



34. How many states with RPS standards have a) achieved the standard, b) modified the standard, or c) frozen compliance due to cost or other factors?

Data in the following table are derived from www.dsireusa.org.

State	Renewable Portfolio Standard	2010 RPS Obligation	2012 RPS Obligation	2010 RPS Attainment as % of 2010 Obligation
Arizona	15% by 2025	2.5%	3.5%	93%
California	33% by 2020	20%	20%	86%
Colorado	30% by 2020	5%	12%	100%
Connecticut	27% by 2020	14%	16%	No data
Delaware	25% by 2026	3%	4%	99%
District of Columbia	20% by 2020	5.5%	7.5%	100%
Hawaii	40% by 2030	10%	10%	100%
Illinois	25% by 2025	4%	6%	100%
Iowa	105 MW by 2000	105 MW	105 MW	100%
Kansas	20% by 2020	10%	10%	Not applicable
Maine	40% by 2017	33%	35%	100%
Maryland	20% by 2022	5.25%	8.91%	100%
Massachusetts	32.1% by 2030	11.32%	12.937%	74%
Michigan	10% by 2015	0%	4.8%	Not applicable
Minnesota	25% by 2025	12.5%	15.0%	100%
Missouri	15% by 2021	0%	2%	Not applicable
Montana	15% by 2015	10%	10%	98%
Nevada	25% by 2025	12%	15%	100%
New Jersey	22.5% by 2021	7.406%	7.992%+4 42 GWH	100%
New Mexico	20% by 2020	6%	8.2%	100%
New York	29% by 2015	21.935%	24.558%	96%
North Carolina	12.5% by 2021	0.02%	3%	100%
Ohio	12.5%/25% by 2025	0.5%	1.5%	100%
Oregon	25% by 2025	0%	5%	Not applicable
Pennsylvania	18% by 2021	6.522%	9.721%	No data
Rhode Island	16% by 2020	4.5%	6.5%	100%
Texas	5880 MW by 2015	4264 MW	5256 MW	100%
Washington	15% by 2020	0%	3%	Not applicable
Wisconsin	10% by 2015	5.57%	5.57%	100%

The states that currently have an RPS are listed in the table on the preceding page. Most of these 30 states (including the District of Columbia) have renewable portfolio standards that reach their current horizon in the 2020s and thus have not attained the ultimate required level of renewable energy generation. However, most states have exceeded or are close to meeting interim standards and are on pace to meet their ultimate requirement.

Following are selections from background accounts provided by public service commission staff of the respective states to the Database of State Incentives for Renewables and Efficiency (www.dsireusa.org) for those sixteen states with Renewable Portfolio Standards that have modified or increased the standards.

Arizona

Prior to the 2006 rules, Arizona's original Environmental Portfolio Standard (EPS) required regulated utilities to generate 0.4% of their power from renewables in 2002, increasing to 1.1% in 2007-2012. Solar electric power was to make up 50% of total renewables in 2001, increasing to 60% in 2004-2012. The EPS was an update of repealed 1996 ACC rules for a solar portfolio standard, which set a goal of 0.2% from solar energy by 1999 and 1% by 2003.

California

Prior to the passage of SBX1-2 in April 2011, the RPS approved by the California Legislature stopped at 20% required in 2010 and all future years. Legislation that would have expanded the RPS beyond 20% failed to become law in 2009. In the absence of legislation, California's Governor signed Executive Order S-21-09 in September 2009, which required the California Air Resources Board to adopt a renewable energy program requiring 33% renewable energy by 2020. With SBX1-2 of 2011, the legislature has codified the 33% requirement in state law, requiring the CPUC and the CEC to implement the 33% RPS. SBX1-2 imparts some powers to the Air Resources Board to enforce the requirements on publicly-owned utilities, but the CPUC will be serving as the primary rule-making authority for carrying out the RPS.

Colorado

Colorado became the first U.S. state to create a renewable portfolio standard (RPS) by ballot initiative when voters approved Amendment 37 in November 2004. The original version of Colorado's RPS required utilities serving 40,000 or more customers to generate or purchase enough renewable energy to supply 10% of their retail electric sales by 2015. In March 2007, HB 1281 increased the RPS to 20% by 2020 and extended a separate renewable-energy requirement to electric cooperatives, among other changes. HB 1001 of 2010 further expanded the RPS to 30% by 2020.

Connecticut

Established in 1998 and subsequently revised several times, Connecticut's renewables portfolio standard (RPS) requires each electric supplier and each electric distribution company wholesale supplier to obtain at least 23% of its retail load by using renewable energy by January 1, 2020. The RPS also requires each electric supplier and each electric distribution company wholesale supplier to obtain at least 4% of its

retail load by using combined heat and power (CHP) systems and energy efficiency by 2010.

