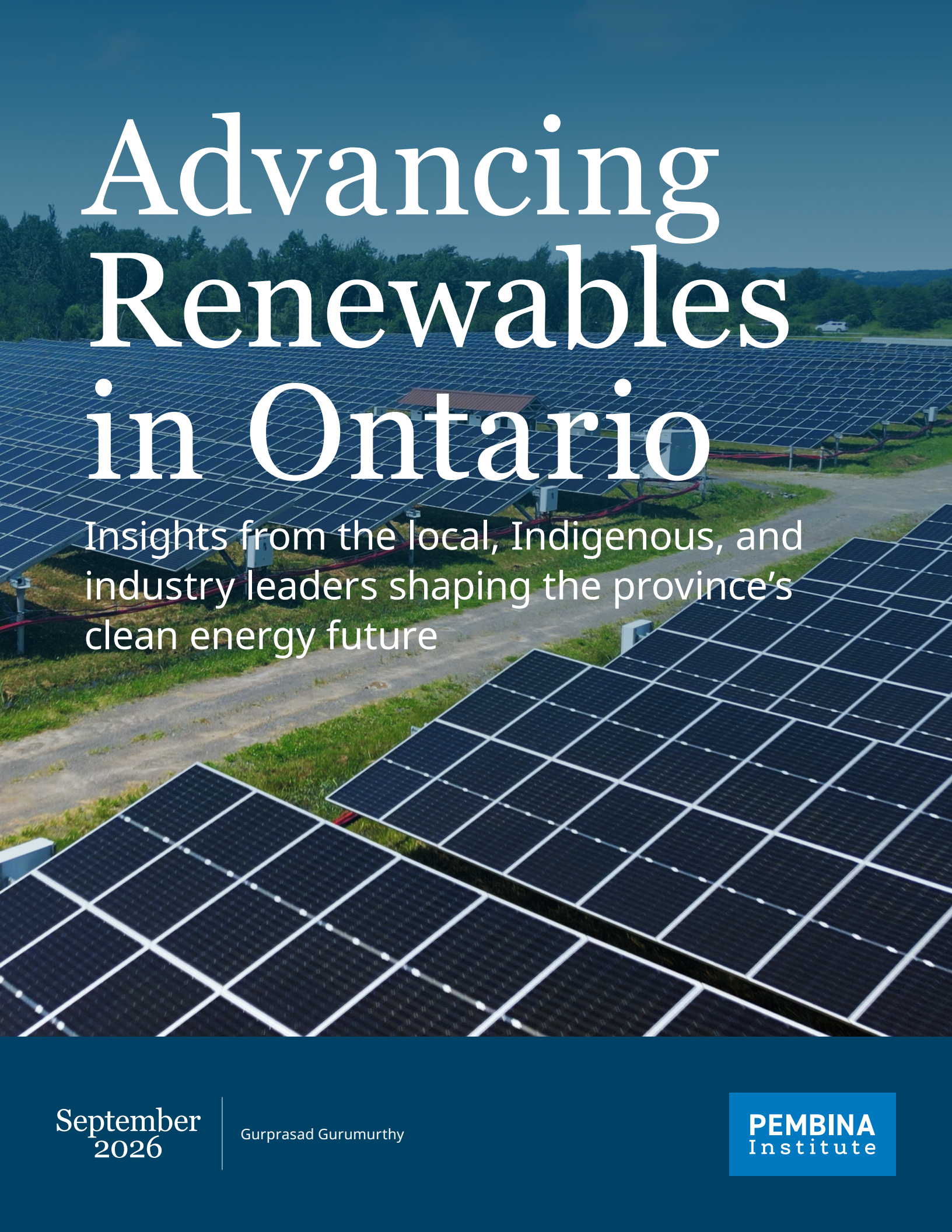




Advancing Renewables in Ontario

Insights from the local, Indigenous, and industry leaders shaping the province's clean energy future

September
2026

Gurprasad Gurumurthy

PEMBINA
Institute

Advancing Renewables in Ontario

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The Pembina Institute recognizes and affirms these ancestral territories of the Mississaugas of the Credit, the Anishinaabe, the Chippewa, the Haudenosaunee, and the Wendat Peoples and the presence of many Indigenous Peoples. These lands we are upon are also now home to many diverse urban First Nations, Inuit, and Métis Peoples.

These acknowledgements are part of the start of a journey of several generations. We share them in the spirit of truth, justice and reconciliation, and to contribute to a more equitable and inclusive future for all.

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Executive summary

Renewable energy development is gaining momentum once again in Ontario after an extended period of limited deployment. Wind, solar and batteries swept the most recent, technology-neutral, procurements, outcompeting other technologies to deliver the lowest-cost options for Ontario ratepayers. Renewable energy is poised to help supply even more low-cost, clean energy to meet Ontario's rapidly growing demand, but with centralized procurements as the primary pathway to adding new resources, barriers to deployment remain.

We interviewed key stakeholders across Ontario's renewable energy sector, including municipalities, project developers, Indigenous clean energy leaders, regulators, and associations, to understand these barriers and to examine perceptions and approaches to renewable energy development in Ontario. We focused on the mechanisms, regulatory frameworks, and on-the-ground experiences that enable or constrain renewable energy adoption. The report explores how renewable energy projects are initiated, evaluated, and advanced across different contexts in the province, and surfaces insights to support a more effective development landscape in Ontario.

Perspectives drawn from this research highlight the changing nature of Ontario's energy system, and the nuanced ways in which municipalities, Indigenous clean energy leaders, and industry are working to propose, build, and operate new renewables onto Ontario's grid.

Key findings

- Municipalities are becoming more familiar with Ontario's energy and capacity procurement processes and their role as decision-makers in the approval process for new renewable technologies sited in their communities.
- Indigenous leadership and participation in the renewable energy sector is growing; trust and reliable partnership are at the heart of successful outcomes.
- Municipal capacity and access to trusted expertise remain important factors in enabling consistent and informed decision-making about new renewable energy projects in their communities.

