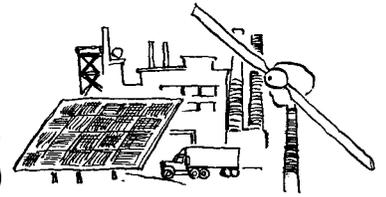




Renewables Portfolio Standards



EPA's State and Local Climate Change Program helps build awareness of the risks of climate change at the state and local levels, and the expertise and capacity to address those risks. The program provides guidance and technical information to help state and local agencies prepare inventories of greenhouse gas emissions, develop action plans to reduce emissions, and educate their constituents. By emphasizing the many economic and environmental benefits of greenhouse gas reductions, the program encourages state and local decisionmakers to implement voluntary measures to reduce their greenhouse gas emissions.

Keeping Renewables in the Mix

A Renewables Portfolio Standard (RPS) is a policy that states may use to remove market barriers to renewable power and ensure that it continues to play a role in the competitive environment that follows restructuring of the electricity generating industry. In their simplest form, Renewables Portfolio Standards specify that a percentage of all electricity generated must come from specified renewable energy sources such as wind, hydroelectric, solar energy, landfill gas, geothermal, and biomass.

Some states require that a minimum percentage must come from new renewable sources, with the percentage increasing gradually over time. These additional requirements help ensure that installed renewable energy capacity increases over

time. Increasing the use of renewable energy will help states reduce their greenhouse gas emissions.

Under a more market-based approach, a state or group of states would allow the standard to be met with tradable renewable energy credits. Utilities and other electricity retailers would earn credits for all renewable-generated power they produce and sell each year, using those credits to demonstrate compliance with the standard. Utilities with excess credits could sell them to others that have not met the standard. Like the U.S. Environmental Protection Agency's sulfur dioxide allowance trading program, this approach is expected to reduce the costs of compliance with the standard.

According to national scenario forecasts by the U.S. Energy Information Administration (EIA), Renewables Portfolio Standards may increase electricity prices somewhat. An RPS that requires retailers to generate 10 percent of all power with renewables by 2020 would add \$2.63 to the average residential customer's projected monthly energy bill by the year 2020. But the average monthly energy bill still would be \$4 less (in 1996 dollars) than it was in 1996, due to the effect of electricity restructuring. In addition, EIA estimates that a 10 percent RPS nationwide would cause U.S. carbon dioxide (CO₂) emissions from the generation of electricity to decline 10 percent by the year 2010.

Some analyses project a smaller effect on electricity prices, primarily because the costs of renewable technologies are

BENEFITS OF RENEWABLES PORTFOLIO STANDARDS

- Reduced emissions of greenhouse gases and conventional pollutants.
- Possible reduction of the cost of renewables through economies of scale.
- Uniform standards that apply equally to all sellers of electricity.
- Greater diversity in the electricity generation mix.
- Minor projected impact on electricity prices.
- Continued growth of renewable power generation after utility restructuring.
- Opportunity to build a strong domestic renewable energy industry.

expected to decline rapidly. A 1999 study by the Union of Concerned Scientists found that achieving a standard of 20 percent renewables generation nationwide by 2020 would increase the share of electricity generated from renewable sources to about 10 times current levels over the next 20 years. The average monthly residential energy bill in 2020 would be \$1.33 higher than without the RPS, but still about \$4.50 less than today's costs.

The Federal Role

The Bush Administration's National Energy Policy, released in May 2001, recommends that funding be increased for renewable energy and energy efficiency research and development programs that are performance-based and cost-shared. The policy supports enacting comprehensive electricity legislation that promotes competition and renewable energy. Congress also has proposed several bills to establish Renewables Portfolio Standards and other programs to boost the use of renewable energy.

Examples of State Renewables Portfolio Standards

As of December 2001, 13 states have established minimum requirements for electricity generated from renewable energy. Eight states (Arizona, Connecticut, Maine, Massachusetts, Nevada, New Jersey, New Mexico, and Texas) enacted an RPS as part of restructuring their electricity industries. Iowa and Minnesota enacted minimum renewable energy requirements for regulated utilities, and Pennsylvania included renewable standards in restructuring settlements with distribution companies. Wisconsin enacted an RPS as part of electricity reliability legislation, without restructuring to allow retail competition. In 2001, the Illinois legislature passed a law (Public Act 92-0012) that sets a goal for at least 5 percent of the state's energy production and use to be derived from renewable energy sources by 2010 and at least 15 percent by 2020.

