

Subject: Municipal Support Resolutions - Independent Electricity System Operator (IESO) Proponents - City Wide

Reference:

Date to Council: 2022-11-28

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Asset Planning

Report Date: 2022-10-17

Clerk's File #: MD/14028

To: Mayor and Members of City Council

Recommendation:

THAT the report from the Community Energy Plan Administrator dated October 24, 2022 **BE RECEIVED** for information; and,

THAT City Council **SUPPORT** the development of Battery Storage Systems in the City of Windsor where appropriate; and,

THAT City Council **DELEGATE** the issuance of Municipal Support Confirmation Letters for Battery Storage Systems (project specific) to the Chief Administrative Officer, satisfactory in technical content to the Commissioner of Economic Development and Innovation.

Executive Summary:

TBD

Background:

A reliable and sustainable supply of electricity is fundamental to the well-being of Ontario residents, businesses, and institutions. Each and every day, the Independent Electricity System Operator (IESO) ensures electricity is available where and when it's needed. This includes managing the power system in real-time, planning for the

province's future energy needs, enabling conservation, and working with industry and communications across Ontario to support their energy goals.¹

Ontario is entering a period of electrical system constraints driven by increased electrical demand, the retirement of the Pickering nuclear plant, the refurbishment of other nuclear generating units, as well as expiring contracts for existing facilities.

On September 26, 2022, Administration brought forward the Power Advisory Energy Report – Options for the City of Windsor (C 161/2022) which outlined the current state of electrical supply in the region and the proactive steps the City of Windsor can take to support a secure energy supply that supports future economic growth.

Moved by: Councillor McKenzie
Seconded by: Councillor Morrison

Decision Number: CR422/2022

- I. That the report of the Commissioner of Economic Development & Innovation and Executive Initiatives Coordinator dated September 9, 2022 entitled "Power Advisory Energy Report - Options for the City of Windsor - City Wide" **BE RECEIVED** for information; and,
- II. That City Council **SUPPORT IN PRINCIPLE** the five proposed electricity transmission infrastructure projects West of London, as recommended by the Independent Electricity System Operator (IESO), and the measures to ensure their rapid completion announced by the Province of Ontario; and,
- III. That City Council **ADVOCATE** for the Province of Ontario to pursue energy efficiency and green energy alternatives, while maintaining the existing energy generation initiatives until such time as affordable, sufficient and sustainable alternatives are in place; and further, to help alleviate regional electricity supply constraints prior to the completion of new electricity transmission infrastructure in 2030; and,
- IV. That City Council **SUPPORT** Independent Electricity System Operator (IESO) efforts to immediately re-contract the Brighton Beach Generating Station to supply power for local job creation and economic expansion in Windsor-Essex; and,
- V. That City Council **ADVOCATE** for the Province of Ontario to investigate near-term firm electricity imports from the State of Michigan via the Windsor-Detroit Energy Intertie; and,
- VI. That City Council **SUPPORT IN PRINCIPLE** the City of Windsor as a host for future projects that will enhance the energy supply, subject to approval through the appropriate federal, provincial and Council processes; and,
- VII. That Administration **BE AUTHORIZED** to participate in, and provide comment to, any public consultations regarding energy supply and development to convey the interests of the Corporation of the City of Windsor; and,

- VIII. That City Council **REQUEST** that the Board of Directors, Invest WindsorEssex engage their resources, from a regional representation and advocacy perspective, to track efforts and vigorously advocate on behalf of the region for short, medium and long term solutions for adequate and sustainable energy solutions to support economic investments and growth; and,
- IX. That City Council **DIRECT** Administration to facilitate a presentation by Power Advisory to Essex County Council at their earliest opportunity; and further, pursuant to approval of the Recommendations noted above; and,
- X. That City Council **REQUEST** that Essex County Council pass a resolution endorsing the Recommendations of Windsor City Council to ensure a consistent approach to this regional issue; and further,
- XI. That Administration **CONTINUE TO REPORT BACK** regularly on the progress of council-approved initiatives to address energy supply issues in our community.
Carried.

Discussion:

To address the need for additional electrical capacity across the province, the IESO is competitively securing 3,500 MW of capacity through a number of procurement streams including a Long-term Request for Proposals (LT1 RFP), and a complementary expedited process “the Expedited process” (E-LT1 RFP).

The LT1 RFP and the E-LT1 RFP are expected to competitively procure year-round effective capacity from dispatchable new build resources, including new build hybrid electricity generation and storage facilities that are registered or able to become registered in the IESO administered markets, larger than 1MW and which can deliver a continuous amount of electricity to a connection point on a distribution system or transmission system for at least four consecutive hours.

