



Staff Report to Council - for Information

Title: Electricity Procurement & Land Use Planning Policy

From: Claire Dodds, Commissioner of Community Development

Date: June 20, 2024

Report Purpose:

This report is for information.

Report Summary:

This report provides background information on the Independent Electricity System Operator procurement process for electricity storage and new generation projects. It also outlines the role of local municipalities, as well as provides information about the current land use planning framework and how that applies to energy projects procured by IESO.

Background:

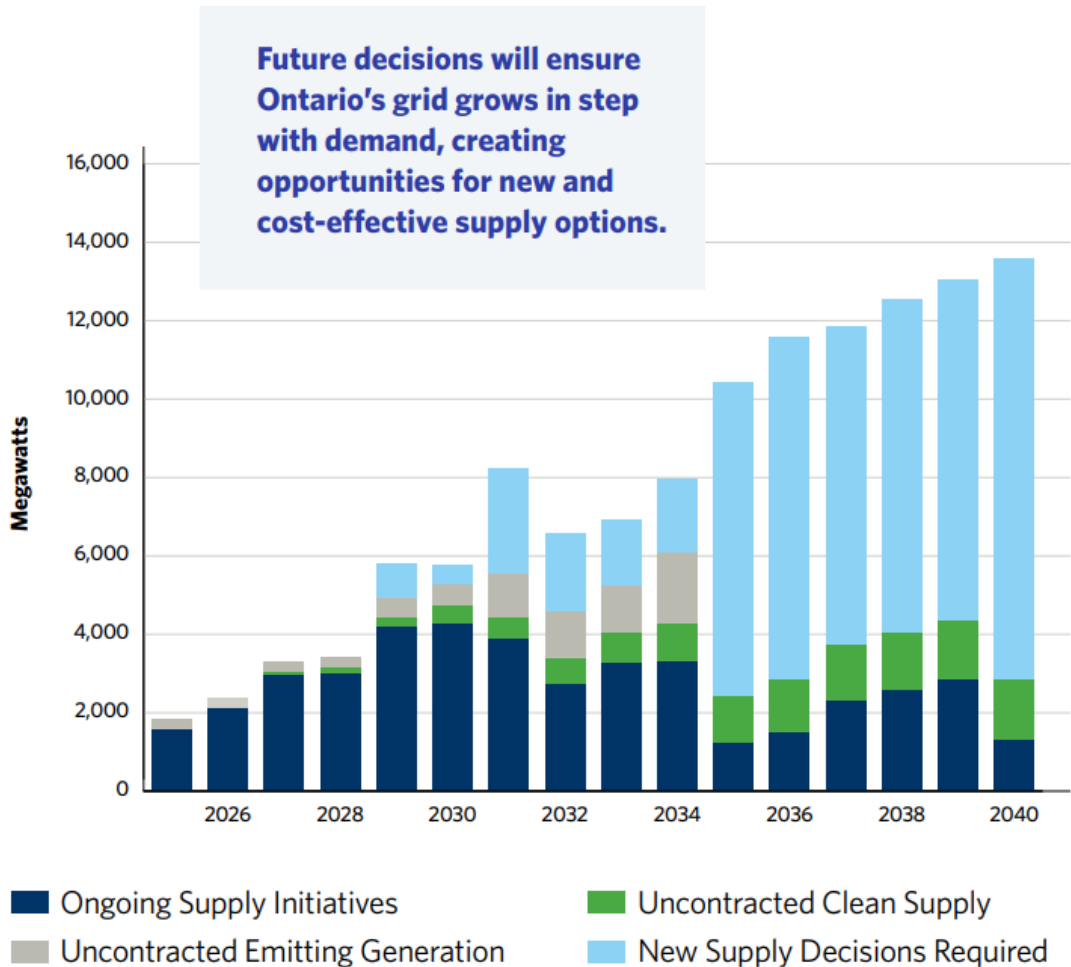
In Canada, as in many countries around the world, federal and provincial governments are developing policies aimed at achieving a net-zero greenhouse gas (GHG) emissions by 2050, including developing a clean electricity system. Ontario is well positioned for this transition, with the province's electricity system already more than 90% emissions-free with most of its electricity coming from low-emitting sources like hydro and nuclear.

