THE BOTTOM LINE ON...

Answers to frequently asked questions about climate and energy policy Issue 5

WORLD RESOURCES INSTITUTE

RENEWABLE ELECTRICITY STANDARDS

Renewable Electricity Standard (RES) policies have stimulated markets for renewable energy across the country, providing more opportunities for businesses to advance and support clean energy technologies. With growing interest in state and national RES policies, it is important to understand RES policy design, impacts, and opportunities.

WHAT IS A RENEWABLE ELECTRICITY STANDARD (RES)?

A RES requires that a minimum percentage or amount of electric power generation come from eligible renewable energy sources by a specified date. Retail electric power suppliers (also known as load-serving entities) must purchase power directly from renewable electricity generators, or in some cases, are allowed to purchase renewable energy credits (RECs) created by eligible renewable power projects.

RES policies provide a market demand for renewable electricity and can help accelerate the development and deployment of clean, renewable energy technologies.

WHAT IS THE DIFFERENCE BETWEEN A RES AND A RPS?

A RES and a RPS (Renewable Portfolio Standard) are simply different names for the same policy mechanism. Other variations also include Clean Energy Portfolio Standards and Alternative Energy Portfolio Standards. Although the policy mechanisms are the same, RES policies may differ in terms of the types of power resources that are eligible.

HOW DO RES POLICIES AFFECT ENERGY PRICES?

Energy cost impacts related to a RES will depend on a number of factors, such as specific policy design features and geographic location. Impacts are generally modest and can include both costs and savings. For example, a RES may result in slightly higher electricity rates due to the cost of new renewable power sources, as well as slightly lower natural gas prices due to decreased demand for gas-fired electricity. For detailed analysis of state and federal RES costs, refer to the U.S. Energy Information Administration and the Lawrence Berkeley National Laboratory resources listed in the "Additional References" section.

CAN RES POLICIES CREATE OPPORTUNITIES FOR THE BROADER BUSINESS COMMUNITY?

RES policies sometimes allow electric power suppliers to secure renewable energy from a variety of sources, including commercial, industrial, and residential generators. Electric power suppliers can purchase electricity or RECs from businesses or homeowners that have installed qualifying renewable power, such as solar photovoltaic systems or wind turbines, creating an attractive revenue stream for onsite renewable energy technologies. For example, see the New Jersey Clean Energy Program fact sheet listed in the "Additional References" section.

WHAT ENERGY RESOURCES ARE ELIGIBLE FOR COMPLIANCE UNDER RES POLICIES?

Fossil fuels and nuclear power generate approximately 90 percent of U.S. electricity (EIA Electric Power Annual, 2007). RES policies seek to diversify this fuel mix with renewable energy, but eligible resources can vary depending on the design of the policy. Generally wind, geothermal, solar electric, solar thermal, and landfill gas are considered eligible resources under state-level RES policies. Biomass resources are typically eligible if they meet certain environmental qualifications. Some RES policies also include marine power resources (e.g., tidal or wave-generated electricity).

Electricity from large hydroelectric facilities is usually not eligible, though there are sometimes exceptions for low-impact hydroelectric facilities. Nuclear, municipal solid waste and fossil fuels are almost never considered eligible resources, but specific exceptions do exist under some policies (for example, Pennsylvania includes waste coal and integrated coal gasification combined cycle technologies among eligible resources).

A few state RES policies, including Nevada and North Carolina, also allow electric power suppliers to count energy efficiency improvements toward a portion of their RES requirements. In other states, such as Connecticut and Texas, RES policies include or are complemented by separate energy efficiency requirements, known as energy efficiency resource standards (EERS) or energy efficiency portfolio standards (EEPS).

What are *carve-outs*?

