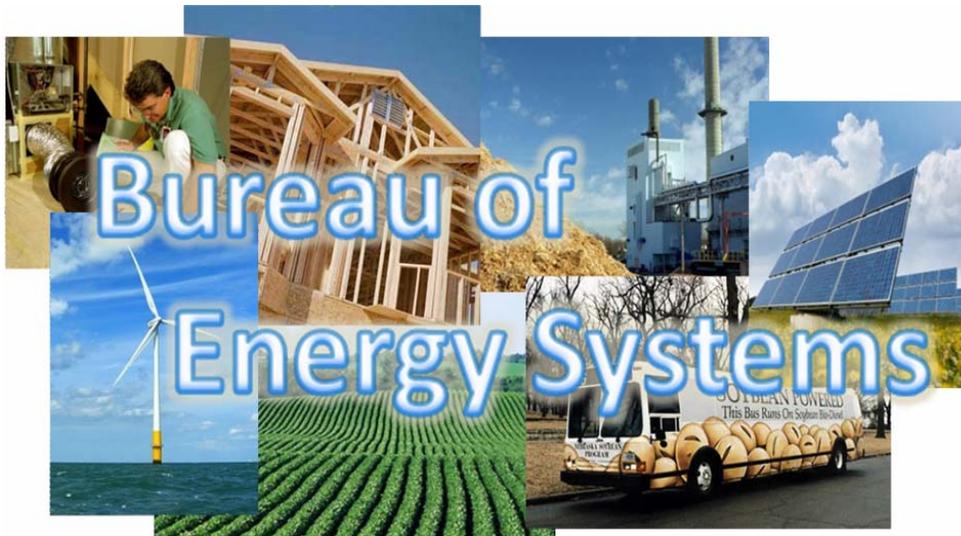




Michigan's Energy Future Today

Department of Energy, Labor, and Economic Growth
February 17, 2010



Obama Administration

- Energy and Climate Goals:

- Invest in alternative and renewable energy;
- End our addiction to foreign oil;
- Address the global climate crisis and;
- Create millions of new jobs.



- American Recovery and Reinvestment Act
- Federal 2011 Budget Bill
- Jobs Bill

Michigan Today

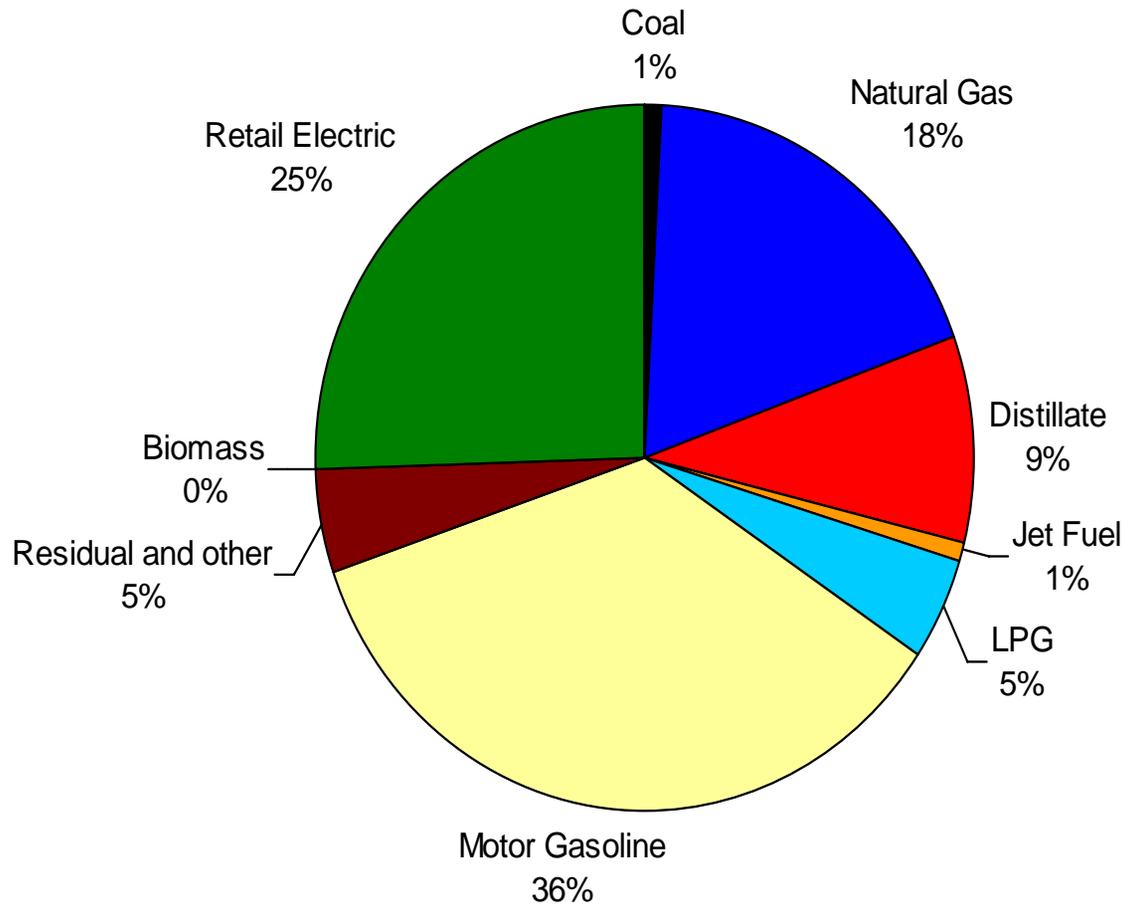
- Michigan Exports Dollars to Import Energy:
 - 100% coal
 - 97% oil
 - 80% natural gas