Ontario's electricity is supplied from a range of sources including (in order of capacity) nuclear, gas, hydro, wind, solar, and biofuel. Bruce County plays a significant role in the transition of Ontario's electricity sector, with over 30% of the province's energy already being generated by Bruce Power. Bruce County also supports clean energy generation through existing wind and solar projects, as well as new emerging energy sources such as hydrogen and biogas.

Ontario's electricity system and market is coordinated by the Independent Electricity System Operator (IESO), which is responsible for 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.

IESO has identified new technologies are transforming the way Ontario produces and uses electricity. IESO has adjusted its planning scenarios and forecasts to consider the demand related to electrifying Ontario's economy and is beginning to plan for increased need for new generation. IESO is forecasting electricity demand will grow at 2% per year based on electrification, decarbonization, and economic growth.

Meeting the growth in demand for electricity will require a range of solutions, including electricity storage, refurbishment of generation facilities, and new generation capacity. The IESO is planning a staged procurement process to bring new energy generation online over time and incorporate new technologies as they emerge and are proven. As the chart below shows, there will be significant ongoing electricity procurement needs.



Source: <https://www.ieso.ca/-/media/Files/IESO/Document-Library/Decarbonization-Hub/IESO-Ontarios-Energy-Future-Spring-2024.pdf>

Electricity Storage:

Electricity storage presents an opportunity to balance the energy system load by storing energy generated from the most efficient sources when demand is lower, and then releasing that energy when demand increases. There are various forms of electricity storage including batteries (currently lithium ion), pumped water, thermal, compressed air, and flywheels.

The IESO has recently completed a Request for Proposals (RFP) process called “LT1” focused on Energy Storage. One lithium-ion battery project, sized at 380-400 MW, was selected within the local municipality of Arran-Elderslie and will next need to proceed through a more detailed land use planning approval process, anticipated to include an Official Plan and Zoning By-law Amendment.

In neighbouring Grey County, a Pumped Storage proposal by TC Energy is currently being considered in Meaford [[link to website](#)]. This project is in the pre-planning stage. The scope and scale of energy projects can be diverse and illustrates the range of projects needed to support anticipated to support future energy needs.

New Supply

The next IESO procurement process (LT2 Request for Proposal) is intended to solicit 2000MW of new production across the province that can be operational by 2030. These projects could include solar, wind, hydroelectric and biofuel projects. The LT2 RFP will also include a capacity stream for 500-1000 MW, including storage, hydrogen and biofuels that would be in service by 2031. A further 500-1000 MW could also be procured including new hydroelectric projects, and long-duration storage by 2034.

The focus of LT2 is to procure new non-emitting, generation, such as solar or wind energy projects. It is anticipated new projects would include battery storage to store energy generated from these systems when demand is low to be utilized at peak periods.

LT2 RFP engagement is ongoing with proposal submissions expected to be due in 2025.

Local municipal council support resolutions are anticipated to be mandatory for this RFP intake. Proponents will need to seek these resolutions prior to submitting their applications for LT2 to the IESO.

Based on the size and scale of the proposed projects in the next stage of IESO LT2 procurement process, these projects will be subject to provincial and local municipal approvals. These approvals would occur after IESO awards the RFP to potential projects. Proposed projects must obtain local approvals before they will receive final approval from IESO.

Larger scale generating projects, such as the proposed Bruce C project adding 4800 MW of generating capacity at Bruce Power, are also part of IESOs process to procure new energy generation. Due to the size, scale and nature of this project, it is subject to federal approvals, including a federal impact assessment process.

Electricity Production and Land Use Planning

Ontario's Land Use Planning framework is policy-led and hierarchical. The Province establishes the authority and scope for land use planning and issues policy statements with which municipal plans, by-laws and planning decisions must comply while addressing their local context.

Land Use Planning for Energy Facilities in Ontario has undergone significant changes over the past two decades.

Initial procurements for Wind and Solar electricity generation through a Standard Offer Program led to the development of a range of local planning approaches by municipalities across the province as they sought to evaluate the new land use.

In an effort to standardize the approach and facilitate development of this infrastructure, the province passed the Green Energy Act in 2009 which removed local decision-making authority for renewable energy generation facilities.

Many local municipalities subsequently removed policies related to energy production facilities from their official plans and by-laws, given they had no regulatory authority.

These provisions were repealed in 2019, and some existing contracts for new non-emitting electricity generation capacity were canceled. Ontario at the time was in a relatively stable period of energy supply and procurement of new electrical generating capacity was not anticipated at the time.

