

## Is It the End of the World as We Know It? An Overview of Alberta's New Restructured Energy Market (REM)

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In recent weeks, the Government of Alberta has announced several significant policy changes to Alberta's electricity sector. These changes impact i) the Alberta's current energy-only market, where new investments in electricity generation are driven by the wholesale energy price and electricity generators are only paid when the energy they produce is actually dispatched; and ii) the development of new renewable energy projects. This update contains an overview of the key policy changes.

In February 2024, Alberta Premier Danielle Smith announced forthcoming policy and legislative changes imposing additional conditions for approval of new renewable energy projects; on March 11, 2024, the Alberta government released two new regulations under the *Electric Utilities Act*<sup>1</sup> and directed the Alberta Energy System Operator (AESO) to proceed with its recommended Restructured Energy Market<sup>2</sup> (REM). The REM is intended to support the future reliability and affordability of Alberta's electricity market, in part by providing the AESO with the ability to procure contracts for dispatchable<sup>3</sup> electricity generation if required.

The REM constitutes a comprehensive market design package that will result in significant changes to the energy-only market.<sup>4</sup> The Minister specified the REM, which has yet to be finalized, is to be based on the AESO's report entitled "Alberta's Restructured Energy Market: AESO Recommendation Report"<sup>5</sup> (AESO Report).

### REM – Renewable Generation

The AESO Report states that the energy-only market has, so far, supported investment in reliable, affordable electricity. The AESO Report noted, however, that structural changes are needed to address electricity trends that pose a challenge to both the reliability of and the investors' confidence in the electricity sector. Examples of these trends include the increase in what are referred to as "variable" sources of generation, such as wind and solar. They are termed "variable" because their electricity production output is weather-dependent and cannot be turned on or off on demand by grid operators; Dispatchable generation, on the other hand, such as certain gas power plants, can be dispatched on demand. Another trend noted in the AESO Report is that electricity investments are being driven by incentives external to market price, such as renewable energy credits.

The AESO Report stated that variable generation needs to be used with a mix of controllable energy sources, such as thermal generation, which can be dispatched on demand; in the AESO's view, the current market design does not have sufficient incentives to attract investment in dispatchable generation, resulting in disproportionate investment in wind and solar technologies.

In addition to structural changes, the AESO Report noted that Provincial policy changes, including changes to the *Transmission Regulation*,<sup>6</sup> are also needed to, for instance, alleviate constraints on the transmission system, which have been exacerbated by the accelerated penetration of renewable generation.

## REM – Outcomes

Under the current energy-only market, generators may hold back all or part of their electricity supply by offering it for sale at a high price with the goal of increasing the energy price, a strategy called economic withholding.<sup>7</sup> Economic withholding is an important feature of the energy-only market because it allows generators to recover their fixed costs.<sup>8</sup> The generators' exercise of economic withholding is limited by a wholesale energy price cap of \$1,000/MWh, which protects consumers from price spikes. Today, generators cannot submit an offer below zero dollars; If the energy price was to fall below zero dollars, generators would essentially pay load resources to take produced electricity. However, the possibility of allowing generators to offer below zero dollars, would give generators the option to incur a cost to supply electricity in order to avoid curtailment due to a supply surplus.<sup>9</sup>

Another characteristic of the energy-only market is that market participants have discretion to decide when to start their generating unit or to take them offline based on anticipated system conditions and/or price outcomes. This feature, however, poses a threat to electricity reliability, particularly when the AESO is required to manage the variability in supply from renewable generation.

The REM proposes to introduce a negative pricing mechanism to incent generators to sell electricity even when available supply exceeds demand. The REM would also replace economic withholding by allowing electricity offers at prices above the \$1,000/MWh price cap, affording generators a reasonable opportunity to recover investment costs.

Within the first two years, the REM is designed to protect consumers against spikes in electricity prices by establishing an interim market power mitigation framework. This interim market power mitigation framework will focus on limiting the market power of larger companies that participate in the electricity market. The REM will also procure additional ancillary electrical service, or backup power generation, to address the variability of renewable generation. Finally, the REM plans to increase interties, which are power transmission line connections with neighboring provinces.

These short-term changes potentially represent immediate, lower electricity prices, expedited procurement

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of ancillary services from dispatchable resources, and the imposition of additional technical requirements for generating units to connect to the grid. Many of the REM goals for the first two years will remain the focus in the REM's medium-term goals, described below.

The expected REM design outcomes in the medium term (two to five years) include:

- i. shortening settlement interval and implementing a negative pricing mechanism to incent generation and storage, among others, to respond when there is an excess amount of electricity supply allowing the wholesale price to go below the current price floor of zero dollars;
- ii. allowing generators to also offer their electricity for the next day's use (i.e., "day-ahead market") rather than in the real-time market, promoting stability and minimizing price volatility;
- iii. introducing changes to the *Transmission Regulation* and the Independent System Operator (ISO) Tariff to optimize the use of transmission infrastructure and to allocate transmission costs based on cost causation; and
- iv. implementing a mechanism where the electricity price may increase above the price cap of \$1,000/MWh to allow generation to recover investment costs.

The expected REM design outcome in the long term, approximately five or more years, is the AESO's procurement of new controllable capacity through long-term contracts, if needed, to ensure reliability. The AESO Report indicates there is sufficient supply to meet the forecasted demand over the next decade and recommends the use of contracts for controllable capacity only if and when needed.<sup>10</sup> The AESO Report contemplates that it will take at least three years to finalize and fully implement the REM, with completion anticipated by the end of 2026.

## REM – Required Legislative Changes

Modifications to the current ISO rules will be required to implement the REM by 2026 and the AESO Report recommends a time-bound, collaborative market design consultation process followed by a condensed regulatory process before the Alberta Utilities Commission (AUC).

