

OEB/IESO Joint Engagement on DER Integration

Meeting # 2

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April 13, 2022

Webinar Participation (including audio)



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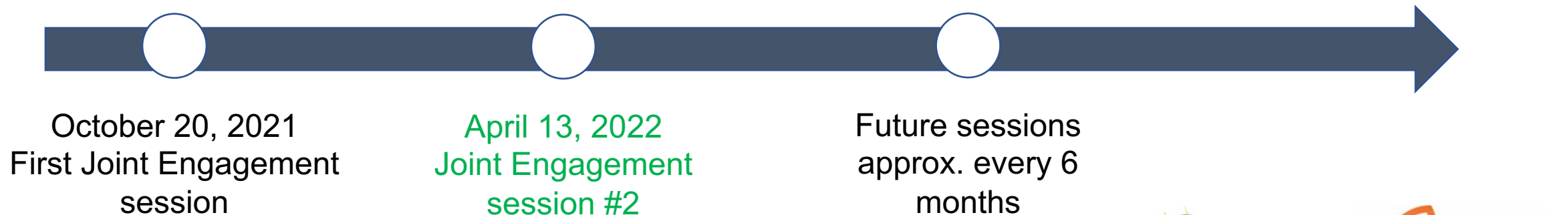
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Purpose

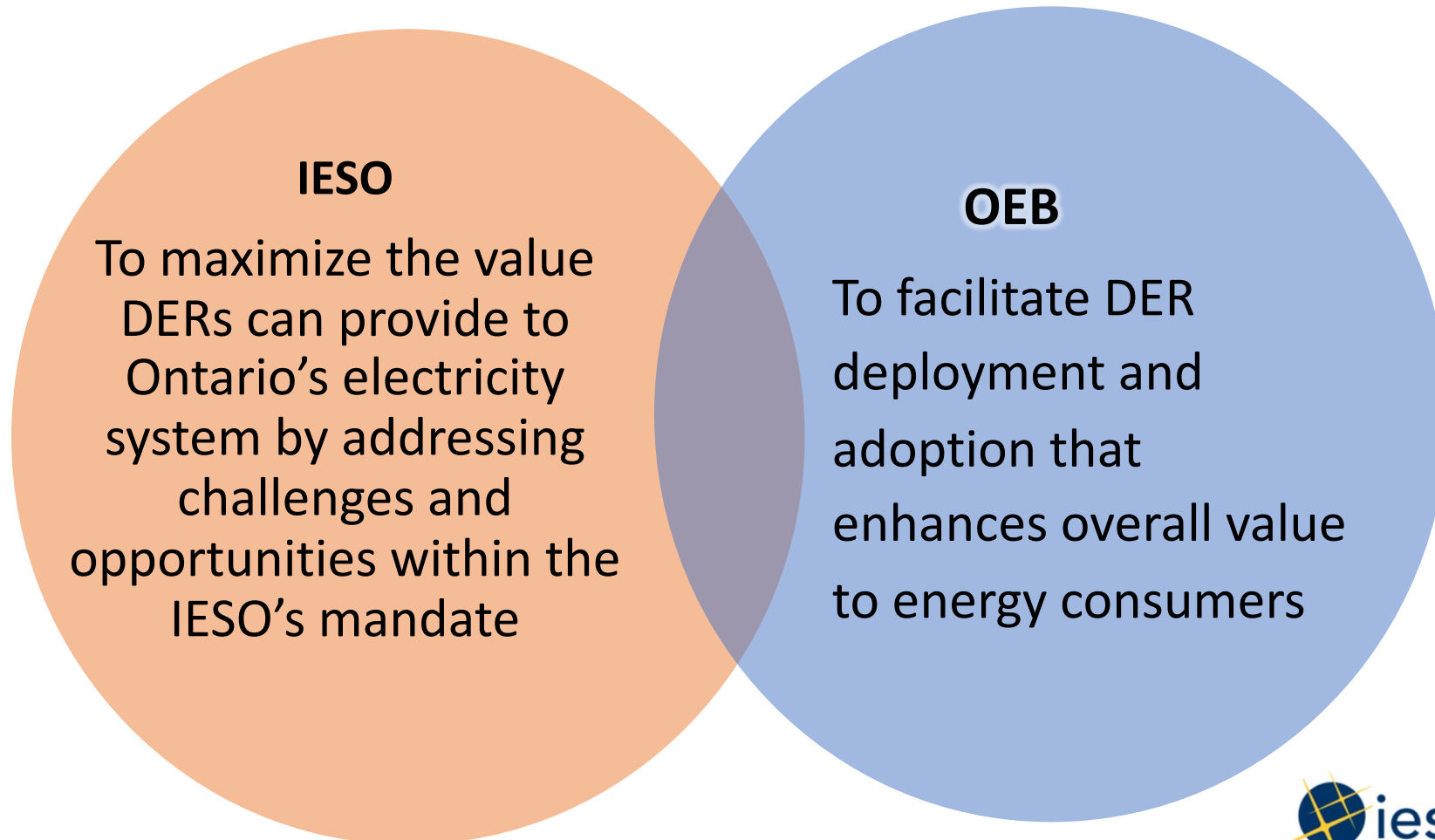
- Discuss stakeholder feedback from the October 2021 Joint Engagement
- Provide an updated cross-cutting issues list in response to stakeholder feedback
- Provide an update on **net new** OEB+IESO coordinated work related to items on the issues list
 - Note: Detailed updates on work identified in the October 2021 Joint Engagement session will be provided by the IESO and OEB in their respective update presentations
- Provide stakeholders with another opportunity for feedback