With the legislated authority to regulate energy production on lands within municipalities, and an increasingly evident need to procure new capacity, energy planning is again a consideration for local municipalities. In recognition of the importance of municipal support, and the new types of energy generation and storage projects that are emerging, the IESO has established a requirement for municipal council resolutions of support as a baseline condition for applying for new energy projects. To date, IESO has also established that projects must be compliant with local zoning by-laws and municipal approvals prior to final approval.

Given the scale and timeline of the overall forecasted need for energy in Ontario, it is anticipated there will be revisions to future rounds of procurement by IESO. Staff will monitor these processes and provide Council with updates on any significant changes to the approvals process over time.

Key Land Use Planning / Compatibility Considerations:

Electricity Generation facilities have locational constraints; they need to be:

- close to energy sources and transmission / distribution infrastructure with sufficient capacity,
- separated/buffered from sensitive land uses,
- able to address safety and emergency planning considerations for the technologies used,
- able to avoid potential environmental impacts,
- aligned with broader land use planning objectives such as maintaining agricultural and natural heritage systems and accommodating settlement area growth when and where necessary.

Siting, design, and operational considerations can include:

- Detailed fire safety and emergency plans,
- noise and light pollution,
- traffic and site access,
- impact on agricultural or environmentally significant lands,
- impacts to the natural environment, including monitoring,
- end-of-life project decommissioning and site restoration.

Approaches to Implementation

As noted above, the IESO has indicated an expectation for local municipality support resolutions in order for it to consider energy projects for approval. IESO has also communicated with potential proponents about the importance of local community consultation and engagement.

Local Council Support resolutions may be conditional on future processes or information. Should a municipality have no interest in granting approval for a project, it would be helpful to communicate this early so that proponents can direct their resources to projects that may have a pathway to approval.

Role of the County Official Plan

The County's New Official Plan is proposed to include high-level policies with respect to energy planning. These policies would recognize there are opportunities within Bruce County for continued leadership in meeting Ontario's energy needs for the next generation, while providing high-level criteria that underscore the importance of addressing siting and compatibility considerations.

With the potential exception of projects in one municipality that could have land use policy impacts (for example through associated development setbacks) in an adjacent municipality, staff do not anticipate proposing policies that require site-specific official plan amendments in order to permit energy facilities.

Role of Local Official Plans

7 of the 8 Local Official Plans cover only urban areas and are not presently anticipated to accommodate significant new electricity generation or transmission infrastructure. Local Official Plans may reference, duplicate, or add to the policies of the County Official Plan in respect of their areas of application.

Role of Zoning By-laws

Local municipal zoning by-laws are generally the most appropriate tool for regulating implementation of energy projects and could provide as-of-right permissions for some zones and/or types of uses, similar to typical permissions for transformer stations to locate in any zone; or may require site-specific amendments with supporting information requirements that can be reviewed against county plan criteria.

Of note, the Planning Act currently provides that there is no appeal of a municipality failing to decide or refusing applications for plan or zoning changes to permit a renewable energy undertaking.

Role of Site Plan Control

Local Site Plan Control by-laws should be updated where necessary to address energy facilities. Information may be requested through the site plan control process in accordance with Section 41 of the Planning Act, albeit the scope of information is narrower than for a zoning amendment request.

Financial/Staffing/Legal/IT Considerations:

Renewable energy policies are anticipated to draw public interest. It may be difficult to strike the right balance in terms of policy detail / prescription in a regulatory environment that continues to change. Preparation of detailed policy or guidelines could require a longer timeline and depending on priorities could impact timing of the Official Plan project or other policy work.

The County could potentially collaborate with or benefit from energy facility policy development in other jurisdictions.

Through the Clean Energy Frontier program, staff at the Nuclear Innovation Institute, are reaching out to IESO with plans to have them deliver a local information session about the procurement process and role of municipalities later this year.

Interdepartmental Consultation:

Community Development Office and Economic Development.

Clean Energy Frontier program staff at the Nuclear Innovation Institute

Link to Strategic Goals and Objectives:

Growth and Innovation - Promote responsible growth

Environment and Climate Change - Build capacity to adapt to and mitigate the impacts of climate change

Link to Departmental Plan Goals and Objectives, if any:

Complete new Official Plan

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Departmental Approval:

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