- \$26 Billion Leaves Michigan Each Year



Michigan Energy Expenditures by Source

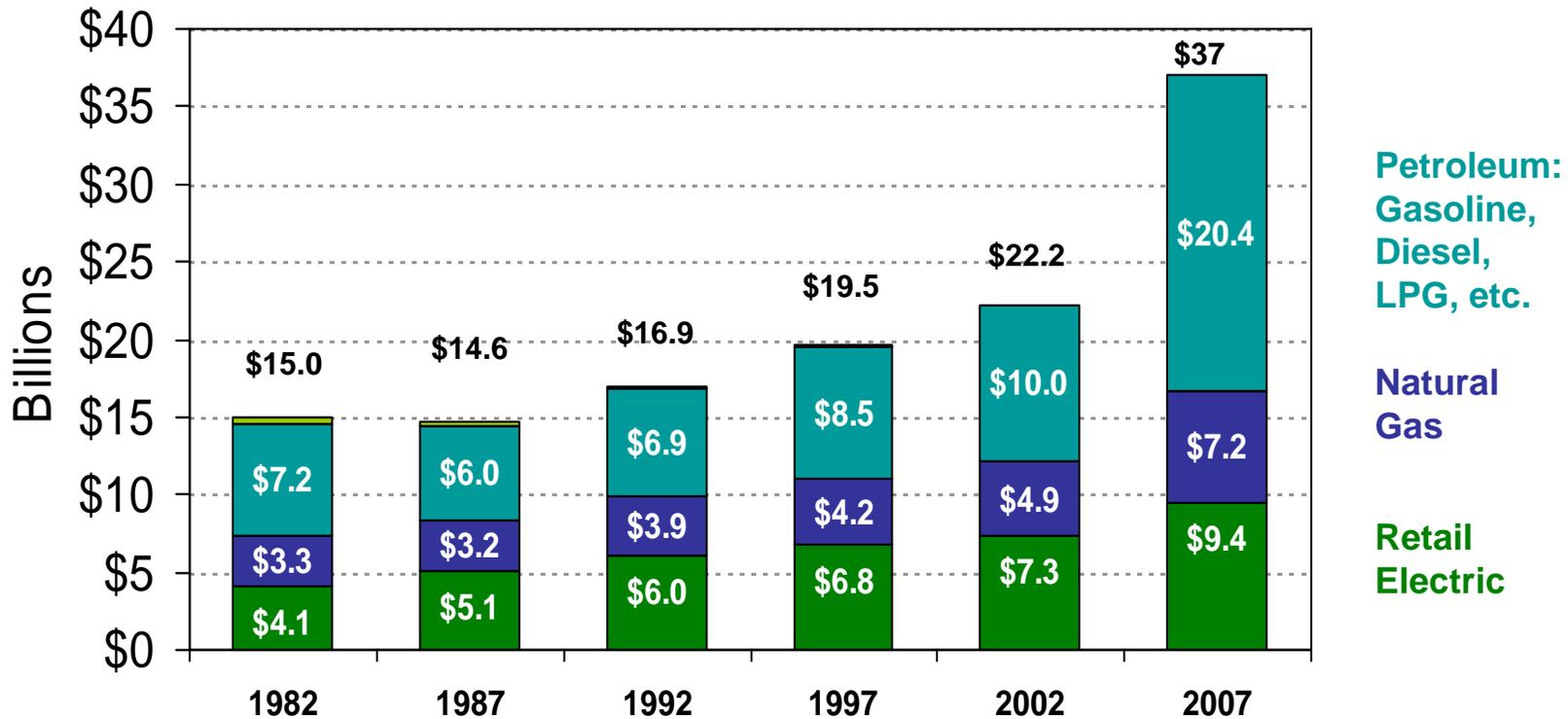
Spending as a percentage of the total for calendar year 2007