Some RES policies specify that a portion of the required renewable power come from certain resources. These *carve-outs* target development of specific renewable resources by ensuring a minimum demand. For example, New Jersey's RES policy includes a solar carve-out that requires 2.12 percent of electricity generation come from solar electricity by 2020. North Carolina's RES policy includes a similar solar carve-out, along with additional specific percentage requirements for electricity from swine and poultry waste.

Who must comply with a RES?

As of April 2008, 25 states and the District of Columbia have implemented RES policies and six additional states have set non-binding renewable energy goals (Figure 1). The laws or targets typically apply to retail electric power suppliers, who must prove that they are sourcing a specified share of electricity sales from renewable sources. In some states, certain types of electricity suppliers (e.g., rural cooperatives and publicly owned utilities) are exempted or have less-stringent requirements under the RES.

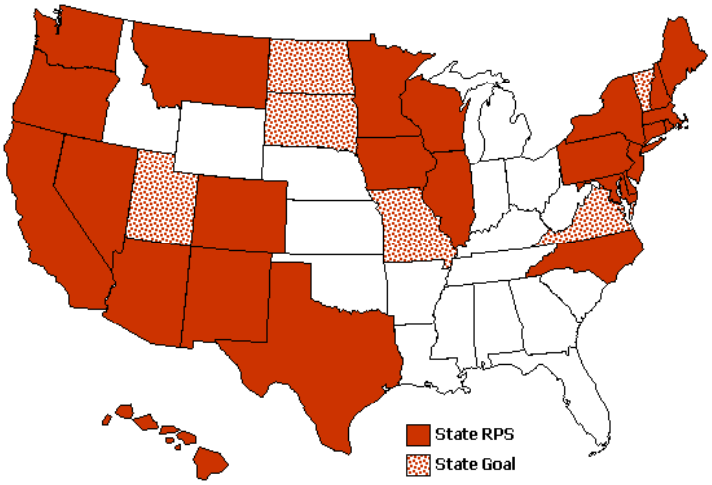

Figure 1. Map of RES policies in the United States as of April 2008 (source: Database of State Incentives for Renewables and Efficiency).

Has the U.S. Congress considered a national RES?

Congress has considered federal RES legislation several times in the context of broader energy bills. The Senate voted in favor of a national 10 percent RES in both the 108th and 109th Congress, but these measures were not included in final legislation due to opposition in the House. More recently, the House of Representatives in the 110th Congress passed an energy bill that included a 15 percent RES, but this provision was ultimately abandoned because it lacked adequate support in the Senate.

Some argue there is no need for a national RES for two reasons: 1) almost half the retail load in the United States already is subject to state-level RES policies; and 2) individual states should design and implement RES policies based on their respective renewable energy resources. Others argue that a national RES would create a broader, more efficient national market for renewable power and create additional demand for clean energy technologies.

Additional References

- Database of State Incentives for Renewables and Efficiency: http://www.dsireusa.org/
- EIA *Electric Power Annual 2007*: http://www.eia.doe.gov/cneaf/electricity/epa/epa_sum.html
- EIA *Impacts of a 15-percent RPS*: http://tonto.eia.doe.gov/FTPROOT/service/sroiaf(2007)03.pdf
- Green Power Market Development Group: http://www.thegreenpowergroup.org/
- Lawrence Berkeley National Laboratory *Weighing the Costs and Benefits of State Renewables Portfolio Standards*: http://eetd.lbl.gov/ea/EMS/reports/61580.pdf
- Lawrence Berkeley National Laboratory *Renewables Portfolio Standards in the United States*: http://eetd.lbl.gov/ea/ems/reports/lbnl-154e.pdf
- New Jersey Clean Energy Program *Solar Financing Program FAQ*: http://njcleanenergy.com/files/file/SOLARTransitionFAQs121707%20fnl2(2).pdf
- WRI Issue Brief *National Renewable Electricity Standard Design Features*: http://pdf.wri.org/national_renewable_electricity_standard_design_features.pdf
- WRI's U.S. Climate Policy Resources: http://www.wri.org/climate/usclimate

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