility. Makes some cost and value provisions. |
| **Hawaii** | **Nuclear Power**<br>Currently has a moratorium on the construction of new nuclear power plants. Also requires legislative ratification for their commission's decision to license a nuclear power plant. |
| **Illinois** | **Green Governments Coordinating Council**<br>• The Green Governments Coordinating Council (GGCC) established (SB 46, Green Governments Illinois Act)<br>• Implements the state's Lead-by-Example sustainability programs<br>• Oversees development of state agency sustainability plans and serves as a resource for state agencies, local governments, and educational institutions working to green their operations and policies<br><br>**Nuclear Power**<br>Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste. Also requires legislative ratification for their commission's decision to license a nuclear power plant.<br>Created the Nuclear Power Issues Task Force to study and compile nuclear power issues. The Task force is to report its findings and recommendations by January 1, 2010 (SJR 4)<br>***Enacted measures which: increased fees paid by Exelon to fund upgrades to remote monitoring systems at each reactor site; hired additional nuclear safety experts; and updated vital nuclear safety equipment (HB 1723).*** |

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| **Indiana** | **Environmental Stewardship Program**<br>The Indiana Comprehensive Local Environmental Action Network (CLEAN) Community Challenge is a voluntary recognition program for local Indiana government; CLEAN helps communities take steps to plan, develop, and implement a quality of life plan; this plan includes gathering input and support from the community and local businesses |
| **Kansas** | **Nuclear Power**<br>Public Service companies are not allowed to recover costs for excess nuclear capacity if there is no means of disposal of high-level nuclear waste available |
| **Kentucky** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have a means of disposal for nuclear waste |
| **Maine** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires voter ratification for their commission's decision to license a nuclear power plant. |
| **Massachusetts** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires voter ratification for their commission's decision to license a nuclear power plant.<br><br>**Wind Development**<br>Approved final environmental impact report for Cape Wind, the first offshore wind farm in America, projected to produce 450 MW just off the coast of Massachusetts; federal approval was granted; with assistance from DOE, building just one of the two Wind Technology Testing Centers in the country<br>***Negotiated a long term contract for Cape Wind with National Grid for one-half of its electricity and REC output.***<br><br>**Utility Mergers**<br>***Before utilities can merge, the Department of Public Utilities must find that the merger is in the public interest by providing 'net benefits'. In making this determination, the Department must consider reasonably foreseeable climate change impacts.*** |

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| **Michigan** | **Green Communities Challenge**<br>• The Michigan Green Communities Challenge is designed to ensure that all Michigan communities have the tools to take the necessary steps to implement short-term and long-range actions that lead to energy efficiency improvements producing significant cost savings<br><br>**Fuel Efficiency Education**<br>The Department of Natural Resources and the Environment and the Department of Technology, Management, and Budget must develop an Eco-Driver Program for all employees using state vehicles. This program will provide education and training materials designed to maximize vehicle fuel economy by educating drivers on how driving patterns, vehicle technologies, and vehicle maintenance impact fuel economy. The Eco-Driver Program will serve as a model for the future development of an Eco-Driver Program targeted towards the general public. |
| **Minnesota** | **Nuclear Power**<br>Currently has a moratorium on the construction of new nuclear power plants |
| **Montana** | **Energy Development Project Environment Review**<br>• Environmental review laws related to energy development projects revised (77-1-122 MCA)<br>• Limits the scope of environmental review under the State Environmental Policy Act for energy development projects on state lands<br><br>**Nuclear Power**<br>Requires voter ratification for their commission's decision to license a nuclear power plant. Also requires a bond of not less than 30% of the capital costs of constructing a new nuclear plant before construction. |
| **Nevada** | **Renewable Energy and Energy Efficiency Programs**<br>• Created the Renewable Energy and Energy Efficiency Authority (SB 358)<br>• The State and Local Government Panel on Renewable and Efficient Energy advises the Nevada Energy Commissioner and the Authority on issues relating to the viability and progress of energy efficiency and renewable energy retrofit projects at public buildings and school<br>• The New Energy Industry Task Force advises the Authority on measures to promote the development of renewable energy and energy efficiency projects |
| **New York** | **Nuclear Power**<br>Prohibits public service companies from recovering costs associated with nuclear power through rates |
| **North Carolina** | **Energy Administration**<br>• The governor signed legislation moving the State Energy Office into the North Carolina Department of Commerce (HB 1481) |