Recap of the OEB/IESO Joint Engagement

- These sessions respond to stakeholder feedback on the need for more visible coordination on Distributed Energy Resources (DER) integration between the OEB and IESO
- The purpose of these sessions is to:
 - Provide clarity on the topics being addressed by each organization
 - Identify cross-cutting issues, including how and when they will be addressed
 - Ensure IESO and OEB efforts are appropriately coordinated



Recap of OEB/IESO Goals for DER Integration



Stakeholder Feedback (1/3)

Feedback Theme	Response
<p>IESO/OEB joint engagement on DERs</p> <ul style="list-style-type: none">• Pricing, programs, & procurements• DER as non-wires alternatives• Data and information sharing• Transmission-Distribution (T-D) operations coordination	<p>General support for joint engagement sessions and coordinated work on DERs</p> <p>General support for these 4 cross-cutting issues as identified in the October 2021 joint engagement session</p>
<p>Pursue a sequenced approach to policy-making that recognizes dependencies in OEB & IESO mandates</p>	<p>IESO and OEB will continue to update cross-cutting issues, giving due consideration to how respective efforts on DER integration interact and how they can be better coordinated in terms of timing and prioritization</p>
<p>Cross-cutting issues should be subject to ongoing examination and revision and open to additions for emergent issues</p>	<p>The feedback is what we are seeking to achieve - the cross-cutting issues list is fluid, and any updates to the cross-cutting issues will be brought to the OEB/IESO Joint Engagement sessions</p>

Stakeholder Feedback

Feedback Theme	Response
Reframe “Evolution of Distribution-Level Business Models” characterization to focus on distributors’ capabilities and functions	Updated cross-cutting issues list to reflect a reframing of the language
Providing clear deliverables and timelines on what areas the IESO/OEB will focus on for collaboration will help facilitate engagement and meaningful outcomes for stakeholders	The IESO and OEB will continue to review how work on DER integration interacts and can best be coordinated from a timing and prioritization perspective
Serving the evolving needs of customers must remain the primary objective of DER policy development	The IESO and OEB agree that a customer focus is central to DER integration, especially considering that customers are increasingly installing DERs behind the meter and the need to ensure DER integration results in positive outcomes for all customers
Coordination between the distribution and transmission systems is needed to realize the full system benefits of DERs	The IESO and OEB are working together to ensure coordinated approaches to DER integration that take into consideration both the distribution and transmission systems

Stakeholder Feedback, cont'd

Feedback Theme	Response
<p>A critical cross-cutting issue that should be separately itemized is ensuring that the benefits of DERs are captured and monetized (value-stacking)</p>	<p>The issue of value and value stacking is reflected in existing OEB and IESO work (e.g., OEB Framework for Energy Innovation (FEI) consultation objective and IESO DER Roadmap goal). The issue of DERs' simultaneous participation in certain distribution services and the wholesale market is being explored as part of the Transmission-Distribution Coordination Working Group. It is also being explored through the OEB/IESO Joint Targeted Call as well as in other GIF supported projects (e.g. IESO York Region NWA Demonstration).</p>
<p>Encourage IESO to explore all options that foster DER adoption, whether connected to the transmission or distribution system. LDCs need a voice at the table as DER policy is developed</p>	<p>The OEB and IESO recognize the current role of electricity distributors, and will continue to engage LDCs and solicit their input in their respective DER integration initiatives. The OEB expects that issues relating to utility roles will be considered in future OEB work.</p>

