Feedback Form

Grid Innovation Fund (GIF) Engagement Roundtables – December 2025

Feedback Provided by:

Name: Scott MacDougall

Title: Electricity Program Director

Organization: Pembina Institute

Email: [redacted]

Date: Dec 23, 2025

To promote transparency, feedback submitted will be posted on the Grid Innovation Fund engagement page unless otherwise requested by the sender.

- ☐ **Yes – there is confidential information, do not post**
- X **No – comfortable to publish to the IESO web page**

Following the Grid Innovation Fund roundtable discussions, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the items discussed. The presentation can be accessed from the Grid Innovation Fund engagement page.

Note: The IESO will accept additional materials where it may be required to support your rationale provided below. When sending additional materials please indicate if they are confidential.

Please submit feedback to engagement@ieso.ca **by December 24, 2025.**

Innovation Ecosystem in Ontario's Electricity System

Topic 1: Significance of Innovation (slide 15 of presentation)

Why does innovation matter in the electricity system and how can it support the energy transition and evolution of the system?

Innovation is the process of successfully solving difficult problems or seizing great opportunities that others struggle to recognize or address. Innovation isn't limited to technology, but also includes bringing changes in planning, valuation, and regulatory tools that support technology integration. Electric systems are amid huge, long-term changes that pose an accelerating pace of opportunities and threats. Ontario is facing accelerated load growth not seen in years, and the types of loads are changing, driven by growth in population and industry; prosumers, EVs, electrified heating, data centers. At the same time, nuclear units will undergo refurbishments until mid-2030s. And the costs and performance of energy storage, digital controls, and generation, especially renewables, are rapidly. So not only is evolution essential, but those involved in the electricity system will have to get very good at it.

Topic 2: Strengths (slide 16 of presentation)

What are the strengths of the current state of innovation in the electricity sector? What is working well?

Ontario has already taken strides in pursuing innovation through the IESO's Innovation Roadmap, the Grid Innovation Fund, and the OEB's Innovation Sandbox, giving technology providers and utilities a way to test out new ideas under real system conditions. Ontario runs a predominantly low carbon grid (84%) with nuclear leading the pack, and successfully phased out coal in the last decade, which proves that the system can handle large transitions. Regulatory tools like Non-Wires Solutions (NWS) guidelines and benefit cost analysis (BCA) frameworks evaluate competing options to fulfill grid needs, supporting a level playing field between traditional solutions and innovative approaches. The Grid Innovation Fund has funded over 200 projects since 2005 – it is critical lessons learned from these projects are integrated into operational performance. The province has technical know-how, regulatory tools, and pilot projects that in principle, can support innovation.

Topic 3: Evolution of Innovation (slide 17 of presentation)

Recognizing the electricity system of tomorrow will look different than today's. What support do you feel the innovation sector needs to support the energy transition?

What are the biggest gaps or challenges to advancing innovation in the electricity sector in Ontario?

Innovators need line-of-sight towards sustainable revenue to attract investments at scale, not just pilots. The government and the IESO have stated priorities to identify and address market failures; that means compensation and market rules that pay flexible resources for the actual system value they provide. The Brattle report on DER compensation mechanisms points to gaps and emphasizes principles like economic efficiency, comparability across mechanisms, simplicity, and predictable payoff.

The traditional cost-of-service (CoS) model provides utilities with an OEB-approved return on equity investments in infrastructure. Because the CoS model favours large capital expenditures, utilities are not incentivized to consider innovative technologies and approaches that could be the most cost-effective solutions. Under Ontario's fourth-generation rate-setting method, which has been available to utilities since 2012, a utility's performance is evaluated based on their customer focus, operational effectiveness, public policy responsiveness, and financial performance using a scorecard approach. However, there are no monetary incentives associated with these performance scores, and utilities are still financially motivated to invest in traditional infrastructure. Updating rate-setting frameworks to create a business case for utilities to invest in grid optimization and encouraging utilities to explore creative options for remuneration in their rate applications would help to unlock innovation, promote efficiency, and improve cost effectiveness.

One of the challenges in grid innovation is system operators and grid managers not adopting market-ready technologies like storage, DERs, and other grid enhancing technologies (GETs) in general operations. There is a need to accelerate the adoption of these technologies to reduce costs, increase grid reliability, and help achieve the goals set out in Energy for Generations, Ontario's 'integrated energy plan. Utilities have traditionally sidelined innovation but need to treat it as routine practice. A key enabler for utility innovation is for regulators and system operators to think beyond the current five-year rate application cycle to give utilities longer-term planning horizons, so they can invest strategically.

Grid Innovation Fund Governance Framework

Topic 4: Existing Framework (slide 20 of presentation)

From your experience, what would you say has worked well to date with GIF?

GIF and Innovation Sandbox are core to Ontario's innovation toolkit. GIF has supported over 200 projects that test DERs, storage and other grid-modernization solutions.

What do you see as potential limitations/risks with the current GIF framework?

The current GIF framework and the Innovation Sandbox have several test projects but risk becoming platforms only for pilots without real world application. Therefore, the OEB should enact the regulatory changes required to expand successful pilots into commercial-scale projects after they leave the Innovation Sandbox environment, and this should be mirrored on the IESO/GIF side.

Topic 5: Current Mandate (slide 21 of presentation)

Do you feel the current mandate is appropriately broad? Too narrow?

The mandate for the GIF should be broadened.

How could it be refined to better capture the needs of supporting innovation within Ontario's electricity sector?

It should be broadened to include renewables integration at all scales. Given the current pace of load growth and expected nuclear refurbishments, it should be a priority to scale up growth in DER and utility scale wind and solar, including for industrial self-generation, because these are the quickest to deploy and lowest cost generation options.

Topic 6: Eligible Project Categories (slide 22 of presentation)

Thinking about where innovation in the sector is headed, are there project categories you feel should be added or removed to ensure we're able to fund new innovations in the future?

No response

Topic 7: Budget (slide 23 of presentation)

How is the funding amount limiting our ability to meet our broader objectives?

No budget number in mind, however, the challenge is framed: Ontario is trying to close a large supply-demand gap, avoid new gas lock-in, and modernize regulation. A relatively small innovation budget cannot, on its own, shift a multi-billion-dollar system. Larger and more strategically focused GIF funding could support multi-LDC NWS deployments, DER pilots, and other projects with a credible path to replication, especially if used to attract federal funds and private capital.

What types/scale of projects is GIF unable to support?

It is not clear to what extent social innovation is supported by GIF. Given social acceptance of innovation, including at the community level, is a major barrier or enabler to innovation leading to system change, greater clarity on the role of GIF in supporting this is important. For example, for relatively well proven technologies like utility scale wind, solar and battery storage, community resistance is the largest barrier to project deployment. Some legitimate issues are sometimes at the root of this, but too often mis- and dis-information are in play. Social innovation is important to address this, and GIF could play a role.

What types of projects could a larger budget enable GIF to support and how could that allow projects to secure additional funding from other sources?

No response

Topic 8: Intake Approach (slide 24 of presentation)

Do you think the current approach is best to identify and assess projects?

No response

What do you perceive to be the benefits of open calls? Targeted calls?

No response

Are there alternative approaches that could be considered?

No response

General Comments/Feedback