1. Policy context

Across Canada and internationally, electricity grids are being reshaped by electrification, decarbonization, and the need for affordable, more flexible, and reliable supply to meet rapidly growing demand. In 2024, increase in global electricity demand was the largest ever recorded, going up by more than twice the annual average increase in the previous decade; 32% of total generation was provided by renewables alone.¹ For Canada, these seismic shifts are putting new pressure on planning, siting, and regulatory processes, while increasing the importance of municipal engagement and Indigenous participation.

1.1 Ontario's energy planning

In its latest Annual Planning Outlook, the Independent Electricity System Operator (IESO) projects that demand for electricity will rise between 38 and 92% by 2050. The IESO expects this increase to come from several factors, including the electrification of industry, buildings, and transport; the development of data centres; and economic and demographic changes.²

The government of Ontario in its *Energy for Generations* set out a strategic vision for Ontario's future based on this projected demand growth, committing to achieving a nearly zero-emissions grid by 2050 while putting affordability first in every decision.³ The vision is to deliver a robust, integrated, all-of-the-above energy system to strengthen Ontario's competitiveness and self-reliance through coordinated planning across electricity, natural gas, hydrogen, and emerging resources, enabling the province to meet rising demand and position itself as a global energy leader through 2050. The vision also focuses on significant investments in refurbishing and building new nuclear assets, and short-term increases in gas generation, while exploring the addition of new resources.

1.2 Energy and capacity procurements

To address growing electricity demand in both the short and long term, the Ontario government and IESO have conducted and planned for six different energy and capacity procurements since

¹ International Energy Agency, *Global Energy Review* (2025). <https://www.iea.org/reports/global-energy-review-2025>

² Independent Electricity System Operator, *Annual Planning Outlook: Ontario's electricity system needs: 2027–2050* (2026), 15–18. <https://ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/2026/2026-Annual-Planning-Outlook.pdf>

³ Government of Ontario, *Energy for Generations: Ontario's Integrated Plan to Power the Strongest Economy in the G7* (2025). <https://www.ontario.ca/page/energy-generations>

2022 (Table 1). These procurements are the primary mechanism through which the province acquires new cost-competitive electricity resources at scale.

The most recent procurement round, LT2 (e-1) and (c-1), included three key changes: introduction of a technology-agnostic procurement process and updated requirements for municipal engagement and for Indigenous participation. While these changes generally have improved clarity around municipal decision-making, engagement expectations, and information sharing compared to earlier processes, they also introduce unique challenges and opportunities.

Table 1: Energy and capacity resource procurements in Ontario

Program	Year	Procurement	Outcome / target
E-LT1 ⁴	2022	Expedited long-term procurement: battery energy storage and gas capacity	Capacity: 1100 megawatts (MW) New, upgraded, and re-contracted projects Construction in progress
LT1 ⁵	2023	Long-term procurement: electricity storage and non-electricity storage resources	Capacity: 2195 MW New battery projects under construction Commercial operation date (COD): 2028
MT2 ⁶	2025	Medium-term procurements: five-year contracts	Capacity: 2006 MW (gas); 963 MW (wind via energy stream) Five-year contract term.
LT2(e-1) ⁷	2026	LT2 energy supply window	Energy: 3 terawatt-hours (TWh) via 12 solar and 1 wind projects Announced April 2026 COD: May 2030
LT2(c-1)	2026	LT2 capacity window	Capacity: 640 MW. 3 battery energy storage projects. Announced June 2026 COD: May 2030

⁴ IESO, Expedited Long-Term RFP (E-LT1 RFP) – Final Results (2023). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/ELT1-RFP-Selected-Proponents.pdf>

⁵ IESO, Long-Term RFP (LT1 RFP) – Final Results (2025). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/LT1-RFP-results-table-20250611.pdf>

⁶ IESO, Medium-Term 2 – Capacity Stream (MT2(c) RFP) and Energy Stream (MT2(e) RFP) – Final Results (2025). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/medium-term-rfp/MT2-Public-Results-Table-20250616.pdf>

⁷ IESO, Long-Term 2 Energy Supply (Window 1) Request for Proposals – Final Results (2026). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/energy/LT2e-1-20260409-Public-Result-Table.pdf>

LT2 (future windows) ⁸	2027–2031	Additional LT2 procurement windows	Aimed at adding resources through 2034. Next window opens Q2 2027
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Three main trends have emerged from the development and execution of these energy and capacity procurement processes, in particular with respect to renewable energy projects:

- Municipalities have a stronger role in the approval process
- Renewables are cost competitive.
- Indigenous equity partnerships and Indigenous-led project development are becoming common.

Municipalities have a stronger role in the approval process

The first window of the LT2 procurement introduced the requirement for project developers to obtain municipal support confirmation as part of their bid proposal. This new requirement directs project proponents to undertake “early engagement with all Municipalities and Indigenous Communities that may be impacted by their proposed Long-Term Energy [or Capacity] Project and to inform such communities of the proposed location of the Project Site as early as possible.”⁹

This puts municipalities at the forefront of making long-term energy decisions for their communities and enables community voices to be heard through municipal council processes. Communities can support projects that align with their needs, including stable property tax revenues and community benefit agreements that help fund local priorities, and that provide environmental and economic benefits including clean air, local jobs, and infrastructure improvements.¹⁰

⁸ IESO, *Long-Term 2 RFP Stakeholder Engagement* (2024), 4. <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/long-term-rfp/lt2-rfp-20240724-presentation.pdf>

⁹ IESO, Long-term 2 Energy Supply (window 1) Request for Proposals - Consolidated LT2(e-1) RFP (with Addendum #1) (2024), 7. <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/energy/LT2e-1-20250905-RFP-Consolidated-with-Addendum-1.pdf>

IESO, Long-term 2 Capacity (window 1) Request for Proposals - Consolidated IESO LT2(c-1) RFP (with Addenda #1, 2, 3 and 4) (2024), 7. <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/capacity/LT2c-1-20251110-RFP-Consolidated-with-Addendum-1-2-3-4.pdf>

¹⁰ IESO, *Municipal Guide: Role of Municipalities in the IESO's Second Long-Term Request for Proposals (LT2 RFP)* (2025). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/long-term-rfp-community/lt2rfp-community-Municipal-Guide.pdf>

In addition, LT2 requires project proponents to complete an “Agricultural Impact Assessment” (AIA) as a measure to avoid, minimize and/or mitigate impacts from non-agricultural land use on agriculture.¹¹

Renewables are cost competitive

With each procurement, new capacity and energy has been added to Ontario’s grid, notably including 13 renewable energy projects (12 solar and one wind) from the LT2 procurement. While the auction itself was technology agnostic, the results point toward important trends in Ontario’s growing electricity sector, namely, the increasing cost-competitiveness of solar and wind, growing public acceptance of renewable technology, and rise in Indigenous renewable energy project ownership. Renewables are once again part of Ontario’s near-term resource build after nearly a decade of stalled growth.