Michigan spent an estimated \$37 billion on energy in 2007.

Note: the cost of fuels used to generate electricity are included in the retail electric costs. Coal use is non-utility industrial costs. Source: Base data, State Energy Expenditures Report Energy Information Administration 2007 Estimates and graph prepared by: Energy Data and Security, Michigan Public Service Commission

Michigan Total Energy Expenditures



MICHIGAN CAN PUSH ECONOMIC DEVELOPMENT AND ENERGY EFFICIENCY TO NEW HORIZONS THROUGH FEDERAL SUPPORT

• 2009 Status

- Proven programs that capture energy efficiency opportunities while promoting job creation
 - Retrofit buildings
 - Reduce industrial energy consumption and waste
 - Drive consumer uptake of EE products and services

• Opportunity

Rapid “scale-up” of high job-producing, EE initiatives

6-9 months

- Build on existing infrastructure to expand existing programs in new ways for energy efficiency and economic development
 - Expand retrofitting / green construction of public buildings and low income housing
 - Increase deployment of industrial energy audit services
 - Broaden support for innovative new energy efficiency business ideas

New “bold” initiatives to build sustainable energy industries

9+ months

- Create, pilot and deploy innovative programs that will capture untapped energy efficiency opportunities and promote job creation
 - Launch large scale residential and commercial EE capture programs
 - Dramatically expand uptake of efficiency goods and services produced by Michigan businesses
 - Pilot the demonstration and commercialization of emerging energy efficient technologies

Governor Granholm's Leadership

Goals align with the energy and climate policies of the Obama Administration:

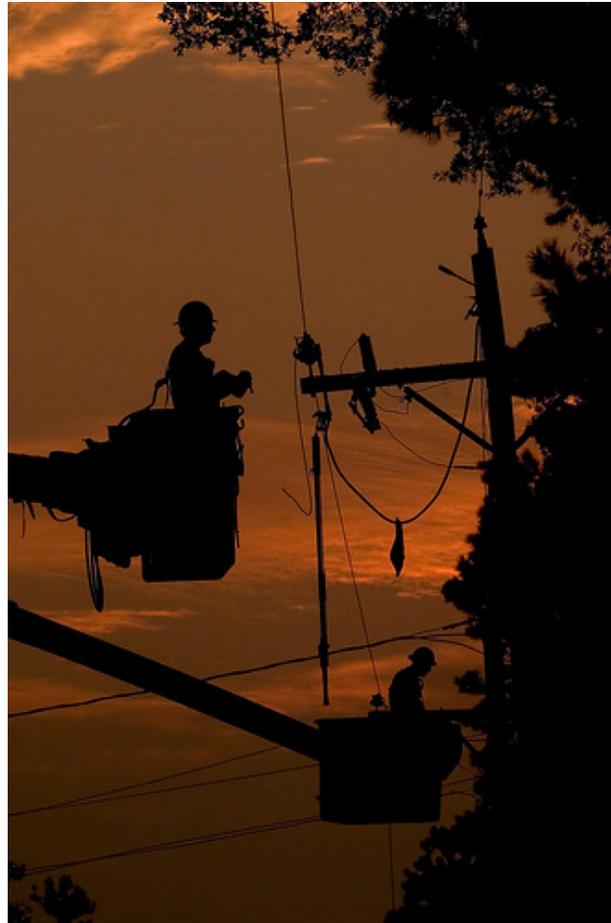
1. Create jobs by transforming Michigan's economy
2. Reduce reliance on foreign fuels
3. Emit less CO2



- Renewable Portfolio Standard
- Energy Efficiency Resource Standard
- Net Metering and Interconnection
- Energy Efficiency and Renewable Energy Opportunity Assessment
- Michigan Climate Action Council
- Green Jobs Report