The implementation of the REM will require changes to legislation, including changes to the *Electric Utilities Act* and, potentially, changes to the *Fair, Efficient and Open Competition Regulation*.<sup>11</sup> Some of these legislative changes are already known; On March 11, 2024, the Alberta Government released two new regulations under the *Electric Utilities Act* to support the AESO's implementation of the REM, the *Market Power Mitigation Regulation*<sup>12</sup> and the *Supply Cushion Regulation*.<sup>13</sup>

The AESO Report states that time is of the essence to implement the changes introduced by the REM and recommends a special ISO rule changes approval process. Particularly, the AESO Report proposes that the AUC decision on the ISO rule changes be unappealable for a period of 18 months. The AESO Report maintains this period would allow for the rules to be tested in practice and would reduce regulatory uncertainty.<sup>14</sup>

The Government of Alberta has yet to determine the procedural framework for implementation of the REM. The AESO's recommendation for an expedited approach, however, is unlikely to ease investors' and market participants' concerns regarding the current and future state of the Alberta's electricity sector. Despite the AESO Report delineating the main features and objectives of the REM, the far-reaching, anticipated impacts of the REM on the electricity sector will not be known until 2026 at the earliest. Further, the recommendation for an expedited AUC approval process may imply abridged consultation and reduced stakeholder participation, increasing the chances of lengthy judicial disputes and appeals of an AUC decision.

## Renewables Policy Reforms

In addition to the legislative and policy changes resulting from the transition of the energy-only market to the REM, the Government of Alberta has recently announced several changes impacting the development of new renewable generation projects. These changes, summarized below, include restrictions on the development of renewable projects in agricultural lands, a ban on new wind projects within 35 km of certain areas in the province, and the requirement of developers to provide security for reclamation costs. In a letter to the AUC dated February 29, 2024,<sup>15</sup> Minister Neudorf indicated the Government of Alberta will advance policy, legislative and regulatory tools to implement these changes before the end of 2024.

- i. **Agricultural Lands:** The AUC is directed to take an “agricultural first approach” ensuring that agricultural lands and the environment are taken into consideration when evaluating new project proposals on agricultural lands. Proponents must demonstrate that crops and livestock can coexist on LSRS class 1 and class 2 lands.
- ii. **Viewscapes:** New wind projects will not be permitted within 35 km around protected areas and around “pristine viewscapes” as determined by the province. Those project developments located within the buffer zone may be subject to a visual impact assessment prior to approval.
- iii. **Reclamation Security:** Developers will be required to provide bond or security for reclamation costs. The bond or security will either be provided directly to the government or may be negotiated with landowners provided that sufficient evidence is given to the AUC that money will be set aside and held in trust for reclamation costs.
- iv. **Crown Lands:** The development of renewable generation on Crown lands will be evaluated on a case-by-

case basis. Meaningful engagement is required before any changes to Crown land access, which will result in future legislative changes.

v. **Duty to consult with First Nations:** Meaningful consultation with First Nations and other important stakeholders will be required for project on Crown lands. Projects proposals for renewables will be considered on a case-by-case basis. This will not come into effect until late 2025.

vi. **Municipalities:** The AUC will grant municipalities automatic right to participate in AUC hearings. The costs incurred by municipalities to participate in the AUC hearings may be reimbursed.

vii. **Transmission:** Changes to Alberta *Transmission Regulation*, such as allocation of transmission costs are anticipated.

viii. **Other Matters:** The AUC is directed to: i) conduct hearings, if required, to determine the appropriate setback for projects from neighboring residences; ii) conduct site visits for proposed projects; and iii) enhance the existing visual impact assessment requirements.

## Implications for the Electricity Industry

The recently imposed restrictions on the development of new renewable energy projects, raises some uncertainty about the future of Alberta as the prime Canadian destination for investment in renewable energy. The structural market changes introduced by the REM are expected to impact how energy prices are settled and how ancillary services are scheduled. With the implementation of the day-ahead market, the AESO will have an additional tool to balance supply and demand as generators commit to supply electricity a day in advance of when they must deliver it. The AESO Report provides that the day-ahead market will decrease consumer's exposure to price volatility.<sup>16</sup> Further, changes to the *Transmission Regulations* may allocate costs associated with required transmission expansion or reinforcement to renewable generators.

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<sup>1</sup> *Electric Utilities Act*, SA 2003, c E-5.1.

<sup>2</sup> Direction Letter from the Minister of Affordability and Utilities, [Link](#).

<sup>3</sup> The terms "dispatchable" and "controllable" are used interchangeably to refer to technologies that can be dispatched and controlled in real time.

<sup>4</sup> AESO, "Glossary of Terms," [Link](#).

<sup>5</sup> AESO, "Alberta's Restructured Energy Market, AESO Recommendation to the Minister of Affordability and Utilities," January 31, 2024, [AESO Report], [Link](#).

<sup>6</sup> *Transmission Regulation*, Alta Reg 86/2007.

<sup>7</sup> Webpage of the Utilities Consumer Advocate, [Link](#).

<sup>8</sup> AESO Report, at pg. 58.

<sup>9</sup> AESO, "Negative Pricing Discussion Paper," at pg.1, [Link](#).

<sup>10</sup> Report, at page 6.

<sup>11</sup> Alta Reg 159/2009.

<sup>12</sup> Alta Reg 43/2024.

<sup>13</sup> Alta Reg 42/2024.

<sup>14</sup> AESO Report, at page 39.

<sup>15</sup> Letter from the Minister of Affordability and Utilities to the Alberta Utilities Commission, [Link](#).

<sup>16</sup> AESO Report, at page 30.

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