Indigenous-owned renewable energy projects are becoming common

Each of the 13 renewable energy projects selected in the LT2 process have at least 50% Indigenous participation, reflecting an important evolution in Ontario’s energy procurement strategy. As part of the strategy, the IESO — reflecting broader trends in Canada’s energy development landscape — encourages co-development and partnership with Indigenous communities as part of all project bids.

Provincial programs and policies — for example, the Indigenous Energy Support Program (IESP)¹² and Hydro One’s 50-50¹³ First Nations equity model for large transition projects — have also played a key enabling role in supporting Indigenous energy leadership. Taken together, these measures are designed to expand access, build capacity, and remove barriers to Indigenous participation in the energy sector.

¹¹ Government of Ontario, *OMAFRA Guidelines for the AIA Component One Requirement* (2025). <https://www.ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/lt2-rfp-OMAFRA-Guidelines-for-the-LT2-AIA-Component-One-Requirement-20250521.pdf>

IESO, *Public Long-Term 2 RFP Agricultural Impact Assessment Questions and Answers* (2025), 3. <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/long-term-rfp/lt2-rfp-AIA-Q-and-A-v3-20250709.pdf>

¹² IESO, “Indigenous Energy Support Program.” <https://www.ieso.ca/Get-Involved/Indigenous-Relations/Indigenous-Energy-Support-Program/IESP-Overview>

¹³ Hydro One, “Hydro One launches industry-leading 50-50 equity model with First Nations on new large-scale transmission line projects,” media release, September 22, 2022. <https://hydroone.mediaroom.com/2022-09-22-Hydro-One-launches-industry-leading-50-50-equity-model-with-First-Nations-on-new-large-scale-transmission-line-projects>

2. Project approach

To better understand the impact of recent changes to the procurement and project approval process, the Pembina Institute conducted a qualitative study with input from stakeholders closely involved in Ontario's electricity system. More than 85 invitations were issued, out of which a total of 17 interviews were completed. Participants were eight municipalities, one municipal economic development organization, two energy developers, three Indigenous clean energy leaders, one regulatory authority, one clean energy advocacy organization, and one municipal association.

The research questions are listed in Appendix A. Desktop research was conducted to provide additional context to the discussions in this report.

In the sections that follow, we outline key research insights about the procurement process, the growing role of Indigenous-led renewable energy projects, and alternative pathways for energy development in Ontario.

3. Perspectives on barriers within procurement processes

The new centralized procurement processes run by IESO have led to a significant amount of interest in developing new renewable energy projects but also present the following challenges across different stakeholder groups.

3.1 Municipal support confirmations

Key insight: Municipal support confirmations have been positively received, but do not address issues of capacity.

Municipal support confirmations have been received positively by municipalities and have provided clearer guidance, expectations, and stronger decision-making in certain municipalities. The benefits of these recent changes are, however, uneven, and they are most beneficial to municipalities with prior experience with renewable energy project developments. While the municipal support confirmation requirement provides clarity among other strong benefits, municipalities may continue to struggle through the review process due to limited institutional and staff capacity.

Several interviewees shared similarly positive perspectives on the Municipal Support Confirmation introduced in LT2. A municipality that had previously navigated projects in the early years of Ontario's Feed-in Tariff Program¹⁴ indicated that the municipal council received two municipal support requests for solar projects, and the "current [approval] process was controlled" and it was "nice to know that even after technical reviews, the [municipality] still had the opportunity to say no to the projects." They also noted that the municipal council had built internal capacity over time, including developing an updated official plan for permitting renewable energy proposals with specific designations, with clear understanding that projects, even after getting selected, would be required to go through the Planning Act process.

Another municipal expert had a similar experience and noted that the municipality was prepared and set protocols for proponents to follow. The proponents were required to provide municipal staff with notices, which were then sent out to applicants within 500 meters of the property to inform them of project proposals, followed by deputations to council, and provide a

¹⁴ Government of Ontario, "Feed-In Tariff Program Growing Ontario's Clean Energy Economy," July 04, 2011. <https://news.ontario.ca/en/backgrounder/18769/feed-in-tariff-program-growing-ontarios-clean-energy-economy>

list of key documents with the application. During the deputation, a staff report was available to council highlighting whether to provide the project with a support resolution. The council would then either ratify at a subsequent meeting or ask for more information to aid their deliberation. One of the council's recommendations included increasing the circulation radius for certain projects and requiring informational signage on the property being developed. The council also recommended that the circulation radius for battery storage projects increase by an extra 1.5 km. The expert stated that "Battery projects are a little bit more contentious from a political standpoint and people are more concerned. [Owing to this protocol] we ended up granting two municipal support resolutions."

One project developer with experience with multiple wind farms in Ontario and extensive project development expertise across six provinces found that although the LT2 timeline for seeking support was shorter, having a "front-loaded [process] is beneficial for later steps." However, they also indicated that this was made possible as they had "experience in engaging with communities" for over a decade, the "groundwork helped", and providing the technical understanding and support to communities meant that "[communities] had more practice now and knew what they were dealing with." The communities also understand that they had the "right to be able to retract [support] at any point down the line."

A municipal sector expert said that the LT2 was a much smoother process compared to the LT1. In LT1, municipal support could be provided after proposal submission, although that would mean not receiving any rated criteria points. "In LT1, a lot of questions were raised around 'What is this [proposal] and what are we expected to do?' There was a predominant narrative of not having the time to go into this with the right level of detail to make an informed decision for their community." However, in LT2, they received "next to zero concerns from communities, there was less confusion around the process, and what they are asked for. More understanding, stronger information available to communities, smoother process, much more comfort around what the role of municipality around support resolution is intended to be." Moreover, they also indicated that "this process has been more effective and provided the right kind of notice and balance to support the decision-making process. Wherever the IESO has built in pre-notice requirements and public engagement requirements, those have really helped."