Vision – Thrive economically by deploying sustainable solutions

- Workforce
- Energy Efficiency
- Renewables
 - Wind
 - Solar
 - Bio-Materials
- Advanced Energy Storage



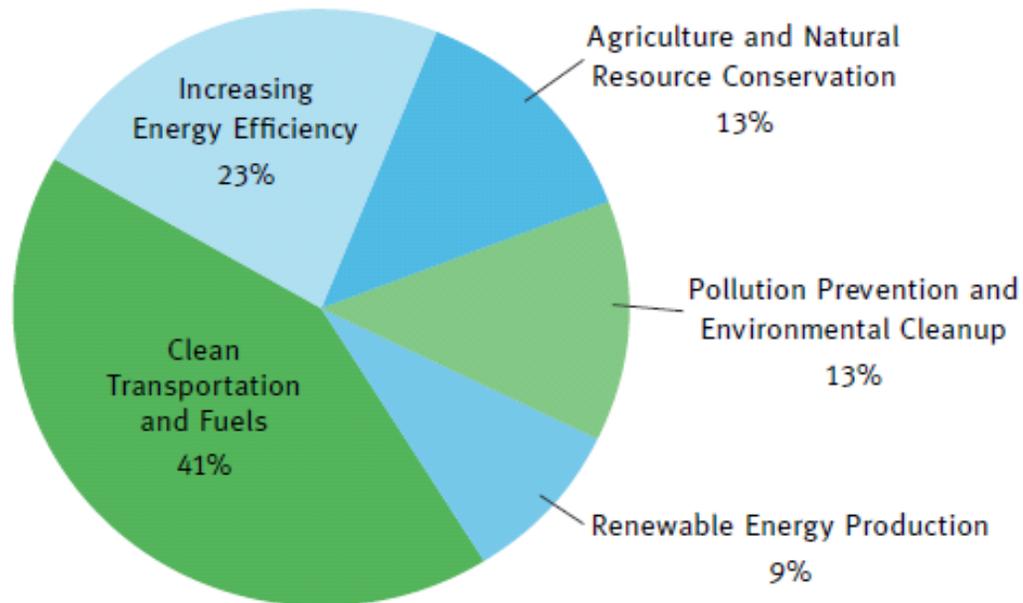
Workforce

- No Worker Left Behind - Green Jobs Initiative to train displaced and career change workers in renewable energy fields
- Green Jobs Report
- Michigan Works Agencies
- Universities and community colleges
- DELEG Bureau of Workforce Transformation partnership with MEDC

Green Jobs Report

- Michigan defines green jobs as jobs directly involved in generating or supporting a firm's green related products or services.

DISTRIBUTION OF DIRECT GREEN JOBS BY CORE AREA



Green Jobs Report

- **Findings:**

109,067 total; 96,7676 direct and 12,300 support. [clean transp and fuels largest area]. huge potential for growth; currently 3 % of overall employment 3.2 m. wide range of occupations; tend to pay well; education and training are keys; hotbed of entrepreneurial activity; renewable energy growth rate 30 %

- **Local, state, and federal public policy will drive further growth in green jobs.**

- From 2005 to 2008, green related firms added more than 2,500 jobs to Michigan's economy, an employment expansion rate of 7.7%
- During this same time the total Michigan employment expansion average was *negative* 5.4%.

