

ONTARIO ENERGY BOARD

Report of the Ontario Energy Board

A Roadmap for Advancing Distribution System Operator (DSO) Capabilities in Ontario

DECEMBER 17, 2025



Ontario
Energy
Board

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EXECUTIVE SUMMARY

This report provides a Roadmap for advancing Distribution System Operator (DSO) capabilities in Ontario in response to the Minister of Energy and Mines's directive to the Ontario Energy Board (OEB) with respect to the implementation of the Integrated Energy Plan.

Building on the May 2025 OEB Staff Discussion Paper and stakeholder feedback, the Roadmap articulates a vision for DSOs and identifies concrete steps for realizing it. The vision is as follows:

DSO capabilities create conditions that allow distributed energy resources (DERs) to contribute to an affordable, secure, reliable and clean energy system that delivers long-term value to consumers and supports economic growth and development.

Ontario's government has emphasized the need for solutions that keep costs down for businesses and families.

To support this outcome, the OEB maintains a regulatory environment in which Ontario electricity distributors can adapt to changing customer needs and system conditions by evolving their DSO capabilities, as appropriate. Sector entities work together to fully integrate, manage and optimize the use of DERs across the distribution system, unlock operational efficiencies and support their provision of energy and other services in the markets administered by the Independent Electricity System Operator (IESO). The regulatory environment enables electricity distributors to deploy a range of activation mechanisms for DERs to meet distribution needs, including through local markets, and appropriately recognizes the diversity of distributors and DER providers.

This vision positions distributors as central to the development and implementation of DSO capabilities in Ontario. It also allows for the potential evolution of roles over time.

Consistent with stakeholder feedback and the advice of the OEB's expert consultant, the OEB proposes to undertake four streams of work, in consultation with stakeholders, to help bring about this vision:

- ❖ Workstream 1, leveraging work already completed by the sector, seeks to **define the full scope of DSO capabilities** and conditions under which these capabilities should be developed. This will help

distributors in planning when and how to evolve their DSO capabilities, including identifying the need for requisite grid modernization.

- ❖ Workstream 2 sets out to **standardize flexibility services** – the services that DERs can provide to distribution systems – and the approaches and rules that govern their delivery. This will help drive consistency in delivery of these services, provide clarity for consumers and sector participants, and support alignment with broader sector practices, including existing wholesale service markets.
- ❖ Workstream 3 focuses on **establishing mechanisms to ensure distributors proactively assess and plan for DSO capabilities and DER integration**. This will strengthen forward-looking planning based on system conditions, customer needs and DSO readiness, which will in turn support timely and cost-effective investments before challenges emerge.
- ❖ Workstream 4 aims to **provide regulatory clarity for the long term**. Sequencing this work last ensures enduring policy positions are informed by practical experience to reduce risk. This workstream will answer the following questions:
 - What DSO-related activities are required of all distributors to undertake?
 - What DSO-related activities are permissible for distributors to undertake?
 - What are the roles of sector entities, including the IESO, transmitters, DER aggregators and DER owners and operators?
 - How must distribution businesses be structured and organized if engaging in DSO activities or providing them to other entities, including distributors?

In parallel to this work, the OEB anticipates that the sector will continue exploring DSO capabilities and DER solutions through pilots and demonstrations. Experience from such projects will inform the development of the outputs of each workstream and, ultimately, an enduring regulatory framework for DSOs.

This Roadmap benefited from the input of many stakeholders representing diverse perspectives in a consultative process that began in April 2025. The OEB thanks stakeholders for their contributions to date. Their input will continue to be essential as the workstreams progress.

Putting in place a DSO framework that will endure should accommodate time for testing and deliberation in order to find the right fit for Ontario's structure and circumstances. The Roadmap charts a staged, evidence-based path to getting there. This will reduce risks from inconsistent approaches, delayed or stranded investments, and missed opportunities to integrate and compensate DERs appropriately. The goal is to help unlock DER integration at scale in a co-ordinated, cost-effective way that lowers barriers to participation, supports timely, needs-based investments and safeguards consumer interests while driving economic growth and innovation in Ontario's energy sector. Ultimately this will help the electricity system to become more dynamic, open and competitive.

1. INTRODUCTION

This report of the OEB outlines a Roadmap for advancing DSO capabilities¹ in Ontario.

The Roadmap set out in this report is a culmination of the work carried out in the OEB's [DSO Capabilities](#) policy consultation and responds to the Minister's directive to the OEB to "define a Roadmap by December 31, 2025 for the potential development and implementation of DSO capabilities, commensurate with need, value and the flexibility to adapt to evolving circumstances." The path forward laid out in this report, along with work undertaken through other initiatives, also responds to the Minister's directive to the OEB to drive prudent electricity distribution grid modernization through new and ongoing initiatives.

In addition, this report is responsive to the Minister's recent Letters of Direction to the OEB, including the 2023 and 2024 Letters of Direction that directed the OEB to develop and assess local and market opportunities for DERs² and examine the legislative and regulatory changes that may be required to enable future potential utility business models.

This report first provides the context that informed the development of the DSO Roadmap, including an overview of the opportunities and challenges related to DSO capabilities. The report then includes a detailed description of the Roadmap itself, followed by an overview of additional supporting actions that are enabling Ontario to integrate DERs in a manner that can help drive economic growth and development. The appendix provides a summary of the DSO Capabilities policy consultation to date, as well as stakeholder feedback, highlighting its role in shaping the Roadmap.

¹ DSO refers to entities with advanced capabilities to integrate, manage and optimize the use of DERs for distribution and wholesale market services. DSO capabilities allow for active management of distribution systems and create conditions that allow DERs to contribute to an affordable, secure, reliable and clean energy system that delivers long-term value to consumers. The sophistication of these capabilities are expected to evolve as system needs or DER penetration levels increase.

² For the purposes of this report, DERs refer collectively to DERs and their aggregations.

2. DSO CAPABILITIES: OPPORTUNITIES AND CHALLENGES

The following summarizes the key opportunities and challenges associated with DSO capabilities in Ontario, drawing on insights from recent policy development, further research and stakeholder feedback.

2.1. Opportunities

2.1.1. Provincial Energy Policy: Integrating DERs and Grid Modernization

Several recent policy statements and reports have highlighted the value of DERs in Ontario, underscoring the development of DSO capabilities as a key opportunity to realize the full range of potential benefits that DERs can offer to consumers and the electricity system.

This includes the [Energy for Generations: Ontario's Integrated Plan to Power the Strongest Economy in the G7](#) (IEP), which calls for economically efficient deployment of DERs that reflect system value and contribute to the delivery of a reliable, affordable, secure and clean energy system. The Ontario government's DER Strategy envisions DERs as reliable and low-cost providers of electricity services that are fairly compensated and effectively mobilized but notes that "realizing this future will require a clear framework to unlock the value of DER, lower barriers to participation, and support smarter planning and investment across all levels of the system." Developing DSO capabilities directly supports this vision by facilitating the use of DERs as non-wires solutions, increasing DER hosting capacity and enhancing access to compensation mechanisms, ultimately unlocking opportunities for DERs that support benefits for consumers, economic growth and innovation in Ontario's energy sector.

The IEP further identifies paced, prudent and cost-effective grid modernization³ as the foundation for strengthening system resiliency and efficiency. Grid modernization is a necessary step in the development of DSO capabilities, enabling more active management of the distribution system, closer co-ordination with the transmission system, and enhanced visibility and control for managing two-way power flows, supporting the integration, management and optimized use of DERs.

The OEB recognizes that grid modernization efforts enable multiple benefits and outcomes, including enabling DSO capabilities, enhancing resilience and

³ Grid modernization refers to the investments in advanced monitoring and communications infrastructure that distributors make to support goals such as DER integration, resilience and more efficient operations.

improving operational efficiency. The OEB has provided guidance and support for grid modernization related to other objectives through initiatives such as the [Reliability and Power Quality Review](#), [the Vulnerability Assessment & System Hardening consultation](#) and [the Cyber Security Framework](#). Further guidance and support for grid modernization, as it relates to DSO capabilities, will be developed as part of undertaking the activities described in this Roadmap.

