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The Credit Cost Of Going Green For U.S. Electric Utilities

Primary Credit Analyst:

Todd A Shipman, CFA, New York (1) 212-438-7676; todd_shipman@standardandpoors.com

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The debate is over. Not the one concerning climate change, but the one about whether the U.S. will act to limit greenhouse gas emissions to address the possibility that human activities are harming the planet. By now it's a foregone conclusion that the U.S. will pass laws that call for significant reductions in carbon dioxide (CO₂). The only uncertainty is the details of how much and by when. The electric utility industry, along with transportation, produces most of the greenhouse gases (primarily CO₂) in the country. But as a highly regulated industry, utilities are more likely to be targeted for emissions control than the transportation sector, and that puts them squarely in the sights of legislators and regulators at both the federal and state levels.

So for electric utilities, the credit question is not so much whether higher costs related to controlling emissions are coming, but rather when and how high they'll actually go. For example, one recently published study envisions a scenario that has utilities laying out \$1 trillion over the next couple of decades.

The effect on ratings will depend on several interrelated issues. Obviously, the total cost of limiting CO₂ will have an impact, but that may prove to be the least important variable. It's the pace at which the expenses will be incurred, in conjunction with other cost pressures that will accompany the extra spending, that will probably have a greater effect on credit quality than the absolute dollar amounts. And, ultimately, public acceptance of the higher rates that utilities may charge to pay for the controls will be the most important aspect. And that will depend on the interplay of all the factors cited so far: the total price tag, how fast those outlays will come, and what's going on with other costs, especially for commodities.

In short, Standard & Poor's Ratings Services believes climate change-related costs will have a minimal overall effect on electric utility ratings if policymakers attempt to accomplish greenhouse gas reductions as efficiently as possible over a time span that allows rates to absorb those costs on a politically palatable schedule. To put it in the negative, credit quality will suffer if legislatures impose CO₂ limits in such a way as to disrupt resource planning by utilities, overwhelm the necessary technological advances, and require rate increases at a time when ratepayers are already suffering from rising market and commodity prices.

How High Will Capital Spending Go?

First, let's look at how much utilities will have to pay. Getting a handle on the aggregate cost of various legislative proposals isn't easy. Starting with the most general view of the question, a December 2007 report from consulting firm McKinsey & Co. for The Conference Board produced some economywide numbers on what greenhouse gas limits would mean for the U.S. A variety of entities, including utilities, industrial firms, and environmental groups supported that effort. McKinsey examined U.S. government projections that foresee annual greenhouse gas emissions rising to 9.7 gigatons in 2030 from 7.2 gigatons today. The consultant believes flat-to-real reductions are possible with current abatement methods and "high-potential emerging technologies" at a price approaching \$50 per ton.

Translating the costs into capital spending figures for electric utilities is less straightforward. According to McKinsey, the incremental capital costs in its "mid-range" case (enough reduction to keep CO₂ emissions flat) would be \$50 billion each year all the way through 2030 for a cumulative total of \$1.1 trillion. Putting the amount

in perspective, the report says that's about 1.5% of the entire real investment in the U.S. economy during that period. McKinsey states that the capital investment would be concentrated in the power and transportation sectors, and given the abatement strategies in the report, it appears that the power sector would bear the greatest burden. McKinsey didn't cite any figures for the "high-range" case that produced actual greenhouse gas reductions approaching the aims of proposed federal legislation. However, the abatement potential for that case was clustered into groups that showed the largest amount allocated to the power sector.

U.S. Economy May Suffer

The next level of specificity we found was in testimony given to Congress last November. Numerous climate change bills were introduced last year and called for either (or both) mandates to reduce greenhouse gas emissions through nonfossil fuel alternatives like wind and ethanol, or more flexible schemes (e.g., carbon "cap-and-trade") to limit the burning of fossil fuels.

Testimony from Dr. Anne Smith, an economist at CRA International, to the House Budget Committee indicated that significant greenhouse gas reductions would be very costly: 2 million to 4 million lost jobs and \$300 billion to \$500 billion in lost economic output by 2020. She didn't cite any specific electric industry costs. Peter Orzag, the director of the Congressional Budget Office, used somewhat older data before the same committee that showed a 15% reduction in CO₂ emissions would lower each U.S. household's annual income by between \$680 and \$2,180 (in 2006 dollars), depending on income levels.