Delaware

In 2005, S.B. 74 established a renewables portfolio standard (RPS) requiring retail electricity suppliers to purchase 10% of the electricity sold in the state from renewable sources by 2019-2020 (the compliance year, or CY, runs from June - May). In 2007, S.B. 19 increased the RPS target to 20%, with 2.005% required to come from solar photovoltaics (PV). In July 2010 the general renewables target was revised yet again by S.S. 1 for S.B. 119 to 25% by CY 2025-2026, with at least 3.5% from PV. The 2010 amendments did not significantly alter the existing annual renewable energy benchmarks for CY 2010 - 2011 through CY 2019 -2020. The annual PV benchmarks were accelerated for CY 2011-2012 through CY 2018-2019, although the existing CY 2019-2020 requirement of 2.005% PV was only slightly modified to the current level of 2.0%. In July of 2011, S.B. 124 was passed, allowing for qualified fuel cell projects to account for 1 REC per MWh of energy produced and 6 MWh of RECs per 1MWh of SRECs, capping out at a maximum of 30% of the SREC requirements. Qualified fuel cell projects in the state now have to be capable of operating off of renewable energy rather than being required to do so

District of Columbia

In January 2005, the District of Columbia Council enacted a Renewable Portfolio Standard (RPS) that applies to all retail electricity sales in the District. In October 2008 the RPS was amended by the Clean and Affordable Energy Act (CAEA) of 2008. Significantly, this legislation increased the percentage and number of benchmarks that utilities must meet, included solar water heating as an eligible technology, increased the alternative compliance payment and amended reporting requirements. In August of 2011, the RPS was further amended by both the Emergency Distributed Generation Amendment Act (B19-0384), and the Distributed Generation Amendment Act (B19-10), which increased the solar carve out from .4% to 2.50% by 2023. Following a Congressional Review Period, The Distributed Generation Amendment Act became D.C. Law 19-36 on October 20, 2011.

Subsequent to these major changes, more minor amendments clarifying the eligibility of solar thermal facilities located within the District, and geographic eligibility of renewable resources in general were made by D.C. Law 18-0223 in 2010. These changes are not yet reflected in the associated administrative regulations although the law states that the provisions of the law apply as of October 1, 2010. Further amendments were made by D.C. Law 18-0303 in March 2011 to clarify the certification requirements for non-residential solar thermal systems

Hawaii

Hawaii established a renewable portfolio goal in 2001. Hawaii's renewable portfolio goal was replaced with an enforceable renewable portfolio standard (RPS) upon the enactment of SB 2474 (Act 95, Session Laws of Hawaii 2004) in June 2004. Under Hawaii's original renewable portfolio goal, established by Act 272 (SLH 2001), each electric utility was required to establish goals to increase net renewable energy sales to 9% by December 31, 2010. The 2004 standard raised this target and required that 20% of electricity be generated from renewable resources by the end of 2020. Additional modifications were made to Hawaii's RPS law in June 2006 by SB 3185 (Act 162, SLH 2006). The 2006 amendments allowed electrical energy savings generated by renewables including solar water heating and seawater air-

conditioning district cooling systems, among others, to count towards the RPS. The 2006 amendments also allowed electrical energy savings generated by certain energy efficiency technologies to count towards the RPS. In January 2008, the U.S. Department of Energy (DOE) and the State of Hawaii signed a Memorandum of Understanding (MOU) establishing the Hawaii Clean Energy Initiative. This agreement established an aggressive goal to help Hawaii greatly increase its renewable and clean energy production capabilities, and to transition exclusively to renewable energy use on the smaller islands. Although the MOU is not legally binding, it has the potential to help reduce oil consumption in Hawaii by 72% if implementation is successful. The expansion of Hawaii's RPS in 2009 formalized many of the goals established by the Hawaii Clean Energy Initiative in 2008. Hawaii's renewable portfolio standard was significantly expanded by legislation passed in 2009. HB 1464, signed by the governor in June 2009, increased the amount of renewable electrical energy generation required by utilities to 40% by 2030

Maine

Maine's original Renewable Resource Portfolio Requirement was passed as part of the state's 1997 electric-utility restructuring law. In 1999, Maine's Public Utility Commission (PUC) adopted rules requiring each electricity provider to supply at least 30% of their total electric sales using electricity generated by eligible renewable and certain energy efficiency resources. Actually, at the time of passage, the required percentage of renewables was actually lower than the existing percentage supplied.

Eligible facilities include those up to 100 megawatts (MW) in capacity that use fuel cells, tidal, solar, wind, geothermal, hydro, biomass or municipal solid waste in conjunction with recycling. Electricity generated by efficient combined heat and power (CHP) facilities and other systems that qualify as "small power production facilities" under the federal Public Utility Regulatory Policies Act of 1978 (PURPA) also are eligible.