2.1.2. DER Growth

Amid current energy policy tailwinds, growing electricity demand and DER potential underscore the need for a fit-for-purpose regulatory framework for DSO capabilities. The IESO's *Annual Planning Outlook* projects Ontario's electricity demand to grow significantly by 2050⁴. At the same time, the 2022 *DER Potential Study* found that cost-effective DERs may be able to satisfy a material portion of the province's incremental energy needs by 2032.⁵

Recent regulatory and supply procurement initiatives are accelerating the shift towards DER adoption in Ontario's electricity system. The IESO has been directed to broaden DER eligibility in IESO procurements and programs. The OEB's *Non-Wires Solutions Guidelines* and *Benefit-Cost Analysis Framework for Addressing Electricity System Needs* established a regulatory requirement for distributors to evaluate DERs as alternatives to traditional poles and wires. The OEB's DER Connections Review enabled flexible hosting capacity arrangements and is streamlining connections processes to facilitate greater DER adoption and more efficient use of the distribution system. In addition, the OEB's Centralized Capacity Information Maps will provide information related to available load and hosting capacity to enable more efficient DER project siting and connections.

Collectively, rising demand, targeted procurements and evolving policy frameworks point to a future where DERs play a growing role in meeting system needs. Developing DSO capabilities is therefore instrumental in ensuring distributors can manage the operational, co-ordination and market complexity that comes with higher levels of DER penetration, while also realizing the broader benefits that effective DER integration can provide to build a more dynamic, decentralized and resilient electricity grid.

⁴ IESO, "Annual Planning Outlook (APO): 2026 Demand Forecasts & 2027 Demand Scenario . <https://ieso.ca/-/media/Files/IESO/Document-Library/engage/apo/apo-20251118-presentation.pdf>

⁵ Dunskey Energy + Climate Advisors, "Ontario's Distributed Energy Resource (DER) Potential Study Volume I: Results & Recommendations" (28 September 2022) <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/derps/derps-20220930-final-report-volume-1.pdf>.

2.2. Challenges

While the opportunity for DERs is clear, realizing their full potential requires the sector to adapt. The OEB's *Framework for Energy Innovation* reinforced this expectation, concluding that distributors must modify their planning and operations to prepare for DER impacts on their systems. Since then, some distributors have made meaningful progress in advancing DER integration. Developing DSO capabilities, and the associated grid modernization activities that enable them, span the range of activities undertaken by distributors in Ontario today and in some cases, represent new functions. Ontario's distributors are evolving along a spectrum, from a traditional role focused on ownership and efficient operation of the assets forming the distribution system, to the more advanced co-ordination and market functions of a full DSO. As DER adoption continues to grow, distributors remain uniquely positioned to harness DERs to meet distribution system needs more cost effectively. Yet it must be recognized that the level of grid modernization and DER readiness varies widely among distributors.

A recent survey of electricity distributors revealed strengths and gaps related to DSO capabilities, highlighting a distribution sector in transition with strong operational foundations but variation in capabilities related to visibility, automation and control.⁶

Operational strengths include:

- **Strong foundations** – a majority of respondents operate centralized control rooms and provide 24/7 customer and operational support.
- **Significant experience with DER connections** – 54% manage over 100 DER connections and 23% manage more than 500 DER connections.
- **Strong readiness planning** – many respondents prioritize the expansion of real-time visibility and workforce upskilling to manage DER integration and support DSO operations.

Emerging gaps include:

- **Limited system visibility** – only one respondent reported full DER visibility while a majority stated they have partial visibility.
- **DER integration in operations is a bottleneck** – less than half can control DERs via current systems and almost 90% do not actively engage DERs for operational needs.

⁶ Survey was conducted through the IESO's Transmission and Distribution Coordination Working Group (TDWG) B1 sub-group. Survey respondents included 35 of 47 Electricity Distribution Association members and four non-members. Collectively, these distributors serve approximately 5.2 million electricity customers, out of the province's total 5.46 million electricity customers as of 2024.

- **Strong need for standardized tools and workforce upskilling** – 91% of respondents indicated that training is required to effectively manage DERs and optimize DSO operations.

These results show that while Ontario distributors have the operational foundations to evolve the distribution system for DER integration, gaps remain in advanced operational, co-ordination and organizational capabilities required to effectively implement and develop DSO capabilities that enable integration at scale. Addressing these gaps requires sector stakeholders and regulated entities alike to have a unified understanding of the introduction, pacing and scope of new functions needed at the distribution level, including on the roles of electricity distributors and how the distribution system must evolve. The DSO Capabilities consultation as a whole, as well as this Roadmap, aim to provide this clarity and guidance to sector stakeholders, while also facilitating a forum for their co-development.

3. THE OEB'S STRATEGIC PRIORITIES FOR THE DSO ROADMAP

To develop the DSO Roadmap, the OEB has considered the current state of opportunities and challenges associated with DSO capabilities. It has also given careful consideration to stakeholder input to date, which has generally expressed support for a phased, evidence-based Roadmap that builds on sector progress, focuses on enabling DSO capabilities, allows flexible implementation pathways and is guided by a clear end-state vision. Appendix A summarizes all earlier steps in this consultation, including key concepts defined to date and stakeholder feedback received.

Having considered this, as well as core regulatory objectives and rate-making principles, the OEB identified a set of strategic priorities to inform this Roadmap:

- **Leverage sector progress:** The way forward must build on sector progress, including distributor-led efforts to integrate DERs and completed pilots that position distributors as central players in advancing DSO capabilities. The OEB's Innovation Sandbox and sector initiatives such as the Transmission-Distribution Coordination Working Group (TDWG) continue to explore and generate learnings, underscoring the need for an adaptable approach that can accommodate evolving roles and responsibilities.

- **Focus on enabling DSO capabilities:** The Roadmap should prioritize enabling DSO capabilities that deliver clear consumer benefit and address identified needs, including those needed for facilitating DER wholesale market participation, recognizing that many capabilities are shared across DSO models and investments should remain proportionate to expected benefits. This approach includes holistic consideration of the range of activation mechanisms defined in the OEB's DSO Discussion Paper (rules, programs and local markets) to maximize implementation flexibility and support distributors at all stages of DSO evolution, rather than treating these mechanisms as separate or sequential stages.
- **Balance optionality with standardization:** Subsequent work will retain a broad scope, including the range of pathways for DER wholesale market participation (Dual Participation, Market Facilitator and Total-DSO models) so that insights from pilots and testing can be used to inform policy decisions about key design features. Phasing in regulatory requirements will protect consumers while enabling adaptation, and accommodate distributors that need to move at different speeds in response to DER adoption and system conditions. The approach will be grounded in enabling needs-based investments and ensuring customers connected to systems in similar conditions are presented with similar participation opportunities. While optionality and adaptability will be important, the work ahead will also consider any minimum expectations that apply to all distributors.
- **Recognize broader system benefits:** The Roadmap will recognize DSO capabilities and grid modernization as enablers of broader system benefits, while retaining a strong focus on DER integration and use.

These priorities respond directly to the current state of Ontario's electricity sector, consultant firm DNV's findings that were informed by experiences in other jurisdictions, regulatory and rate-making principles and stakeholder feedback.

4. THE ROADMAP

The following section details the components of the DSO Roadmap and their support of the strategic priorities listed above. The elements of the Roadmap collectively provide the structure needed to clarify distributor roles, minimum requirements and align the regulatory framework with policy objectives.

4.1. Roadmap Structure

The DSO Roadmap consists of four main components, which together set out how the OEB, in collaboration with sector stakeholders, will make key policy decisions to shape Ontario's regulatory framework for developing and implementing DSO capabilities:

- A **vision statement** that sets a clear direction for how DSO capabilities are expected to evolve in Ontario, unifying efforts within the OEB's DSO Capabilities consultation and broader sector initiatives.
- A **set of workstreams** that translate the vision into concrete steps to support policy development, advanced in collaboration with sector stakeholders.
- **Timing expectations** that provide clarity on near-term priorities while accommodating refinement as needs become clearer.
- **Legislative amendments** that may be needed to support the enduring policy on DSO capabilities.

