



FEBRUARY 29, 2024

Transmitter Selection Framework: Focused Engagement Session #1

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Purpose

- Provide an update on the development of a Transmitter Selection Framework (TSF) and the planned Focused Engagement Sessions
- Provide an overview of how transmission is currently planned and developed in Ontario
- Highlight the rationale and goals around the need to design a TSF, and provide some preliminary design considerations

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Agenda

1. Current State of Transmission Planning and Development in Ontario
– Level Set and Context
2. TSF Rationale and Goals
3. Engagement Approach and Tentative Schedule for Engagements
4. TSF Design – Initial Procurement-Process Considerations
5. TSF Design – Initial Commercial Considerations
6. Next Steps

Recap: Ontario's Changing Electricity Landscape



This is a **pivotal point** for the electricity system. Ontario is entering a period of growing needs – by 2050, energy consumption could double



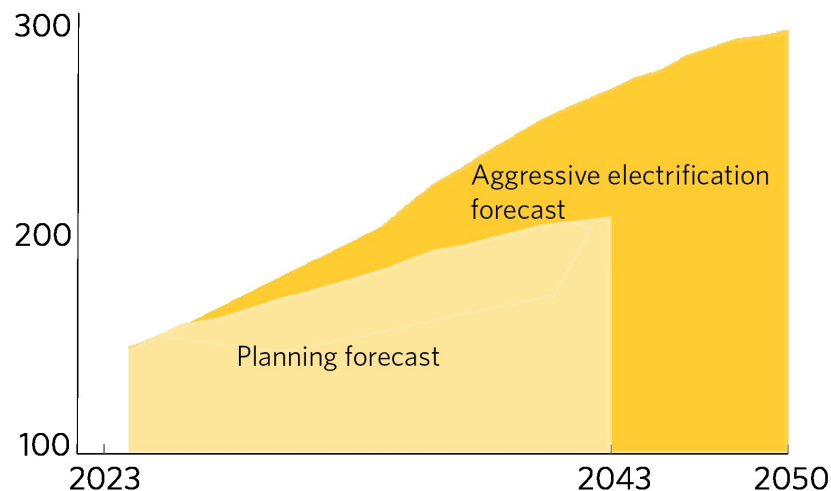
These needs are being driven by **economic growth, population growth and increased electrification**



This demand growth is happening in the midst of expiring generator contracts, nuclear refurbishments and the elimination of emissions from the grid





To meet the emerging needs, **Ontario will require new transmission infrastructure**





Recap: Meeting Electricity Needs and Building an Emissions-Free Grid


2024–2025


 New commitments to small hydro facilities

 New capacity exchange agreement with Hydro Quebec

 First large battery facility comes online


 New market opportunities for local energy projects


 Launch expanded energy-efficiency programs

 New transmission lines bring power to Southern and Northeast Ontario (2025–2030)


