NARUC

National Association of Regulatory Utility Commissioners

State Commission Staff Surge Call: Carbon Pricing

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With many states passing greenhouse gas emissions reduction goals or carbon-free portfolio requirements, public utility commissions are increasingly considering their role in implementing such legislation. As economic regulators, commissions are looking at whether and how to price carbon to support analytical evaluations of different options for meeting safe, reliable, affordable, and carbon-free utility services. This state commission staff surge call featured speakers from commissions in California, British Columbia, and Washington State to update their fellow commission staff on progress, issues, and lessons learned from carbon pricing to date.

California

The California Public Utility Commission (CPUC) administers California's economy-wide cap-and-trade program for greenhouse gas (GHG) emissions, along with the California Air Resources Board (CARB). The program began in 2012 and covered large point source emitters and electric utilities, with natural gas utilities and fuel transportation companies included later. Currently, any entity with emissions over 25,000 metric tons of carbon dioxide equivalent (CO_2e) are included. Through legislation, the program is authorized to operate through 2030.

CARB is responsible for distributing allowances to covered entities in an amount equivalent to a statewide cap on emissions. Utilities both buy and sell allowances. Some allowances are given out to provide assistance to select entities, but the majority of allowances are auctioned four times per year. Covered entities must buy allowances during each auction to cover their emissions. Allowances in the February 2020 auction cost around $18 per ton. California also has reporting requirements for any entity emitting more than 10,000 metric tons of CO_2e. CARB has detailed instructions for how to measure and report emissions. For certain entities, third-party verification is required.

The revenue California receives through the auctions is largely returned to taxpayers. For utilities, CARB allocates free allowances on behalf of ratepayers. CARB also requires electric utilities to sell those allowances and use the money to benefit customers, with guidance and oversight from the CPUC. Approximately 85 percent of proceeds from electric utility free allowance sales is returned to customers in the form of a bill credit. California felt that enabling utilities to both pass on the costs of purchased allowances and return proceeds from free allowance sales was an equitable way to implement cap-and-trade.

When California utilities enter power purchase agreements (PPAs), they may have to take on the compliance obligations of responsibility for emissions associated with that electricity purchase, depending on the circumstances of the PPA. More commonly, a GHG adder at the marginal cost of abating the next unit of GHG emissions is attached to the PPA.

In the future, California looks to leverage lessons from building decarbonization pilot programs to further reduce emissions. Because natural gas utilities are also covered by the cap-and-trade program, the state is exploring biomethane pilot programs to limit methane emissions from dairy farms and replace fossil natural gas.

British Columbia

British Columbia has some of the most aggressive economy-wide GHG reduction targets in the world, and the province has already made substantial progress towards achievement of the Climate Change Accountability Act, passed in late 2007. Currently, 97% of electricity is generated from clean or renewable sources, mainly hydropower. BC Hydro, a vertically integrated, crown-owned utility, serves 90% of the province's customers. To remain on track to reach the province's 2050 goal of 80% reductions in GHG emissions from 2007 levels, British Columbia is therefore expected to look for reductions in transportation, building heating, and industrial processes.

As the province considers how to reach these goals, the government is assessing how to define the role of the British Columbia Utilities Commission (BCUC). A BC government report clarified BCUC's role as an economic regulator: the commission is not responsible for delivering on policy goals, but is an economic regulator with a focus on the impact on ratepayers. The BCUC looks to the government to determine the role of electric and natural gas utilities in meeting emissions reduction targets. The Climate Change Accountability Act contains GHG reporting requirements to province-level sources and Canada's national GHG inventory report. The government will use this data to establish GHG reduction targets for individual sectors by March 31, 2021.

In late 2018, the government issued the Clean BC plan, outlining 2030 reduction targets and pathways for each sector of the economy. A review of BC Hydro's role in meeting emissions targets is underway. Pathways to reduction goals include a carbon tax, minimum renewable content for electric and natural gas portfolios, and the recognition of the emissions benefits of energy efficiency programs.

BC was the first jurisdiction in North America to implement a carbon tax. Starting at $10 per ton of CO2 in 2008, the tax has increased to $40 per ton and will continue increasing by $5 per year until it reaches $50 per ton in 2021. The tax started as revenue-neutral (with proceeds going toward lower business and personal taxes, rebates for low-income customers), but is now also used to fund climate programs including electric vehicle incentives, building energy efficiency, and industrial emissions projects. The tax is passed to natural gas customers as a separate line item and, at an average of $12 per month, comprises about 15% of residential bills – generally a higher cost than current commodity gas charge. Low-income households receive a carbon tax rebate of $45 per child and $150 per adult. There is also a clean energy levy on natural gas and propane, typically about $0.25 per month, with proceeds going to clean energy technology projects.