Taken as a whole, the Roadmap constitutes a practical tool for advancing regulatory policy at a pace that meets sector needs. It provides clarity on priorities, aligns stakeholder expectations and minimizes the risk of duplication. Via the Roadmap, the OEB ultimately aims to:

- Define a set of standardized DSO capabilities and flexibility services for the sector, identify the conditions under which they may be required and define the roles of distributors in delivering them.
- Establish the regulatory instruments needed to achieve the overall vision, including guidance and requirements, as well as advice to government about the merits of any legislative changes.
- Ensure the development of DSO capabilities is grounded in the OEB's statutory objectives and is guided by customer benefit, system need, cost effectiveness, flexibility, practicality and adaptability.
- Facilitate implementation of workstreams through a transparent and collaborative process that ensures an appropriate range of stakeholder participation in working groups and meaningful engagement with the broader electricity sector.

4.2. Roadmap Vision Statement

The overarching vision statement below will guide the Roadmap efforts and provide strategic direction for this consultation and broader sector initiatives.

DSO capabilities create conditions that allow DERs to contribute to an affordable, secure, reliable and clean energy system that delivers long-term value to consumers and supports economic growth and development.

Ontario's government has emphasized the need for solutions that keep costs down for businesses and families.

To support this outcome, the OEB will maintain a regulatory environment in which Ontario electricity distributors can adapt to changing customer needs and system conditions by evolving their DSO capabilities, as appropriate. Sector entities will work together to fully integrate, manage and optimize the use of DERs across the distribution system, unlock operational efficiencies and support their provision of energy and other services in the IESO-administered markets.

The regulatory environment will also enable electricity distributors to deploy a range of activation mechanisms for DERs to meet distribution needs, including through local markets, and appropriately recognize the diversity of distributors and DER providers.

This vision aligns with the strategic priorities outlined in Section 3. It positions distributors as central to the development and implementation of DSO capabilities in Ontario, recognizing that distributors will need the flexibility to adapt to changing needs on the distribution system. The vision also acknowledges the contributions of other sector entities, such as DER providers and the IESO, in unlocking the full value of DERs.

The vision allows for roles to evolve over time, consistent with stakeholder feedback and the DNV Report, which said Ontario does not need to select a preferred model at this stage. While electricity distributors will be expected to continue managing DER integration within the distribution system, increasing need for co-ordination across the electricity system introduces new complexities and may require evolving roles and responsibilities. As outlined in the Discussion Paper, different DSO models envision differing roles for electricity distributors in facilitating DER participation in the wholesale market. At this stage, the OEB intends to keep all the wholesale market participation pathways defined in the Discussion Paper in scope. Further analysis and

testing are needed to assess costs, benefits and the appropriate role of distributors in supporting DER provision of energy and other services in the IESO-administered markets.

The vision also commits to the development and enables pursuit of a range of activation mechanisms for distribution-connected resources, providing distributors with flexibility in how they activate DERs to meet distribution needs, whether through programs, rules or local markets.

Finally, the vision acknowledges the diversity among Ontario’s distributors and DER providers, underscoring the need for flexible implementation and integration pathways while maintaining an appropriately co-ordinated system evolution that remains grounded in system needs and value for customers.

4.3. Roadmap Workstreams

To operationalize the Roadmap vision, the OEB proposes the following workplan. The workplan is organized into four workstreams and reflects the sequencing and priorities advocated by stakeholders.

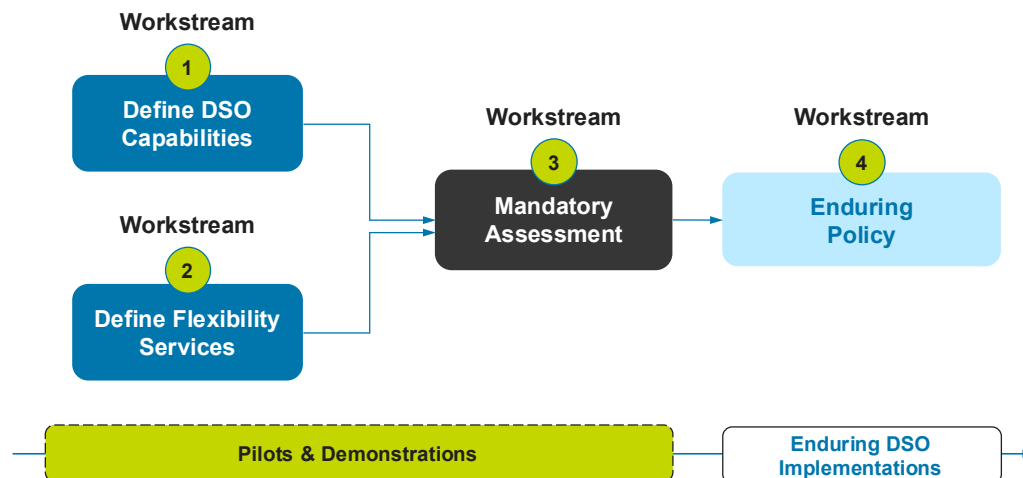


Figure 1: Overview of Roadmap Workstreams

The following sections provide a detailed breakdown of each Roadmap workstream, outlining its purpose, scope, approach and expected outputs and outcomes.

Figure 2: Summary of Roadmap Workstreams

	Workstream 1: Define DSO Capabilities	Workstream 2: Define Flexibility Services	Workstream 3: Mandatory Assessment	Workstream 4: Enduring Policy	Pilots & Demonstrations
Purpose	Define the full scope of DSO capabilities to guide distributors on when and how to develop them, including identifying the need for requisite grid modernization.	Standardize the services DERs can provide to meet distribution needs, the approaches and rules that govern delivery and the regulatory instruments needed to enable and govern them.	Ensure that the appropriate mechanisms are in place for distributors to proactively assess and plan for DSO capabilities, DER integration and related grid modernization needs.	Provide long-term clarity as DSO capabilities mature by defining expectations for distributors and clarifying institutional roles for enduring DSO functions.	Encourage the practical evaluation of DSO capabilities and flexibility services identified in Workstreams 1 & 2, generating insights to inform evidence-based policy development in Workstream 3 & 4.
Outputs	• A set of DSO capabilities and related conditions that help identify when and how capabilities should evolve • Areas for testing to inform enduring policy	• Flexibility service definitions • Standard mechanisms for delivery • Identification of required regulatory instruments • Areas for testing to inform enduring policy	• Mandatory standardized assessment framework • Filing Requirements	• Decisions on distributor roles and responsibilities • Requirements for degrees of business separation • Regulatory instrument changes	• Lessons Learned for Enduring Policy

4.3.1. Workstream 1: Define DSO Capabilities

Purpose

The purpose of Workstream 1 is to define the full scope of DSO capabilities and conditions under which these capabilities should be developed. This will help distributors in planning when and how to evolve their DSO capabilities, including identifying the need for requisite grid modernization. This was widely supported by stakeholders as a priority, with one stakeholder saying “the priority should be enabling DSO functionality – like forecasting, interoperability, T-D coordination, and DER procurement – regardless of structure.”⁷ The goal is to align DSO capability development with evolving system conditions, customer needs and distributor DSO readiness, while providing a consistent basis for planning and regulatory review of DSO-related investment proposals. Workstream 1 will also serve as a co-ordination tool for the sector by helping identify gaps in role definition and highlighting areas that require testing, policy clarity or guidance.

This workstream will address four core questions:

- What is the full scope of DSO capabilities?
- Under what conditions should these capabilities evolve?
- What capabilities require clearer definition of roles and responsibilities among sector entities?
- What should be tested or piloted to inform decisions about where responsibilities are more effectively assigned?

Scope

Workstream 1 will build on the five key DSO capabilities⁸ defined in the Discussion Paper and provide greater clarity on the specific activities required to implement them. Building on stakeholder feedback, this workstream will maintain a broad scope to enable exploration of the functionalities needed to support a range of different DSO models, without prescribing or excluding any options. This includes considering how distributor capabilities, including the approach to planning, should evolve as DER penetration increases, identifying the capabilities required to support all the distribution activation mechanisms (i.e., rules, programs and local markets) and the unique capabilities needed to integrate different DER types. This also includes identifying the capabilities needed to support DER

⁷ PowerShare Group, “Re: Submission to the OEB in EB-2025-0060 (Distribution System Operator Capabilities – Stakeholder Consultation)”, (July 21, 2025)
<https://www.rds.oeb.ca/CMWebDrawer/Record/905537/File/document>

⁸ The Discussion Paper identified key DSO capabilities as Distribution Network Planning & Development, Distribution Network Operations, Distribution Program and Market Development, Distribution Program and Market Operation, and Distribution Connections Provision.

provision of energy and other services in the IESO-administered markets.