2030–2034

 Proposed Pickering refurbishment


 Non-emitting generation fleet continues to grow

 **New transmission will be needed throughout this timeline to enable all the changes in the supply mix**


2026–2028


 Battery fleet grows, contributing to Ontario's system needs

2029


 First small nuclear reactor powers up

2032

 Darlington and Bruce nuclear refurbishments largely complete

 New non-emitting generation deployed

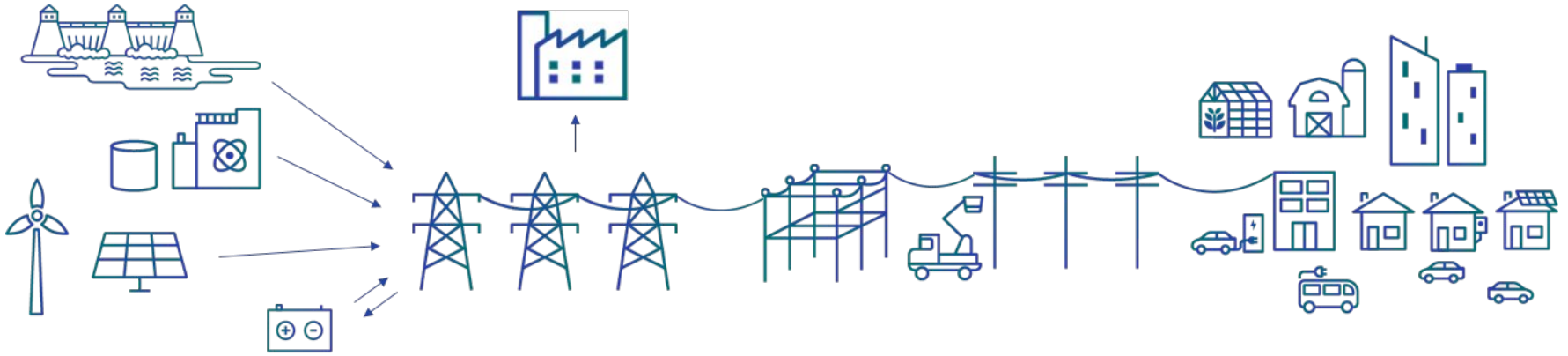
2040

 Most Ontario natural gas generation reach end of life



Current State of Transmission Planning and Development in Ontario

Simplified Electric Power System



Generators

Transmitters

Local Distribution
Companies

Energy Consumers

Key Electricity Sector Participants in Ontario



Ministry of Energy

Sets overall policies for the electricity sector



Ensures that electricity customers are treated fairly and that sector participants fulfill their responsibilities through licensing, setting residential electricity rates and regulating how electricity companies operate



Delivers key services including managing the power system in real-time, planning for the province's future energy needs, enabling conservation and designing a more efficient electricity marketplace to support sector evolution

Generators

Produce electricity to provide Ontario's energy needs. Made up of a diverse range of resources, including hydro, natural gas, nuclear, solar, wind and bio-fuels.

Transmitters

Build and maintain Ontario's high-voltage transmission system that delivers electricity from generators to local distributors and Ontario's grid connections with Manitoba, Quebec and the U.S., allowing electricity to be imported and exported

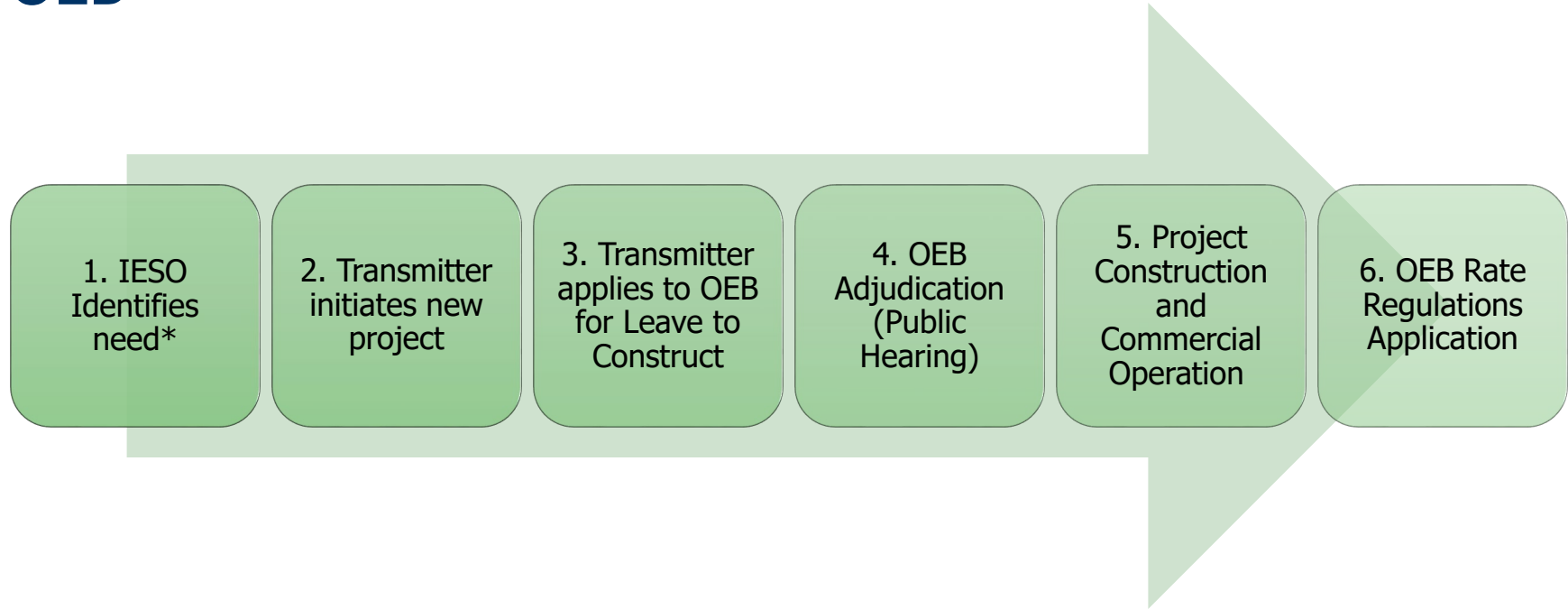
Local Distribution Companies (LDCs)

