



Renewable and Energy Efficiency Portfolio Standards

FACT SHEET 6.7

INTRODUCTION

This fact sheet provides a brief overview of renewable and energy efficiency portfolio policies. These policies are currently being used in several states across the country to assist with various objectives related to energy and sustainability. Although similar in principle and overall design, individual policies vary from state to state. For a detailed explanation of your state's renewable portfolio standard or energy efficiency portfolio standard, please consult your state's energy office.

RENEWABLE PORTFOLIO STANDARD

A renewable portfolio standard (RPS) is a federal or state policy that requires energy suppliers to include a specified amount of renewable energy as a part of its portfolio of generating fuels. This can be achieved in three basic ways: 1) by producing renewable energy itself, 2) by purchasing renewable energy produced by another supplier, or 3) by buying renewable energy credits (RECs), a credit created when an eligible renewable energy resource is used to generate one kWh of electricity. Ideally, once the policy is put into place, suppliers and renewables developers would work together privately to ensure that the suppliers are brought into compliance at the least cost (Rader and Noorgard, 1996).

ADVANTAGES AND DISADVANTAGES

An RPS encourages the development of renewable energy markets in wind, solar, biomass, and geothermal by ensuring that some specified minimum amount of this renewable energy is included in the supplier's portfolio of generating fuels. It is also a market mechanism that can be competitively neutral if applied equally to all retail electricity suppliers.

A major disadvantage of RPSs is the potential for the adoption of such a policy to increase near term electricity costs. This is because the costs incurred by adding new technologies are typically passed on to the consumer. Additionally, if the purchase obligations of the supplier are not set high enough and the eligible renewable energy sources are not defined narrowly enough, thus excluding the status quo, the policy may lead to little or no change. To avoid this, policy makers must define eligible renewable energy sources in a way that encourages the adoption of new, cleaner electricity generation technologies, while balancing the potential for escalating utility rates to consumers. There is also the potential for RPSs to lead to the growth of just one type of technology—the least cost technology. Policy makers use resource tiers and credit multipliers to encourage diverse renewable technologies.

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THE MECHANICS OF AN RPS

Several things must happen before a national government or state can enact an RPS. First, eligible resources must be defined. So what counts as an eligible renewable resource? To date, most states with an RPS have included solar, wind, biomass, landfill gas, small-scale hydro, fuel cells, and some municipal solid waste. The government must also decide how they will define the standard. Will the standard be in terms of total electricity production or will it be in terms of capacity certain suppliers are required to supply? Finally, the government must decide how to enforce such standards. Penalties must be set for failure to comply and a state or federal agency must be chosen to enforce compliance via penalties. To date, most states have designated their state public utility commission as the enforcer.

When an RPS is being drafted, it is either defined as a Renewable Use Portfolio Standard or a Renewable Production Portfolio Standard.

RENEWABLE USE PORTFOLIO STANDARD. A renewable use portfolio standard is an approach that requires the use of renewable energy as opposed to the production of renewable energy. Here an energy supplier may choose to create their own renewable energy, to purchase renewable energy from the lowest cost provider, or purchase renewable energy credits. This approach is very flexible and ensures market efficiency by allowing power suppliers to seek out and choose the least cost alternative.

RENEWABLE PRODUCTION PORTFOLIO STANDARD. A renewable production portfolio standard is an approach that requires the energy supplier to produce a certain amount of its output from renewable resources. This approach is less flexible because it does not

allow energy suppliers to seek out and choose the cheapest alternative.

ENERGY EFFICIENCY PORTFOLIO STANDARD

In addition to an RPS, a state or national government can also enact an energy efficiency portfolio standard (EEPS). An EEPS requires energy providers to meet a part of their annual increase in energy demand through energy efficiency measures. Pioneered by Texas, this policy mandates energy savings rather than requiring solely that energy be produced from a renewable source. In most cases, a goal is set for energy savings, and utilities are required to meet this goal.

POLICIES IN THE SOUTH

In general, the southern United States has been relatively slow to adopt RPSs. To date, only two states in the South have implemented mandatory renewable portfolio standards: Texas (2005) and North Carolina (2007). Virginia enacted a voluntary renewable portfolio goal in 2007. (Figure 1).

The RPS in Texas requires that by 2015, 5880 MW of new, renewable energy generation be built within the state. This is projected to account for about five percent of the state's energy needs in 2015. The law also states that there should be 10,000 MW of renewable



Source: Scott Danskin 2007

Figure 1. Blue states have enacted an RPS, and hatched states have enacted a voluntary RPS.





generation capacity by 2025 (or about ten percent of the state's needs). In an effort to diversify the state's renewable generation portfolio, the measure also includes a requirement that the state must meet 500 MW of the 2025 target with non-wind renewable generation.

North Carolina is the most recent state to enact a Renewable Energy and Energy Efficiency Portfolio Standard. Under its law, by 2021 electric public utilities must meet twelve and a half percent of retail electricity demand through renewable energy or energy efficiency measures. Electric membership corporations and municipalities that sell electric power in the state would have to meet a standard of ten percent by 2018. Resources that can be used to meet the standard include solar energy, wind energy, hydropower, geothermal energy, ocean current or wave energy, biomass resources, and energy efficiency measures. The law also includes provisions to encourage the use of solar energy, swine and poultry wastes, as well as implementation of energy efficiency programs.

CONCLUSIONS

Renewable Portfolio Standards and Energy Efficiency Standards are just two of many policy mechanisms that might support increased development and adoption of renewable energy in the United States. As energy demand continues to grow and fossil fuels become scarcer, and accordingly more expensive, more states will seek to enact such policy mechanisms that encourage or require the production and use of alternative, renewable energy.

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