The Static Quo – AESO releases its Pricing Framework Recommendation

September 17, 2020

Introduction

In April 2019, Alberta elected the United Conservative Party (UCP). The UCP promptly announced it would undo the prior government's plan to switch Alberta's electricity market, from an energy-only electricity market to a capacity market. In deciding to maintain Alberta's energy-only electricity market, the UCP cited the structural and administrative simplicity of the market design, the proven track record of investment, and the reliable supply of affordable electricity in the province.[1]

Having affirmed the energy-only electricity market, the UCP directed the Alberta Electric System Operator (AESO) to consider if changes were needed to the existing energy-only market design, and, in particular, if any changes were needed to the price floor/ceiling and shortage pricing mechanisms.[2] Such a review of the pricing framework is important as the Alberta electricity market continues to evolve and phases out of coal generation, increases renewable generation, and utilizes new distributed generation sources and new loads. On August 28, 2020, the AESO released its "Pricing Framework Recommendation to the Minister" report (the Report), which concluded that no changes to the market pricing framework are required at this time.

Alberta power market – overview and pricing framework

Alberta operates Canada's only truly competitive wholesale electricity market, called the Power Pool. All electricity – whether generated in Alberta or imported – is bought and sold through the Power Pool.

The AESO operates the Power Pool. Each minute, generators offer their power (called supply offers) into the Power Pool at the prices they must receive before they are prepared to generate and deliver power into the grid. There is currently an administrative price cap set at $1,000 per MWh, an offer cap at $999.99 per MWh, and an offer and price floor of $0 per MWh.

Generally, this pricing framework is intended to send various long-term and short-term signals. In the long term, it is intended to provide signals on the need for new generation capacity to promote adequate supply for market demand. In the short term, it is intended to signal the need for additional supply from generators, influence load consumption or reduction, and affect the need for imports and exports. The caps and floor prices provide some delicate checks and balances: the offer cap reduces the risk that market power results in unreasonable costs for consumers, the administrative price cap stimulates supply and demand responses in times of shortage, and the price floor signals a time of surplus while protecting generators from negative pricing.

AESO report recommendations

For the Report, the AESO performed complex modelling, simulations and scenario analysis to evaluate the ability of the pricing framework to meet certain stated objectives. AESO concluded:

- The current pricing framework is sufficient to incentivize new generation when required. In particular, the $999.99 per MWh offer cap was not a barrier to investors earning sufficient revenue to cover costs and earn a return. In fact, the existing offer cap still enabled investment in diverse generation, with attractive returns in most scenarios. In cases of supply shortage/scarcity, the administrative price cap of $1,000 per MWh properly incentivises long lead-time assets and imports, and, generally, elicits a proper demand response in the short term.
- Negative price floors in times of excess supply did not result in material market clearing efficiencies as compared to the current administrative curtailment rules applied pursuant to Section 202.5 of the ISO rules. In other words, the current minimum supply offer price of $0 per MWh, coupled with AESO directed curtailments of generation and imports, is sufficient to clear the market in times of surplus.

As part of its analysis, the AESO solicited stakeholder input. The AESO confirmed that the majority of stakeholders supported maintaining the status quo pricing design of the energy-only market.

AESO report – other considerations

The Report also contains some interesting insights into the assumptions used in the modelling. Not surprisingly, the load forecast used in the scenario analysis is based on the AESO 2019 Long Term Outlook Reference Case, released in October 2019, which forecasts lower load and lower GDP growth than the 2016 version (this was before the impacts of COVID-19 are taken into account).

This results in a lower forecast for new generation facilities. In addition, assumptions used in certain scenario analysis reveals the significant impact of government policies on the market. For example, increased carbon costs on emissions and input fuels results in increased operating costs for fossil fuel fired generation. It also leads to increased revenues from carbon offsets and higher pool prices for renewable generation, and has a meaningful impact on return expectations for new generation (brace yourself for new policy changes).

Similarly, the near-term generation additions assumes all Renewable Electricity Program projects and recently announced contracted wind and solar projects are added[3], as well as 4,980 MW of coal to natural gas conversions by 2030. These scenario assumptions demonstrate the thoroughness of the AESO review and illustrate the impact that government policies and economic assumptions can have on market outcomes, and the sensitivity of the pricing regime in responding to these changes.

Despite its recommendation to maintain the status quo in the pricing regime, the Report also shows the change since 2016 in the AESO's view of the pricing framework. When the AESO recommended a capacity market in 2016, its modelling suggested $5,000 per MWh as the Pool Price cap needed to ensure there continues to be sufficient generation to reduce the risk of future brown outs under Alberta's energy-only market.

However, the world has changed. In the Report's price cap analysis, it determined that increasing the price cap to $3,000 per MWh yielded increases in project returns, which may not be necessary to incentivise new generation investments. In other words, the existing cap of $999 is sufficient to meet an adequate internal rate of return, without risking increased costs to consumers by raising the cap.

Conclusion

Tinkering with (or fundamentally changing) market design is complicated. Government policies, the macro-economy, supply and demand, and technology are constantly in flux. In maintaining the energy-only market and the market-pricing framework, the Report affirmed the robustness of the existing structure and recognized the market participant's preference for certainty and lack of complexity. The AESO (and BLG's Alberta Power Market group) will continue to perform periodic reviews and updates to determine if changes to the pricing framework are warranted.

[1] See https://www.aeso.ca/assets/Uploads/Alberta-Energy-Direction-to-AESO-07-25-19.pdf

[2] See our post "Why Alberta decided to stick with its Energy-Only Electricity Market"

[3] Renewable generation additions include 1,465 MW of wind development and 268 MW of solar development prior to 2021.

By

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Expertise

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