OCTOBER 19, 2023

Future Clean Electricity Fund

Clean Air Partnership Discussion

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Agenda

Ontario's Electricity Sector and IESO's Role

Ontario's Changing Electricity Landscape

Fund Overview

Fund Streams

Discussion and Next Steps

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Powering Tomorrow.

We work with:

Generators >>> **Transmitters** >>> **Local Distribution Companies** >>> **Energy Consumers**

<<< **Communities** >>>

Ontario's Changing Electricity Landscape

- This is a pivotal point for the electricity system. After years of having surplus electricity supply, Ontario is entering a period of need – by 2050, energy consumption will double.
- These needs are being driven by economic growth in the industrial, mining and agricultural sectors and increased electrification of the transportation and manufacturing sectors.
- This demand growth is happening in the midst of expiring generator contracts, nuclear refurbishments and the development of decarbonization initiatives.
- Ontario's electricity system will require significant expansion, and our system is well positioned to meet the growing need.

Meeting the Need

What We've Done	What We're Doing
Expanded existing conservation and demand management programs	Planning for new nuclear generation
Secured energy storage and gas generation efficiency upgrades and expansions	Procurements for non-emitting supply
Launched Hydrogen Innovation Fund	Developing the next generation of energy efficiency programs
Planned transmission expansions	Integrating local generation
	Developing a Future Clean Electricity Fund

Municipalities have an important role in helping us advance, manage, and shape the ongoing energy transformation to ensure a reliable, affordable and clean electricity supply.

Seeking Input

As you listen today, we are looking to understand:

- What type of clean electricity projects are you exploring?
- What barriers have you experienced to implementing clean electricity projects?
- What tools would be helpful to overcome the barriers?
- Any streams that should be considered?
- What considerations should go into determining priority projects?
- Did your municipality provide, or decline to provide, support to a project in the IESO's expedited long term procurement?
- How could the fund be used to bolster support/decision making for providing support to generation projects located in your municipality?

Please submit your written comments by email to engagement@ieso.ca by November 2.

Future Clean Electricity Fund Overview

Background

In July, the Ministry of Energy released Powering Ontario's Growth, a report that sets out the government's roadmap to a reliable, affordable, and clean energy future.

The report was accompanied by a letter to the IESO outlining some of the immediate actions the Minister would like the IESO to take, which included a request to report back on advice and recommendations for a Future Clean Electricity Fund.

The fund will help to preserve and grow the province's clean energy advantage and offset future costs to electricity ratepayers.

Reporting on the Fund

IESO report to the Ministry of Energy will consider:

- Allocation of funds to potential priority areas and possible projects
- How funds can be best used to offset costs for ratepayers
- Potential opportunities for participation of Indigenous communities

Your input and considerations will help shape the report.

Principles to Guide Development of Options for Fund

- Support the development of new clean energy projects, including transmission, in Ontario
- Offset costs for electricity ratepayers
- Ensure meaningful opportunities for Indigenous community participation in clean energy project development
- Address challenges & opportunities to resource development identified IESO initiatives, including the Resource Adequacy Framework

Fund Budget Development & Forecasts

The Future Clean Electricity Fund is expected to be funded through:

- The sale of clean energy credits by IESO and Ontario Power Generation
- Proceeds from Ontario's Emission Performance Standard carbon pricing system

IESO is working with Ministry staff to develop funding forecasts.

Potential Funding Criteria & Administrative Parameters

Project Funding Caps	Definition of Clean Energy	Intake for Large, Strategic Projects & Competitive Stream
Potential to cap per project funding at a set maximum by stream, and 50% of total project cost to ensure risk sharing between project proponent and ratepayers	Clean to include all non-emitting technologies (nuclear, onshore/offshore wind, solar, storage, biomass) and transmission networks that enable non-emitting generation	Establish process for intake of large, strategic projects identified by Government (e.g. new large-scale nuclear) and a competitive intake channel for other smaller-scale development initiatives

Future Clean Electricity Fund Streams

Potential Project Streams

- Several potential project streams have been identified
- Nature and number of project streams is expected to evolve based on feedback from and discussions with stakeholders, Indigenous communities, and the Ministry of Energy
- Project streams are high level to start; specific details and mechanics will be worked out in a later detailed design phase

Lists of Potential Project Streams (1/4)

Funding Stream	Description
Large, priority projects	Funding to cover a portion of the development costs (siting, engineering design, municipal & Indigenous engagement, etc.) of large, priority clean energy projects with long lead times identified by the Government.
Customer sited energy	Funding to cover permitting costs and/or some capital costs of customer sited clean energy projects (residential, commercial, industrial, institutional).
Competitive transmission procurement support	When IESO is holding a competitive transmission procurement, qualified proponents could receive funding to cover application/development costs, increasing competition and participation.

