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Alberta's first Renewable Electricity Program competition brings record-low wind power prices

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On December 13, 2017, the Alberta Electric System Operator (AESO) announced the results of the first round of the Alberta Renewable Electricity Program (REP) competition. The REP is intended to encourage the development of 5,000 megawatts (MW) of renewable electricity generation capacity to the Alberta grid to meet its goal of producing 30% of the total electricity generated annually in Alberta from renewable energy resources by 2030. For a description of Alberta's REP, please refer to our April 5, 2017 Osler Update.

REP Round 1 results

By all accounts, this "opening-round auction" was a huge success with the selection of four wind projects to deliver nearly 600 MW of wind generation, representing a large investment in green power in Alberta and resulting benefits for the industry and the Albertan workforce. The auction also brought record-low pricing for wind energy generation, which will keep power affordable for Albertans. The total value added is approximately $1 billion of private-sector investment in green power generation within Alberta.

Four wind projects developed by three companies were selected. These projects will add approximately 600 MW of power to the market, enough to power approximately 255,000 homes. This is 200 MW more than the 400 MW the Alberta government had originally planned to procure, yet the entire auction came in under budget.

The weighted average price of the power under 20-year Renewable Energy Support Agreements (RESAs) entered into with the successful bidders is historically low at $37 per megawatt-hour (MWh) or 3.7 cents per kilowatt-hour (kWh).

Selected projects

Three bidders were selected from a pool of 12 bidders and 26 projects, representing 3,600 MW of energy, that qualified to participate in the opening round of the REP. A list of all qualified bidders and information regarding the successful bidders and their projects can be found on the AESO website.

The successful bidders and their projects are as follows:

a. Capital Power – the 201-MW Whitla Wind project located 60 kilometres (km) southwest of Medicine Hat.

b. EDP Renewables Canada Ltd. (EDP) – a 248-MW wind farm approximately 50 km north of

Oyen, located at the company's existing Sharp Hills project.

c. Enel Green Power North America, Inc. (Enel) – the 115-MW Riverview Wind Farm and the 31-MW Phase 2 of Castle Rock Ridge Wind Power Plant, which are located near Pincher Creek.

As part of the bid requirements, these projects are expected to be operational by 2019, and must meet the Natural Resources Canada definition of renewable energy and utilize an existing transmission or distribution system.

All three companies have entered into 20-year RESA agreements with the AESO pursuant to which the winning projects deliver all electricity and renewable attributes or credits generated by the projects in exchange for fixed-price certainty on the power. These agreements are structured as a "contract for difference" for a 20-year period starting from the commercial operation of the relevant facility – if the bid price exceeds the Alberta power pool price, the AESO pays the generator the difference, and if the bid price is less than the Alberta power pool price, then the generator pays the difference to the AESO.

Pricing

The weighted average price of the power contracted under the 20-year RESA agreements is historically low at $37 per MWh or 3.7 cents per kilowatt-hour (kWh), and the range of winning prices varied between $30.90 and $43.30 per MWh.

In contrast, Ontario has recorded FIT Pricing [PDF] at 13.5 cents/kWh, and LRP I results (as of March 2016) of a weighted average price of 8.59 cents/kWh among five wind contracts totalling 299.5 MW.

The bidders essentially bid their lowest acceptable cost for the proposed project, which benefits the market by creating a downward pressure on the cost of renewable projects. The renewable energy credits (RECs) are the form of support the government provides the bidders with for taking this risk. Additionally, RESA contracts have the benefit of creating predictable revenue streams for the province, while also providing protection to Albertans from upticks in electricity prices.

Future REP rounds

The Alberta government has indicated its intention to launch a second round of the REP in the first half of 2018, but no further details have been released. The AESO will continue to run competitions to contract subsequent tranches of capacity under the REP to coincide with the retirement of coal power plants in Alberta. While no details have been published, there is much speculation about a solar carve-out or other non-price-based qualification criteria in future rounds of the REP. To the extent that price competition is the sole or a significant feature of future REP rounds, the 3.7 cents per kWh benchmark set in REP Round 1 will be instructive for future bidders.

Impact on Albertans

The Alberta government has indicated that it expects the REP to continue to grow, creating more than 7,000 job opportunities for Albertans and attracting over $10 billion of investment in the provincial economy from investors within the province, country and abroad. Specific benefits for Albertans include:

- direct employment totalling approximately 14,862 person-years and opportunities for local businesses;
- $25.5 million in municipal property taxes;
- $13.5 million in land lease payments to provincial land owners;
- $3.6 billion in local spending relating to project development and construction; and
- $137 million spent provincially in operations and maintenance.

The success of this initial auction is demonstrative of the great investment opportunities that exist in Alberta's wind power market, and renewable power market overall, and a major step for the Alberta government to meet its legislated target of 30% renewable energy by 2030. However, this will come at a cost for the subsidies under the RESAs of an estimated $10 million per year for this initial tranche of wind power capacity, in addition to the other costs arising under the Alberta government's Climate Leadership Plan.