Maintaining a broad scope will also help identify areas where roles or responsibilities may be unclear or unassigned and support identification of priority areas for pilots and targeted testing. Workstream 1 will also provide a foundation for exploring the potential value of shared platforms to support co-ordination and efficient resource integration.

Complementing the spectrum of DSO capabilities, this workstream will also examine the conditions under which DSO capabilities should be introduced and evolved. The DNV Report provided a preliminary list of system indicators that included DER penetration, hosting capacity, connection queues and network issues, all of which may influence the timing and scope of appropriate DSO capability development informed by needs and benefits. To be effective, these conditions will need to reflect both current and forecasted needs so any proactive investments can progress at the necessary pace.

Approach

The OEB proposes to develop Workstream 1 through an OEB-led working group composed of sector representatives. Ongoing sector experimentation will contribute to continuous learning and improvement throughout this process.

There is already a strong foundation of sector work that the OEB expects to leverage as inputs to this workstream. This includes research in other jurisdictions, as well as the following Ontario-specific work:

- The [DNV Report](#) *Considerations for Establishing DSO Capabilities in Ontario*.
- Deliverables from the [IESO's TDWG](#), specifically Deliverable A, the Transmission-Distribution Coordination Protocols report and Deliverable B1, the Functional Assessment.
- The Powerconsumer Flexibility Handbook and DSO Implementation Guide currently being developed through the OEB's [Innovation Sandbox Challenge](#).

Each of these initiatives has sought to define the functional requirements associated with DSO capabilities. The OEB expects to use these resources as a starting point for Workstream 1, to better ensure alignment with existing sector insights and avoiding duplication of effort.

Outputs & Outcomes

Expected outputs from this workstream include:

- A set of DSO capabilities and related conditions that help identify when and how capabilities should evolve
- Areas for testing to inform enduring policy

The intended outcome of this workstream is to provide distributors the clarity to progress their DSO capabilities and requisite grid modernization investments at a pace that reflects the needs of their service territory and customers. It will support both early movers that are ready for advanced DSO capabilities and distributors at earlier stages of development. It is also designed to support flexible implementation pathways that enable distributors to either develop DSO capabilities within their organizations or leverage shared services or DSO-as-a-Service⁹.

By establishing a consistent approach, Workstream 1 will help ensure that customers and distribution network users will experience similar levels of service and opportunities where similar conditions exist. This approach builds on previous standardization efforts, such as the development of the DER Connections Procedures document.

4.3.2. Workstream 2: Define Flexibility Services

Purpose

This workstream will set out to investigate and, where appropriate, standardize flexibility services and the approaches and rules that govern their delivery. Flexibility services is a general term for the services that DERs can provide to distribution systems. Establishing standard definitions and common approaches will help drive consistency in delivery of these services, provide clarity for consumers and support alignment with broader sector practices including existing wholesale service structures. This was also supported by the DNV Report findings that said design and standardization for DER flexibility products and services can start immediately.

This workstream will address three core questions:

- What flexibility services can DERs provide to meet distribution needs?
- How should these services be retained, activated and delivered, bearing in mind that these services may often be able to provide value not just to the distribution system, but also to the upstream bulk system?

⁹ DSO-as-a-Service refers to distributors providing DSO services to other distributors that do not have DSO capabilities.

- What regulatory instruments are needed to enable and govern them?

Scope

The initial focus of Workstream 2 will be on a few high-value flexibility services. As seen in other jurisdictions and pilots, flexibility services could include capacity services (e.g., peak demand reduction), congestion management, reliability-related services (e.g., voltage control), and local operating reserve.

Ontario already has some experience with defining and testing flexibility services through pilot projects. For instance, as part of the IESO-OEB's Joint Targeted Call on DER Integration, the Essex Powerlines' PowerShare DSO pilot featured two distribution service products, LongFlex (capacity reservation product) and ShortFlex (real-time activation product). Their report included several lessons learned, including participants being unfamiliar with the distribution service products, highlighting the need for standardized service definitions across the sector.¹⁰

This workstream will also define the standard mechanisms through which these services are retained, activated and delivered across the different distribution activation mechanisms (rules, programs and distribution-level markets). This approach was supported by stakeholders, who emphasized the need to consider the complementary roles of different activation mechanisms. Another important consideration for standardizing flexibility services and delivery mechanisms will be to ensure they enable interoperability with existing services delivered to the IESO-administered markets, while also accommodating the diversity in DER types. This work may also identify where further testing is required to support Workstreams 3 and 4.

And lastly, this workstream will identify the regulatory instruments needed to support fair access, consumer protection and market oversight for DSO-related activities. This may include considering a regulatory regime for distribution-level market rules and oversight mechanisms for local markets, as well as developing instruments where the needs are most immediate, such as program design tools like standard performance terms.

Approach

Workstream 2 will be developed via the same OEB-led working group established for Workstream 1. The OEB expects this workstream can be pursued in a co-ordinated manner with Workstream 1, with exact staging, pacing and sequencing to be determined with the working group. Subgroups

¹⁰ PowerShare Group, "PowerShare DSO Pilot Lessons: Essex Powerlines Corporation (July 11, 2025) <https://essexpowerlines.ca/wp-content/uploads/2025/08/PowerShare-DSO-Pilot-Lessons.pdf>

may be formed to support specific areas of focus, such as any that may pertain to data. As with Workstream 1, the OEB anticipates that ongoing sector experimentation will contribute to continuous learning and improvement and completed pilots will serve as a valuable starting point to inform standardized definitions and approaches.

Outputs and Outcome

Expected outputs from this workstream include:

- Flexibility service definitions
- Standard mechanisms for delivery
- Identification of required regulatory instruments
- Areas for testing to inform enduring policy

The intended outcome is to enable appropriately consistent implementation and integration of services across distributors, and support a unified experience for DER providers that reduces participation barriers and improves interoperability and co-ordination across the sector. The consideration of required regulatory tools will also support delivery of reliable and cost-effective services, fairly administered processes and harnessing competition, where available, for consumer benefit.

4.3.3. Workstream 3: Mandatory Assessment

Purpose

This workstream aims to ensure the appropriate mechanisms are in place for distributors to proactively assess and plan for DSO capabilities and DER integration. The goal is to promote accountability by encouraging forward-looking planning based on system conditions, customer needs and DSO readiness, to enable timely and cost-effective investments before challenges emerge.

This workstream will address three core questions:

- What are all distributors expected to do to assess their DSO capability needs?
- What criteria should distributors be expected to use to evaluate DSO capability needs?
- How should costs associated with DSO capability investments be recovered and allocated?

Scope

Workstream 3 will develop the tools, criteria and reporting framework to support a mandatory regulatory requirement for distributors to assess and demonstrate planning for their current and anticipated DSO capability needs. A distributor's proposals would generally be expected to enumerate grid modernization investment needs on the basis of forecasts of DER penetration, consideration of needs on the distribution system that could be addressed by DERs, and any associated functionality to harness DERs to meet those needs.

The conclusions from Workstream 3 could take the form of a policy document that defines the expectations, process and criteria, elaborated on through filing requirements. This work will build on the conditions identified in Workstream 1 and standardized approaches developed in Workstream 2, assisting a distributor in understanding where capital and operating investments may be required to support DSO capability development.

Through this workstream, the OEB will also consider and clarify, where required, the approach for allocating and recovering the costs of DSO-related investment proposals, recognizing that some investments may deliver benefits beyond the distribution system.

The OEB will also consider the reporting requirements needed to monitor the realized benefits from DSO activities over time, supporting transparency, accountability and continuous improvement.

Approach

The OEB will draw on insights from Workstreams 1 and 2, as well as lessons learned from pilots and demonstrations to develop the specific requirements for the mandatory assessment. A working group will be convened to consider issues and develop potential requirements. Broader consultation will be used as needed.

