

Memorandum

To: Stakeholder Advisory Committee

From: Katherine Sparkes, Director of Innovation, Research and Development

Date: March 9, 2022

Re: IESO Business Update – Innovation

Ontario’s electricity supply and demand situation is changing, and we face emerging needs in the coming years. At the same time, technologies are evolving and creating new options, particularly at a local level. One of the IESO’s key priorities this year is to create opportunities for more resources and unlock the innovation of Ontarians to drive down costs. This means enabling resources like energy storage and DERs to participate more fully in our markets.

These newer forms of supply will be essential to the system moving forward and we want to ensure they deliver maximum value to the system. As our work to understand and enable new resources continues this year, input from stakeholders and communities will be critical to help the IESO break down barriers and give Ontario’s communities and businesses the tools they need to participate in our markets and realize their evolving energy preferences.

The following provides an update to members of the Stakeholder Advisory Committee on Innovation related items.

Enabling Resources Program

The Enabling Resources Work Plan was presented and posted in December, 2021. The Work Plan outlines the timing and scope of work the IESO will undertake between 2022-2026 to further integrate emerging resources in the IESO-Administered Markets, including hybrid generation-storage, storage and Distributed Energy Resources. Semi-annual progress reporting will be made to the SAC. This work will support robust competition in the IESO’s Resource Adequacy procurements.

Distributed Energy Resources (DER) Roadmap

The DER Roadmap was posted in December, 2021, and sets out the IESO’s goal, objectives, initiatives and timing for DER integration. The Roadmap includes three key streams: Wholesale Market Integration, Transmission-Distribution Coordination, and Enabling Non-Wires Alternatives. Projects captured within the DER Roadmap which are currently underway include:

DER Potential Study, DER Market Vision Project, Transmission-Distribution Coordination Working Group (TDWG), OEB/IESO Joint Targeted Call on DER Integration, Energy Efficiency (EE) Auction Pilot, and IESO's York Region NWAs Demonstration.

DER Market Vision Project (DER MVP)

In January, the IESO presented timelines and deliverables for the DER MVP, and also had a presentation from the Electric Power Research Institute (EPRI) on how U.S. jurisdictions are complying with FERC Order 2222. Through Q2, 2022, IESO will establish the criteria that will be used to assess design options and develop the initial set of options for the design questions to be addressed through the MVP. Once the Market Vision work is completed in Q1, 2023, the IESO will move to the second phase, the DER Market Design Project, which will involve detailed design and implementation of the foundational DER participation model(s) that were identified as part of the DER MVP.

DER Potential Study

In November, the IESO presented the draft DER Potential Study Detailed Project Plan and described the key components of the study. This study will identify the types of DERs that are cost-effective and/or are likely to emerge in the near- to mid-term in Ontario. The study will then quantify the potential system value of these DERs and further estimate the extent to which the system value can be captured. The IESO and consultant, Dunskey, are currently working on the study, and results are expected to be presented in June, 2022.

Hybrid Integration Project

The IESO has been working with stakeholders to develop the foundational designs for two models for Hybrid integration and market participation. The entire design for both models has now been presented, which should allow stakeholders to prepare to participate in the Long-Term RFP. The design will be completed and reviewed with stakeholders in April 2022, in advance of the LT RFQ/RFP deadlines, followed by publishing of the design document in Q2

Artificial Intelligence (AI) Whitepaper

In February, 2022 the IESO kicked-off work on the AI Whitepaper, the latest in the Innovation Whitepaper series. The AI Whitepaper will serve as a conversation starter amongst IESO and stakeholders to begin to map out the AI space and how it relates to the industry, by describing the current opportunities and challenges. As a next step in developing the Whitepaper, IESO is conducting a survey of market participants to assist the IESO with identifying and understanding the biggest opportunities for AI value-addition for market participants and ratepayers. The survey which will remain open until March 18 and can be found [here](#). More information about the whitepaper – including a recording of the panel discussion with AI industry experts that kicked off the project – is available at: <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Innovation-and-Sector-Evolution-White-Paper-Series>