

Stakeholder Feedback and IESO Response

Distributed Energy Resources (DER) Market Vision and Design Project – January 25, 2023

Following the January 25th public webinar on the DER Market Vision and Design Project (MVDP), the Independent Electricity System Operator (IESO) received feedback from participants on the DER MVP Enhanced Models.

The IESO received feedback from:

- [Electricity Distributors Association \(EDA\)](#)
- [Energy Storage Canada \(ESC\)](#)

The presentation materials and stakeholder feedback submissions have been posted on the [DER Market Vision and Design Project webpage](#). Please reference the material for specific feedback as the below information provides excerpts and/or a summary only.

Notes on Feedback Summary

The IESO appreciates the feedback received from stakeholders. The IESO has provided a summary below, which outlines specific feedback or questions for which an IESO response was required at this time.

Recommendations for Enhanced Models

Both feedback submissions included comments and questions on the recommendations for enhanced models, including points on how the recommendations may pose a risk to inhibiting DER(A) participation in wholesale markets. These points are summarized in the table below.

Feedback	IESO Response
<p>EDA commented that the IESO’s omission of the role of LDCs from the enhanced model is unexpected and not reasonably practicable for LDCs, especially considering the enhanced model would be implemented post-2026.</p> <p>The EDA recommended that a draft conceptual T-D protocol for the Total DSO model be further explored with the TDWG and/or in the DER MVP.</p>	<p>The IESO appreciates the feedback however, please note, that the topics/issues in the enhanced model do not relate directly to the T-D coordination models explored in the Transmission-Distribution Coordination Working Group (TDWG) and the recommendations do not preclude a Total DSO model or other coordination models.</p> <p>With respect to the TDWG, a concept-level draft T-D protocol for the Total DSO model was provided in the February TDWG session. As well, in an April 13, 2023 letter (posted to the TDWG engagement page), the IESO committed to fully develop protocols for the Total DSO and Dual Participation T-D coordination models.</p>

Feedback	IESO Response
<p>The EDA recommended the IESO allow for the highest DER(A) maximum size that supports grid and resource reliability.</p> <p>Further, the EDA noted the importance for heterogeneous aggregations composed of load, energy storage, and generation to be included.</p>	<p>The development of maximum size thresholds will be part of the detailed design stage for foundational and enhanced DER models and will rely heavily on the planning and operational expertise of system study groups within the IESO. Due to the wide range of transmission network capabilities in different regions of the province, a one size fits all threshold is difficult to determine. Any thresholds that are developed will have to balance system reliability with the enablement of as much DER capability as possible.</p> <p>The IESO agrees with the EDA about the importance of heterogeneous aggregations. Enabling fully heterogeneous aggregations is critical to unlocking as much DER capability as possible and is one of the key design goals of the enhanced DER model.</p>
<p>The EDA noted that individual telemetry for residential and small C&I customers (what the IESO has termed “very small consumers”) could stifle participation from those resources.</p>	<p>The IESO agrees that individual telemetry of residential and small C&I customers is not practical and can present a major barrier for DER participation. Both the foundational and enhanced models will rely on an aggregated telemetry construct to remove this barrier.</p>

Feedback	IESO Response
<p>The EDA voiced support for maximizing the beneficial use of existing infrastructure investments, however, cautioned that LDCs need specifics, particularly on how the IESO contemplates “relax[ing] metering requirements” and “innovative device-metering methods.”</p> <p>The EDA flagged that requiring market participants of <1 MW to have on-premises, revenue-grade meters could stifle participation, particularly from very small consumers such as residential and small C&I, and therefore voice support for the IESO’s decision to remove such barriers for participation.</p>	<p>The revenue metering construct for the enhanced model will be further explored and developed during the detailed design stage. The IESO understands that current IESO revenue metering requirements may not be practical for smaller DERs and present a major barrier for their participation is IESO administered markets.</p>

Recommendations for Enhanced Models - Prioritization

Both feedback submissions included comments on key options that should be prioritized for the enhanced models. These points are summarized in the table below.

