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Electricity Aspects of the Low Carbon Policy, Including Capacity Market Developments

Editor's Note:

On May 28, 2018, regulatory law practitioners, representatives from regulatory bodies, and academics met in Calgary for the ninth annual Energy Regulatory Forum to discuss the state of regulatory law in Canada. These discussions focused on updates on recent judicial decisions, forecasting future solutions to Canadian regulatory law, and closed with updates from major energy agencies.

This will be the first of a series of blog posts, which will provide summaries of presentations from the forum, as summarized by student attendees.

Electricity Aspects of the Low Carbon Policy, Including Capacity Market Developments

Presenter: Miranda Keating Erickson (Vice-President, Markets, Alberta Electric System Operator)

Summarized by: Logan Lazurko (JD Candidate 2020, University of Calgary)

On May 28, 2018, Miranda Keating Erickson, Alberta Electric System Operator (AESO), presented at the annual Alberta Regulators Forum. Ms. Erickson spoke on AESO's core responsibilities, Alberta's evolving electricity industry, the renewable energy program, and the capacity market transition.

In November 2015, the Government of Alberta announced its Climate Leadership Plan. This plan contained two key goals for Alberta's electricity sector and the AESO: obtaining 30% of power from renewables by 2030 and phasing-out coal-generated electricity by 2030. Driven by the Climate Leadership Plan, AESO's core responsibilities include the planning and operation of the transmission system, developing and operating the wholesale electricity market, and carefully managing key initiatives to achieve green energy policy goals while maintaining system reliability.

The AESO was tasked by the Government of Alberta to develop and implement the Renewable Electricity Program (REP) to incent the first of these goals. The REP is designed to be a robust program utilizing competitive forces to drive down costs and add value for consumers, while being fair, transparent, and removing barriers to entry. The first three rounds are required to utilize existing infrastructure. The REP is a number of competitions held between 2017-2030 until the renewables target of 30% power generation is achieved. This power generation is

estimated to require roughly 5,000 MW of new, renewable generation. The results of the first round of REP were announced December 2017 and exceeded expectations with globally competitive and record-setting prices in Canada (weighted avg. \$37/MWh). Rounds 2 and 3 are now open. Round 2 has a target of 300 MW, with an additional objective of encouraging Indigenous participation through equity ownership. Round 3 has a target of 400 MW.

Alberta's electricity market has been evolving for several years. AESO began to assess the sustainability of the market in 2013 due to uncertainty regarding whether Alberta's energy-only market would continue to encourage the investment required. Other significant changes and trends included PPA expiry and federal coal retirement schedules, global trends toward greener generation, and increased adoption of capacity markets across North America. The changes in provincial policy in 2015 accelerated the assessments that the AESO was already undertaking. In 2016, the AESO recommended to the Government of Alberta that Alberta's electricity market structure needed to evolve and include a capacity market in which power generators are paid through a mix of competitive auctions and revenue from the spot market. Although Alberta has always implicitly paid for capacity, a capacity market divides the price signals, providing greater revenue certainty and encouraging investment.

The AESO determined a capacity market would best serve Alberta by: maintaining competitive market forces, driving innovation and cost discipline, ensuring reliability, providing greater revenue certainty for generators, increasing price stability, and increasing investment attractiveness/confidence. The capacity market supports coal-to-gas conversion, providing incentive to convert existing coal units. Trade-offs that must be considered when transitioning to the capacity market include, the costs and risks, flexibility, adequacy and reliability of supply, and timely development. Working groups, including industry and other stakeholders have considered a range of possibilities, provided recommendations and continue to provide feedback as the project develops. The first auction process will take eight months and should start in November 2018, wrapping up during the summer of 2019, and delivering first capacity in 2021. The standard design is an auction running on a 3 year forward period with 2 rebalancing auctions.

When asked what the primary reason for going to a capacity market and not continuing to rely on the energy market, Ms. Erickson responded by summarizing the economic theory of the 'missing money problem'. This phenomenon can make prices lower than costs, increasing the risk of investment. When intermittent generation on a large scale is added, including renewables such as wind, you run into a situation where you are either oversupplied or undersupplied and your prices fluctuate between very high and not enough. This had not been a problem in Alberta; businesses continued to have the opportunity to make money. However, as more renewables are added to the market, due to lack of geographic diversity, the number of hours at the high end become fewer, making it more difficult for companies to recover their investment. Transitioning to a capacity market strips out one piece of the problem, reducing risk and making producer revenue more predictable.

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