

i. Renewable Portfolio Standards

Description

A renewable portfolio standard (RPS), also known as a renewable electricity standard (RES), is a mandatory requirement for retail electricity suppliers to supply a minimum percentage or amount of their retail electricity load with electricity generated from eligible sources of

¹¹³ “Programs,” Database of State Incentives for Renewables & Efficiency, accessed March 10, 2016. Available at: <http://programs.dsireusa.org/system/program>.

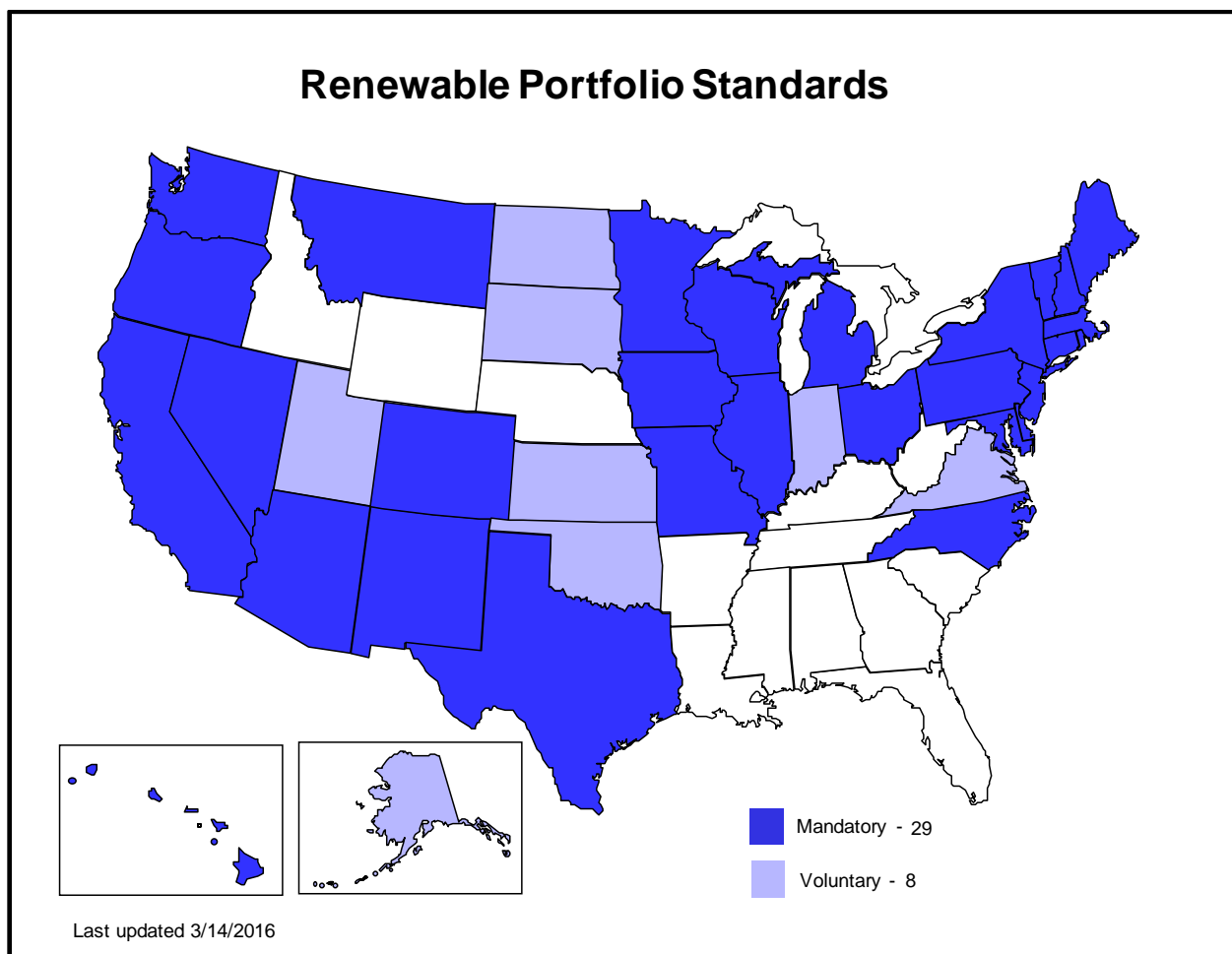
¹¹⁴ Ibid.

¹¹⁵ Texas State Energy Conservation Office, “LoanSTAR Revolving Loan Program,” accessed March 24, 2016. Available at: <http://www.seco.cpa.state.tx.us/lr/>.

¹¹⁶ Feed-in tariffs, a performance-based incentive, offer long-term purchase agreements to renewable energy electricity generators. Public benefit funds are typically created by levying a small fee as a part of retail electricity rates and are used to support rebate, loan, and other programs that support renewable energy deployment. For more information, see Database of State Incentives for Renewables and Efficiency. Available at: <http://www.dsireusa.org/>.

renewable energy.¹¹⁷ An RPS indirectly affects EGU CO₂ emissions by reducing the utilization of fossil fuel-fired EGUs. As of March 2016, 29 states and Washington, D.C., have adopted a mandatory RPS (see Figure 8), although designs vary (e.g., applicability, targets and timetables, geographic and resource eligibility, alternative compliance payments) and an additional eight states have voluntary renewable goals.^{118,119}

Figure 8: States with Renewable Portfolio Standards



¹¹⁷ In some state Renewable Portfolio Standards (alternatively called “Alternative and Renewable Energy Portfolio Standards”), selected non-renewable sources such as coal bed methane or gasification are eligible for credit.