Deliver electricity directly to households and businesses through local distribution networks.

Ontario Energy Board (OEB) Role in Transmission Development

- OEB is the independent regulator of transmitters and other Market Participants in Ontario, with a mandate to make decisions and enact rules to protect consumers and ensure that the energy sector is reliable and sustainable
- The OEB authorizes licenses for new transmitters, adjudicates Leave to Construct applications and is responsible for the Transmission System Code (TSC)
- The TSC sets out the minimum conditions that a Transmitter must meet in designing, constructing, maintaining, and operating its transmission system
- The OEB approves the revenue requirements and charge determinants of the individual transmitters in separate proceedings and uses them to calculate Uniform Transmission Rates (UTRs)

Current Process for new Transmission Development with OEB



IESO Transmission Planning Overview

The IESO is accountable for planning for the long-term reliability of Ontario's power grid to meet future electricity needs

- Forecasting the demand for electricity at the transmission level on a provincial and zonal level
- Identifying supply needs and procuring new resources
- Identifying transmission system needs and recommending solutions

Transmission planning could recommend transmission solutions to supply new load, to deliver new supply, and to support key public policies such as decarbonization and end-use electrification

Transmission Planning Products

- **Annual Planning Outlook** – summary outlook of long-term transmission needs and *Schedule of Planning Activities*, the IESO's work plan for bulk transmission studies
- **Bulk Studies** – individual plans that cover larger areas of the grid to address reliability needs driven by significant economic developments, public policy drivers such as decarbonization, or Government priorities such as Powering Ontario's Growth report
- **Regional Plans** – local area studies done at least every five years for 21 regions across the province. Regional plans may identify transmission solutions, or identify larger issues to be addressed as part of a bulk study

Transmission System Planning and Development

1. Identify needs
2. Develop and evaluate alternative options to address the needs
3. Identify and recommend preferred solutions (transmission or non-wire solution)
 - If a transmission solution, provide specifications such as scope of new/upgraded transmission infrastructure

Evaluate detailed corridor/site options and refine preferred solution:

Conduct project development work comprising:

- a. Detailed engineering and project design
 - b. Engagement / commercial arrangements and access/land rights
 - c. Environmental assessment, approvals and permits (routing/siting)
5. Construction of transmission facilities
 6. Operation and maintenance over the life cycle of the facilities

IESO

Transmitters*

**the IESO may provide evidence supporting the need/rational to support facility approvals*

Recent Transmission Recommendations



**Important to note - TSF will not affect the development of selected/announced transmission projects listed on this slide. All listed projects (apart from Watay and Porcupine to Wawa) have been designated to Hydro One.*

Project (Region)	In-service
Watay Power (NW)	2024
Waasigan Line (NW)	2025-2027
Mississagi to 3 rd Line (NE)	2029
Hanmer to Mississauga (NE)	2029
Porcupine to Wawa (NE)	2030
West of Chatham Reinforcements (SW)	2025
West of London Reinforcements (SW)	2028-2030
Phase Angle Regulators Replacement (ON-MI)	2030
FETT Upgrade (GTA)	2026
Etobicoke Greenway (GTA)	2026
GTA to Dobbin (East)	2029