Municipal staff and project developers with community-facing roles added that "municipalities are increasingly understanding that energy projects are becoming a regular part of the development landscape in a way they have not in the past, and municipalities will be playing a more active role in these types of projects."

These interview findings suggest that meaningful improvements have been made to the municipal engagements between LT1 and LT2, in terms of clearer guidance, pre-engagement expectations, and increased confidence in municipal decision-making. Municipalities with prior

experience in renewable energy projects demonstrate stronger internal capacity, clearer protocols, and greater comfort in navigating support resolutions and community engagement. However, municipalities encountering project proposals for the first time continue to face significant capacity hurdles, which are examined in Section 3.2).

3.2 Process and municipal capacity

Key insight: Municipalities may struggle to participate in procurement and regulatory processes because they do not have capacity.

The municipal sector needs support in assessing energy projects, particularly around land-use planning, agricultural impacts, drinking water protection, emergency readiness, and mitigation requirements. Having shared, evidence-based technical resources from experts, system institutions, or the province would greatly help municipalities in identifying what questions to ask, how to assess risks, and how to mitigate impacts of new projects in their communities.

In LT2, the window for obtaining municipal support resolutions and conducting pre-bid engagement began with the release of the Request for Proposals on June 27, 2025. Proponents had approximately three months to meet requirements for energy bids (deadline October 16, 2025) and nearly six months for capacity bids (deadline December 18, 2025). This differs from the LT1 procurement where the window for the same engagement process was 18 months.¹⁵ The shorter timeline for LT2 compressed the overall municipal approval process; although one expert indicated that the long engagement time for LT1 “did not mean proponents were engaged with the communities throughout this timeline.”

When asked about their experience with this process, one municipal sector expert from Middlesex County indicated that “[municipal] support resolutions are being required at the conceptual stage,” wherein project details emerge only at latter stages in the process. In their view, engagement at this stage creates “roadblocks for optics” as municipalities are unable to support projects without necessary details like project siting or community impacts. In the case of Middlesex County, this has meant that no renewable energy projects have yet been approved in the community.

Speaking on the LT2 engagement process, a clean energy leader with experience in both Indigenous and municipal project developments indicated that “many municipalities cannot complete the required processes within procurement timelines” and therefore, their “default

¹⁵ IESO, LT1, 19.

response [to projects] is often no.” An expert with the City of Mississauga noted that when a support confirmation request was received for the first time, council “hadn’t seen anything like this before” and staff “had to scramble.” Ultimately, the proposed solar project did receive a support resolution.¹⁶

One project developer indicated that most municipalities have “part-time mayors and councilors with little to no experience” in dealing with energy projects. Staff capacity to undertake project review is a key concern. Smaller municipalities, on average, have about six full-time equivalent positions, with staff involved in multiple municipal files simultaneously and with only a few staff having experience or expertise in energy projects. A municipal sector expert stated that “[T]here is a capacity gap in terms of where the [municipal] sector is today and where the IESO, the province, and energy industry would probably like the sector to be, that is to move faster and build deep knowledge skillset.”

A municipal staff member leading reviews of proposed projects in LT2 echoed that they had to prioritize the process and drop other files. “[Staff] can make anything work, but this was a lot at the same time as a strong push from the province on housing was also ongoing.” The reviewer acknowledged that IESO had improved the timelines; however, they still found the timeline rushed from a resourcing perspective. The municipality was engaging with multiple firms proposing energy, capacity, and long-lead-time resource projects in multiple locations simultaneously.

3.3 Community perception

Key insight: Many communities are not necessarily opposed to renewable energy projects, but they do require more information as they are introduced to new technologies and projects.

A consistent theme across interviews is that community reactions to renewable energy and storage projects are often mischaracterized as generalized opposition or “NIMBYism.” However, interviewees described a more nuanced dynamic, where communities are grappling with these new types of infrastructure, limited information available, and the lingering effects of past planning and engagement failures.

¹⁶ City of Mississauga, Council meeting minutes, October 8, 2025. <https://pub-mississauga.escribemeetings.com/Meeting.aspx?Id=c27c0551-8423-4764-b0b2-c102fb21e80d&lang=English&Agenda=PostAgenda&Item=29&Tab=attachments>

Several municipal and industry interviewees emphasized that community perceptions of renewable energy cannot be separated from the legacy of the Green Energy Act¹⁷ and LT1 procurements. During that period, municipalities and communities felt excluded from project siting decisions, consultations were perceived as performative or rushed, and projects appeared to be imposed without local agency. This generated long-lasting mistrust, anger, and skepticism that persist even as policy frameworks have evolved.

As one municipal leader noted, communities are still “fighting the sins of the Green Energy Act.” Even when newer processes are more inclusive, residents frequently evaluate projects through the lens of those earlier experiences. This can result in projects that are technically sound and aligned with provincial objectives encountering intense scrutiny or rejection at the local level.

Municipal sector experts were clear that “... it’s not even necessarily that there is unwillingness or lack of interest in supporting renewables. There is actually strong support in the community, and it [renewable energy] is increasingly becoming recognized as [a] path to meet energy demands, meet reliability, affordability needs.” The interviewee explained that the pushback was very rarely about the resource itself, but around the impacts of projects around their community. Often this is similar to the treatment extended to a manufacturing plant or a housing development, with concerns about noise, air pollution, impacts on property values, and other environmental impacts. They also noted that “there is an acute awareness among community members that there are different types of safety concerns with battery storage plants than other developments. But at its core, the questions are the same around safety and impacts.” In essence, these emerging energy and capacity projects require building community trust, clearly communicating safety standards and best practices, and achieving a level of familiarity and confidence that other forms of development have established over time.

There have been disagreements between municipal and provincial elected officials on specific projects, raising the question of whether there is alignment with this vision at all levels of government and especially within communities.¹⁸ However, a municipal sector expert said, “Whether the long-term vision of what our energy supply looks like is shared or not, we [municipalities] do share the values of reliable, affordable, and clean energy for communities to support our growth and certainly see a growing recognition that this work is going to become a routine part of municipal business, if it is not already one.” In short, the “question is about the impact and if it is the right fit for the community [rather] than type of technology.”