Lists of Potential Project Streams (2/4)

Funding Stream	Description
Indigenous energy projects	Funds to support Indigenous clean energy projects. Could flow through existing IESO Indigenous Energy Support Programs.
Community support stream	Funding to assist new clean energy generators to garner the community support required for participation in IESO procurements.
Site screening stream	Third-party assessments of best sites for future clean electricity generation in the province, considering resource and transmission availability, local needs, etc.

List of Potential Project Streams (3/4)

Funding Stream	Description
Local Distribution Company permitting support	Facilitate distributed energy resource deployment by providing funds to LDCs to streamline connection permitting and approval processes (reduce review/approval timelines and bottlenecks).
Annual clean energy design competition	Hold a design competition to address a specific clean energy integration challenge, such as converting an existing natural gas generation facility into a clean energy generator or replacing the services provided by natural gas in the Toronto area.

List of Potential Project Streams (4/4)

Funding Stream	Description
Competitive procurement cost offsets	A portion of funds could go to pay for clean energy procured through competitive IESO procurements, either directly through global adjustment or through contracts.
Municipal capacity building/site selection	Funding to build capability/expertise within communities to review/streamline project site approvals and capability to determine which types of projects/proponents make sense for a community to support.

Next Steps and Discussion

Next Steps

Timing	Activity
November 2, 2023	Feedback due from October 19 webinar; please submit your written comments by email to engagement@ieso.ca
December 31, 2023	IESO to submit report on advice and recommendations for a Future Clean Electricity Fund to Ministry
Future	Ministry to provide a directive