Importantly, this workstream does not preclude distributors from bringing forward applications for DSO capability development in the interim. Before this mandatory requirement is finalized, the OEB will continue to expect distributors to propose investments if they foresee them to be required, making use in the interim of any outputs available from Workstreams 1 and 2.

Outputs & Outcomes

Expected outputs from this workstream include:

- Policy Document
- Filing Requirements

The expected outcome is a mandatory, standardized assessment framework that establishes clear and consistent expectations for all distributors to

evaluate their DSO readiness based on current DER penetration and forecasts over the applicable planning period. This will support transparent planning and help ensure that similar system conditions result in similar levels of opportunity for DERs and other customers. Distributors whose assessments indicate the need for new capabilities will be positioned to bring forward a business case in an application.

4.3.4. Workstream 4: Enduring Policy

Purpose

This workstream will aim to provide lasting regulatory clarity as DSO capabilities mature. Sequencing this work last, after carrying out earlier workstreams and providing time for roles and services to be better defined, explored and tested, ensures enduring policy positions are informed by practical experience and quantitative assessment to reduce risk.

Through this workstream, the regulatory expectations for distributors that pursue DSO capabilities will be defined by determining how the existing regulatory framework needs to evolve, or where new regulatory requirements may be needed, to unlock DER value while ensuring consumer protection. These decisions have the potential to significantly impact costs, consumer protection and institutional roles. They therefore require an evidence-based approach informed by testing and operational experience from earlier workstreams and pilots.

This workstream will address the following four questions:

- What DSO-related activities are required of distributors?
- What DSO-related activities are permissible for distributors to undertake?
- What are the roles of the sector entities, including the IESO, transmitters, DER aggregators and DER owners and operators?
- How must distribution businesses be structured and organized if engaging in DSO activities or providing them to other entities, including distributors?

Scope

Workstream 4 will focus on establishing regulatory expectations for distributors pursuing DSO capabilities where greater clarity on roles and responsibilities may be needed.

This workstream will chiefly address the two remaining primary design features for DSO models:

- DER wholesale market participation pathways
- Degrees of separation

As the sector matures during the energy transition, further questions regarding the role of distributors or the scope of their responsibilities may emerge. New priorities may need to be addressed. The scope of this workstream, which will require input and consultation, will aim to retain flexibility so that the roles being determined for DSO capabilities can take into account the urgency and direction of broader sectoral change.

On DER wholesale market participation pathways, this workstream will define the expected role of distributors in enabling DER participation in the IESO-administered markets, particularly where the participation models differ. The proposed approach is not simply to select one DSO model over another. Instead, this workstream will examine the differences between the pathways to identify where roles and responsibilities may need to be defined. Evidence-based testing and further analysis will be used to assess the value and appropriateness of distributor roles in wholesale participation, considering factors such as existing roles, operational efficiency, DER service use cases, materiality and the user experience for DERs.

In relation to degrees of separation, the OEB will review the roles and responsibilities of distributors as reflected in OEB regulatory instruments, and identify where changes or clarifications may be needed to define the appropriate degree of business separation for certain DSO-related activities. This may include the requirement for functional separation of specific DSO-related functions. For example, the OEB could consider the reallocation of functions to address possible distributor planning biases, a commonly cited barrier to the identification and adoption of non-wires solutions, or the addition of new distributor licence requirements for rules around DER ownership for distributors that also own and operate local markets. During this stage, the OEB will also consider whether certain DSO-related functions should be legally separate from the distributor, and whether a distinct regulatory regime is needed to oversee those functions to ensure consumer protection, fair market access and competition, and appropriate transparency.

This workstream may also consider the range and gradation of DSO capabilities to determine whether a minimum set of DSO capabilities should be treated as non-discretionary to ensure a baseline level of DER opportunity across the province.

Approach

Workstream 4 will be developed through an OEB-led consultation, supported

by legislative amendments noted in Section 4.3.7., as needed. This work will inform changes to regulatory instruments such as licences and codes.

Output & Outcomes

Expected outputs from this workstream include:

- Decisions on Distributor Roles and Responsibilities
- Requirements for Degrees of Business Separation
- Regulatory Instrument Changes

The expected outcome is a set of enduring policy positions and regulatory expectations that provide clarity to distributors, DER providers, the IESO and other stakeholders regarding their roles and responsibilities as DSO capabilities evolve.

4.3.5. Pilots & Demonstrations

Purpose

Although not a workstream, the inclusion of pilots and demonstrations in the DSO Roadmap is intended to encourage sector-led experimentation and testing that can inform the enduring policy. Sector-led pilot projects have explored the feasibility of DSO models and related topics such as local demand response programs, flexibility markets and non-wires solutions for peak demand management. Demonstrations aim to scale these concepts, validate their performance in more sustained, real-world conditions and refine integration into existing systems. These initiatives play an important role in building confidence in the benefits, costs and operational requirements of DSO capabilities and DER integration. This component of the Roadmap also aims to ensure that any transitory or exploratory deployments are strategically designed to test specific use cases, support evidence-based policy development, including by investigating questions or gaps that are exposed during workstream activities.

Scope

The OEB expects that pilot projects will inform the development of Workstreams 1 and 2 through structured information sharing. To support this, the OEB will facilitate knowledge exchange with the workstream working groups by inviting pilot proponents to make presentations to working groups, as appropriate, and by sharing reports on lessons learned. These activities will help establish a common understanding of sector progress and challenges to date. In addition, new pilots and demonstrations will also be used to test priority areas for policy development to inform the OEB's conclusions in later workstreams, including the enduring policy. Identifying

focus areas for testing will be a key deliverable of Workstreams 1 and 2.

Approach

Progress on pilots and demonstrations will continue to be sector-led. The OEB will use the DSO Capabilities consultation to align project objectives with regulatory priorities. Distributors may continue to bring forward investment proposals for innovative pilots through existing adjudicative mechanisms, as noted in the OEB's [Innovation-related Proposals in Rate Applications](#) letter. Further guidance is also provided in the [Innovation Handbook](#), a compendium of OEB policies and related materials that have served to support innovation projects and proposals. As Workstreams 1 and 2 identify focus areas for testing that can support policy development, the OEB may consider the merits of streamlining the review of related applications. For pilots that are ratepayer-funded, proponents will be expected to share lessons learned publicly to inform this consultation, maximize value and avoid duplication.

Once Workstreams 1 and 2 are completed, the OEB will also consider whether specific pilots and demonstrations must be completed before Workstreams 3 and 4 can begin.

Outputs and Outcomes

Expected outputs from pilots and demonstrations would be expected largely to comprise overall performance and results, conclusions on successes and challenges of various approaches, and an assessment of lessons learned and considerations that can inform any enduring policy decisions.

Recognition of ongoing and future distributor-led initiatives to advance DSO capabilities will ensure that lessons learned are captured and used to inform future regulatory development, support evidence-based policy evolution and accelerate practical, co-ordinated progress toward DSO readiness.

4.3.6. Workstream Implementation Timing

The development of DSO capabilities is inherently a long-term process. The TDWG sub-group B1 deliverable on business and functional requirements indicated the transition from foundational steps to full DSO maturity across the province may require six to nine years.¹¹ While this pace will vary based on individual distributor needs, variability in system conditions and differences in DER penetrations across the province, the key observation is this evolution spans many years. This underscores the importance of

¹¹ TDWG, "Sub-group B Deliverables Overview", (May 27, 2025) <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/tdwg/TDWG-20250527-B1-Deliverables-Overview.pdf>

establishing appropriate policy, regulatory and monitoring frameworks early to guide and support this evolution. At the same time, while it is critical that progress does not come at the expense of evidence-based decision-making, or meaningful stakeholder engagement, pacing must also bear in mind the opportunity cost of taking too long.

To support accurate estimation of timelines for workstream completion in the DSO Roadmap, and recognizing that early efforts will require significant collaboration with the sector, the OEB sought stakeholders' input on timing considerations. While views varied, those that provided comments generally agreed the workstreams represent a multi-year effort. In addition, the OEB's consultant DNV provided a jurisdictional scan of undertakings in similar jurisdictions and found that Workstream 1 would take 12-18 months and Workstream 2 would take approximately 12 months. DNV further emphasized that the timing for both workstreams is dependent on industry participation.