Second, natural gas utilities can acquire up to 5% renewable gas up to a cost of $30 per gigajoule (about 900 cubic feet). In the Clean BC plan, the government stated it would work with gas providers to achieve 15% renewable content for natural gas by 2030, including biofuels and hydrogen as options. Currently, renewable natural gas comprises only 0.2% of the natural gas delivered to customers, but contracts in place should raise the amount closer to 5%.

Lastly, the government regulation provide BCUC with guidance on how to recognize emissions benefits of energy efficiency programs. While a marginal cost of carbon is not used in utility planning, the energy efficiency guidance and the carbon tax serve as initial steps towards incorporating the value of emissions reductions into long-term planning. BCUC resource planning guidelines state that only social or environmental costs that are likely to become financial liabilities in the near future should be considered, unless there is clear government direction to do otherwise. Guidelines also require utilities to explain why energy efficiency cannot be used in place of proposed new facilities or new energy purchase contracts.

The issue of what role natural gas will play in the future has been described by BC's Climate Action Secretariat as a "well known question with spiky answers." The government has required new buildings to be net zero energy ready by 2032. Vancouver, the largest city in the province, plans to transition to zero emissions building for new construction by 2030, for which renewable natural gas is a zero-emissions compliance option.

Washington

In 2019, Washington's legislature passed a suite of bills, including the Clean Energy Transformation Act, to set an ambitious, multi-decade energy policy agenda. Major provisions relevant to utility regulation include the elimination of coal-fired generation from investor-owned electric utility portfolios by 2025, completely GHG-neutral retail sales by 2030, and 100% of power to be sourced from renewable and non-emitting resources by 2045. Currently, the Utilities and Transportation Commission (UTC) has various rulemakings underway to implement the 2019 legislation, while regulated utilities are developing clean energy resource and energy action plans and evaluating intermediate and long-term resource options that will comply with recently passed state laws.

One of the requirements from the 2019 package is for electric utilities to incorporate the social cost of carbon (SCC), from the U.S. Interagency Working Group's August 2016 guidance, as a cost adder in resource planning, with a 2.5% discount rate and adjustments to reflect inflation. The SCC ranges from $74 to $113 per metric ton between 2020 and 2050. In January 2020, the UTC and the Washington Department of Commerce held a joint workshop to explore approaches to modeling GHG costs in integrated resource plans (IRPs). The UTC and DOC asked a series of questions to utilities and other stakeholders about applying the SCC to new and existing thermal resources. The agencies are now asking utilities for specific modeling data and information. Outputs from this process will feed into an IRP rulemaking. An informal discussion draft is now available to the public, with a draft resource planning rule due in April 2020.

Discussion

State commission staff on the call had a number of questions for the speakers from California, British Columbia, and Washington. First, a staffer asked how commissions can determine where regulated utilities fit into statewide emissions reduction goals, which typically include industries not regulated by the commission. In British Columbia, the BCUC collects data but ultimately requires decisions from the provincial government on sector-specific targets.. In California, the CPUC has worked with other agencies on scoping plans laying out steps to reduce emissions from different sectors. Historically, the state has relied heavily on the electric sector, but is now looking to transportation, which is responsible for 40% of the state's emissions.

A subsequent question focused on resource planning, specifically whether utilities are putting forward resource plans that show serious commitment to carbon reductions, as opposed to the bare minimum required by law, and giving serious consideration to low-carbon scenarios. BCUC staff responded that legislation is the floor, not the cap, for utility commitments. The BCUC requires utilities to model the impacts of different resource scenarios in their resource plans.

A participant stated that Colorado is in a similar position to Washington. Colorado requires a 3% discount rate on the social cost of carbon, but is still working out how discount rates fit into existing IRP processes.

Next, a staffer asked about the process of setting the carbon adder or GHG price. California's is market-based. CARB manages the process of setting floor prices, which relieves CPUC from the responsibility to set a price for each auction. British Columbia's carbon tax is set externally through statute, but there is more complexity with the energy efficiency guidance. Washington's is also set through statute.

Lastly, state speakers were asked for advice to states at earlier stages in carbon pricing and emissions reduction planning. CPUC staff emphasized outreach and education with consumers, particularly with how proceeds from carbon pricing are passed back to ratepayers. BCUC staff highlighted the benefit of clarity on who is responsible for delivering on emissions reduction targets, particularly when legislation sets goals for a province (or state) as a whole rather than just regulated electric and gas utilities. Washington UTC staff brought up the high level of interest in the January 2020 workshop as evidence that commissions should be open to expertise from interested stakeholders.

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