- **Green jobs tend to pay well.**

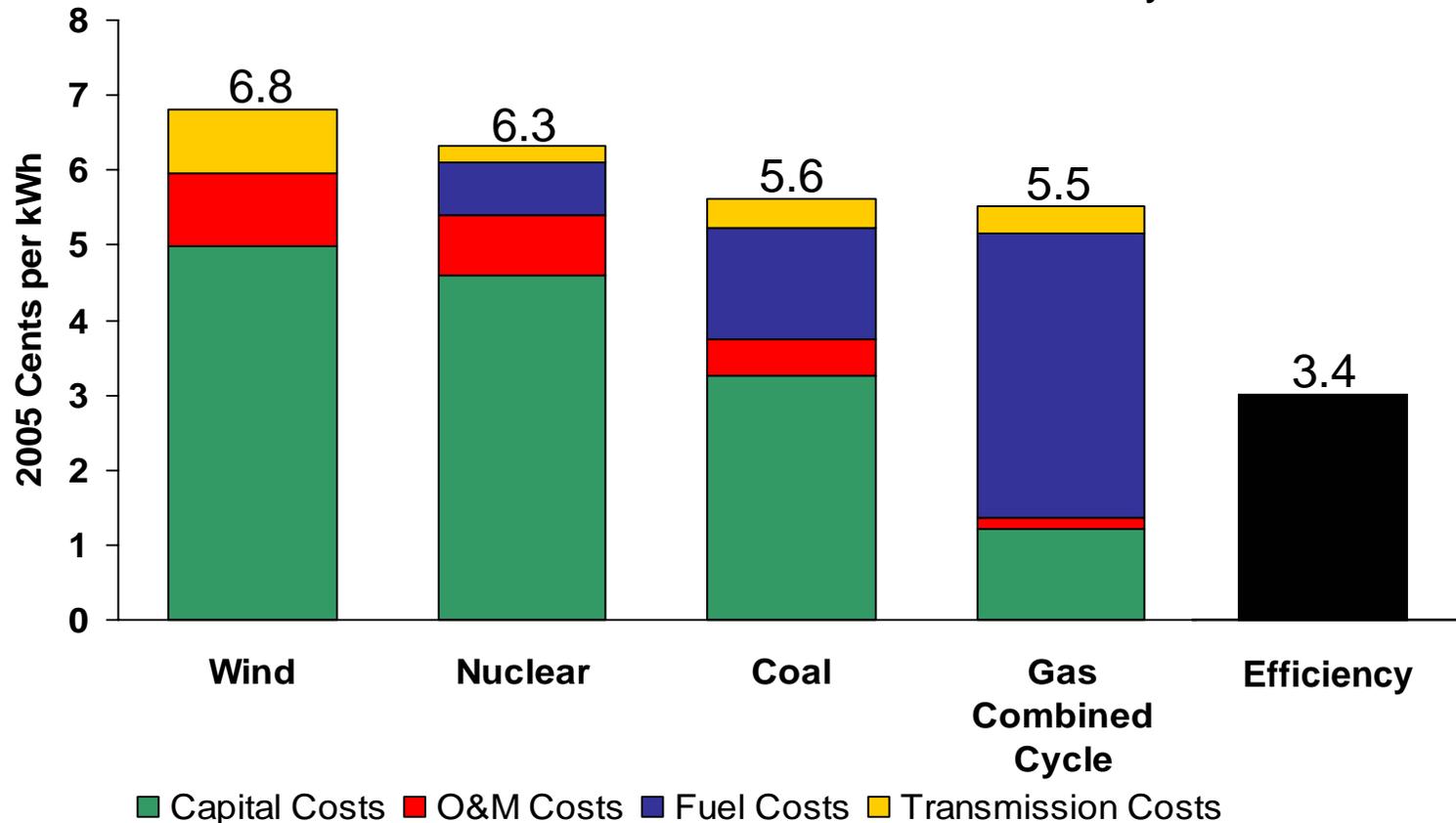
- Thirteen of the top 15 sectors of green employment have weekly wages above the overall private sector weekly average.

- **Education and training are key for green employers.**

- In multiple focus groups, employers emphasized the need for basics in math and reading with additional skills to be acquired on-the-job or in school depending on the precise green job in question.

Energy efficiency improvements remain the fastest, cheapest, cleanest energy resource

Cost of New Generation vs Efficiency



Sources: *Annual Energy Outlook 2007* (EIA), Figure 56, and “Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies” (ACEEE, 2004), Table 5.

Energy Efficiency

- Energy Optimization Statute in 2008 PA 295
- ARRA – 400 million for state energy programs including:
 - Weatherization Assistance Program to weatherize low-income homes
 - Appliance Rebates
 - State and local energy efficiency funding
- **State of Michigan leading the way** – DMB has decreased electrical use in SOM buildings by 23% saving Michigan taxpayers over \$60 million
- Improvement in Michigan building codes
- Michigan Saves
- Reform Effort: New Utility Business Model

Large Scale Wind

- **Michigan is 1 of just 4 states** that will create **more than 30,000 manufacturing jobs** in the wind sector alone.
 - Regional transportation advantage
- Michigan has the potential to be one of the **top 8 states for wind production.**
 - 129 MW installed wind today, over 2000 MW planned under RPS plans.