His analysis was based on a cap-and-trade program, and it showed the relative burden of CO₂ reductions on low-income versus high-income households. Knowing that the electric industry's burden is the greatest among the industrial sectors targeted for reductions, it is reasonable to assume a large part of that projected impact could be through higher electric rates.

Another indication of what climate change legislation might mean for electric rates in particular comes from a utility chief executive. David Sokol of MidAmerican Energy Holdings Co. asserted in a recent speech to state regulators that an average utility that produces electricity at 5 cents/kilowatt-hour would see that cost rise to 11.5 cents if the cost to emit CO₂ reached \$100 per ton. His calculation, based on a utility with a 50% coal/20% natural gas/20% nuclear/10% hydro and renewables mix, didn't even factor in the effect of carbon offset costs on the price of natural gas. Mr. Sokol presented his cost estimates not as a naysayer--he believes the 2050 reduction goals of Lieberman-Warner are achievable, and MidAmerican supports greenhouse gas emissions reductions--but rather to make the point that any legislation should avoid getting ahead of available technology and should not cause rate shock for electric customers.

Effect On Individual Utilities

Finally, a company-specific view of the cost of "going green" can be found in corporate reports written in response to requests from activist shareholder groups in 2004 for a corporate environmental assessment of possible climate change legislation. Looking at reports from two of the largest emitters, The Southern Co. and American Electric Power Co. Inc. (AEP), provides some insight into the possible impact for utilities that could be hit hard by new mandates to reduce emissions.

The 2005 Southern report showed the potential for annual customer costs in 2020 to be anywhere from about 2%

to 14% higher due to carbon prices that ranged from \$5 to \$80 per ton. In dollar terms, that's \$280 million to \$1.7 billion annually by 2020 just for the Southern system. Incidentally, the analysis showed that Southern's overall projected CO2 emissions actually wouldn't change much because of growing demand in its region.

AEP presented the results of its 2005 assessment in net-present-value amounts, which ranged from \$500 million to almost \$6.5 billion in additional costs for complying with two then-proposed federal bills: McCain-Lieberman and Carper. The company gave no indications of the impact on customer rates over time, but judging from the 2004 dollars at stake, the rate increases would not be insignificant.

What does all this mean for the future credit quality of electric utilities? Standard & Poor's believes climate change-related risks are very real for utilities and will increase over time as more stringent environmental requirements are imposed. However, the risks are very manageable based on the utilities' experience in environmental compliance over the past few decades. And, of course, the impact will vary by company based on the composition of its generation resources, the characteristics of its service territory, and, most importantly, the level of regulatory support.

Environmental legislation that continually ratchets up a utility's operational complexity and costs is nothing new. In just the last few decades, electric utilities have faced the need to comply with new, expanding, and expensive restrictions on sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury (Hg). And they've met the technical, operational, and regulatory tests with no direct hit to creditworthiness. Although the risks and challenges of carbon control are probably exponentially greater than the scope of SO₂, NO_x, and Hg combined, we have no reason at this point to forecast anything more than a marginal diminution in credit quality directly linked to climate-related legislation.

What Could Go Wrong?

Among the risks are that CO₂ compliance costs could spiral out of control, those costs could be up for rate recovery at the same time that other expenses are rising, and the costs could then get "crowded out" if regulators try to ease customer rate shock. Any disallowance would not necessarily be explicit, since it is difficult and legally suspect to keep prudent, legislatively mandated costs out of rates. The real risk to credit quality is the prospect that CO₂ compliance costs will be the proverbial straw that leads to harsh regulatory responses such as a disallowance or deferral because of cost pressures tied to commodity prices, more capital spending for basic reliability needs on the transmission and distribution system, and added construction costs for new generation to meet rising demand.

Good Management And Customer Education Will Be Key

As with any other business and financial risk they face, utilities will need to manage all of the demands associated with climate change, not the least of which is the public education necessary to inform customers and policymakers of the additional costs involved with being a "green" consumer. The careful management of capital spending, the choices that result in the least-cost solutions, and the effort to integrate new approaches and technology into operations effectively and efficiently could all be overwhelmed by ratepayer resistance to higher rates. That's the likely result if customers, their proxies, and regulators aren't adequately prepared when it's time to start paying for expensive renewable resources and carbon-capture technologies. Clearly, the pursuit of a cooler planet will leave utilities sweating over the risk to their credit quality.

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