Updated Cross-Cutting Issues List

1. Pricing, programs, & procurements interactions
2. Evolution of distribution-level activities and services
 - Updated from “Evolution of Distribution-Level Business Models ”
3. DER as non-wires alternatives (NWA)
4. Data and information sharing
5. Transmission-Distribution (T-D) operations coordination

Today’s presentation will provide an overview of **net new** activities (new since the last meeting in October 2021) related to the cross-cutting issues list.

Detailed updates on work identified in the October 2021 Joint Engagement session will be provided by the IESO and OEB in their respective update presentations

Pricing, Programs, & Procurements

New activities and future work (since October 2021)

- The OEB's work for the Minister of Energy on an optional enhanced Time-of-Use rate to incent demand-shifting away from peak periods to lower-demand periods included OEB engagement with the IESO
 - The OEB's Report was submitted to the Minister on March 31, 2022
- The Minister has also asked the OEB to work with the IESO on a plan to design and implement a dynamic pricing pilot to assess the benefits for non-RPP Class B customers
- In a November 2021 Regulatory Registry posting, the Ministry of Energy proposed regulatory amendments to facilitate an interruptible rate pilot developed with the IESO

Evolution of distribution-level activities and services

New activities and future work (since October 2021)

- The Energy Transformation Network of Ontario (ETNO) published a report on distribution-level structures best suited to accommodate the integration of increased numbers of DERs
 - The OEB and IESO were part of the working group that developed the report
 - The OEB and IESO (as well as the Ministry of Energy) received a presentation on the report and responded with a letter indicating their interest in exploring recommendations
- The IESO Transmission-Distribution Coordination Working Group (TDWG), which seeks to develop conceptual coordination protocols, had its first meeting on January 31 and has a second meeting **planned in Q2 2022**

DERs as Non-Wires Alternatives

New activities and future work (since October 2021)

- In December 2021, the Regional Planning Process Advisory Group (RPPAG) provided a report with recommendations for the OEB's consideration
- At a stakeholder engagement webinar in October 2021, the IESO provided an update on the NWA Planning Process Improvements with a key focus on progress implementing the recommendations to address barriers to non-wires alternatives in regional planning
- The IESO has selected Richview South, Belle River, Ottawa and York Region as the first four target areas in the Local Initiatives Program (LIP) for targeted Conservation and Demand Management (CDM) solutions

IESO/OEB 2021-22 Joint Targeted Call

The IESO and OEB are collaborating on a Joint Targeted Call (JTC) to support innovative projects that will test the ability of DERs – and DER aggregations (DERAs) – to provide services at both the distribution and wholesale levels.

High level objectives of the JTC include:

1. Demonstrate the extent to which DERs/DERAs can defer or eliminate the need for traditional electricity infrastructure and lead to ratepayer cost savings.
2. Test the dependability of DERs/DERAs to provide grid services.
3. Test new activities and business models related to DERs.

Four successful pilot projects were announced on March 30th, 2022

Additional projects will be announced later in April

Four Announced Pilot Projects

\$10.6M in funding from the IESO's Grid Innovation Fund, as well as regulatory support from the OEB's Innovation Sandbox

Project proponents and other partners are investing an additional \$26.4M

Four Projects

- Local Businesses Supporting Grid Needs (Enel X North America and 11 host sites)
- Local Electricity Market for Windsor-Essex (Essex Powerlines, NODES, Essex Energy, Utilismart)
- Benefits of Simultaneously Providing Local and Provincial Capacity (Toronto Hydro, Power Advisory, Ryerson Centre for Urban Energy)
- Campus Demonstration of Energy Resources (Peak Power, Oshawa Power, Ontario Tech University)

IESO/OEB 2021-22 Joint Targeted Call

Generally, projects selected by the IESO and OEB will:

- Demonstrate to what extent DERs/DERAs can defer the need for electricity infrastructure and provide savings to electricity consumers
- Test innovative activities and business models related to DERs
- Test the potential of DERs/DERAs to provide participating businesses with opportunities to develop new sources of revenue and reduce their carbon footprints
- Test how DERs/DERAs can be managed and coordinated to reliably provide services at both the transmission and distribution levels
- Test the ability of DERs/DERAs to participate in IESO markets and local markets
- Quantify the value that DERs can provide to the distribution and transmission systems

Next Steps

IESO and OEB to return to stakeholders in early Q3 2022 with any updates to the cross-cutting issues list, as well as any new progress updates related to the cross-cutting issues.

