

Introduction

On June 9, 2020, the AESO published our *Distributed Energy Resources Roadmap* (DER Roadmap), which outlines a plan to proactively prepare the AESO for a future state characterized by a higher penetration of DER on the Alberta Integrated Electric System (AIES). At the same time, the AESO posted a comment matrix on www.aeso.ca requesting stakeholders' feedback on the DER Roadmap by July 10, 2020.

We thank all stakeholders who submitted feedback on the DER Roadmap. A summary of the feedback received and the AESO responses are outlined below.

Summary of stakeholder feedback from the DER Roadmap stakeholder comment matrix

A total of nine submissions were received from stakeholders including:

- Six from the power industry
- Two from associations/organizations
- One from an agency

In general, stakeholders were supportive of the AESO sharing the DER Roadmap. A common theme that emerged from the stakeholder feedback was a desire for additional information regarding specific plans and activities for implementing the DER Roadmap. A summary of the feedback received, and the AESO responses are outlined below. All stakeholder feedback, in their original state, can be found on the website [here](#).

1. *Did you identify any content gaps in the DER Roadmap? If yes, please explain.*

Overall comments focused on:

- Expand the working definition of DER to include Demand Side Management Resource (DSMR) and acknowledgment of resources which both supply and draw energy. In addition, clarifying gas-fired generation is included in the DERs**

Currently there is not a legislative definition for DERs in Alberta, nor is there a commonly accepted definition within industry. The AESO considers that there would be value in creating a common DER definition for the Alberta industry, with stakeholder input as appropriate. Until such time, and for purposes of advancing the AESO's DER Roadmap, the AESO has adopted a working definition. The AESO's working definition for DER is focusing on energy resources that can supply energy onto the AIES at this time, due to the current and increasing levels of these types of resources and the impacts they can have on the power system, markets and tariffs. The AESO is not opposed to expanding the working definition of DERs to include DSMR sometime in the future, but our current priority is on those resources defined in the AESO working definition.

For greater clarity, the AESO does consider gas generation connected to the distribution system to be a DER and those resources will be considered in-scope for the AESOs DER Roadmap.

- b. Provide further clarity on roles and responsibilities between all the entities (AESO, Distribution Facility Owners (DFOs), Transmission Facility Owners (TFOs), DER Generating Facility Owners (GFO), etc.) for activities outlined in the DER Roadmap.**

Given the AESO is a central participant in the delivery of reliable electricity to Albertans through our competitive market, the AESO is coordinating and working collaboratively with DFOs and TFOs to understand the issues and discuss potential changes to better prepare for higher DER penetration on the AIES. If required, an industry forum may be established to engage all stakeholders to further discuss and understand these topics. Please refer to the AESO published [2020/2021 Plan for DER Roadmap Integration Activities](#) for further details on stakeholder engagement.

2. Did you find value in the publication of the DER Roadmap? Would any additional information be helpful? How can it be improved?

Majority of stakeholders found the DER Roadmap useful and informative and they are supportive of the AESO DER Roadmap Initiative as it supports the industry to proactively prepare for the challenges and opportunities associated with higher DER penetration. Overall stakeholder comments focused on:

- a. Stakeholders would like more information on engagement, specific to DER Roadmap activities, as well as kept up to date on its progress.**

On July 28, 2020, the AESO published the [2020/2021 Plan for DER Roadmap Integration Activities](#) which outlines additional details on DER Roadmap activities and stakeholder engagement. The AESO is also planning to provide regular DER progress updates through combined energy storage and DER webinars as well as publishing updates to the 2020/2021 plan on a regular basis.

- b. Stakeholders would like additional information on how the AESO plans to improve system modeling and forecasting to accommodate DERs, especially in light of the upcoming LTO and LTP.**

The AESO will require increased knowledge of DER volumes and location on the distribution system in order to continue to improve and refine AESO's forecasting and system modelling. Hence, the AESO is working with DFOs to improve the collection of DER information as well as improving our understanding of DFO DER forecasting knowledge. In addition, the AESO is enhancing forecasting DER by technologies type (e.g. gas, solar, wind, electric vehicles, energy storage) and explicitly forecasting DER supply resources separately from gross load. Details of DER forecast will be provided in the upcoming 2021 LTO and there will be opportunities for stakeholders to provide feedback through the 2021 LTO engagement process. The upcoming LTP will be developed based on the 2021 LTO.

3. Do you have suggested changes to the activity timing in the DER Roadmap Integrated Plan? If yes, please be specific to why you would like to see the timing changed and what the suggested timing should look like.

Overall comments focused on:

a. Timing and priority of ISO Tariff and Bulk & Regional Tariff Design work and Transmission and Distribution Tariff alignment.

The AESO recently published [the 2020-2021 Plan for ISO Tariff-Related Activities](#) to provide stakeholders with a consolidated view of the AESO's 2020 and 2021 planned tariff-related activities for their information and planning purposes. The AESO encourages interested parties to refer to this document for further information.

Regarding transmission and distribution alignment, the AESO has been working with stakeholders towards resolution of the substation fraction and DFO flow-through of participant-related costs issue since February 2020. On September 1, 2020, the Alberta Utilities Commission ("Commission") initiated Proceeding 25848 to consider the AESO's adjusted metering practice and substation fraction methodology. As indicated by the 2020-2021 Plan, the next stages of this initiative will be progressed through this regulatory proceeding.

Further, several parties, including the AESO, expressed support for initiatives that aim to better align transmission and distribution tariffs during the Commission's Distribution System Inquiry ("Inquiry") [Proceeding 24116]. The AESO awaits the Commission's report, which is expected in Fall 2020.

b. DER Roadmap should remain flexible to accommodate any outcomes from AUC Distribution System Inquiry (DSI), guidance from future regulatory processes, and align with other Market Initiatives.

The DER Roadmap will remain flexible and the AESO will adjust to accommodate outcomes from AUC DSI proceedings, on-going regulatory changes and future government policies. Within the AESO, all interconnected or dependent initiatives will remain coordinated as appropriate and required.

c. Provide additional information on how the AESO determines the timeline and priorities of activities outlined in the DER Roadmap to help stakeholders focus on their analysis and participation.

Given the historical trend, current penetration levels, projects on the AESOs connection project list and forecasted continued increase in DER, the AESO prioritizes DER activities based on the importance of when these activities need to be explored, developed and implemented to ensure that the AESO continues to fulfill its legislated mandate. In addition, the AESO also acknowledges that the COVID pandemic may impact timelines, the AESO will monitor, remain flexible and adjust as required. The [2020/2021 Plan for DER Roadmap Integration Activities](#) published on July 28, 2020 provides additional information that should assist stakeholders with identifying activities they may be interested in and timing of future stakeholder engagement opportunities over the next 12 months. The AESO plans to engage stakeholders in alignment with the AESO [Stakeholder Engagement Framework](#).

4. *Are you aware of any recent DER research/resources/information that would provide the AESO more insight on this topic? If yes, please provide details or explain.*

Overall comments focused on:

- a. Leveraging information from AUC DSI proceedings;
- b. Engaging DER market participants early in DER roadmap activities to include DER market participant inputs; and
- c. Various technical reports and white papers.