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| **Oklahoma** | **Energy Independence Act**<br>• Created County Energy District Authorities to oversee grants, energy audits and other energy security functions<br><br>**Clean Energy Independence Commission**<br>• Created a commission of representatives from government agencies, private energy industries and public and private universities to address a variety of energy issues |
| **Oregon** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have an operational and licensed nuclear waste disposal facility that is accepting nuclear waste products. Also requires voter ratification for their commission's decision to license a nuclear power plant. |
| **Pennsylvania** | **Nuclear Power**<br>Requires a cost and environmental comparison to coal before any new nuclear facility is considered |
| **Rhode Island** | **Nuclear Power**<br>Requires legislative ratification for their commission's decision to license a nuclear power plant. Some costs associated with nuclear are excluded from rates. |
| **Tennessee** | **Governor's Task Force on Energy Policy**<br>The Governor's Task Force on Energy Policy is charged with identifying: Lead-by-Example opportunities for energy efficient state buildings; prospective energy efficiency regulations and incentives to encourage conservation in the public and private sector; possible partnerships and collaborations to encourage research and development of clean energy technology; and strategies for expanding the use of alternative fuels in the state |
| **Vermont** | **Nuclear Power**<br>***Created a legislative ratification requirement for their commission's decision to license a nuclear power plant.*** |

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| **Virginia** | **Virginia Energy Plan**<br>• The Virginia Energy Plan established a comprehensive energy policy and energy policy objectives in the Code of Virginia<br>• The Department of Mines, Minerals and Energy is charged with drafting a new plan every four years to reflect each new governor's policy initiatives<br><br>**Offshore Energy Production**<br>• Virginia policy supporting oil and natural gas exploration, development, and production 50 miles or more off Virginia's coast, taking into account the impact on affected localities, armed forces, and the mid-Atlantic regional spaceport<br>• Two wind power developers have submitted lease offers to the federal Minerals Management Service for federal waters off of Virginia's coast<br>• MMS is working with the Commonwealth on leasing offshore waters for wind power projects<br><br>**State Telework and Alternate Work Schedule Policy**<br>• The Secretary of Administration is required to establish a comprehensive statewide telecommuting and alternative work schedule policy<br>• Consistent with this policy, agencies have a goal that 20% of employees in eligible positions are to telework and 25% of its employees in eligible positions are to use alternate work schedules |
| **West Virginia** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have a nuclear waste disposal facility that has been operational for 24 months and is accepting waste product. Also requires that the cost of any nuclear project proposal be economically feasible or advantageous for rate payers. |
| **Wisconsin** | **Nuclear Power**<br>Before any new facilities will be considered, the federal government must have an operational nuclear waste disposal facility accepting waste product. Also requires that the cost of any nuclear project proposal be economically feasible or advantageous for rate payers. |
| **Puerto Rico** | **Puerto Rico Verde Campaign**<br>• Developed the Puerto Rico Verde Campaign to promote public awareness in energy matters and create a new consciousness through energy conservation and efficiency measures<br>• The campaign uses the educational promotion: "Turn off, Un-plug, and Replace" |

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(1) the data in plain text references actions from the 2008 and 2010 editions of this report

(2) the data in ***black italic*** is new (from June 2010 to August 2011)

(3) the data in **black bold** cover actions taken during the tenure of a new governor (January 2011 – August 2011).

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