The renewable energy requirements in these 13 states are estimated to lead to the development of more than 7,000 megawatts of new renewables by 2012—clean power to meet the electricity needs of 3.7 million homes. Furthermore, the requirements will reduce greenhouse gas emissions by 3.6 million metric tons, equivalent to taking nearly 2.6 million cars off the road.

Texas

In 1999, the Texas legislature established an RPS within the restructuring of the state's electricity market. Detailed RPS regulations were subsequently established by the Texas Public Utilities Commission and go into effect in 2002. The Texas RPS requires the installation of 2,000 megawatts (MW) of new renewable capacity by the year 2009, in addition to preserving the 880 MW of renewable energy already on line. The RPS has had an immediate impact on renewable energy development within the state, with more than 900 MW of wind power installed in 2001 alone.

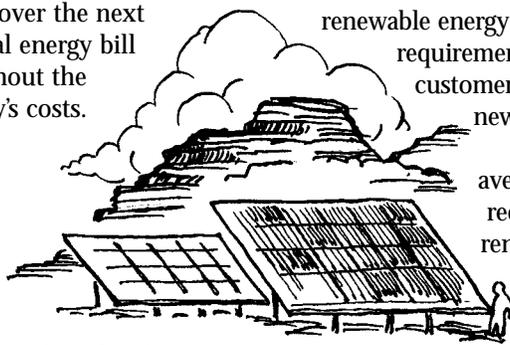
Massachusetts

Massachusetts' electric utility restructuring legislation, enacted in November 1997, established a Renewables Portfolio Standard as well as a surcharge placed on electricity to fund renewable energy projects. The RPS begins in 2003, with a requirement that 1 percent of all electricity sold to customers in Massachusetts must be generated by new renewable sources. This percentage equals enough energy to power 44,000 average homes for one year. The RFP also requires an estimated 110 megawatts of new renewable capacity. The standard increases by 0.5 percent each year until the year 2009 when it will reach 4 percent—equivalent to 429 megawatts of new renewable capacity and 1,879 gigawatt-hours.

Nevada

Nevada's Renewables Portfolio Standard, enacted in July 1997 and revised in 2001, requires regulated electric utilities and other sellers of electricity to generate 5 percent of their capacity with renewables by January 1, 2003, increasing by 2 percent every two years until it reaches 15 percent renewables by the year 2013.

The standard will result in more than 300 gigawatt hours per year of new renewable energy production, enough to provide the energy needs of 30,000 homes. The state estimates that by the year 2010, the standard will create 500 jobs cumulatively, produce about \$150 million in wage and state tax revenue, and reduce CO₂ emissions by two million tons.



For More Information

EPA's *State and Local Climate Change Program* helps states and communities reduce emissions of greenhouse gases in a cost-effective manner while addressing other environmental problems.

Web site: <http://www.epa.gov/globalwarming/> and click on "Public Officials" under the "Visitors Center."

The text of the Bush Administration's National Energy Policy may be viewed online.

Web site: <http://www.whitehouse.gov/energy/National-Energy-Policy.pdf>

The U.S. Energy Information Administration's scenario forecasts of renewable energy are published in the *2000 Annual Energy Outlook*.

Web site: <http://www.eia.doe.gov/oiaf/archive/aeo00/index.html>

The U.S. Energy Information Administration provides a state-by-state table on the status of electric utility deregulation activity.

Web site: www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html

The *National Database of State Incentives for Renewable Energy (DSIRE)* provides information on state financial and regulatory incentives that are designed to promote the use of renewable energy.

Web site: <http://www.dsireusa.org/>

The *Interstate Renewable Energy Council* works to accelerate the sustainable use of renewable energy sources and technologies.

Web site: www.irecusa.org

Two reports by the Union of Concerned Scientists, entitled *Power Solutions: Seven Ways to Switch America to Renewable Electricity* and *A Powerful Opportunity: Making Renewable Electricity the Standard*, include information on state and federal renewable energy policies.

Web site: <http://www.ucsusa.org/energy/>