

Thursday, December 16, 2021

To: Market Participants and Other Interested Stakeholders  
Re: **AESO Net-Zero Emissions Electricity System Pathways Engagement**

Alberta's power sector is undergoing significant change. This change is being driven by multiple factors within the power system and beyond. New technologies, carbon policy, broad electrification and a societal desire for cleaner forms of energy are creating substantial and rapid change across the electricity value chain, from production to consumption.

Throughout 2022, as follow-on to the 2021 Long-Term Outlook and in response to the growing societal drive towards net-zero emissions, the AESO will be undertaking critical work associated with the long-term sustainability of Alberta's electricity system. The decarbonization of the electricity system, as well as the potential for increased electrification of other sectors of the economy, will have profound impacts on how power is produced and consumed.

Net-zero crosses provincial and federal jurisdiction, and because policy details have not yet been established, we believe it is imperative for industry, stakeholders and the AESO to work collaboratively to understand the potential pathways and implications to a net-zero grid of the future. With 2035 and 2050 being shared as possible targets, a timely and detailed analysis on the implications for Alberta's grid is critically important.

With the help of stakeholders, both through general engagement and through the AESO's Industry Roundtables process, the AESO is seeking to fill this information gap by producing the first AESO Net-Zero Emissions Electricity System Pathways report, to be published in June 2022.

The AESO's Pathways report will describe potential decarbonization pathways that can lead to a net-zero emissions electricity sector in Alberta by 2035. The report will include evaluation of supply-and-demand scenarios, which can result in decarbonization of the electricity system, and electrification of other emissions-intensive sectors. The initial report will review potential supply mix, market, supply adequacy and high-level cost implications. The report will not examine the full range of all potential operational impacts and related mitigation measures, the specific impact to consumers or provide quantitative analysis of all identified pathways. Subsequent analysis and reporting may focus on these more detailed metrics.

To keep this work focused, the AESO intends to review two net-zero emission generation supply scenarios in greater quantitative detail to gain further insight into potential market and operational implications. These are:

- Renewables paired with energy storage; and,
- An economically driven generation resource addition scenario that considers a range of potential zero-emission sources, including carbon capture and storage, hydrogen, nuclear, hydro, and renewables and storage.

With respect to demand, the AESO intends to produce scenarios incorporating the impacts of significant electrification of transportation, buildings, and industrial activities, as well as the potential impact of demand-side management and energy efficiency initiatives.

To support this effort and inform the AESO's analysis, we are launching a stakeholder engagement process to seek feedback on the various inputs that could affect a net-zero future. Starting Thursday, December 16, 2021 and running until January 31, 2022, stakeholders will be able to submit detailed comments in response to our [stakeholder questionnaire](#). The AESO will post comments received and will consider feedback in developing its modelling.

Further stakeholder engagement is expected in March 2022, once initial modelling results are available. Informed by the first report in June, the AESO will then determine next steps. Additional information on this [initiative](#) is available on the AESO's website.

While we seek to understand with greater certainty what net-zero means to Alberta, we are also cognizant that this is not a static endeavour and as a matter of good planning, the AESO will continue to update and refine the implications of net-zero as new information becomes available. We are also committed to ongoing collaboration with stakeholders due to the breadth of possible outcomes, from generation to transmission and distribution and, ultimately, to the consumer.

The AESO has created a cross-functional team, led by our Vice President, Markets, Miranda Keating Erickson, to progress this work. If you have any questions, please email [forecast@aeso.ca](mailto:forecast@aeso.ca). I would like to thank all interested stakeholders for their support on this important work.

Yours truly,



Mike Law  
President and CEO

cc: Miranda Keating Erickson, Vice President, Markets