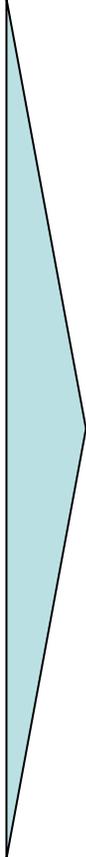
Large Scale Wind

- Core competency in advanced manufacturing for complex machines – automation, drivetrains, lightweight materials, etc.
- NextEnergy Supplier Matchmakings – Over \$700 M in business
- MEDC Supplier Diversification Financing
- Clean Energy Advanced Manufacturing (CEAM)
- Great Lakes Wind Council – off-shore focus
- Wind Energy Resource Zone Board
- Centers of Energy Excellence Program

Solar

- Strong solar company presence in Michigan
 - Hemlock Semiconductor
 - United Solar Ovonic
 - Evergreen Solar
 - Dow Corning
- New product availability – Luma Resources
- Triple Renewable Energy Credit incentive in PA 295
- Michigan Anchor Company Tax Credits
- Innovative utility programs filed under RPS

Advanced Energy Storage

- Positioned to become the leader in battery development
 - State of Michigan tax credits
 - Centers of Energy Excellence
 - Automotive manufacturing strength to support
 - Smart grid and transmission improvements necessary to take advantage of batteries
- 

In August 2009, Vice President Biden announced that \$1.36 billion in federal grants will go to 12 Michigan projects in advanced energy storage and vehicle electrification.

The investment is estimated to create 6,800 new Michigan jobs in the next 18 months, and up to 40,000 jobs over the next 11 years.

Recovery Act

President Obama signed the American Recovery and Reinvestment Act (ARRA) of 2009 on February 17, 2009

- \$18 billion to Michigan
 - Tax credits
 - Existing Programs
 - Competitive Federal Grants



Recovery Act

- Weatherization Assistance Program
+ \$243 million
- Energy Efficiency Conservation Block
Grant + \$76 million
- State Energy Program
+ \$82 million
- Appliance Rebate Program
+ \$9 million



Weatherization Assistance

- Weatherization Assistance Program + \$243 million
- Money flows through MI Department of Human Services
- Distributed by the Community Action Agencies
- Targeted to homes under 200% of poverty level



- Low Income Energy Efficiency Fund
- Energy Optimization Programs
- Low Income Home Heating Assistance Program
- Michigan State Housing Authority Assistance Programs

State Energy Program

BES Program Administrator: Robert Jackson

Jacksonr1@michigan.gov

517-373-2731

- State Energy Program + \$82 million
- Broader criteria for use but still focused on renewable energy
- Can be used for public buildings
- DELEG \$15.5 million grant Clean Energy Advanced Manufacturing awarded
- Revolving Loan Fund established

State Energy Program - Elements

Clean Energy Manufacturing Component \$15.5 M

- Commercially available technologies, adapting to more efficient production. Criteria will be developed and solicitation open competitive.

State Owned Buildings \$51 M

- Qualitative prioritization completed with multiple agencies.
- Quantitative project selection for energy efficiency and renewable energy.
 - Reduce energy consumption in State-owned building
 - Inadequate funding for energy conservation measures
 - Stressed state budget
 - Promote advance manufacturing of renewable energy resources.
 - Reduce the cost of state government

Policy/Program/Project Administration 3 M

Revolving Loan Fund Created \$10 M

Technology Demonstrations & Energy Audits 2.5 m

State Energy Program – Clean Energy Advanced Manufacturing Grant Program

- Designed to accelerate the deployment of Renewable Energy Technology in Michigan with commercially available technologies,
- Adapting to more efficient production.
- Stimulates market transformation and leverages private investment.
- Direct Jobs retain/creation.



CEAM Program Offering

“We can put Americans to work today building the infrastructure of tomorrow “

- Area of Interest 1: Manufacturing of Renewable Energy Systems
- Area of Interest 2: Manufacturing of Components of Renewable Energy Systems

