

RENEWABLE PORTFOLIO STANDARD

Backgrounder

Prepared by the Colorado Renewable Energy Society, with information provided by the American Wind Energy Association and the Union of Concerned Scientists

What is the Renewables Portfolio Standard?

The Renewables Portfolio Standard (RPS) is a flexible, market-driven policy that ensures that the public benefits of wind, solar, biomass, and geothermal energy are achieved. The policy requires that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country, and -- by increasing the required amount over time -- the RPS puts Colorado on a path toward increasing sustainability. Because it is a market standard, the RPS relies almost entirely on the private market for its implementation.

Does an RPS have anything to do with electric deregulation?

No. An RPS policy can be established irrespective of whether a state decides to restructure its electric industry. Wisconsin is an example of this. Although most states with an RPS created the policy at the time when they restructured their electric industries, it is not necessary for Colorado to restructure its electric industry in order to create a RPS.

How does the RPS work?

The legislature sets a policy of diversifying the electricity sector in Colorado to achieve a result that renewable energy generation will comprise an increasing fraction of the electricity sold, until a certain amount- such as 12% of the electricity sold in 2012 comes from renewable energy. The utilities can build the generation resources or can purchase the renewable energy through a credit system.

How does renewable energy help society and the economy?

Smart investors typically acquire a portfolio of stocks and bonds to reduce risk. Including renewables in Colorado's power supply portfolio would do the same by protecting consumers from fossil fuel price shocks and supply shortages. A RPS will also establish a viable market for the long-term development of Colorado's renewable energy industries, creating jobs in rural Colorado.

What Colorado utilities would be required to meet the standard?

House Bill 1202 applies to retail suppliers of electricity in the State of Colorado that serves a population of 500,000 or more customers. This exempts the rural electric cooperatives, and the vast majority of municipal utilities. It primarily applies to Xcel Energy.

What renewable energy standard does the legislation create?

The legislation requires that all retail suppliers of electricity in Colorado supply renewable-generated electricity for calendar year 2003 at a level of not less than 5% of the total amount of electricity sold. Depending on actual bill language, this gradually increases to what may be approximately 10% by 2010.

What other states have an RPS, and what are their portfolio standards?

State	Portfolio Standard
Connecticut	New Renewables: 0.5% by 7/1/2000 increasing by 0.25 % each year through 7/2009. Existing renewables increase from 5.5 percent to 7% by 2009.
<u>Maine</u>	30% standard. (This is met primarily through a very large biomass resource in Maine.)
<u>Massachusetts</u>	1% starting in 2003, increasing by 0.5% through 2009, and an additional 1% per year thereafter.
Nevada	15% by 2010, half of which is to come from solar power.
New Jersey	2.5% in 2000 increasing to 6.5% by 2012.
Pennsylvania	2% increasing by 0.5% annually subject to cost limitations.
Texas	2000 megawatts new renewable generating capacity by 2009 with 400 MW to be installed by 2003.

Must the renewable energy be generated in Colorado?

No, however Colorado has an abundance of renewable energy, and the expectation is that the renewable energy would be generated in Colorado. With the exception of Nevada, no state has required that the renewable power be generated in the state.

Does the public support renewable energy?

National polling over the past twenty years has consistently revealed a higher public preference for renewable energy over all other energy sources. A Gallup Poll conducted on November 8-11, 2001 found that 91 percent of Americans favor investing in alternative sources of energy. Of the 512 adults polled, 81 percent said that the U.S. needs new power plants, 42 percent backed new nuclear energy plants, and 44 percent thought drilling in the Arctic National Wildlife Refuge was a “good idea.”

What are eligible as renewable energy resources?

Renewable energy is defined in the bill as biomass, geothermal energy, solar energy, and wind energy.

How does the Renewable Energy Credits system work?

Renewable Energy Credits, or "Credits," are central to the RPS. A Credit is a tradable certificate of proof that one kWh of electricity has been generated by a renewable-fueled source. Credits are denominated in kilowatt-hours (kWh) and are a separate commodity from the power itself. The RPS requires all electricity generators (or electricity retailers, depending on policy design) to demonstrate, through ownership of Credits, that they have supported an amount of renewable energy generation equivalent to some percentage of their total annual kWh sales. For example, if the RPS is set at 10%, and a generator sells 100,000 kWhs in a given year, the generator would need to possess 10,000 Credits at the end of that year.

Investors and generators make all decisions about how to comply, including: the type of renewable energy to acquire, which technologies to use, what renewable developers to do business with, what price to pay, and which contract terms to agree to. Generators decide for themselves whether to invest in renewable energy projects and generate their own Credits, enter into long-term contracts to purchase Credits or renewable power along with Credits, or simply to purchase Credits on the spot market. Only the bottom line is enforced: possession of a sufficient number of Credits at the end of each year. The Credit system provides compliance flexibility and avoids the need to "track electrons." Because the RPS applies equally to all generators that supply to the utilities covered by the RPS, it is competitively neutral.

Who is the responsible agency to administer the RPS?

The Colorado Public Utilities Commission. The Commission is the only agency in Colorado state government readily set up to administer this policy. About 70% of all retail electricity sold to Colorado consumers is supplied by utilities that are jurisdictional to the PUC (Xcel and WestPlains Energy).

What enforcement provision would be created?

If a provider does not comply with its electric resource standard for any calendar year and the Commission has not exempted the provider from the requirements of its electric resource standard the Public Utilities Commission shall, at a minimum, impose an administrative fine against the provider of 30¢ per kWh for each kWh of shortfall. Flexibility is designed into the legislation, allowing utilities to notify the Commission if there is not or will not be a sufficient supply of eligible renewable electricity available to the provider. In that instance, the Commission may exempt the provider, for the calendar year at issue, from the remaining requirements of its electric resource standard. A penalty makes the policy self-enforcing by avoiding the need to resort to costly administrative and enforcement measures. It is modeled after the federal SO₂ allowance trading program, under which an automatic \$2,000/ton penalty (indexed to inflation) is imposed for each excess ton of SO₂ produced. Because of the high penalty associated with noncompliance, the EPA has made few enforcement actions -- it is far more economic for power plants to comply than not.

How is the increased cost of the renewable-generated electricity recovered?

Any additional cost to the electric suppliers would be allowable recoverable costs, to be passed on to the ratepayers. Investor-owned utilities will seek cost recovery from the Colorado Public Utilities Commission.

How much would an RPS cost, and who would pay?

Electricity produced by renewable energy has a higher direct cost than electricity from fossil fuels. But the difference is not great, and because the mix of renewables in the portfolio is small, the rate impact of more renewable energy in the mix is minimal. Two studies conducted under the auspices of the Governor's Office (*Office of Energy Conservation, 1996*) and the General Assembly (*Colorado Electricity Advisory Panel, 1999*) concluded that 80 megawatts of new wind power would increase Public Service Company of Colorado's rates by less than 1%. A typical residential customer that pays \$50/month for electricity may see an increase of not more than \$1/month on their bill, less than a 2% increase. Commercial and industrial customers will likely see similar relative percentage increases on their utility bills. A similar \$1/month surcharge for residential customers is paying for a new pollution control initiative at Xcel's metropolitan Denver power plants.