

Western Interstate Energy Board

PRESS RELEASE

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New Study Assesses Western Utilities' Plans to Respond to Possible Future Carbon Emission Regulation

Berkeley, CA – Researchers at the Lawrence Berkeley National Laboratory (Berkeley Lab) have released a report assessing how 15 Western electric power utilities are preparing for possible future regulation of carbon dioxide emissions in their resource planning.

The researchers found significant diversity in the approaches taken by Western utilities, but that most have taken significant steps to evaluate the financial implications of future carbon regulations for their long-term resource strategies. Reflecting concerns over future restrictions on carbon emissions, many utilities in the West are planning to meet the bulk of their new resource needs over the next decade with low-carbon resources, largely relying on energy efficiency and renewables.

The study was commissioned by the Western Interstate Energy Board (WIEB), the energy arm of the Western Governors' Association. It was conducted by Galen Barbose, Ryan Wiser, Amol Phadke, and Charles Goldman, all with the Electricity Markets and Policy Group in Berkeley Lab's Environmental Energy Technologies Division.

By reviewing the most-recent resource plans filed by 15 large investor- and publicly-owned utilities in the Western U.S., the study compares utilities' analyses of carbon regulatory risks and options for managing those risks. "This study provides a valuable resource for utility resource planners and state utility regulators seeking to be pro-active in preparing for a carbon-constrained future," says Tony Usibelli, Chairman of WIEB and Director of the Washington State Energy Division.

Utilities conduct resource planning in order to develop strategies for reliably and cost-effectively meeting the long-term power needs of their customers, while meeting existing environmental regulations. Increasingly, utilities have begun to realize that they must also consider responses to future regulations aimed at decreasing emissions of greenhouse gases. “The uncertain nature and timing of future carbon dioxide regulations poses a far-reaching financial risk for the electricity industry and their customers,” says Berkeley Lab’s Galen Barbose. “Many utilities have recognized this as a fundamental issue for resource investment decisions, and are beginning to evaluate this risk more systematically within their long-term resource planning.”

Higher carbon pricing?

The report examined specific assumptions and methods utilities’ use to evaluate financial risks posed by future carbon regulations. Among the key findings of the study is that the price per ton of carbon emissions could be higher than some utilities are currently planning for. According to the study, “Eleven utilities assumed future carbon regulations in their base-case scenario analysis, with carbon price projections ranging from \$4 to \$20 per ton of CO₂ (2007\$) when levelized over 2010-2030.”

Most utilities also evaluated higher carbon prices in alternate scenarios, but not all considered prices representative of an aggressive, but plausible, carbon policy. The researchers suggest that utility resource plans would benefit by ensuring that base-case assumptions reflect a realistic assessment of the most likely timing and stringency of carbon regulations over the utility’s analysis period, and by evaluating alternate carbon emission prices that span a wide enough range to encompass the full spectrum of possible future regulations with a reasonable possibility of being enacted.

The study also found that most utilities evaluated candidate portfolios with aggressive levels of energy efficiency and renewables, but considered other types of low-carbon resources to only a limited extent. All 15 utilities evaluated expansions to existing energy efficiency programs, and nine considered acquiring the “maximum achievable” energy efficiency program savings potential. All utilities also evaluated renewable power options for their portfolios, in many cases exceeding the minimum amount required by existing state renewables portfolio standards. In contrast, relatively few utilities evaluated other low-carbon resources, such as coal or natural gas-fired power plants with carbon capture and sequestration (CCS) or new nuclear power.

The report authors also found that utilities typically did not explicitly account for a number of potentially significant indirect effects of carbon regulations, such as increased electricity and natural gas prices, coal plant retirements, and decreased load growth. The authors also found that many utilities did not clearly explain how, if at all, results from their analysis of carbon regulatory risk informed their selection of a preferred resource portfolio.

Energy efficiency and renewables play key role

Utility resource plans typically conclude by identifying a “preferred” portfolio of new supply- and demand-side resources. The Berkeley Lab study found a considerable diversity in the composition of Western utilities’ preferred resource portfolios. Some utilities plan to rely heavily on carbon-intensive resources – namely, conventional pulverized coal – while others selected relatively low-carbon resource portfolios relying primarily on energy efficiency and renewable generation. Eight of the fifteen utilities selected preferred portfolios in which energy efficiency and renewables together constitute at least 50% of all new resources, with remaining needs met largely by new natural gas-fired generation.

The study includes ten recommendations to help utilities improve their analysis of carbon regulatory risk and better protect their ratepayers from future regulatory compliance costs.

The study is titled “Reading the Tea Leaves: How Utilities in the West Are Managing Carbon Regulatory Risk in their Resource Plans,” and is available from <http://eetd.lbl.gov/EA/EMP/rplan-pubs.html> or http://www.westgov.org/wieb/reports/board/03-03-08LBNL_IRPreport.pdf .

The 15 utilities included in the study are: Avista, Idaho Power, Los Angeles Department of Water & Power, Nevada Power, NorthWestern, PacifiCorp, Pacific Gas & Electric, Portland General Electric, Public Services Company of Colorado (Xcel Energy), Puget Sound Energy, Southern California Edison, San Diego Gas & Electric, Seattle City Light, Sierra Pacific, and Tri-State Generation & Transmission Cooperative.

The Western Interstate Energy Board is an organization of 11 Western States and three Canadian Provinces. The Board is the energy affiliate of the Western Governors’ Association.

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