The OEB has concluded that a staged approach to the definition and development of DSO capabilities is called for. The DSO Roadmap will prioritize timely completion of Workstreams 1 and 2, with the target of completing this work over an 18- to 24-month period, a timeframe which sets an appropriate pace of development while accommodating time for input and evidence gathering. The schedule will be a function of the scale and pace of available industry input and the degree to which work can proceed in parallel. Working groups will also seek to maintain flexibility to incorporate the results of pilots and demonstrations as they proceed and as results become available.

Following the completion of Workstreams 1 and 2, the OEB will assess the extent of testing and experimentation needed to inform policy development and then identify the timing for advancing Workstreams 3 and 4, which will establish regulatory requirements. As discussed in the preceding section, distributors (likely those with higher DER penetration rates and greater scope to take advantage of DERs to meet system needs) will continue to be able to advance their capabilities in parallel with this broader work.

As the workstreams progress, indicators such as the IESO's Annual Planning Outlook can serve as signposts for aligning DSO capability development with evolving system needs. Ultimately, the pace of DSO capability development will be driven by DER penetration and supported by continuous improvement, ensuring the regulatory approach adapts to emerging evidence and retains a focus on sustained value for consumers.

4.3.7. Legislative Changes to Support the Evolution of DSOs

In the December 19, 2024, Letter of Direction, the Minister asked the OEB to "examine the regulatory landscape including identifying specific legislative

and regulatory changes that may be required to enable future potential utility business models.” While the issues surrounding the implementation of DSO capabilities are complex and the changes contemplated may be significant, much of the early work outlined in the DSO Roadmap relies on established OEB tools, such as regulatory requirements, guidelines, filing requirements and policy development via working groups, to provide direction and clarity to the sector.

At this point, the OEB does not see the immediate need for any legislative or regulatory changes to move forward with Workstreams 1, 2 and 3. Nor are such changes needed to facilitate the DSO pilots and demonstrations contemplated in Section 4.3.5. of the Roadmap. As outlined in the Discussion Paper, distributors already have room to experiment with DSO models, provided the DSO activities primarily serve a distribution purpose.¹²

As progress is made on Workstreams 1 through 3, and as lessons are learned from any DSO pilots that are undertaken in the near term, the OEB will work with the Ministry to identify legislative or regulatory changes that could support the enduring DSO policy that will emerge from Workstream 4.

While it is too early to say what such changes would entail, they could potentially include the following:

- **Clarifying or expanding the OEB’s authority to regulate DSO activities:** Under subsection 70(1) of the *Ontario Energy Board Act, 1998* (OEB Act), the OEB has broad authority to impose conditions in a distributor’s licence, including conditions that “are appropriate having regard to the objectives of the Board and the purposes of the *Electricity Act, 1998*.” Subsection 70(2) goes on to set out a illustrative list of conditions that can be included in a licence. Despite the wide scope of this existing authority, there may be merit in specifying that the OEB can attach conditions in relation to a distributor’s DSO activities, such as conditions to address potential adverse impacts on the development and maintenance of distribution-level markets, and requirements to maintain functional separation between the distributor’s DSO activities and its conventional activities. Standard DSO conditions could also be enshrined in the Distribution System Code or another OEB code, which would be incorporated by reference into every distributor’s licence.
- **Enabling the recovery of a distributor’s costs beyond the distributor’s own ratepayers where the benefits extend beyond**

¹² Even if a distributor wanted to undertake a DSO pilot that involved non-distribution activities (say, activities that are primarily aimed at providing services to the wholesale market), the distributor could apply for regulatory relief under section 71(4) of the OEB Act .

the distributor’s service area: The OEB’s June 30, 2023, report to the Electrification and Energy Transition Panel recommended that “the OEB could be granted express authority to allow for recovery of a portion of an investing electricity distributor’s cost from ratepayers in the service territory of other distributors who also benefit from the investment. This kind of pooling or socialization of costs, including potentially on a province-wide basis, could be appropriate in situations where the investment provides clear and demonstrable value to a broader group of ratepayers.” The School Energy Coalition (SEC) made a similar suggestion in its written comments in this consultation. The SEC pointed out that some investments by a distributor may lead to benefits that “accrue to the bulk system and, therefore, to most or all provincial customers,” and yet the costs would ordinarily be borne by the distributor’s own customers. The SEC also expressed the view that “amendments to the OEB Act are needed to address this unfairness and establish a mechanism for the fair allocation of costs,” and referred by way of example to the existing cost-sharing mechanism under section 79.1 of the OEB Act, whereby certain costs for connecting renewable generation facilities are spread across ratepayers throughout the province.¹³

- **Authorizing the OEB to provide generic exemptions to distributors from the limitation on undertaking non-distribution activities:** Another recommendation from the OEB’s report to the Electrification and Energy Transition Panel that could facilitate DSO implementation would be to broaden the OEB’s powers to grant exemptions under section 71(4) of the OEB Act. The report explained:

... under section 71(4) of the OEB Act, the OEB can permit an electricity distributor to carry out a non-distribution activity within its regulated business “if the special circumstances of a particular case so require”. This represents more of a case-by-case approach. As a means of providing more flexibility to electricity distributors to undertake new activities, amendments to existing authority under section 71(4) could clarify that the OEB may grant exemptions from the general rule against non-distribution activities on a generic basis, meaning that any interested electricity distributor would be able to undertake any exempted activity without having to apply for an individual

¹³ School Energy Coalition, “Re: EB-2025-0060 – Distribution System Operator Consultation – SEC Comments” <https://www.rds.oeb.ca/CMWebDrawer/Record/905650/File/document>

exemption. Under this approach, individual applications would not be needed.

This would enable the OEB to provide certainty to distributors more broadly about what non-distribution activities they could undertake in the context of acting as a DSO or providing “DSO-as-a-service” to other distributors.

- **Authorizing the OEB to develop and enforce market rules for distribution-level markets:** As the Discussion Paper observed, “A review process would be needed to support the development of rules. A market oversight and monitoring function, similar to the functions in place to provide oversight of the wholesale electricity market, would also be required to oversee the market’s operation, and to assess whether any individual participant could assert market power or engage in market manipulation to distort outcomes.” Workstream 2 will explore how this could best be operationalized. For instance, how would the OEB ensure that DSOs and market participants comply with the rules? That work will inform any recommendations on what legislative or regulatory amendments might be needed.

The OEB also notes that its Discussion Paper observed that enabling the establishment of an independent DSO would also require legislative change. Interest in pursuing such a sector structure in Ontario, as elsewhere, appears to be currently low. Accordingly, the OEB does not currently view such an amendment as a priority.

5. THE ROADMAP IN CONTEXT: SUPPORTING ACTIONS TO ENABLE DERS IN ONTARIO

Successful DER integration requires more than just DSO capabilities. It also requires complementary activities, such as streamlined connection processes, data sharing protocols and appropriate incentive structures in order for users, investors, planners and system operators to take full advantage of these new distribution-level functionalities and approaches.

These other, complementary efforts are being advanced through the full portfolio of OEB-led projects called for in the IEP directive to the OEB as well as through other initiatives. Each is designed to provide the clarity and support needed to unlock the full value of DERs and deliver affordable, reliable, secure and clean energy.

Through the DSO consultation, stakeholders expressed interest in understanding these other sector initiatives related to DERs. This section provides an overview of how the DSO Roadmap fits within the broader work of the OEB and the sector.

5.1. The OEB's DER Portfolio

The OEB's DER Portfolio comprises nine distinct initiatives across the length of the DER value chain. Together, these initiatives help ensure small, flexible and dependable resources can reliably contribute to the needs of customers and the electricity system as a whole.

The nine initiatives can be divided into four interventions in the burgeoning market for DERs and related services.

The first area of effort pertains to implementing DSO capabilities, with the ultimate goal of facilitating the exchange of services as a new business-as-usual. This action will help stimulate the provision of services, diversify product offerings, enable price discovery, promote liquidity and support competition for the benefit of consumers. It is the focus of this report.