Transmission Schedule of Planning Activities

Northern Connections Study (2024-2025)

- Options for connecting First Nation Communities, loads and generation in remote northwest Ontario

Northern Ontario Bulk Study (2024-2025)

- Transmission expansion options between Toronto and Sudbury to facilitate load growth and new resources

South and Central Ontario Bulk Study (2024-2025)

- Decarbonization, incorporating new non-emitting resources, SMRs, Bruce C, supply to the GTA

Eastern Ontario Bulk Study (2024-2026)

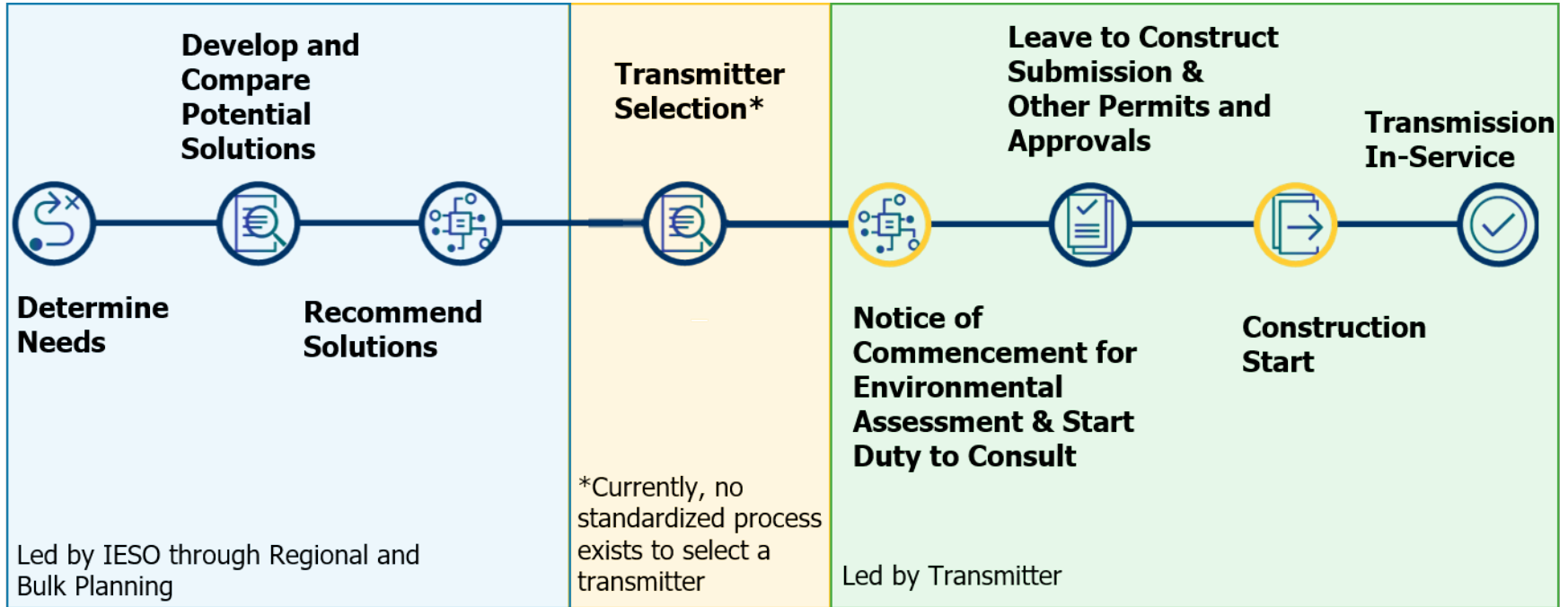
- Evaluate aging transmission, supply to Ottawa, interconnections with Quebec/New York, supply around Lennox and Addington County





TSF – Rationale, Goals and Engagement Plan

TSF – Rationale and Goals (1)



TSF – Rationale and Goals (2)