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Thank You

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Appendix

About the IESO

Reliably operate Ontario's province-wide electricity system on a 24/7 basis

Ensure affordability through electricity market efficiencies

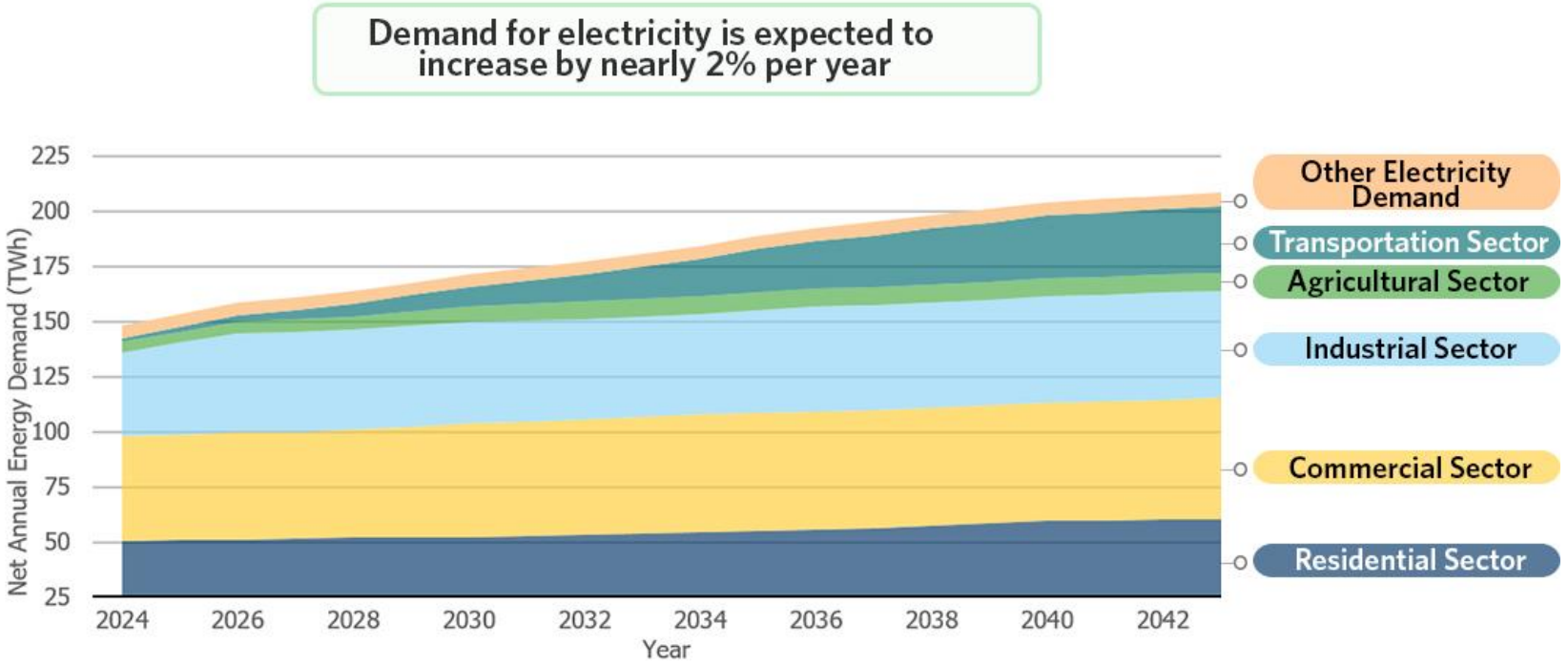
Plan for Ontario's future energy needs

Support innovation and emerging technologies

Work closely with communities to explore sustainable options

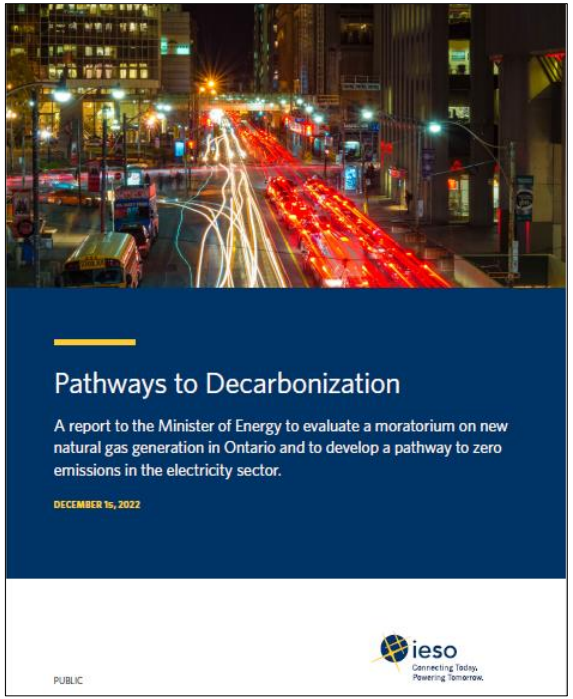
Enable province-wide energy conservation

Demand for Electricity: The 20-Year Outlook



IESO Pathways to Decarbonization Report

- Ontario's electricity sector can support broad, economy-wide decarbonization
- A moratorium on new gas generation is possible by 2027 if new resources are in place
- Decarbonization by 2050 would require a system twice its current size with a diverse zero-emissions supply mix
- Will require significant investments in capital, resources and labour. Estimated costs are ~$400B over 23 years



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Background on Powering Ontario's Growth

- The Ministry of Energy released ***Powering Ontario's Growth*** on July 10 that sets out a roadmap to a reliable, affordable, and clean energy future.
- Objective is to ensure the province's electricity system is ready to support the growth, electrification and decarbonization of the economy over the next 30 years.
- The report was accompanied by a **letter to the IESO** outlining some of the immediate actions the Minister would like the IESO to take, which includes several report-backs and timelines.
- A **separate letter** outlining next steps on two pumped storage facilities, Ontario Pumped Storage Project and Marmora Pumped Storage Project.

Key IESO Actions (1)

1. Accelerating the development of new transmission infrastructure in Northern Ontario, the Ottawa Region and Eastern Ontario
2. Decision making and supporting initiatives that would lower costs to consumers
3. Designing future competitive procurements to acquire new clean electricity resources including wind, solar, hydroelectric, storage and bioenergy
4. Planning work on the transmission network required to support generation projects including new nuclear and hydroelectric opportunities

Key IESO Actions (2)

5. Continuing the work on the development of a transmitter selection framework
6. Supporting the development of local markets for distributed energy resources (DERs)
7. Undertaking pre-development work on new nuclear generators
8. Advancing assessment of the advanced long-duration pumped storage projects in Meaford and Marmora and preparing for a future procurement for additional long duration storage