

2021 Long-term Outlook Scenarios – December, 2020

2021 Long-term Outlook Stakeholder Feedback



Period of Comment: December 15, 2020 through January 15, 2021
Comments From: Canadian Renewable Energy Association
Date: 2021/01/15



Keeping with the mandate of providing safe, reliable and economic operation of the Alberta electricity system while facilitating a fair, efficient and competitive market for electricity, the AESO is developing the 2021 Long-term Outlook (LTO).

Given the challenges faced as a result of the COVID-19 pandemic and the low oil price, feedback provided to the AESO will be an important input into how we forecast Alberta's the near to long-term electricity. The AESO will use scenarios as a means of stress testing various market, technological, consumer behaviour, policy and economic outcomes, to assist stakeholders in understanding potential long-term future outcomes in the Alberta electricity market.

Please fill email your completed questionnaire to forecast@aeso.ca by January 15, 2021.

We value stakeholder input and thank you for sharing your perspective. In alignment with our Stakeholder Engagement Framework ([link](#)) all stakeholder submissions, in their original state with personal information redacted, will be published online at www.aeso.ca

Further stakeholder engagement on LTO scenarios and preliminary results can be expected as the AESO makes progress toward the anticipated publication date in Q2 of 2021.

Preliminary results will be based in part from stakeholder feedback received in June 2020.

The AESO thanks you for your time and appreciates your input.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Do the proposed LTO scenarios cover a reasonable range of plausible future outcomes? Which scenario do you think is more likely? Which one is less likely?	<p>The proposed scenarios do not cover a plausible range of future outcomes. This is due primarily to the fact that they do not reflect two key climate policies, which are likely to have an impact on the generation mix. These policies include:</p> <ul style="list-style-type: none"> - The Federal Carbon Price <ul style="list-style-type: none"> o In December, the Federal Government announced their “Healthy Environment and Healthy Economy” climate plan, which includes a commitment to increase the carbon price to \$170/tonne by 2030. o This will have several impacts across scenarios, including, but not limited to, increased competitiveness of renewable energy, increased deployment of storage and increased interest in corporate power purchase agreement. o It is also worth noting that the plan has cancelled the planned deployment introduction of a Clean Fuel Standard for gaseous and solid fuels, and thus will no longer apply to Alberta’s electricity sector. - Provincial Renewable Energy Act <ul style="list-style-type: none"> o The Government of Alberta’s <i>Renewable Energy Act</i> legislates a target that 30% of the electric energy produced in the province be produced from renewable energy resources. o As a result, this level of renewable penetration should be reflected as a <i>minimum</i> across all scenarios. <p>Given these two policies, it is most likely that the Clean-Tech (Energy Transformation) scenario occurs by 2030. In fact, it may be the case that the Reference Case should more closely match</p>

		<p>what is now called the Clean Tech Scenario, and the Clean Tech Scenario be more aligned with a grid that is 90% non-emitting by 2040, along with higher levels of electrification.</p>
2.	<p>Does the “Clean-Tech” scenario focus on the appropriate technologies and policies?</p>	<p>Policies</p> <p>It is difficult to understand which policies are included in this scenario. It is evident that there are impacts from these policies, but it is unclear which specific policies are included.</p> <p>Reiterating our points from above, this scenario should <i>at the very least</i>, include the scheduled increase to carbon prices, and the 30% provincial renewable target. As well, it is recommended that the models be more explicit about recent announcements pertaining to accelerated coal facilities phase outs and federal limits on life extensions for coal to gas conversions.</p> <p>Technologies</p> <p>We have several comments to offer on the treatment of technologies in the “Clean-tech” scenario:</p> <ul style="list-style-type: none"> - We are pleased to see wind, solar and energy storage included in the analysis. However, in addition to “utility scale” energy storage, the additional inclusion of solar/storage and wind/storage hybrid projects would better reflect the ways these technologies will be deployed in the future. - The “Supply” column on slide 13, “Proposed scenario narratives”. refers to “current policies, technology costs, [and] industry trends”. Though this phrasing is found in relation to the Reference Case, CanREA requests more transparency on the reports and research being used to inform current policies, costs and trends in the “Clean-Tech” scenario. - It is requested that the AESO share the updated AWS Truepower “Renewable Capital Cost” report mentioned in the table on page 14. Without transparency on the forecasted technology costs, it is difficult to understand how well the models align with the reality of the cost of project deployment in the field. The 2019 LTO was based on LCOE calculations that were nearly two times as high as those being achieved

		<p>in the field at that time, possibly skewing deployment models. It will be critical for capital costs in the 2021 LTO be more accurate than previous figures, so that the capacities deployed in the model are not artificially depressed.</p> <ul style="list-style-type: none"> - Given the transformations that are currently occurring around the world, it is not appropriate to refer to the changes under the scenario as “radical”. Rather, they are the direction in which the electricity sector is moving and will be commonplace in 2030. - The assumptions for corporate PPA growth underestimate the deployment that is expected by industry. In fact, the projected growth in the Reference Case has already been eclipsed by projects announced for deployment in the next 24 months. By our calculations, there is 326.5 MW of wind and solar capacity supported by renewable PPAs expected to come online in 2021-2022. These calculations do not include ongoing renewable contract procurements being undertaken by the City of Edmonton and the Federal Government, which together could more than 200 MW of wind and/solar to the grid (depending on the winning configurations). It is recommended that the AESO revisit this assumption, and revise the number upward.
3.	Are there different scenarios that warrant inclusion?	
4.	What long-term hydrocarbon demand projections do you think are reasonable for the Robust and Stagnant Global Oil & Gas Demand scenarios?	We have no comment on the hydrocarbon demand, but we would expect that this scenario should result in higher renewable corporate PPAs, as additional growth in the sector will result in a higher demand for clean electricity.
5.	Are there additional generation technologies that warrant inclusion in the 2021 Long Term Outlook Scenarios?	

6.	Do you disagree with any of the assumptions in Slide 4 for any of the scenarios? If so, what would you propose?	
7.	The AESO has not yet determined the quantum of change in the scenario variables. Do you agree directionally with the scenario assumptions? Do you have insights regarding the magnitude of scenario changes?	<p>Overall, we agree with the directions of the scenario assumptions. However, it is recommended that climate policy assumptions be updated to more clearly reflect the landscape, as elaborated upon in the answers for questions two or three. Without these updates, it is unlikely that the magnitude of growth for renewables, utility scale storage, or renewable corporate PPAs will be reflected in the resulting LTO.</p> <p>This issue is particularly clear with the treatment of energy storage. According to Slide 4, the AESO's modelling forecasts only 65 MW of energy storage by 2030 and 145 MW of energy storage by 2040. Discussions with CanREA members indicate that the AESO estimate is an order of magnitude too low.</p> <p>The AESO estimate is inconsistent both with the current observable level of deployment and with other changes made between the 2019 and 2021 LTOs. In the past year, 30 MW of utility scale energy storage has been installed. Further more, the 2021 LTO generation forecast suggests an increase of 1,000 MW of variable renewable generation, and a reduction of 500 MW of simple cycle generation. The resulting increased demand for flexible resources suggests a much larger increase in storage deployment, especially considering we are almost halfway to the 2030 forecast in 2021.</p>