The TSF, once designed and implemented, will align with the IESO's transmission planning processes to determine specific projects that would provide competitive opportunities for transmitters and their partners to build, own, and operate new transmission infrastructure. The process will aim to:

- enable Indigenous participation
- deliver better value to ratepayers through competition
- ensure infrastructure development accommodates economic growth and supports broader generation project siting
- foster innovation for transmission solutions

Transmitter Selection Framework – Engagement approach

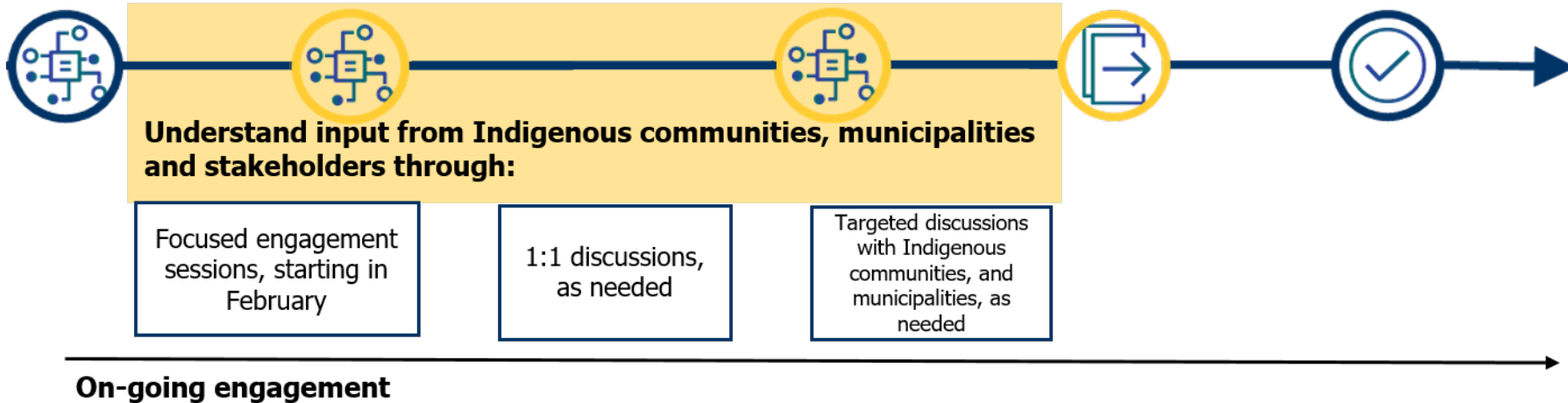
December 2023
Kick-off

February-July
Focused Engagement Sessions

April – Q3 2024
Final Process Design and Report Development

Summer 2024
Report back to Minister of Energy

Q4 2024 & Onward
Framework implementation or refinement (pending Minister direction)



Focused Engagement Sessions – Tentative schedule

Focused Engagement Session	Topics	Expected timing
Session #1 (Today)	TSF Context/Level Set and Preliminary Procurement Process and Commercial Considerations	February 29, 2024
Session #2	Preliminary Technical Considerations and Transmission Planning	March 2024
Session #3	Preliminary Indigenous Participation Considerations	April 2024
Session #4	Evolution of Transmission Planning to support competitive transmission development	May 2024
Session #5	Commercial Considerations, Readiness and Procurement Process Considerations, Indigenous Participation, and expected next steps	June 2024

Initial Community and Stakeholder Feedback (1)

- Many Indigenous communities have stated that they are interested in being engaged early in the TSF design process, and intend to provide feedback to shape Indigenous participation policies
 - Following feedback from the January Indigenous sessions, IESO will be continuing engagement with various communities during 1:1 outreach and focused engagement sessions
- Indigenous communities have signaled that they would prefer early and regular engagement related to transmission plans or projects affecting their traditional territories; early visibility into projects will enable the development of meaningful partnerships under the future TSF
- Communities, stakeholders and transmitters are generally supportive of the TSF design efforts

Initial Community and Stakeholder Feedback (2)