¹⁷ Government of Ontario, *Green Energy Act*, 2009, S.O. 2009, c. 12, Sched. A (2019).
<https://www.ontario.ca/laws/statute/09g12>

¹⁸ West Carleton Online, “Minister of Energy submits letter in support of South March Battery Energy Storage System,” June 04, 2025. <https://westcarletononline.com/minister-of-energy-submits-letter-in-support-of-south-march-bess/>

For municipal decision-makers, evaluating renewable and storage projects is largely a question of planning rigor and risk management, not technology preference. Interviewees described a common checklist including:

- adequacy of site-plan controls
- requirements for on-site monitoring and reporting
- clear mitigation measures and conditions
- an evidence-based understanding of actual risk levels
- confidence that emergency services are trained and prepared to respond

Experts pointed out that many councils and residents are encountering these technologies for the first time, which naturally leads to heightened attention and scrutiny. Other developments with comparable risk profiles often proceed with less controversy simply because they are familiar or routine.

Multiple interviewees pointed to the need for what one municipal planner described as a “layman’s playbook.” Communities and councils require accessible, non-technical explanations or a “myth-busting factsheet” of how projects work, what the real risks are, how those risks are managed, and how decisions are enforced over time. Confidence in projects improve “where high-quality, evidence-based resources are available, and the way these questions are being answered by experts or institutions is reliable and trustworthy.” Interviewees noted the value of:

- fact-based guidance shared across municipalities
- independent technical expertise to answer safety and impact questions
- consistent messaging across provincial agencies, regulators, and proponents

Several interviewees observed that LT2 procurements were meaningfully improved compared to LT1, with earlier engagement, clearer municipal roles, better information flows, and more opportunities for dialogue. Where proponents have invested in early, transparent engagement, communities have responded well to project developments.

3.4 Land use and project siting

Key insight: Renewable energy siting rules are inconsistent and challenging.

Land-use planning and siting for renewable energy and storage projects are a complex and fragmented issue, with overlap in provincial restrictions and evolving municipal practices.

Provincial rules limit where some projects can go (for example, restricting solar on prime agricultural land) and require added assessments, but municipalities often handle proposals

on a case-by-case basis as zoning rules don't clearly cover these technologies. These realities create many challenges as projects move through rezoning processes and council decisions that can vary widely.

Protecting agricultural land is also an important concern in many areas, which further influences where projects can be built. Overall, unclear zoning, customized approaches, and gaps between provincial direction and municipal authority continue to shape siting decisions.

Land-use planning and project siting are complex issues in procuring energy projects. The IESO, on government directive, banned ground-mounted solar from being sited on prime agricultural land, while specialty crop areas are off-limits for all projects. Other project types located in land designated as prime agricultural lands must complete Agricultural Impact Assessment components One (LT2 c-1), Two and Three (LT2 e-1) along with evidence of municipal support.¹⁹

Municipal interviewees consistently indicated that renewable energy and storage projects are evaluated through case-by-case land-use decisions, largely because these project types are not explicitly permitted in existing zoning frameworks. While municipalities did not characterize the case-by-case land-use approach as either preferred or undesirable, their experiences point to a tension between maintaining local control and streamlining processes to avoid burdensome administration.

For instance, one municipal planner noted that renewable energy is “not permitted in any of the zones,” requiring “site specific zoning for solar.” Another emphasized that municipal support does not replace statutory planning requirements, stating that “even after [a municipal support resolution], developers were to go through the Planning Act process.”

Similarly, a municipal development services manager confirmed that “solar is not a permitted use” and proponents must “go through zoning by-law to permit” the project. Municipal staff further reported that there is “no set criteria for land-use” to support zoning amendments for these projects, reinforcing that siting decisions rely on individual project applications rather than predefined planning categories.

Across multiple interviews, agricultural land protection was repeatedly identified as a primary consideration influencing municipal siting decisions for renewable energy projects. A county-level expert emphasized that “protecting prime agricultural land remains a priority for counties and local governments,” even as pressure grows to accommodate new energy infrastructure. In

¹⁹ Government of Ontario, “Province Launches Largest Competitive Energy Procurement in Ontario History,” media release, August 28, 2024. <https://news.ontario.ca/en/release/1004981/province-launches-largest-competitive-energy-procurement-in-ontario-history>

Chatham-Kent, municipal staff explained that current policy treats agricultural lands conservatively, noting that “all agricultural areas are considered prime agricultural land, and as a result, solar is not permitted in those areas.”

Within that same local context, opposition to ground-mounted solar projects was explicitly linked to land-use concerns rather than energy policy, with staff describing how “opposition stems from concerns that ground-mounted solar could permanently remove land from agricultural production, effectively sterilizing farmland.” Similar perspectives were echoed in other municipalities, where a climate change specialist observed that “solar projects are generally accepted, but support drops when projects are seen as having impacts on farmland.”

Municipal staff also described evaluating renewable generation and battery storage projects based on their compatibility with surrounding land uses and existing designations. One municipal planner explained that proposals are typically reviewed across several land-use categories, noting that “industrial, rural, and green land designations are considered, with energy projects generally seen as most appropriate in industrial and rural areas.” Battery storage proposals were described as particularly location-sensitive, with a development services manager highlighting that “the proposed battery project was located near an industrial area, and the assessment focused on how that location influenced potential impacts.”

At the same time, in larger urban municipalities, interviewees pointed to physical land-use constraints as a siting factor: “land availability is more limited in large cities, and much of the remaining land is already underutilized or constrained,” which narrows the range of feasible sites for energy projects.

Municipal sector experts stated that “municipalities frequently raise fundamental planning questions” when confronted with renewable energy and storage proposals. Municipal staff often ask, “What is the appropriate way to zone these lands for renewable energy under the current planning framework?” and “How do we zone for this?”

Finally, interviews highlighted uncertainties related to how municipal land-use authority interacts with provincial rules. A developer representative pointed to “tension between municipal bylaws and provincial requirements, indicating that greater clarity is needed,” while a municipal manager explained that outcomes can vary “depending on council composition and attitudes toward technologies like wind or solar, resulting in different levels of consistency across jurisdictions.”