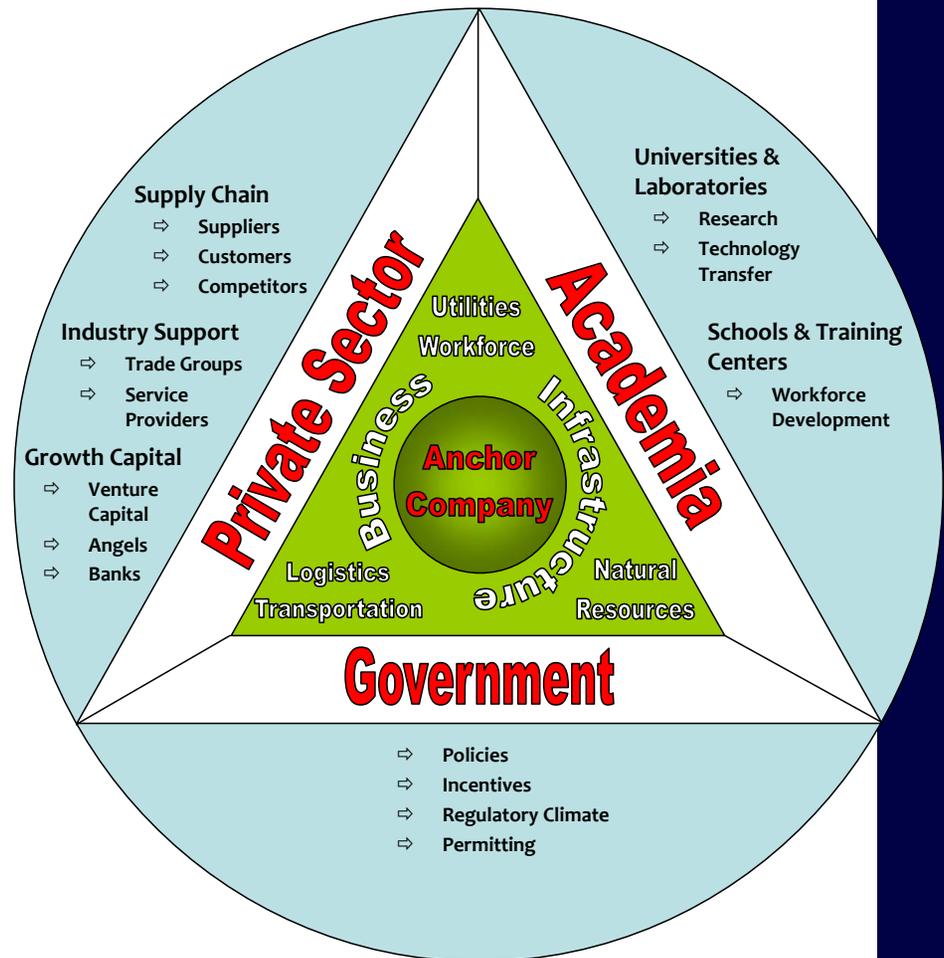
CEAM outreach

- Coordinate with MEDC & Next Energy
- Energy and Environmental Networks
- Regional Partners
- Posting RFP to website
- Press Release
- Workshop presentations
- ARRA presentations



Center of Energy Excellence Swedish “Triple Helix” Model

- Goal is to rapidly grow an industry cluster
- Includes high profile anchor company at the center
- Geographically located in area with strong business infrastructure
- Surrounded by private sector companies, academic institutions, and government entities



EECBG

BES Program Administrator: Jan Patrick

patrickj@michigan.gov

517-241-6153

- Energy Efficiency Conservation Block Grant Michigan Award \$76 million
- 54 m Distributed by formula to large cities and counties directly (must submit plan to DOE)
- 17.6 m Competitively bid to local units for energy efficiency improvements from DELEG
 - 15.4 m multipurpose grants
 - 1.9 m LED Lighting grants
- Technical Assistance Grants
- Green Communities Challenge

Appliance Rebate Program

BES Program Administrator: Stephanie Epps

eppss@michigan.gov

517-373-0483

- Appliance Rebate Program 9.6 million
- Complement and go beyond existing utility EO programs.
- Provide rebates for Energy Star appliances and some that exceed ENERGY STAR standards.
- Michigan Residential rebates
- Compliment to utility E. O. programs
- Launched February 10, 2010, is not retroactive.