IESO and OEB to continue to work together with stakeholders to address cross-cutting issues through forums/initiatives identified in this presentation.

Stakeholder Feedback

- Are there any new potential cross-cutting issues related to DER integration that should be considered for collaboration between the OEB/IESO?
- The IESO and OEB continue to refine the list of cross-cutting issues, and are open to additional suggestions from stakeholders.
- How well are the objectives of this joint engagement (i.e. to provide clarity on the topics being addressed by each organization, identify cross-cutting issues, and ensure IESO and OEB efforts are appropriately coordinated) being achieved?

Please use the feedback form found on the IESO [DER Roadmap webpage](#) to provide feedback and send to engagement@ieso.ca by **May 11, 2022**.

If you have any questions related to the OEB/IESO Joint Targeted Call, please email gridinnovationfund@ieso.ca or innovation@oeb.ca

Thank You

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Appendix

Presentation Materials from October 20th OEB/IESO Joint Engagement Session

Draft Cross-cutting Issues - Context, Additional
Ongoing Work and Future Collaboration

Pricing, Programs, & Procurements Interactions (1/3)

Context and issues:

- Investment in, and operation of, DERs can be incentivized by pricing (e.g., coincident peak pricing, dynamic rates), programs (e.g., Save on Energy) and procurements (e.g., RFP, auctions, markets)
- The OEB and IESO will engage stakeholders on the prioritization and sequencing of relevant issues to be considered, including:
 - Requirements and guidelines that the OEB needs to consider in relation to cross participation and value stacking, such as addressing the risk for conflicting obligations that may render a resource unable to meet both the IESO and distribution obligation at the same time
 - Addressing the impact of pricing structures and programs on wholesale and distribution markets
 - Requirements/guidelines that the OEB needs to consider to ensure that one customer's choice does not negatively impact another as markets for energy services evolve

Pricing, Programs, & Procurements Interactions (2/3)

Additional work and current collaboration:

- IESO is initiating the [DER Market Vision Project](#) (MVP) to develop enhanced participation models for DERs in the IESO-Administered Markets (IAMs) – IESO has committed to having these models in place by the end of 2026
- The IESO's [DER Potential Study](#) is exploring the DERs that are likely to be economic and/or emerge in Ontario over the next 10 years and provide insight into how best to capture the value these resources can provide
- The OEB expects some of these issues to be examined by the [Framework for Energy Innovation Working Group](#) (FEIWG) in subsequent phases of the FEI consultation. As a member of the FEIWG, the IESO will provide input as appropriate

Pricing, Programs, & Procurements Interactions (3/3)

Future Collaboration:

- In the [Ontario DER Impact Study](#), commissioned by the OEB, ICF identified the potential of local markets emerging as likely requiring attention in the mid- to late-2020s, in line with the proposed implementation timing of the IESO's DER Market Design Project
- IESO will explore cross participation (participation in local programs/markets and wholesale) with respect to eligibility in the IAMs as part of the DER Market Design Project and the OEB will contribute to this work as appropriate
- The IESO and the OEB will continue to consider options and timing for addressing this cross-cutting issue and will report back to stakeholders at the next OEB/IESO Joint Engagement session

Evolution of Distribution-Level Business Models (1/2)

Context and issues:

- With increasing penetration of DERs, Local Distribution Companies (LDCs) and other entities (e.g. aggregators, service providers) may take on new roles and responsibilities to ensure the reliable and efficient operation of the electricity system
- Options for distribution-level evolution, as well as the roles and responsibilities involved, will need to be explored and defined
- Interactions with the transmission-level will need to be understood (e.g. what activities are required at the distribution level to enable smaller resources to participate at the wholesale level and who would carry out these activities)

Evolution of distribution-level activities and services (2/2)

Additional work and current collaboration:

