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# IESO DER Roadmap Update

**Ali Golriz**  
**Lead, System and Sector Development, IESO**

# Purpose and Overview

The purpose of this presentation is to provide an update on the IESO's recent Distributed Energy Resources (DER) activities as identified in the IESO's [DER Roadmap](#) (published in December 2021).

Recent key milestones on DER integration into wholesale markets include:

- DER Market Vision Project (MVP) foundational wholesale market participation model recommendations have been published
- DER Potential Study published, identifying the types of DERs that are cost-effective and/or are likely to emerge in the near- to mid-term in Ontario
- A number of existing projects focused on DER integration that were successful in the OEB/IESO Joint Targeted Call are underway

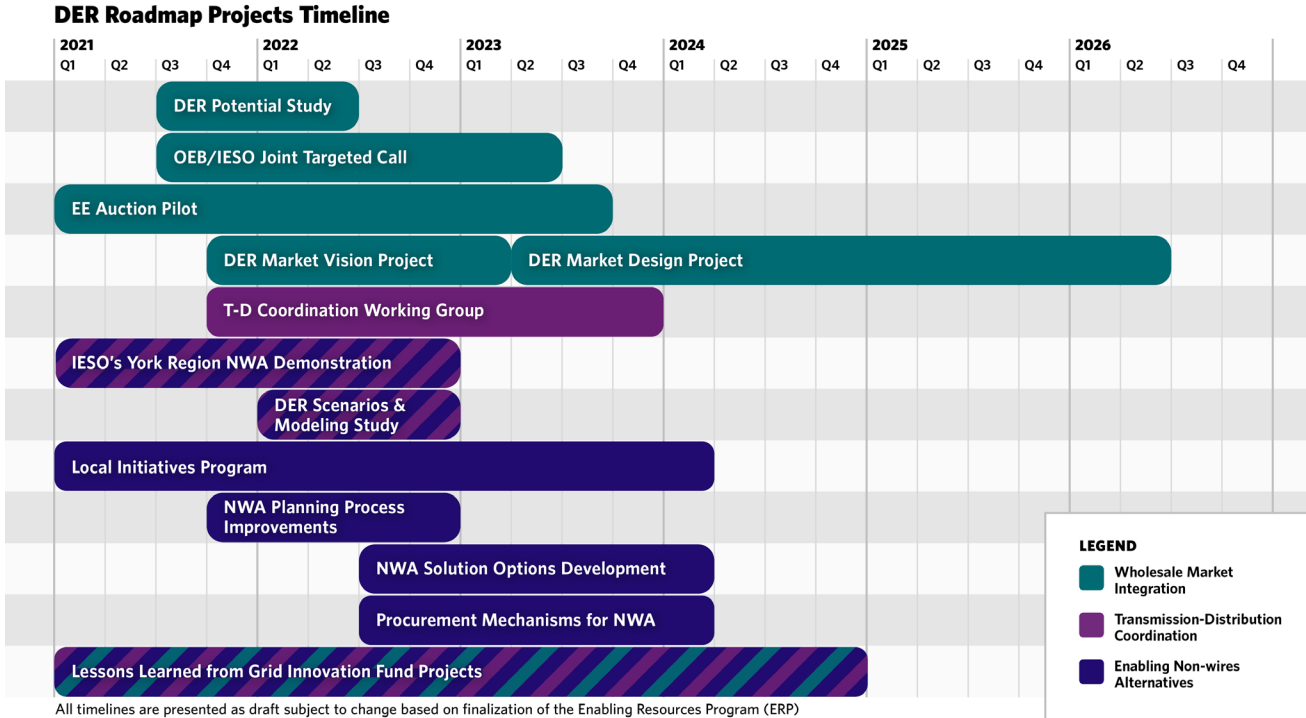
# Agenda

IESO will provide updates on its recent activities across the following DER projects identified in the DER Roadmap\*:

1. DER Market Vision Project (MVP) and Market Design Project (MDP)
2. DER Potential Study
3. Regional Planning Process Review (RPPR) Non-Wires Alternatives (NWA) action items
4. Transmission-Distribution Coordination Working Group (TDWG)
5. Conservation & Demand Management (CDM) Local Initiatives Program (LIP)

\* Please note that as part of this IESO DER Roadmap update the Energy Efficiency Auction Pilot is not included as there are no material updates at this time.