The second area of work focuses on helping distributors consider and take advantage of DERs by overcoming entrenched preferences and creating a level playing field among options. Effort is also underway to put in place the data requirements necessary to enable greater penetration of DERs.

The third intervention supports businesses that sell DER services, providing the information needed to help identify where and when their services may be beneficial. Standardizing and streamlining connection processes can also assist these firms, particularly those who work with different distributors and across service areas.

The final area of work pertains to the charges DERs pay to access and benefit from the networks they connect to, as well as the revenues they earn for services they provide. One cornerstone of effective and efficient pricing of electricity services is the principle that all customers who benefit from an investment should contribute to its cost; another is that prices charged and revenues earned should be reflective of the value of the service provided. Changes to how certain prices are established as well as to how and from whom costs are collected can create a more effective and efficient investment climate for DERs.

These interventions, related challenges and associated projects are discussed further in Figure 3 below.

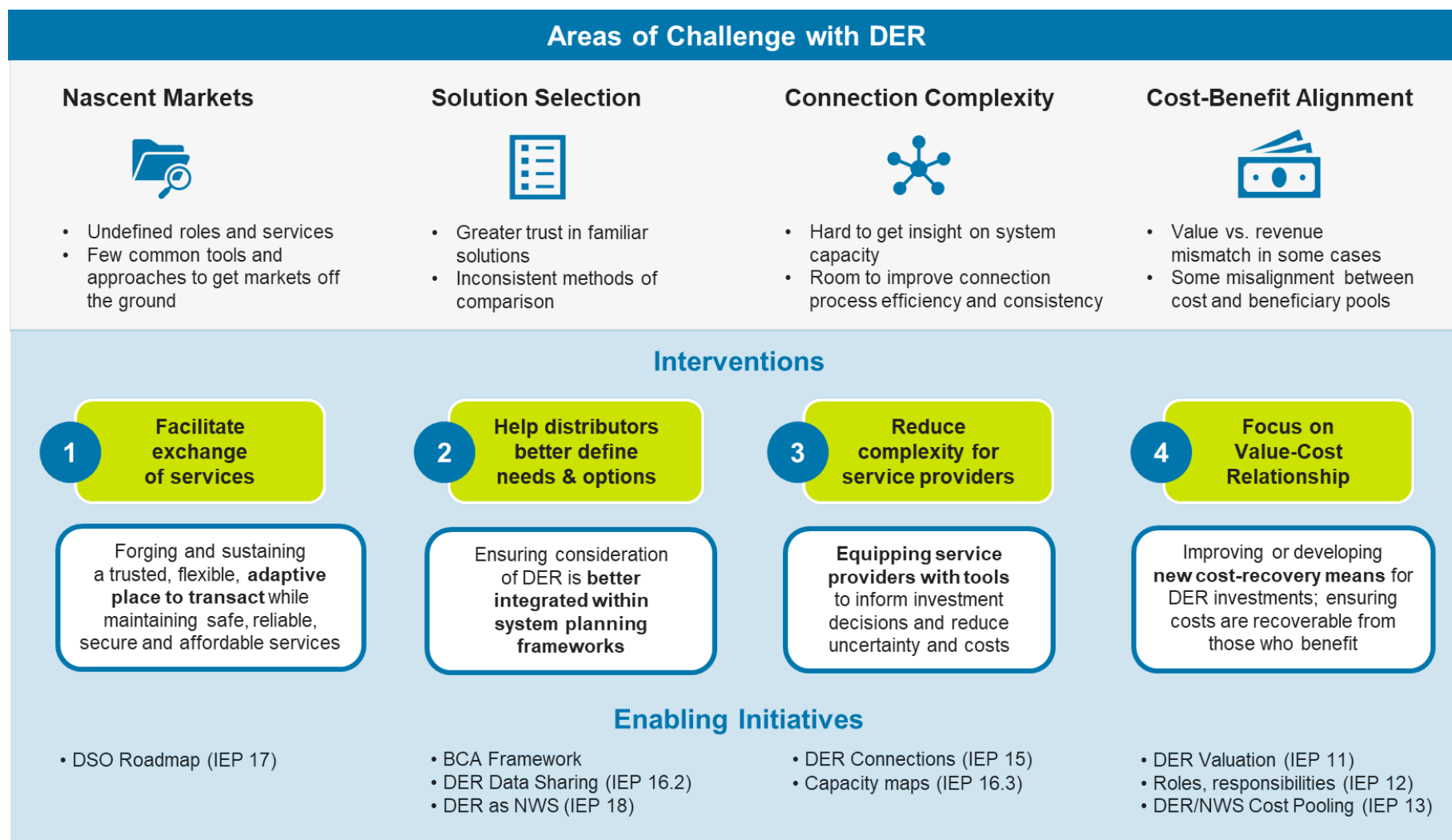


Figure 3: Overview of DER Portfolio Initiatives

Taken overall, the DER Portfolio represents a multi-year effort to achieve the IEP's DER Strategy, unlocking the value of DERs, lowering barriers to participation and supporting smarter planning and investment across all levels of the electricity system. Beyond the individual IEP directives that are addressed by the initiatives, the DER portfolio as a whole also responds to the OEB's IEP Directive item 19, to drive, through new and ongoing initiatives, prudent electricity distribution grid modernization and facilitate electricity distributor investment in new cost-effective technology that benefit customers and modernize the operation of the grid.

5.2. Other Sector Initiatives

It is important to recognize that the work of the OEB on DERs is not occurring in isolation. In developing its DSO Roadmap, the OEB drew on the findings and insights of the IESO's TDWG as its starting point and continued to engage IESO staff throughout the development of the proposed workstreams. Several ongoing initiatives led by the IESO are closely connected to the DER Portfolio, including regarding data required to integrate smaller resources into the IESO-administered markets, DER valuation and changes to planning. Together, the efforts of both organizations will have important implications for how DERs are integrated at scale into Ontario's electricity system. Steady co-ordination and collaboration between the OEB and the IESO remain central to ensuring that the approaches taken are cohesive, complementary and supportive of DER integration and advance prudent, cost-effective and innovative distribution grid modernization investments.

6. CONCLUSION

This report proposes a structured approach for a sector-wide engagement on preparing Ontario's energy sector for DER integration at scale through the advancement of DSO capabilities. The DSO Roadmap sets a path for defining the capabilities and roles needed to support the types of flexibility services that can be offered and the activation mechanisms that can be used.

The OEB anticipates that this work will help today's electricity system become a more dynamic, open and competitive environment while reducing risks from inconsistent approaches, delayed or stranded investments, and missed opportunities to integrate and compensate DERs appropriately.

The OEB's proposed work, with contributions from across the sector, will support DER integration in a co-ordinated, cost-effective way that lowers barriers to participation, supports timely, needs-based investments and safeguards consumer interests while driving economic development and innovation in Ontario's energy sector. Altogether, the Roadmap's proposed outcomes will position Ontario's energy sector to harness DERs to their greatest potential and unlock their full value.

7. APPENDIX A: CONSULTATION PROCESS TO DATE

7.1. Overview of the DSO Capabilities Consultation to Date

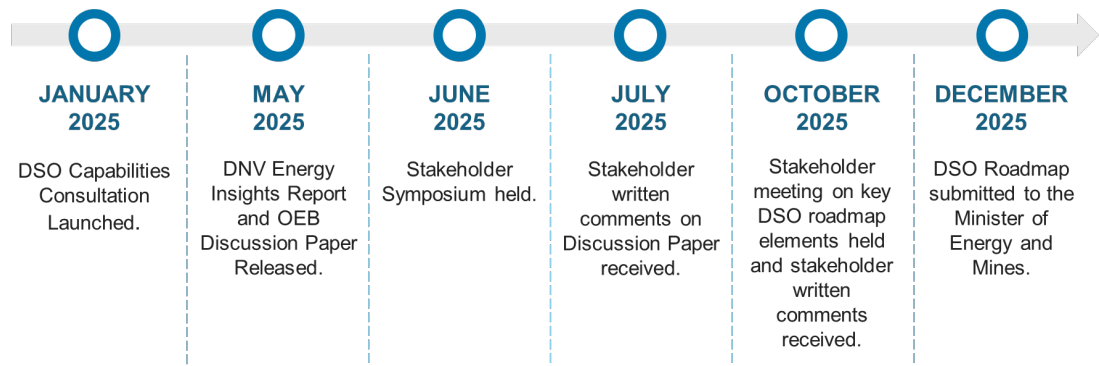


Figure 4: Overview of DSO Capabilities Consultation to Date

In January 2025, the OEB launched a policy consultation to establish a regulatory framework and set expectations for electricity distributors in relation to the development of DSO capabilities in Ontario. To advance the consultation, the OEB released two foundational reports in May 2025.