Feedback	IESO Response
<p>ESC encouraged prioritization of C&I resources - C&I Flexibility: Greatest easily accessible potential vs prioritization of electric vehicles.</p>	<p>The proposed enhanced DER models will enable Commercial & Industrial Flexibility in addition to electric vehicles and residential DERs within the same scope, so there is no prioritization required for different DER technology types.</p>

Feedback	IESO Response
<p>ESC sought clarity on what is meant by 'small commercial', and whether it refers to only 50 kW or less, or whether it applies to other customer commercial classes.</p>	<p>Small commercial resources are commercial resources that are unable to participate in IESO markets today as they are unable to meet the size threshold of 1 MW. The technology types considered for these types of resources are kept consistent with resources outlined in the DER Potential Study. Please see the following links:</p> <p>https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/derps/derps-20220930-final-report-volume-1.ashx</p> <p>https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/derps/derps-20220930-appendix-g-detailed-results-and-inputs.ashx</p>
<p>Noting the government Directive of September 29, 2022, stipulating that the IESO must offer residential consumers a new residential demand response program delivering peak demand reduction, ESC asked for comment on the Foundational model excluding residential participation, but offering a residential DER program, and the rationale for the distinction. ESC also asked whether there is an opportunity for early residential aggregation participation.</p>	<p>The DER foundational model is limited in its ability to make changes to IESO system tools and processes which limits the types of DER aggregations and DER technology types that it can enable. Residential DERs are primarily impacted because of the 1 MW threshold to market participation and the existing requirements for revenue metering, both of which pose major challenges in practically enabling residential DERs. These barriers can be resolved through enhanced DER models as enhanced models will allow for major tool changes to resolve outstanding issues for residential DER market participation.</p> <p>As previously stated through prior engagements, neither the foundational and enhanced DER models are intended to be a new or overhauled demand response participation model.</p>
<p>EDA suggested the enhanced model contemplate the role of LDCs and the Total DSO model, to streamline the coordination between the IESO, the LDC, and the DER/DER(A).</p>	<p>As with the prior response, the design recommendations for the both the foundational and enhanced DER models will be used by the TDWG when developing coordination protocols among IESO, LDCs and DER(A). Recommendations from the TDWG or other future forum will be adopted in the foundational and enhanced DER(A) participation models.</p>

General Comments/Feedback

Additional comments and questions were included in the feedback submissions from EDA and ESC, and these points are included in the table below.

Feedback	IESO Response
<p>ESC sought clarity on whether MRP needs to be fully executed prior to triggering the development of the Enhanced Models, and further, is IESO considering a contingency 'trigger' should MRP be delayed.</p>	<p>Full execution of MRP is currently one of the triggers for enhanced model implementation within ERP and any delays to MRP launch will cause delays for enhanced model implementation. Due to the high prioritization of MRP, the major overhaul of IESO tools required for implementation and the risks with delays to MRP implementation, enhanced models will be implemented in a post MRP timeframe. While implementation will be pushed out post-MRP, other key work stages prior to implementation (such as the detailed design of enhanced DER models) may be completed prior to MRP launch in order to expedite implementation timeliness post-MRP.</p>
<p>ESC encouraged the IESO to continue to ensure that there is a clear linkage between the DER MVP and the TDWG, noting that while the DER MVP focuses on DER integration within the wholesale market, the TDWG focuses on deeper integration of DERs and coordination between the IESO and distributors.</p>	<p>The IESO appreciates this feedback.</p>
<p>In order to support longer-term investments, ESC encouraged IESO to plan procurements with longer term contracts to reduce participant risk and costs, and suggested this be considered in IESO's upcoming Annual Acquisition Report.</p>	<p>The IESO appreciates this feedback.</p>
<p>EDA asked whether the maximum size threshold for DER(A) changes telemetry latency?</p> <ul style="list-style-type: none"> • Currently, the recommendation for telemetry latency in the enhanced model is specified for DER(A)s of less than 1MVA. • The foundational model uses existing Market Rules and specifies 1 minute latency for DERs of 1-20 MVA. • Would this be the same for DER(A) in the enhanced model, i.e., 1 minute? 	<p>Latency requirements for telemetry are unchanged from the foundational model for DER(A) ≥ 1 MVA and follow existing Market Rule requirements. The latency requirements specified for the enhanced models add clarity for DER(A) < 1 MVA as the enhanced model will lower the minimum size threshold to 0.1 MW, enabling smaller DER aggregations.</p>

Feedback	IESO Response
<p>The EDA commented that the omission of the Total DSO model from the enhanced model of the DER MVP is disconcerting, given the centrality of Ontario’s LDCs in the province’s energy transition, and asked the IESO to provide the rationale for this decision and urged the IESO to reconsider.</p>	<p>As noted above, the enhanced model for the DER MVP is not intended to address this topic directly.</p> <p>In terms of the TDWG, in an April 13, 2023 letter (posted to the TDWG engagement page), the IESO committed to fully develop protocols for the Total DSO and Dual Participation T-D coordination models.</p>