- Many developers stated that they are eager to participate in engagement sessions focused on design and transmission planning considerations, and are interested in participating in new transmission opportunities (provided a suitable commercial arrangement is in place and risks are appropriately allocated)
- Feedback from municipalities requested they be provided the opportunity to review and comment on the proposed framework, and provide input on any planned transmission procurements under the future TSF
- Feedback from a broader swathe of communities and stakeholders indicated that they are generally less familiar with transmission development issues and opportunities than Generation



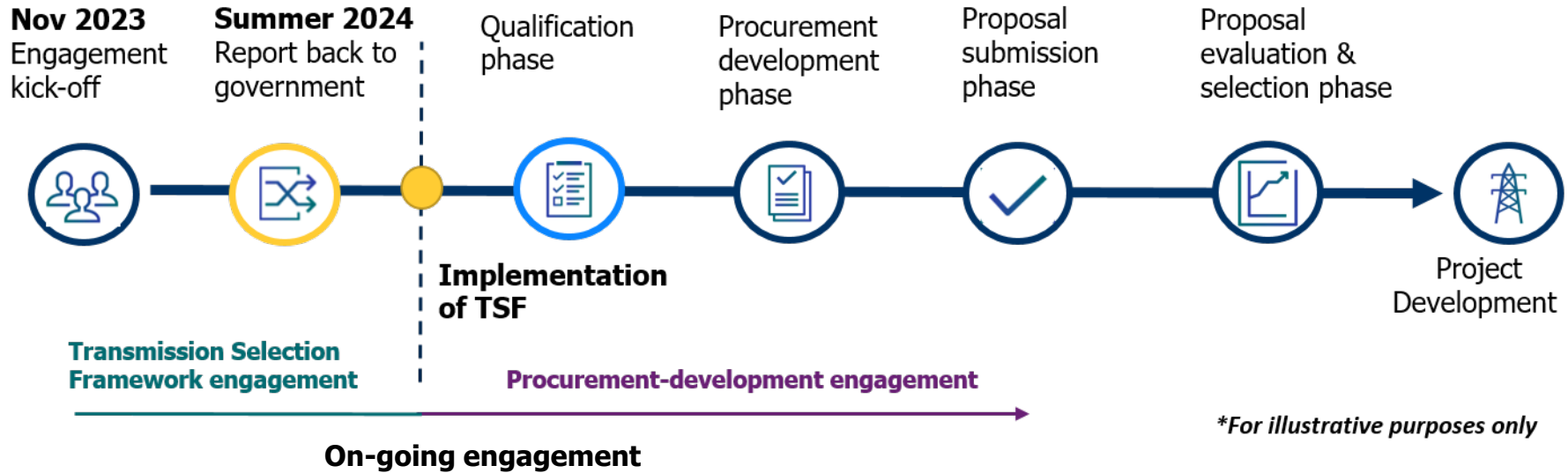
TSF – Initial Design Considerations

TSF Initial Design Considerations – Request for Proposals (RFP)

- Expected to involve the **competitive selection** of transmitters to design, build, and operate new transmission projects **deemed eligible for procurement**
- The IESO is considering different competitive selection processes which could include:
 - **RFP** - more formal prescriptive process ***Recommended Approach**
 - **Transmitter Solicitation** - a less formal process whereby qualified transmitters may be solicited based off high level needs assessment, and selected based off 'best' solution
- Procurement mechanisms under the TSF may evolve to incorporate lessons learned from initial selection/procurements
- Each procurement/selection planned under the TSF will undergo a **public design and engagement process** where communities and stakeholders can provide input and feedback (similar the process currently underway for the LT2 Generation RFP)

TSF Initial Design Considerations – Illustrative Timelines

Procurement timelines are subject to change based on project complexity, highlighting the need for **enough runway** between a Transmission 'needs' identification to a Resource In-Service date



**For illustrative purposes only*

TSF Initial Design Considerations – Transmitter Qualification

- Neighboring jurisdictions employ various approaches to qualifying transmitters for procurements, including the use of a **Request for Qualifications (RFQ)** stage, and/or the use of a **registry for qualification**
- In determining the criteria for qualification, the IESO must strike a balance between:
 - a) Ensuring transmitters have relevant experience and financial strength to undertake new transmission projects in Ontario
 - b) Supporting competition and the participation of new prospective transmitters to Ontario
- To help reduce timelines and costs for procurement – **the IESO is recommending that a registry of qualified transmission developers be employed as the qualification process**