Appliance Rebate Details

Eligible Appliances

- Consortium for Energy Efficiency (CEE) Tier 3 Clothes Washers \$50
- ENERGY STAR Dishwashers \$25
- CEE Tier 2 Dishwashers \$50
- ENERGY STAR Refrigerators \$50
- CEE Tier 3 Refrigerators \$100
- ENERGY STAR Oil Furnaces \$300
- ENERGY STAR Plus Propane Furnaces (AFUE 95%) \$300
- ENERGY STAR Propane Storage Hot Water Heaters (EF \geq .67) \$100
- ENERGY STAR Propane Tankless Hot Water Heaters (EF \geq .82) \$100
- ENERGY STAR Solar Hot Water Heaters 20 % max 1200

For More information contact the Contractors at:

- Helgeson Enterprises
 - www.Mlrebates.com
- Michigan Energy Options
 - www.michrebate.com

Appliance FAQs

- Many buyers are familiar with EnergyStar, can you say more about the Consortium for Energy Efficiency?
 - Consortium for Energy Efficiency was set up for utilities that wanted to offer rebates for products that were more energy efficient than Energy Star. CEE has established national standards for energy efficiency that many utilities use in their rebate programs.
- How would a buyer get a rebate?
- Customers can go online or call a toll-free number to reserve a rebate. The reservation will only be valid for 14 days. After buying an appliance, a resident will mail in a rebate application and valid receipt for proof of purchase and self-certify the removal of the old applianceDoes the appliance have to be recycled?
- The appliance has to be replaced, i.e. taken out of the home, but doesn't have to be recycled. However, we expect 90% or more of all the replaced appliances will be recycled. How long will the rebates last?
- I don't know. Some of the retailers have estimated 3-4 months for the refrigerators, clothes washers, and dishwashers. The rebates for furnaces and hot water systems may last longer.

Additional Related Programs

- SEP Revolving Loan Program
- USDA Rural Development Program
- MEDC Supplier Diversification Program
- RETAP Program
- REBUILD Program
- Clean Cities Program
- LIEEF Grants for Schools and Communities

Additional Programs

- MSU Extension and DELEG create the Agri-tap program
- Michigan Biomass Program
- Anemometer loan program through MSU.
- Anemometer tall tower ARRA program to provide more data.
- Education & Outreach opportunities

MI Clean Cities Coalitions

- Detroit Area Clean Cities
- Clean Energy Coalition (Ann Arbor)
- Greater Lansing Area Clean Cities
- West MI Strategic Alliance (seeking designation)



U. S. Department of Energy

Urban Agriculture Initiatives

- Detroit
 - Detroit Agriculture Network
 - The Greening of Detroit
 - Capuchin Soup Kitchen's Earthworks Garden
 - 15,000 acres available
- Flint, Edible Flint A Food Growing Network
 - Collaboration between Genesee County Landbank, Applewood Initiative for Community and Gardening, Salem Housing, Master Gardeners
 - 1,000 acres (16,000 lots abandon and available)
- Supporting Both Initiatives
 - Michigan Food & Farming Systems
 - Michigan State University Student Organic Farm
 - Department of Energy, Labor & Economic Growth
 - MSU Extension
 - MetroAg Innoversity

MetroAg Innoversity

- Multi-stakeholder platform for supporting action learning experiments in the field of agricultural systems for knowledge sharing and evolving the Metropolitan Agriculture vision and practice around the world.
- Takes cities and city based issues as the starting point for action and innovation.
- Amsterdam, Chennai, Detroit/Flint, Johannesburg, London and São Paulo
- Michigan State University has the lead for the Detroit/Flint project.

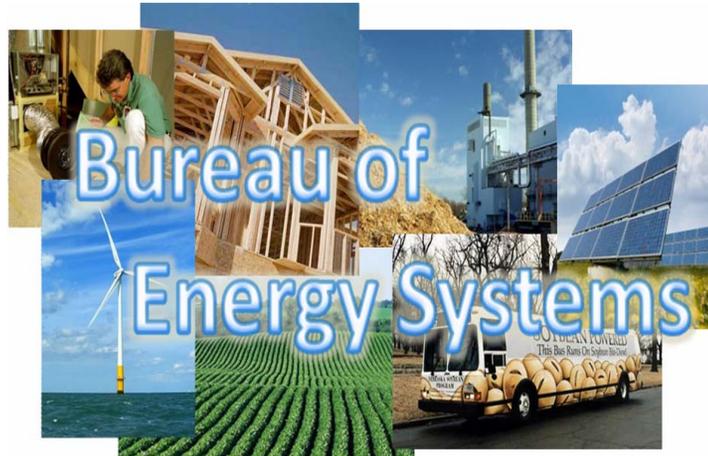
Urban Community Youth Outreach: Weeds to Food and Fuel







Thank you!



Amy Butler

Butlera1@michigan.gov

517-335-2823

<http://www.michigan.gov/energyoffice>

<http://www.michigan.gov/deleg>

<http://www.michigan.gov/recovery>