The first report, [DNV Energy Insights Report – Considerations for Establishing DSO Capabilities in Ontario](#), focused on the core drivers behind the implementation of DSOs globally, use cases, DSO functionality, separation (legal, functional) and architecture.

The second report, the [OEB Staff Discussion Paper](#), was based on the research undertaken by OEB staff, and was intended to establish a shared understanding among stakeholders on the opportunities and policy objectives related to DSO capabilities. It outlined key DSO concepts, the core regulatory considerations for developing DSO capabilities in Ontario, and introduced the concept of DSO models, the possible frameworks that set out the roles, responsibilities, relationships and conduct of actors in the electricity distribution sector. The paper defined DSO models using three primary design features:

- **DER Wholesale Market Participation Pathway:** This design feature defines the varying roles of DSOs in enabling DER participation in the wholesale electricity market across DSO models. Options include the DSO taking no direct role (Dual Participation); facilitating market bids/offers and other communications for DER participation (Market

Facilitator); and serving as a commercial aggregator for DER participation (Total DSO).

- **Degrees of Separation:** This design feature refers to the varying degrees to which DSO functions are separated from traditional functions undertaken by electricity distributors today across DSO models. Options include having no separation (with all DSO functions integrated within today's distributors); functional separation (with separate departments residing in one entity); legal separation (with DSO and conventional functions housed in separate legal entities); and ownership separation (where the DSO and distributor do not share a common owner).
- **Distribution Activation Mechanism:** This design feature identifies the varying ways in which DERs can be activated or curtailed to meet distribution needs. Options include rule-based (where dynamic operating limits are communicated to DERs in real-time); program-based (where DERs are compensated based on pre-established methods or values; and market-based approaches (where DERs are compensated through local flexibility markets).

The Discussion Paper also introduced, for stakeholder feedback, three fundamental steps to define a policy framework for DSO capabilities:

- **Proposal 1:** Standardize the method by which distributors assess the need for DSO capabilities as a means of using DERs to help address distribution system needs.
- **Proposal 2:** Develop a simplified DSO model suitable for most circumstances expected in the nearer term.
- **Proposal 3:** Explore and develop advanced models that address more complex needs as warranted, including the development of service models where a distributor contracts for DSO services from another entity.

The OEB held a stakeholder symposium from June 23 to 24, 2025, where stakeholders presented their views and the reports were discussed. Following the symposium, the OEB received 22 written comments addressing the opportunities and objectives for DSO capabilities, evaluating the three proposals, and exploring the balance between standardization and flexibility.

Building on this feedback, the OEB modified its approach to set out a more holistic and structured path to developing DSO capabilities that involves four workstreams guided by an overall vision statement for the sector, as described in this Roadmap. On October 14, 2025, a second stakeholder

meeting was held to discuss key elements of the proposed DSO Roadmap. Stakeholders were again invited to submit written comments on the appropriateness of the OEB's proposed approach, its alignment with sector needs and overall strategic fit. The OEB received 15 written stakeholder comments that informed this Roadmap, representing a practical and forward-looking approach developed in collaboration with the sector.

7.2. Stakeholder Feedback

To inform the OEB's approach for developing a policy framework for DSO capabilities outlined in this Roadmap, the OEB considered stakeholder feedback from a variety of electricity distributors, consumer groups, industry associations, DER providers, environmental groups and the IESO. This section summarizes the input received on the approach introduced in the Discussion Paper and outlines how the OEB's thinking evolved as a result. All stakeholder comments are posted on the OEB's [website](#).

Views on DSO opportunities, policy objectives and alignment with statutory objectives

Stakeholders expressed broad support for advancing DSO capabilities, viewing them as essential to Ontario's energy transition, enabling DER integration and modernizing the grid. Highlighted use cases included enabling non-wires solutions, supporting reliability, enhancing resiliency, enabling customer participation, optimizing grid operations and reducing system costs. Stakeholders emphasized that policy objectives should prioritize affordability, consumer choice, fair local and wholesale electricity market access, and stackable compensation to ensure resources are efficiently used. There was strong agreement that distributors are well positioned to deliver these functions, provided roles and responsibilities are clearly defined. Stakeholders broadly agreed that advancing DSO capabilities aligns with the OEB's statutory objectives, including consumer protection, economic efficiency, conservation and innovation. Support for the consultation's proposed vision statement was widely received and stakeholders agreed that in addition to integrating, managing and optimizing the use of DERs, DSOs would unlock operational efficiencies through distribution grid modernization and further support the provision of energy and other services in the IESO-administered markets.

Views on an evolutionary and phased implementation approach

Stakeholders generally supported an evolutionary approach to developing DSO capabilities, guided by a clear end-state vision, defined timelines and a Roadmap developed collaboratively with the sector. Feedback suggested flexible implementation pathways should allow distributors to progress at their

own pace based on system conditions and customer needs, without slowing down progress for those ready to move faster. This was also supported by DNV's Report findings that DER penetration is highly variable in Ontario and further assessment is required to identify where DSO capabilities may have value. Stakeholders also emphasized that it should be expected that distributors will continue to develop investment proposals for DSO capabilities before this consultation concludes. This will support continuous learning and the Roadmap should be designed to support parallel development and alignment with real-world experience. Stakeholder priorities included focusing on no-regret activities, enabling critical DSO capabilities first, and approaching decisions on DSO models and structural regulatory changes in a phased and adaptive way, allowing time to incorporate sector experience and input. DNV's findings also supported this, noting that low-regret actions can be pursued while a more advanced DSO model for Ontario is developed. Stakeholders also highlighted the need for early standardization of interoperability requirements and integration of consumer protection principles to guide the transition.

[Views on the three proposals presented in the Discussion Paper](#)

Proposal 1 (Standardized Assessment): Generally supported as a necessary step to organize sector progress. Stakeholders emphasized the assessment process should avoid duplication by leveraging work already completed through other sector initiatives, incorporate clear investment guidance and align with existing planning processes for implementation.

Proposal 2 (Simplified DSO model): Received limited support with stakeholders cautioning that by overlooking the full range of activation mechanisms (rules, programs and markets) and wholesale market participation, it risks locking in rigid structures, creating stranded assets, misaligning with the desired end-state and limiting flexibility for future advanced models. Many viewed it as an unnecessary step as the core elements of Proposal 2 were already in place today, though some supported it as a transitional step to establish minimum requirements.

Proposal 3 (Advanced DSO Models): Strongly supported and viewed as the only viable long-term approach to unlock DER value and system efficiency at all system levels. Many agreed that priorities included enabling advanced DSO functions, defining clear roles and responsibilities, assessing remuneration, identifying regulatory reforms, considering DSO-as-a-service and ensuring DERs retain the ability to participate in the wholesale market. While some supported early adoption of the Market-Facilitator model to provide sector certainty, most emphasized the importance of evidence-based decision making to ensure neutrality in role definition. Stakeholders also stressed building on existing sector progress and pilots that can inform

knowledge gaps, build operational experience, validate solutions and inform design of a scalable framework. On degrees of business separation, most favoured functional separation, with some viewing legal separation as the ideal end-state to ensure market confidence.

Views on the balance between standardization and innovation

Stakeholders generally supported a balanced approach that combines minimum standards to ensure interoperability and customer protection with flexibility to encourage innovation, local adaptation and diverse solutions. There was strong agreement on the importance of sharing lessons learned from pilots and continuing experimentation to test and refine DSO capabilities before broader implementation. Views differed on pace of implementing DSO capabilities, with some stakeholders favouring flexibility first to allow innovation and progress that doesn't rely on the sector to move in lockstep, while others stressed the importance of minimum standards that should apply to all.