3.5 Community benefit agreements

Key finding: Municipalities view community benefit agreements as tools to address local impacts and build trust, but they do not replace the regulatory or planning process.

Community benefit agreements (CBAs) are increasingly expected in municipal decision-making for energy projects. However, CBAs exist outside of the regulatory or planning process and may require more standardization to ease the process. CBAs are viewed as useful, but complementary, instruments that must be paired with early engagement, transparency, and clear communication of project impacts.

Sector experts pointed out that community benefit agreements were consistently discussed when councils debated supporting energy projects. Several municipal officials indicated that CBAs have become more of an expectation in recent procurement rounds, particularly compared to earlier processes. One county-level expert noted that “standardized community benefits templates would help reduce negotiation costs and complexity for municipalities,” particularly for smaller or rural communities with limited resources.

Municipal staff emphasized that CBAs are a mechanism to address local impacts rather than a substitute for planning or regulatory oversight. In Chatham-Kent, staff described how “community benefit agreements help work through pockets of resistance” by providing tangible local benefits from projects that may generate concern. In that municipality, CBAs were compared to approaches used for other land uses, with staff noting that the model draws from landfill agreements in which facilities that are widely viewed as undesirable are required to offset local impacts through ongoing contributions to parks, amenities, or community projects.

Even within communities, it was noted how different proponents approached CBAs. A township planner described how larger solar developers had proposed financial contributions structured as annual payments or dedicated community funds, while smaller or locally rooted proponents offered non-financial benefits such as trails or educational features, reflecting different capacities and community relationships. These arrangements were described as negotiated rather than prescribed, shaped by local priorities and council direction.

An interviewee described CBAs as “newer to the process,” explaining that many municipalities did not realize “they could ask for such agreements during earlier procurement rounds and are still building experience in this area.”

Generally, experts indicated that CBAs were not seen as guaranteed pathways to community acceptance, but rather as one component of a wider engagement and decision-making process.

These are instruments that help reinforce trust and need to be paired with early engagement, transparency, and clear articulation of local impacts.

4. Perspectives from Indigenous energy leaders

Indigenous perspectives are essential to the energy transition in Ontario as they present insights into rights-based leadership, local knowledge, and long-term stewardship around project development and decision-making. Notably, all selected renewable energy projects in the long-term procurements now include Indigenous equity partnerships, reflecting a shift from consultation towards shared ownership and economic reconciliation. First Nations have been leaders in advancing this model but face a unique set of challenges.

4.1 Relationship and trust-building

Key finding: Trust-based partnerships grounded in sustained engagement, cultural understanding, and mutual capacity-building are essential for effective Indigenous participation in the energy sector.

Indigenous clean energy leadership is an important feature of Ontario's changing energy system and trust is a decisive factor in strong project outcomes. A strict reliance on financial arrangements or a lack of knowledge of the community undermine collaboration, while the history of extraction and inadequate consultation understandably leads to skepticism in toward government relationships.

Interviewed Indigenous energy leaders described trust as central to project development outcomes, emphasizing that it is shaped by how proponents engage with communities over time. One Indigenous economic development leader explained that “many companies come forward with partnerships but do not know anything about the community,” which undermines confidence and limits the depth of collaboration. Effective partnerships were described as those that extend beyond transactional arrangements: “A strong partnership goes beyond financial benefits and requires knowing the people in the community, not just completing paperwork.”

One Indigenous leader explained that communities are often “leery of what government is doing because of history,” citing past missed opportunities and inadequate consultation as key factors influencing current levels of trust. Another Indigenous clean energy leader described ongoing efforts by community leaders to raise systemic issues with provincial decision-makers, noting that responses have often been defensive or “triggered,” which reinforces the perception that trust needs to be rebuilt between Indigenous communities and governments.

At the same time, interviewees emphasized that trust is reciprocal. One Indigenous economic development leader stated that “First Nations should also take ownership and must work towards creating resources within community, hire people who are educated in energy and business. They also need to accommodate proponents and governments by coming to the table with energy and businesspeople.”

4.2 Capacity and expertise

Key finding: Capacity constraints within Indigenous communities remain a key barrier to effective participation in renewable energy projects, particularly in limited technical and business expertise and challenges with broader community engagement.

While existing training and capacity programs provide valuable support, interviewees highlighted gaps in business-focused and culturally grounded approaches, emphasizing the importance of Indigenous language and inclusive engagement. At the same time, some communities have developed significant institutional expertise through project experience, these are underutilized but scalable perspectives that can help guide future energy development.

One interviewee explained that “most First Nations have economic development departments separated from band councils, but many still lack the technical and business expertise” needed to assess complex renewable energy and storage projects. Capacity challenges were also described as affecting internal engagement within communities. One economic development leader noted that “it can be difficult to get leadership and community members to visit project sites or engage fully in technical discussions,” which can create gaps between leadership decisions and broader community understanding, and noted that “misperceptions or mismanagement can create uneven partnerships and become negative for leadership and the community.”

Interviewees acknowledged the value of existing support programs, including Indigenous energy capacity initiatives, but identified limitations. One interviewee described energy manager and training programs as helpful but said “they focus too much on technical aspects and need to expand into the business side.” Another highlighted the importance of culturally grounded approaches, explaining that previous initiatives using Indigenous languages were effective because “language makes projects real and allows Elders and older community members to engage fully.”

Another Indigenous energy leader emphasized a significant but often under-recognized source of institutional capacity; some communities have been actively gaining experience in reviewing

renewable energy projects since the early-2000s and now have “15 to 20 project reviews under their belts,” giving them strong familiarity with construction, completion, and environmental assessment processes. These teams represent a mature and scalable source of expertise that could play a broader role by assessing newly proposed projects for efficacy, fit for the community, and impacts “not only within Indigenous communities, but also help municipalities in their project evaluation.”

4.3 Equity ownership

Key finding: Strong equity structures can provide more meaningful ownership, long-term returns, and non-financial benefits than minimal participation models.