¹¹⁸ Database of State Incentives for Renewables and Efficiency (June 2015), accessed March 10, 2016. Available at: <http://www.dsireusa.org/>.

¹¹⁹ Alaska House Bill 306, Signed by Governor Sean Parnell June 16, 2010. Available at: http://www.legis.state.ak.us/basis/get_bill_text.asp?hsid=HB0306Z&session=26.

Policy Mechanics

Design

RPS requirements typically start at modest levels and ramp up over a period of several years. An RPS relies on market mechanisms to increase electricity generation from eligible sources of renewable energy.

Retail electricity suppliers can comply with RPS requirements through several mechanisms, which vary by state, including:

- Ownership of a qualifying renewable energy facility and its electric generation output.
- Purchasing electricity bundled with renewable energy certificates (RECs)¹²⁰ from a qualifying renewable energy facility.
- Purchasing RECs separately from electricity generators. Unlike bundled renewable energy, which is dependent on physical delivery via the power grid, RECs can be traded between any two parties, regardless of their location. However, state RPS rules typically condition the use of RECs based on either location of the associated generation facility or whether it sells power into the state or to the regional grid.

Authority

Most state RPSs are established through legislation and administered by state PUCs.

Obligated Parties

RPS applicability varies by state. All state RPSs apply to investor-owned utilities, while some state RPS obligate municipal utilities, rural cooperatives, and/or other retail providers, often depending on a minimum number of customers served.

Measurement and Verification

Some state RPSs include an alternative compliance payment (ACP) option, where a retail electricity supplier may purchase compliance credits from the state at a known price, which acts as a de facto price cap, if it has not procured sufficient electricity from renewable energy sources or RECs to meet the RPS compliance requirement. State PUCs typically require annual compliance reports from retail electricity suppliers subject to a RPS. Most states use regional tracking systems (e.g., Western Renewable Energy Generation Information System, PJM

¹²⁰ RECs represent the non-energy attributes, including all the environmental attributes, of electricity generation from renewable energy sources. RECs are typically issued in single MWh increments.

Generation Attribute Tracking System) to issue, track, and retire RECs for RPS compliance purposes.¹²¹

Penalties for Noncompliance

States have developed a range of compliance enforcement and flexibility mechanisms. As of 2007, despite the fact that several states had not achieved the RPS targets, only Connecticut and Texas had levied fines. A \$5.6 million penalty was incurred in Connecticut in 2006. In 2003 and 2005, two competitive electricity service providers in Texas were penalized a total of \$4,000 and \$28,000 respectively.¹²² More recently the vast majority of states have met their RPS requirements, and for those that have not, utilities have been allowed to “make-up” shortfalls in subsequent years.¹²³

ACPs that are recycled to support other renewable and efficiency measures have helped other states avoid penalties for noncompliance.¹²⁴ The reported compliance cost for the entire RPS in the District of Columbia was \$2.6 million in 2011, of which ACPs made up \$229,500. Electricity suppliers in Maryland submitted more than 4.6 million RECs for compliance in 2011 for a total cost of \$14.6 million, of which \$98,520 came from ACPs.¹²⁵

Implementation Status

States with RPS policies have demonstrated higher levels of renewable energy capacity development. From 1998 to 2012, 67 percent (46 GW) of all non-hydro renewable capacity additions occurred in states with active or impending RPS requirements, although other factors may contribute to the growth in renewable capacity.¹²⁶

¹²¹ For a summary of REC tracking systems, see: U.S. Department of Energy Renewable Energy Certificates, National REC Tracking Systems, accessed March 10, 2016. Available at: <http://apps3.eere.energy.gov/greenpower/markets/certificates.shtml?page=3>.

¹²² Ryan Wisler and Galen Barbose, *Renewables Portfolio Standards in the United States – A Status Report with Data Through 2007* (Lawrence Berkeley National Laboratory, April 2008). Available at: <http://emp.lbl.gov/sites/all/files/REPORT%20lbnl-154e-revised.pdf>.

¹²³ Personal communication with Galen Barbose of Lawrence Berkeley National Lab, March, 2016.

¹²⁴ Ryan Wisler and Galen Barbose, *Renewables Portfolio Standards in the United States – A Status Report with Data Through 2007* (Lawrence Berkeley National Laboratory, April 2008). Available at: <http://emp.lbl.gov/sites/all/files/REPORT%20lbnl-154e-revised.pdf>.

¹²⁵ J. Heeter, G. Barbose, L. Bird, S. Weaver, F. Flores-Espino, K. Kuskova-Burns, and R. Wisler, “A Survey of State-Level Cost and Benefit Estimates of Renewable Portfolio Standards” (NREL, May 2014). Available at: <http://www.nrel.gov/docs/fy14osti/61042.pdf>.

¹²⁶ Galen Barbose, *Renewables Portfolio Standards in the United States: A Status Update* (Lawrence Berkeley National Laboratory, November 2013). Available at: http://emp.lbl.gov/sites/all/files/rps_summit_nov_2013.pdf.