New Policy

CLEAN ENERGY PERFORMANCE STANDARD (CPS)

Policy summary: From 2005 to 2009, the electricity portfolio serving Massachusetts became nearly 20 percent cleaner. The major changes came from substitution of natural gas for coal and oil, doubling of imports of hydro power from Canada into New England, and the up-rating — or increasing of capacity — of existing nuclear plants regionally. This demonstrated that mature technologies have made a significant contribution to a cleaner electricity grid, without the federal or state incentives required for developing earlier stage technologies. They have an important role to play moving forward.

A market-based framework is needed to provide a clear signal to the electricity market to improve upon the cleaner energy portfolios of the last few years and to encourage projects such as the Northern Pass line (see "Clean Energy Imports" above). One approach to be considered is a Clean Energy Performance Standard (CPS), which applies an output-based performance standard to either portfolios of retail electricity sellers or to generators in terms of tons of pollution per megawatt-hour of electricity. As the performance standard becomes more stringent over time, the electricity market uses the least-cost mechanism for meeting it. The existing RPS fits neatly into this framework as a technology-specific means of meeting the standard.

Clean energy economy impacts: The CPS is a transparent and stable market-based framework that provides market certainty and enables investments to be made. It would encourage further replacement of power plant capital stock with cleaner technologies and cleaner fuels while disadvantaging dirtier power plants in the electricity marketplace.

Rationale: By being performance-based rather than technology-based, the CPS allows the market to find the least-cost approach to achieving a cleaner energy portfolio. In addition, it could empower electricity suppliers to manage their portfolios, akin to the CAFE standard for vehicles, offering cleaner products to interested customers to help meet their portfolio targets.

Policy design: Design issues include setting the targets; creating tracking mechanisms, particularly for system power; allowing tradability among suppliers, and minimizing "shuffling," in which generators shift cleaner power to Massachusetts and dirtier power to other states. Resolving these and other design issues would require substantial consultation with the electricity industry.

GHG impact: The potential GHG impacts are substantial; however, they are completely dependent on the targets set and include the impacts from both the RPS and the clean energy imports. Therefore no additional GHG reductions from this potential policy were included in the overall estimates.

Other benefits: Like other electric sector policies, by providing incentives for the reduced operation of the dirtiest plants and greater operation of cleaner ones, a CPS reduces criteria and hazardous pollutant emissions (NO_x, SO_2, mercury, and fine particulate matter). These reductions will have public health and environmental benefits.

Cost: In the near-term, a CPS is likely to have a limited impact on electricity prices for consumers. [43]

Experience in other states: Generator-level performance standards for new generators have recently been considered or implemented in several states and countries. However, portfolio-level performance standards for retail sellers of electricity or tradable performance standards for existing plants are less common, but have been analyzed recently. California has been working on a preferred loading order meant to encourage dispatch of lower emissions resources.

Legal authority: DOER and DPU will begin analysis of possible paths forward for creating a CPS, including regulatory or legislative avenues, as well as cost-benefit and implementation issues.

Uncertainty: The CPS ensures a cleaner energy portfolio over time. However, since it sets a limit on the carbon intensity of electricity generation, it does not constrain overall emissions. For example, if demand growth exceeded expectations, overall emissions would grow. Effective implementation of energy efficiency policies are a critical complement to mitigate this risk.

[43] Carolyn Fischer and Richard G. Newell, "Environmental and Technology Policies for Climate Mitigation". http://rff.org/rff/Documents/RFF-DP-04-05-REV.pdf