- The OEB's FEI consultation is investigating DER usage by LDCs. As a member of the FEIWG, the IESO is providing input as appropriate
- IESO's *Transmission-Distribution Coordination Working Group* (TDWG) engages LDCs and the OEB, as appropriate, on the roles and responsibilities of LDCs in enabling wholesale market participation as part of the IESO's [DER Market Vision and Design Project](#)

Future Collaboration:

- The OEB expects that issues relating to utility roles, including ownership of DER assets, will be considered in subsequent phases of the FEI consultation

DERs Used as Non-Wires Alternatives (NWAs) (1/2)

Context and issues:

- Enabling NWAs requires a more granular approach to both needs identification and options analysis, including capturing local needs with sufficient granularity and formalizing methods for evaluating technical and economic feasibility
- Where NWAs on the system involve multiple beneficiaries, there is a need for clarity on the process for NWA approval and how cost responsibility should be addressed
- As distribution and transmission planners work to consider a wider array of options for longer term system planning, guidelines and methods for procuring DER will need to be developed

DERs Used as Non-Wires Alternatives (NWAs) (2/2)

Additional work and current collaboration:

- The OEB's FEIWG is developing a number of high-value, non utility-owned DER use cases as alternatives to traditional solutions to meet distribution system needs
- The OEB's May 2021 [letter](#) provides regulatory clarity to LDCs with respect to partnership in the IESO's [Local Initiatives Program \(LIP\)](#)

Future Collaboration:

- The IESO will engage with the OEB on work related to the NWA Solutions Options Development and Procurement Mechanisms for NWA (which are activities reflected in the IESO's DER Roadmap)
- The OEB and IESO will be evaluating the results of the first cycle of the [Local Initiatives Program](#) (LIP) to assess utility targeted CDM solutions to meet regional and local needs

Data and Information Sharing (1/2)

Context and issues:

- The OEB and the IESO, as appropriate, must define authority and responsibilities to collect data, use and share data regarding issues such as DER operation, facility connection and DERs' service commitments in order to manage a more dynamic/flexible system with high-levels of DER penetration
- The IESO and LDCs work together as part of impact assessments when DERs seek to connect and intend to provide transmission-level services. They will need to share more information on registration or enrollment of DER participants in their respective procurements and programs
- The IESO and LDCs need processes and infrastructure to receive meter data and potentially telemetry from DERs to manage the system in real-time, assess performance, and conduct settlement

Data and Information Sharing (2/2)

Additional work and current collaboration:

- The IESO is actively participating in the OEB's [DER Connections Review Consultation](#) as a member of the working group, the purpose of which is to identify barriers to the connection of DERs, and where appropriate, to standardize and improve the connection process

Future Collaboration:

- The IESO will engage the OEB and LDCs in the [DER Market Vision and Design Project](#) to determine the data required from LDCs and DER market participants to enable wholesale market participation
- As part of Workstream#2 in the FEI consultation, the OEB expects to examine data sharing practices to promote transparency and information sharing among relevant players. As a member of the FEIWG, the IESO will provide input as appropriate

T-D Operations Coordination (1/3)

Context and issues:

- As DERs participate more in the wholesale market to provide transmission-level services, coordination between the IESO and LDCs' system operations will be increasingly important to ensure reliability of the electricity system
- The IESO and LDCs will need to coordinate throughout the real-time market and system operations processes
 - IESO can benefit visibility into distribution conditions, e.g. outages, switching
 - LDCs can benefit awareness of DERs' schedules and dispatch on their systems
- In an environment where DERs also provide distribution services, more detailed coordination will be needed, including to avoid conflicting instructions

T-D Operations Coordination (2/3)

Additional work and current collaboration:

- The two organizations are collaborating on the [OEB/IESO Joint Targeted Call](#), which includes pilot projects that will test coordination between IESO real-time dispatch instructions and similar instructions at the distribution level as well as real-time visibility of DERs
- The IESO has representation in the working groups for both the OEB's [DER Connections Review](#) and the FEI consultations and will provide input as appropriate

T-D Operations Coordination (3/3)

Future Collaboration:

- The OEB and LDCs are participating in IESO's T-D Coordination Working Group (TDWG)
- As part of the [IESO's York Region NWA Demonstration](#), the IESO is conducting the DER Scenarios & Modeling Study to model reliable T-D coordination protocols in detail
- OEB and LDCs will be engaged as part of the IESO's [DER Market Vision and Design Project](#), which includes design related to T-D coordination to enable reliable participation in the IESO-Administered Markets