ii. Demand-side Energy Efficiency Programs

Description

Demand-side energy efficiency programs are programs designed to advance energy efficiency improvements within a state or utility service area. They are typically implemented to help meet state policies, standards, or objectives such as EERS programs, "all cost effective" energy efficiency goals, integrated resource planning, and other demand-side management program and budget processes.

Policy Mechanics

Design

Demand-side energy efficiency programs include financial incentives to use energy efficient products, make energy efficiency upgrades to improve the performance of residential, commercial, and industrial buildings, and provide technical assistance and information programs to address market and information barriers. Funding for these programs typically comes from charges added to customer utility bills and from revenues raised through emissions allowance auctions, such as under RGGI. The RGGI auction proceeds go to a variety of sources with the authority to run demand-side energy efficiency programs, including those also funded via independent trusts, DOE's Weatherization Assistance Program (WAP), and state-run energy efficiency grant programs for municipalities.[95]

States are also funding energy efficiency programs using revenues from "forward capacity markets" operated by regional electricity operators. Forward capacity markets allow energy suppliers to bid against each other for the amount of capacity they can supply into the electricity market in a future year. Demand-side management programs have been allowed to bid into these markets as an energy source, demonstrating that energy efficiency programs can compete with more traditional forms of electricity supply in meeting the needs of the power grid.

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[94] Annie Downs and Celia Cui. "Energy Efficiency Resource Standards: A New Progress Report on State Experience." *American Council for an Energy Efficient Economy* (April 2014). Available at: http://aceee.org/research-report/u1403.

[95] RGGI Inc., Investment of RGGI Proceeds Through 2013 (Regional Greenhouse Gas Initiative Inc., April 2015). Available at: http://www.rggi.org/docs/ProceedsReport/Investment-RGGI-Proceeds-Through-2013.pdf.

Authority

Demand-side programs that are a part of EERS programs are typically established through legislation or PUC authority. Other demand-side management programs can arise as a result of utility planning processes and state and local government efforts to ensure all cost-effective energy efficiency and other policy goals are met.

Obligated Parties

Energy efficiency programs can be administered by investor-owned, municipal, or cooperative utilities; third party administrators; or state and local government agencies.

Measurement and Verification

PUCs generally oversee demand-side energy efficiency programs. Program administrators typically rely on independent evaluators to perform EM&V activities that estimate the incremental annual and cumulative energy savings attributable to the programs. These estimates are typically the basis for annual performance reports submitted by retail electricity suppliers or third party administrators to the PUCs. In the case of state and local government agency run programs that are not overseen by the PUC, energy savings are typically estimated to assure proper use of grants or other funds.

Penalties for Noncompliance

As discussed above, some states with an EERS levy direct fines for missing energy efficiency targets or failure to submit an energy efficiency plan. For some programs under PUC oversight, failure to reach certain performance levels may result in an inability to receive an incentive payment or recover all incurred costs. Demand-side programs funded by RGGI proceeds or grants typically do not have penalties for noncompliance. However, state agencies play a role in evaluating these programs and deciding whether funding should continue to flow to them.

Implementation Status

Well-established state demand-side energy efficiency programs have demonstrated their ability to reduce electricity demand.[96] For example, data reported to the U.S. Energy Information Administration (EIA) show that in 2014, incremental annual savings[97] in electricity consumption through demand-side efficiency programs were 268 GWh in Rhode Island, 1,201 GWh in

[96] "The Future of Utility Customer-Funded Energy Efficiency Programs in the United States" (Lawrence Berkeley National Laboratory, January 2013). Available at: https://emp.lbl.gov/sites/all/files/lbnl-5803e.pdf.

[97] EIA defines incremental annual savings for a given year as annualized savings caused by new program participants to existing energy efficiency programs, or program participants to new energy efficiency programs.

Arizona, and 599 GWh in Iowa.[98] These reductions are equivalent to 3.5 percent, 1.6 percent, and 1.3 percent of total 2014 retail electricity sales in those states, respectively.[99] According to data and analyses from sources including Lawrence Berkeley National Lab (LBNL), the DOE Energy Information Administration, and the American Council for an Energy Efficient Economy (ACEEE), as well as the EPA's own analysis for the Clean Power Plan, at least ten leading states have either achieved—or have established requirements that will lead them to achieve—annual incremental savings rates of at least 1.5 percent of the electricity consumption that would otherwise have occurred.[100]

In 2014, utilities and administrators in all 50 states and the District of Columbia implemented electricity demand-side energy efficiency programs, and savings from these programs are increasing. State demand-side energy efficiency programs are estimated to have reduced electricity demand by 25.7 million MWh in 2014, or 0.7 percent of national retail electricity sales. These savings are an increase of 5.8 percent over the previous year.[101]

[98] "Electric Power Sales, Revenue, and Energy Efficiency Form EIA-861 Detailed Data Files" (Energy Information Administration, January 2016). Available at: http://www.eia.gov/electricity/data/eia861/.
[99] "Electricity: Detailed State Data" (Energy Information Administration, October 2015). Available at: http://www.eia.gov/electricity/data/state/.
[100] See EPA's Demand-Side Energy Efficiency Technical Support Document (August 2015) for more information. Available at: https://www.epa.gov/sites/production/files/2015-11/documents/tsd-cpp-demand-side-ee.pdf.
[101] "The 2015 State Energy Efficiency Scorecard" (American Council for an Energy-Efficient Economy, October 2015; uses data from 2014). Available at: http://aceee.org/research-report/u1509.