Transmitter Qualification Approaches

Approach	How it might work in practice
Develop a Registry for Qualified Transmitters (Utilized in MISO) *Recommended Approach	Transmitters register with the IESO on an annual/biennial basis to be a Qualified Transmitter. Transmitters would need to demonstrate financial strength, construction and O&M experience etc. to qualify to participate in competitive transmission procurements.
Run a Request for Qualifications (RFQ) Process for each Procurement (Utilized in AESO)	Develop and release an RFQ, testing financial and technical strength. Proponents would be scored on criteria based off experience with financing, route development, design and construction, and operations & maintenance. Only proponents deemed to be qualified under an RFQ process would be permitted to participate in an RFP
Integrate a Qualification Screen in the RFP Process (Utilized in CAISO)	Initial RFP screen evaluates proponents understanding of the scope of work, requirements (technical, design, reliability, etc.), and ability to execute (experience). Proponents who don't satisfy these screening requirements are disqualified.

TSF Initial Design Considerations – Transmission Procurement Approaches

There are several approaches employed in other jurisdictions related to how transmission solutions are procured:

- The **bid-based approach** seeks competitive proposals for the development of specific transmission facilities deemed necessary through system planning (i.e. the project is well defined at the time of procurement) ***Recommended Approach**
- The **solicitation approach** seeks alternative proposals for addressing an identified reliability concern, system issue, or opportunity (i.e. proponents may propose different solutions from each other to address the specific transmission need)
- A **hybrid approach** is one that contains elements of both approaches (e.g. proponents having an opportunity to identify possible solutions to power system needs as an input to system planning)

TSF Initial Design Considerations – Commercial Considerations

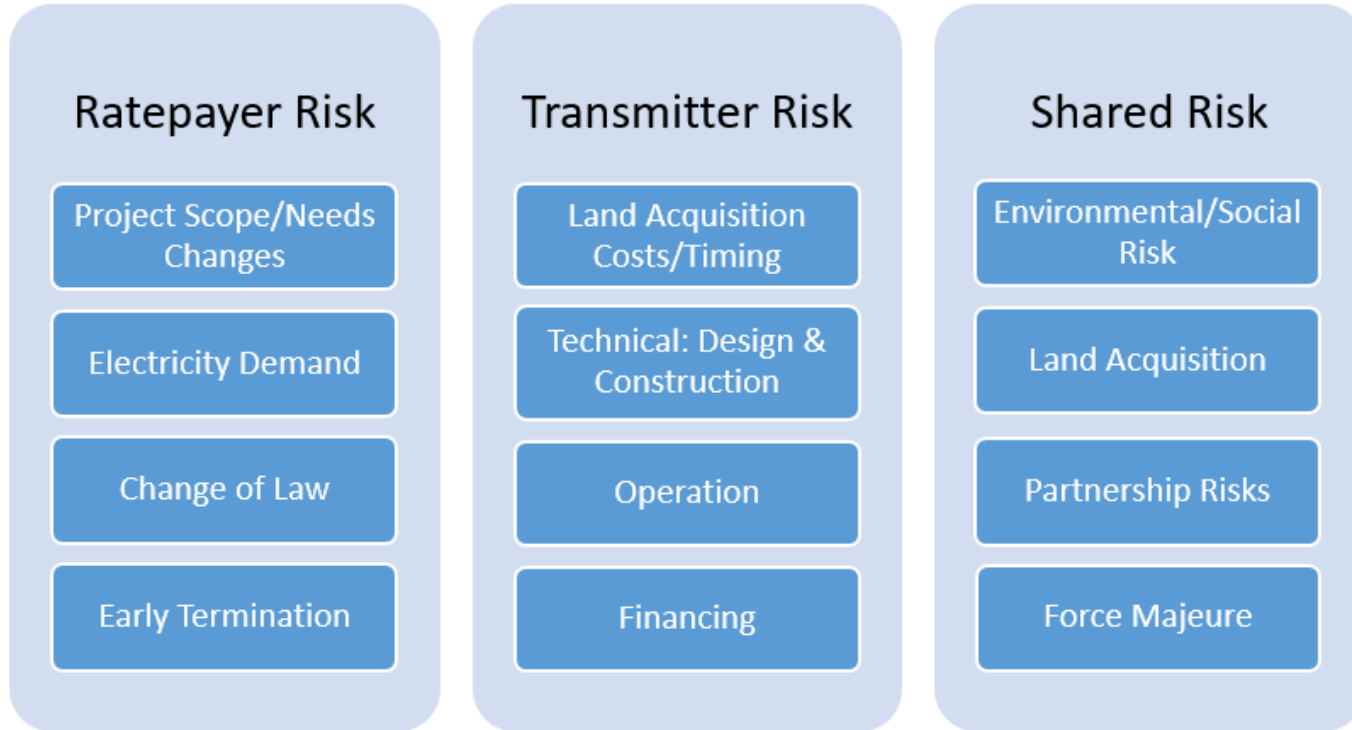
- Based on insights from neighbouring jurisdictions, there are a variety of **contracting** or **regulatory approaches** associated with the commercial arrangement for developing and operating transmission
- New transmission in Ontario is regulated by the OEB, through the Leave to Construct process and a cost-of-service framework for transmitter revenue requirement ("Rate Regulation")
- Alternatively, a variety of contracting approaches within the TSF could also be employed, wherein project development and/or transmission operations and availability could be governed based on the terms of the agreement