# The IESO's DER Roadmap



# Quick Recap

- IESO's goal for DER integration is to maximize the value DERs can provide to Ontario's electricity system by addressing challenges and opportunities within the IESO's mandate
- DER Roadmap identifies three key focus areas for DER integration activities:
  1. Wholesale Market Integration
  2. Transmission-Distribution (T-D) Coordination
  3. Enabling Non-Wires Alternatives (NWA's)

# DER MVP and MDP - Overview

- The objective of the Market Vision and Design Project is to introduce wholesale participation models that enhance DERs' ability to compete to provide the services they are technically capable of providing
- The project is separated into two key phases:
  1. DER Market Vision Project (MVP): explore new, “foundational” participation models for DER integration (including individual DERs <1MW in size) into wholesale markets and identify the criteria for more sophisticated models to form the basis of future DER integration efforts
  2. DER Market Design Project (MDP): in the second phase of the project, design and implement the foundational participation models from the MVP

# DER MVP and MDP - Progress

- In late 2021, IESO identified (and sought stakeholder input to) [key areas of focus](#) and associated questions in those areas that will be answered in the MVP
- In January 2022, a more [detailed plan](#) for MVP timelines/deliverables was presented alongside a jurisdictional scan of US integration efforts
- In June 2022, the IESO presented the [options under consideration](#) for the foundational participation model(s)
- Recommendations for the foundational model(s) were presented in September 2022 along with associated rationale for the recommendation

# DER MVP and MDP - Next Steps

- The IESO is awaiting stakeholder feedback on the foundational model(s); these models will be finalized by end of Q1 2023
- The IESO has begun the development of the enhanced participation models which will examine the options not selected for the foundational model and the criteria to trigger the enhancements
  - The draft recommendations for the enhanced model(s) will be published prior to the end of Q4 2022



# DER Potential Study

- The [DER Potential Study](#) results were published on September 30<sup>th</sup>
- The study identifies achievable DER potential that is sufficient to satisfy a material portion of the province's energy needs – from 1.3 to 4.3 GW of peak summer demand by 2032
- Results are informing how the studied DERs could be included in the DER participation model(s) for the wholesale market and study recommendations are being considered and addressed by the IESO
  - E.g. the IESO has launched a new program aimed at capturing residential smart thermostat potential, IESO/OEB initiating joint study of DER incentives, etc.

# RPPR Non-Wires Alternative (NWA) - Action Items

- As part of the [Regional Planning Process Review](#) (RPPR) action items, a number of projects are underway:
  1. NWA Regional Planning Process Improvements: this project will refine the approach to identifying opportunities for cost-effective DER and energy efficiency to defer the need for traditional transmission solutions
  2. NWA Solution Options Development: this project will develop NWA options in sufficient detail to assess their economic viability and operationalize Integrated Regional Resource Plan (IRRP) recommendations.

## RPPR NWA - Action Items (continued)

3. Procurement Mechanisms for NWAs: this project will consider how to procure resources as part of implementing NWA solutions (e.g., via Capacity Auction, Medium-Term/Long-Term RFPs or define new approaches), where cost effective

The IESO is advancing the RPPR NWA action items towards the milestones noted in the DER Roadmap

- In October 2021, an [update](#) on the NWA Planning Process Improvements
- In August 2022, a webinar [update](#) provided with further detail on the proposed process improvements, next steps for the enabling NWAs projects, and which sought feedback on the hourly demand profiling methodology and non-wires options analysis in IRRPs

# T-D Coordination Working Group (TDWG)

- The TDWG's objective is to support the IESO in proposing conceptual T-D coordination processes among the IESO, LDCs, and DER providers to inform T-D coordination issues in the DER Market Vision Project by Q1 of 2023
- The DER Scenarios & Modelling Study to support the development of conceptual coordination protocol(s) is underway
- Meetings have been taking place throughout 2022 to provide background, review cases and approaches from whitepapers and other jurisdictions (notes and materials available on the [TDWG](#) webpage);
- Detailed discussion of a draft conceptual T-D coordination protocols for Ontario starting at the November 2022 TDWG session

# CDM Local Initiatives Program (LIP)

- The Local Initiatives Program aims to demonstrate the use of targeted Conservation and Demand Management (CDM) as a cost-effective resource to help address identified local and/or regional needs
- The program also seeks to demonstrate a targeted procurement strategy and will help inform how to plan for and procure CDM to meet identified NWA needs
- Richview South area in Toronto: business program is now in market (BizEnergySaver); residential program expected to launch Spring 2023

# CDM Local Initiatives Program (LIP)

- A multi-regional RFP is in development and expected to be released in November to cover the three remaining target areas for the first half of the framework - Belle River (Windsor-Essex), Ottawa and York Region; working with Hydro One, Hydro Ottawa and Alectra to collaborate on selection and delivery of initiatives
- Oct. 4 directive provided additional funding and mechanisms to add flexibility and reduce participation barriers; will employ both competitive procurements and regional adders in province wide programs; targeted measures may also include DERs; additional target regions to be identified

## Next Steps

- We look forward to our continued engagement with stakeholders on the DER Roadmap's activities
- Links to all projects and initiatives are available on the DER Roadmap engagement page:
  - <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Distributed-Energy-Resources-Roadmap>

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# Thank You

[ieso.ca](http://ieso.ca)

1.888.448.7777

[customer.relations@ieso.ca](mailto:customer.relations@ieso.ca)

[engagement@ieso.ca](mailto:engagement@ieso.ca)



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