Since 1999, the renewables portfolio standard (RPS) has been amended several times and two separate classes designated. Class II includes existing renewables, which are eligible to meet the 30% requirement described above. Class I is composed of new renewables that have come on-line after September 1, 2005. Unlike Class II, municipal solid waste facilities and CHP facilities are not eligible for Class I and there are more stringent hydropower qualifying requirements. In addition, new wind installations may exceed 100 MW

Maryland

Maryland's RPS was originally enacted in 2004, but has been revised on numerous occasions since that time. The 2004 enactment established a standard of 7.5% Tier 1 renewables by 2019 and 2.5% Tier 2 renewables by 2018 (sunsetting in 2019). Legislation enacted in April 2007 (S.B. 595) added a provision requiring electricity suppliers to derive 2% of electricity sales from solar energy in addition to the 7.5% renewables derived from other Tier 1 resources as outlined in the initial RPS law. The solar set-aside began at 0.005% of retail sales in 2008 and increases incrementally each year to reach 2% by 2020. The set-aside is projected to result in the development of more than 1,250 MW of solar capacity by 2020. In April 2008 H.B. 375 more than doubled the overall Tier 1 requirement and accelerated the compliance schedule. The Tier 2 and solar requirements were left unchanged at this time, but in May 2010 S.B. 277 accelerated the solar compliance schedule and increased solar alternative compliance payment levels

for 2011 through 2016. Finally, Maryland enacted S.B. 717 allowing solar water heating systems commissioned on or after June 1, 2011 to qualify as eligible resources for the solar carve-out, effective January 1, 2012. In order to qualify for the standard solar water heating systems must: be commissioned on or after June 1, 2011; not be used solely to heat a pool or a hot tub; and use SRCC OG-100 certified equipment.

Also in May 2011, Maryland enacted S.B. 690 reclassifying waste-to-energy facilities connected to the Maryland distribution grid as Tier 1 resources. Formerly, all waste-to-energy facilities were considered Tier 2 facilities. The legislation also classifies facilities connected to the Maryland distribution grid that use refuse-derived fuel (formerly not specifically addressed) as Tier 1 resources, effective October 1, 2011. In May 2012 Maryland enacted a suite of bills affecting the RPS. The most significant bill, S.B. 791/H.B. 1187, accelerates the solar carve-out compliance requirements by varying degrees beginning in 2013; pushes up the date for the ultimate 2% target from 2022 to 2020; and allows solar water heating energy production measurements for some systems to be estimated under a certification system other than SRCC OG-300 (subject to Public Service Commission approval). The changes also have the effect of reducing the minimum Tier I resource requirements from 2013 - 2021.

Apart from solar-related changes, in 2012 Maryland also enacted S.B. 652/H.B. 1186 allowing geothermal heating and cooling systems commissioned on or after January 1, 2013 that meet certain standards to qualify as a Tier I resource. Finally, in May 2012 the legislature also enacted S.B. 1004/H.B. 1339 allowing thermal energy associated with biomass systems that primarily use animal waste (possibly supplemented by other biomass resources) to qualify as Tier I resources, effective January 1, 2013.

Massachusetts

Massachusetts' 1997 electric-utility restructuring legislation created the framework for a renewable portfolio standard (RPS). In April 2002, the Massachusetts Department of Energy Resources (DOER) adopted RPS regulations that required all retail electricity providers in the state to utilize new renewable-energy sources for at least 1% of their power supply in 2003, increasing to 4% by 2009. The RPS was significantly expanded by legislation enacted in July 2008 (Green Communities Act S.B. 2768); this legislation established two separate renewable standards -- a standard for "Class I" renewables, and a standard for "Class II" renewables -- as well as an alternative portfolio standard.

Minnesota

Minnesota enacted legislation (S.F. 4) in 2007 that created a renewable portfolio standard (RPS) for Xcel Energy, created a separate RPS for other electric utilities,* and modified the state's existing non-mandated renewable-energy objective. The definition of eligible biomass was refined slightly in 2008 by S.F. 2996 to include the organic components of wastewater effluent and sludge from public treatment plants, with the exception of waste sludge incineration. After January 1, 2010, hydrogen must be generated by other eligible renewables in order to be eligible. In May 2011, the legislature passed S.F. 1197, which requires utilities to submit a report to the commission and legislative committees estimating the rate impact of the activities necessary for compliance. The first report was due in October 2011, and subsequent reports are included as part of the utilities' resource plans.