TSF Initial Design Considerations – Cost Containment and Risk Allocation

A comprehensive cost containment strategy will be a key element for a successful Made-in-Ontario TSF

- Cost containment strategies used in similar competitive processes, both from within Ontario and beyond, will be considered and, if applicable, adapted to ensure their effectiveness under the TSF
- The TSF seeks to strike the right balance with cost containment and risk allocation approaches to ensure opportunities under the TSF promote competition (i.e., create an investment climate to attract capital) while safeguarding against development risks, cost overruns, and schedule delays
- To account for risks and cost uncertainties, the IESO will continue to abide by the approach that risks should be allocated to the party that is in the best position to manage them

Risks Allocation – Examples of Risk Allocation for Transmission Projects



**For illustrative purposes only – subject to change based on feedback*

Questions

Your feedback is important. The IESO is hoping to understand:

1. Your perspectives regarding potential procurement or selection mechanisms under the TSF (e.g. use of an RFP or other mechanisms), and the use of a bid-based approach
2. Feedback regarding the approach to qualifying transmitter-proponents under the TSF (e.g. development of a qualified transmitter registry)
3. Initial feedback pertaining to cost-containment and risk-allocation approaches
4. Suggestions for future topics for engagements or 1on1 discussions

Topics for Upcoming Focused Engagement Sessions

- Focused Engagement Session #2—Preliminary Technical and Transmission Planning Considerations, scheduled for Mar 27, 2024
 - Criteria for Competitive Transmission Project/Line Selection
 - Feedback on anticipated evolution of Transmission Planning Process
- Focused Engagement Session #3 – Indigenous Participation Considerations (To be scheduled – April)

For more information, please visit the [TSF Engagement Page](#)

Next Steps

- Feedback Form will be made available on our [TSF Engagement Page](#), IESO is requesting Indigenous Community and industry stakeholder feedback by **March 20, 2024**.
 - The form will have a list of detailed questions pertaining to the design considerations highlighted during this session
 - Please provide your insight/comments as it pertains to the questions, as well as any other additional comments/considerations that may not be covered in the questions
- All written feedback should be submitted to engagement@ieso.ca.
- We will remain flexible on receiving input throughout TSF engagement process – if you are **interested in setting up a 1:1 meetings directly with the IESO to discuss transmission procurement approaches** prior to the next session and feedback deadline, please contact IESO Engagement.

Thank You

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