Small equity stakes in Indigenous energy projects were widely viewed as insufficient, offering low returns and limited long-term benefit relative to risk. In contrast, larger ownership positions, while more demanding, were seen as enabling stronger partnerships and greater economic opportunity, supporting long-term self-sufficiency. Equity ownership was also valued for its intangible benefits, fostering pride, community identity, and deeper connection to projects beyond financial returns.

On deal structuring, one Indigenous economic development leader expressed concern with minimal equity arrangements, stating they were “against 10 per cent Indigenous stakes because they function as a write-off rather than a real opportunity.” Such arrangements were described as producing “2 to 3 per cent returns, which are slow and insufficient when weighed against the risks involved.”

Larger equity positions were described as more impactful but also more demanding. The same interviewee explained that “25 per cent partnerships are limited, while 50 per cent partnerships carry more risk but also much greater reward,” and that higher-equity structures can “establish long-term relationships that open up broader opportunities.” These perspectives were reinforced by other Indigenous energy leaders, who framed ownership as a pathway to long-term economic self-sufficiency rather than short-term revenue. Equity ownership over simple revenue-sharing was also described as carrying intangible benefits: “Equity is emotional; it reflects pride, spirituality, and community identity.”

4.4 Rights and stewardship

Key insights: Renewable energy projects on traditional territories introduce complex rights-based considerations that extend beyond standard business decisions, increasing the risk of imbalanced outcomes where community capacity is limited.

There is an ongoing need for stronger collaboration and clearer consultation roles among municipalities and Indigenous governments to address overlapping jurisdictions. In addition, Indigenous leaders emphasize that project development is about more than investment and economic development; it is also about community well-being, self-reliance, and intergenerational prosperity.

One Indigenous leader explained that “on-reserve projects are generally treated as business decisions, but projects in traditional territory become rights-based scenarios,” involving legal, political, and jurisdictional considerations. These situations were described as carrying greater risk of imbalance if communities lack sufficient capacity or dedicated teams to address rights-based issues effectively.

Another Indigenous energy leader, in the context of project approvals, noted that “municipal governments still have responsibilities to consult Indigenous communities on treaty lands,” particularly where projects fall in traditional territories. They signaled the need for efforts to initiate broader discussions involving municipalities and Indigenous governments to address these jurisdictional tensions collaboratively.

Indigenous leaders framed renewable energy and storage projects as vehicles for achieving outcomes beyond financial return. One Indigenous development corporation described its investment thesis as prioritizing “no-GHG [greenhouse gas] investments,” with economic returns viewed as “secondary or tertiary to community well-being.” Interviewees linked these outcomes to longer-term benefits, including reinvestment in housing, infrastructure, education, language, and culture. Indigenous participation in energy projects was presented as part of a broader effort toward self-reliance, stewardship, and intergenerational prosperity.

5. Perspectives on alternative routes to market

IESO-led centralized procurements are currently the primary pathway for adding new energy resources to Ontario's electricity grid. However, complementary pathways offer a high potential to accelerate building out the grid, reduce demand, and lower costs to consumers. These merit further exploration and awareness among Ontario stakeholders.

5.1 Corporate renewable energy purchase

Key insights: Corporate renewable energy purchase agreements can help drive project development but require greater policy certainty.

While there is large corporate demand for renewable energy in Ontario, interviewees noted that due to the lack of clarity around rules and market design, project developers are exposed to revenue uncertainty and project performance risk. As well, there is a general lack of awareness about the program among market participants. These are issues which can be addressed through strong and reliable provincial policy design.

Amended Ontario regulation allows distribution-connected Class A large industrial and commercial market participants to enter into Corporate Power Purchase Agreements (C-PPAs) with renewable energy generators and reduce their demand during peak hours. This new program encourages corporate buyers to invest in renewable energy and helps the province in reducing the need to add new supply. Wind, water, biomass, biogas, biofuel, solar, and geothermal energy are the only eligible technology types.²⁰

While the IESO did not set a procurement limit and it is uncertain how many additions the program will see, Ontario leads the country with an estimated corporate renewable energy demand of 2.5 GW by 2030.²¹ One developer described C-PPAs as a “great option” that offers “flexibility to businesses and industry to meet their own requirements for clean electricity, and sign bilateral contracts directly with independent power producers. They don’t have to rely on IESO for scheduling.”

²⁰ Government of Ontario, *Ontario Regulation 101/25 made under the Electricity Act, 1998 Amending O. Reg. 429/04* (2025). <https://www.ontario.ca/laws/regulation/r25101>

²¹ Business Renewables Centre Canada, *From Pledge to Power: Translating ESG Goals into Renewable Energy Demand* (2025). <https://businessrenewables.ca/resource/pledge-power>

The interviewee also stated that they had been advocating for C-PPAs for a long time and that it is “extremely useful to accelerate growth in renewable energy.” However, they noted that uptake of C-PPAs has been slow in Ontario, and a broader adoption would require greater awareness and confidence among market participants. They also reflected that Alberta had shown more momentum on corporate procurement in recent years but also noted that recent policy uncertainty there has undermined market confidence. From that perspective, the key lesson for Ontario is the importance of “building and maintaining long-term policy certainty” if C-PPAs are to meaningfully support renewable energy development.

Lastly, the interviewee raised concerns about risk allocation under Ontario’s current framework, questioning whether it is “reasonable for generators alone to bear the full risk of meeting the five ICI [Industrial Conservation Initiative] peak-hour requirements” that drive global adjustment reductions,²² and whether corporate purchasers should share in that risk. The interviewee said that this uncertainty around liability if contracted resources fail to perform during peak hours could affect the financing and attractiveness of C-PPAs.

Another developer raised similar concerns, stating that “C-PPA framework doesn’t work for renewable energy and will not catalyze new energy.” They noted that “solar might be able to consistently hit three or four of the coincident five peak hours, but it is unlikely wind could do so.” They also clarified that the core issue is not primarily one of risk allocation, since such risk can in theory be transferred back and forth with the project owner; rather, they characterized the C-PPA as a clumsy mechanism for procuring renewable energy, effectively a band-aid solution, designed to allow corporate power procurement that fails to deal with the global adjustment.