Nevada

Nevada established a renewable portfolio standard (RPS) as part of its 1997 restructuring legislation. Under the standard, NV Energy (formerly Nevada Power and Sierra Pacific Power) must use eligible renewable energy resources to supply a minimum percentage of the total electricity it sells. In 2001, the state increased the minimum requirement by 2% every two years, culminating in a 15% requirement by 2013. The portfolio requirement has been subsequently revised, most significantly by SB 358 of 2009, which increased the requirement to 25% by 2025. The 2009 amendments also raised the solar carve-out, requiring utilities to meet 6% of their portfolio requirement through solar energy beginning in calendar year 2016. The solar carve-out remains at 5% through the end of calendar year 2015.

AB 3 of 2005 allowed efficiency measures to be used to satisfy a portion of the requirement. To qualify as portfolio energy credits, efficiency measures must be: (1) implemented after January 1, 2005; (2) sited or implemented at a retail customer's location; and (3) partially or fully subsidized by the electric utility. The measure must also reduce the customer's energy demand (as opposed to shifting demand to off-peak hours). The contribution from energy efficiency measures to meet the portfolio standard is capped at one-quarter of the total standard in any particular year. AB1 of 2007 expanded the definition of efficiency resources to include district heating systems powered by geothermal hot water.

New Jersey

New Jersey's RPS was originally adopted in 1999 as part of the state's electricity restructuring legislation with initial renewables targets of 4.0% Class I and 2.5% Class I or Class II resources by 2012. In 2004 the BPU amended the standard to require the renewable energy targets be met by May 2008, and to add a requirement that at least 0.16% of sales come from solar electricity as part of the overall Class I target of 4.0%.

The New Jersey Board of Public Utilities (BPU) made even more extensive revisions to the RPS in April 2006, significantly increasing the required percentages of Class I, Class II, and solar resources towards an ultimate requirement of 22.5% renewables, including 2.12% solar, by May 2021. In December 2007 the BPU issued a far-reaching order (BPU Solar Transition Order) directing that further changes be made to many of the details of the RPS in an effort to increase the effectiveness and efficiency of New Jersey's solar energy policies. Formal rule amendments associated with many of these changes became effective in 2009, although the broader renewable energy targets were not affected. During 2010 the solar carve-out was redesigned and expanded and the offshore wind requirement was also added. In July 2012 New Jersey enacted S.B. 1925 substantially revising its solar carve-out.

New Mexico

In December 2002, the PRC unanimously approved a renewables portfolio standard (RPS) requiring investor-owned utilities to derive 5% of annual retail sales to New Mexico customers from renewable energy sources by 2006, rising to 10% by 2011. In March of 2004, Senate Bill 43 codified the PRC rules and established additional requirements. New Mexico subsequently doubled its RPS for investor-owned utilities and created a separate standard for rural electric cooperatives in March 2007 (Senate Bill 418). The New Mexico Public Regulation Commission (PRC) passed an order in December 2012, making some significant changes to the state's Renewables Portfolio Standard. Notably, the order increased the carve-out for wind from 20% to 30% of the overall standard. It also increased the reasonable cost threshold for investor-owned utilities such that 3% of their total annual revenue must be spent procuring renewable

energy. Cooperative utilities will also have to comply with a 5% reasonable cost threshold beginning in 2015.

Texas

In 1999 the Public Utility Commission of Texas (PUCT) adopted rules for the state's Renewable Energy Mandate, establishing a renewable portfolio standard (RPS), a renewable-energy credit (REC) trading program, and renewable-energy purchase requirements for competitive retailers in Texas. The 1999 standard called for 2,000 megawatts (MW) of new renewables to be installed in Texas by 2009, in addition to the 880 MW of existing renewables generation at the time. In August 2005, S.B. 20 increased the renewable-energy mandate to 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. Wind accounts for nearly all of the current renewable-energy generation in Texas. The 2005 legislation also set a target of reaching 10,000 MW of renewable energy capacity by 2025.

In 2007 H.B. 1090 clarified that RECs retired for other purposes (e.g. sold through a voluntary green power program) could not be counted toward the RPS requirements. The law also permits large utility customers served by transmission voltage to opt out of the RPS requirements. Finally, H.B. 1090 empowers the PUCT to establish alternative compliance payments (ACP) for the RPS and for the non-wind target. To date, the PUCT has declined to set an ACP for either portion, although as noted above, an administrative penalty exists for providers that do not meet the general renewable energy obligation.

Wisconsin

In 1998 Wisconsin enacted Act 204, requiring regulated utilities in eastern Wisconsin to install to an aggregate total of 50 MW of new renewable-based electric capacity by December 31, 2000. In October 1999 Wisconsin enacted Act 9, becoming the first state to enact a renewable portfolio standard (RPS) without having restructured its electric-utility industry. Wisconsin's RPS originally required investor-owned utilities and electric cooperatives to obtain at least 2.2% of the electricity sold to customers from renewable-energy resources by 2012. Legislation enacted in March 2006 increased renewable energy requirements and established an overall statewide renewable energy goal of 10% by December 31, 2015.