This undermines confidence in project revenues, and, as they put it, “one can’t finance [projects] based on uncertainty.” Finally, they noted that the market is “not far along to build any projects” under the current structure. They also mentioned that the “pre-renewable energy moratorium era” Alberta market was effective as it had “less government involvement and allowed market forces” to drive project development.

²² Global adjustment is a component of the electricity commodity cost that covers the cost of building new electricity infrastructure, maintaining and refurbishing existing generation resources, and delivering energy efficiency programs.

5.2 Distributed energy resources

Key insight: There is growing interest in distributed energy resources in the province, but existing planning, market and utility frameworks do not consistently enable their full local and system value.

Interviewed experts described distributed energy resources (DERs: rooftop solar, behind-the-meter batteries, demand response, and electric vehicle charging) as a pathway to add renewable energy locally and incrementally to Ontario's electricity system. Realizing the broader electricity-system value of DERs will increasingly depend on appropriate integration, valuation and, for many smaller resources, aggregation.

A municipal climate manager noted that “people are looking at solar now because electricity prices have gone up,” but emphasized that uptake remains limited due to regulatory and system constraints. Another municipal interviewee described interest in DERs as real but fragmented, stating that “there is demand for rooftop solar and batteries, but the rules are not clear, and it can be confusing for residents,” particularly around net-metering, tax credits, and grid interaction.

One non-profit interviewee commented that “Ontario's existing programs primarily support DERs in displacing costs, rather than enabling aggregated resources to provide services to the electricity system.” The interview characterized DERs as secondary resources rather than being fully considered as tools that could help address local or broader system needs. They also noted that while batteries are beginning to appear in households, “utilities have no incentive right now to integrate those batteries or think about them as a system resource.”

On limits, one interviewee identified Ontario's rules for small DER connections as a barrier, pointing specifically to the 12-kilowatt threshold for micro-embedded generation connection category, arguing that this cap alone prevents DERs from being developed at a scale that would enable meaningful aggregation. Application costs were also cited as a deterrent, with one interviewee questioning why “people have to pay around \$1,500 just to apply to put solar and batteries on their home,” particularly when fees are non-refundable.

A regulatory interviewee observed that “there are inconsistencies between the value that DERs provide to the system and how they are compensated,” as the potential value that DERs provide to customers at both the distribution and bulk-system level are not always fully reflected in compensation mechanisms. This interviewee also highlighted that while work is underway on DER valuation and benefit-cost analysis, “the challenge is getting coordination right between

LDCs [local distribution companies], the IESO, and the OEB [Ontario Energy Board] as DERs start to scale.”

Several interviewees emphasized that DERs are particularly relevant in constrained urban systems. One interviewee stated that “Toronto is already energy-constrained, even with [transmission] Line 3,”²³ adding that the planned phase-out of the Portlands gas plant will place further pressure on the system. Under those conditions, DERs, energy efficiency, and local demand reduction were described as increasingly important, even though they are “not being prioritized in system planning in the same way as centralized generation.”

Despite these constraints, interviewees characterized Ontario as being at an early stage of DER integration. One interviewee summarized the situation by stating that “we are not far enough along yet to build DERs into the system in a way that lets them compete or aggregate at scale,” pointing to outdated rules, slow regulatory processes, and lack of bankable market access as key barriers. Demand and interest exist across municipalities, households, and some commercial customers. Interviewees consistently emphasized that realizing the potential contribution of DERs will depend on changes to planning assumptions and valuation frameworks, and coordination between customer-level programs and system-level needs.

²³ Government of Ontario, “Ontario and Toronto Building Historic Third Transmission Line to Power Downtown Toronto,” media release, June 4, 2025. <https://news.ontario.ca/en/release/1005992/ontario-and-toronto-building-historic-third-transmission-line-to-power-downtown-toronto>

6. Summary of insights

Development of renewable energy and storage projects in Ontario is governed by a mosaic of policy frameworks, municipal processes and capacity, and community-specific considerations. Changes introduced through the LT2 procurements have improved clarity around municipal decision-making, engagement expectations, and information sharing compared to earlier processes.

Municipalities now play a more direct role in project review through mechanisms such as municipal support resolutions, and they employ a string of customized approaches in evaluating proposals. Experience with prior renewable energy projects has enabled some municipalities to establish clearer processes and build internal capacity. However, experience and resources are uneven across jurisdictions. Municipalities that are smaller and newer to dealing with energy projects face issues related to staff capacity, compressed timelines, and the absence of standardized land-use frameworks, leading to case-by-case decision-making.

Community responses to projects are described as context-specific and grounded in local considerations, including project siting, land use, safety, environmental impacts, and community fit rather than generalized opposition. Historical experiences with earlier policy frameworks continue to shape perceptions, and agricultural land protection and land availability remain important considerations in many jurisdictions.

Indigenous communities demonstrate strong interest in renewable energy and storage, viewing it as both an economic opportunity and a pathway to holistic community outcomes. Some communities have developed experience through multiple project reviews, and as highlighted by interviewees, represent a potential source of capacity that could support both Indigenous communities and municipalities in project evaluation. Indigenous participation in project development continues to be shaped by considerations related to financing, equity participation, and the structure of partnership arrangements.

The research participants also emphasized the importance of accessible, credible information delivered by experts in a trustworthy manner in supporting municipal and community decision-making. Also, coordination across provincial agencies, municipalities, regulators, and system planners is key to ensuring project development outcomes. Emerging pathways such as distributed energy resources and corporate power purchase agreements present massive opportunities to develop renewables and storage at scale and warrant further examination and support.

Appendix A. Research questions

The leading research questions were framed to guide discussions around renewable energy development in Ontario. While these form the general framework, each expert was also asked to elaborate on the set of unique challenges in their field of view, including perspectives from within the communities they operate in.

1. Describe your experience in municipal energy decision-making or energy development, and any specific experience with IESO's long-term procurements.
2. In your perspective, how effective is Ontario's current approach supporting renewable energy growth and decarbonization in the province?
3. What were some positive takeaways from the current procurement process? How was this process different from earlier procurements?
4. What are some of the barriers in the current procurement process? What are some potential solutions?
5. Describe your municipality's capacity in terms of staff, expertise, and finances in navigating energy development.
6. How are renewable energy projects zoned and designated in municipalities? Is there a clear land-use protocol?



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