The LT1 RFP is intended to acquire capacity services to meet system reliability needs from New Build and Eligible Expansion Electricity resources starting in 2027 or earlier.

The E-LT1 RFP is intended to acquire capacity services to meet system reliability needs from New Build and Eligible Expansion Electricity resources able to commit to commercial operation in 2025. For the E-LT1 RFP, IESO is looking to cap non-storage projects at 900MW, with storage projects capped at 600 MW. Non-storage projects will be evaluated first. If the capacity is not fully subscribed, the difference in MW will be added to the capacity for Storage Projects. In the event that 1500MW is not fully subscribed by Non-Storage and Storage Projects, the IESO will deem that the E-LT1 RFP is not fulfilled and will look at alternative methods to reach the 1500 MW threshold.

The IESO has qualified 55 applicants who will be eligible to participate in the LT1 RFP and E-LT1 RFP processes. Applicants have proposed a wide array of projects, including a significant amount of solar installations, electricity storage resources, hybrid generation/storage options, natural gas and biofuels.

The LT1 RFP and E-LT1 RFP outline a series of Rated Criteria that the IESO will use to evaluate and award projects, which include points based on location of project, duration of service (daily), and municipal and Indigenous support. Ratings will be assessed at the time of application, which closes January 24, 2023.

Location

- 4 points awarded for locations West of Chatham and East of FETT (defined as the Toronto zone west of Cherrywood)
- 2 points for East of Cherrywood TS (Defined as the Toronto zone to the east of Cherrywood TS, the east zone , and the Ottawa zone)

Duration of Service

- 3 points for duration greater than 12 hours
- 2 points for duration between 8 hours and 12 hours
- 1 point for duration between 6 hours and 8 hours

Local Governing Body Support resolutions

- 3 points awarded for obtaining local community support (municipal or Indigenous) through a local Governing Body Support Resolution

Indigenous Community Participation

- 3 points awards for >50% economic interest
- 2 points awarded if between 25% and 50% economic interest
- 1 point if between 10% and 25% economic interest

IESO has set aggressive timelines for the procurement of new and expanded energy solutions. The table below shows the timeline constraints for the proponents.

Milestones	E-LT1	LT1
Qualified Applicants Announced	August 23, 2022	August 23, 2022
Draft RFP and Contract Posted	August 25, 2022	N/A
Deliverability Test Submissions Deadline	August 30, 2022	January 4, 2023
Final RFP and Contract Posted	December 6, 2022	January 30, 2023
Deliverability Test Results	November 30, 2022	[April 14, 2023] (subject to change)
Proposal Submission Deadline	January 24, 2023	[July 2023]
Contract Offer Announced	March 31, 2023	[October 2023]

As noted above, proponents can secure 3 points for obtaining local community support resolutions. IESO has provided guidance to municipalities on the development and

requirements of municipal support resolutions. Acknowledging the tight timelines, IESO will accept the following as proof of municipal support: A Municipal Support Resolution (project-specific); A Blanket Municipal Support Resolution; or formally delegate the issuance of a Municipal Support Confirmation Letter (project-specific) to the Chief Administrative Officer, or equivalent.

Local municipalities are encouraged to use the template Municipal Support Resolution in Appendix A. Should a local municipality wish to develop its own resolution, the resolution must:

(A) Identify:

- i. the proponent
- ii. the name, technology and Maximum Contract Capacity of the Long-Term Reliability Project
- iii. the Municipal lands

(B) State that the Local Municipality supports the construction and operation of the Long-Term Reliability Project on the applicable Municipal Lands. The statement in such resolution may be qualified as being solely for the purposes of enabling the Proponent to receive Rated Criteria points under the E-LT1 RFP or to satisfy its obligations under any contract awarded under the E-LT1 RFP, and does not supersede any applicable permits or approvals under applicable Laws and Regulations that may be required for a particular Long-Term Reliability Project.

Though Municipal Support Confirmation may impact the rank of the Proponent's Proposal in relation to other Proposals received by the IESO, it does not guarantee a contract will be offered to the Proponent under the E-LT1 RFP.

Administration is currently engaging with six proponents seeking to develop battery storage systems across multiple sites in the City of Windsor.

Battery Storage Systems

Battery storage or battery energy storage systems are devices that allow energy to be stored when supply is higher than demand, then released back to the grid when demand is higher than supply.

There are several benefits for employing battery storage systems including:

- Storing energy when electricity prices are cheaper (i.e. at off peak rates) and supply is high.
- Allowing the province to store renewable energy (i.e. solar, wind) offsetting the use of fossil fuels even when the sun isn't shining or the wind is not blowing.
- Supporting the municipal, provincial and federal commitments to reduce greenhouse gas emissions.
- Approximately 95 percent of a lithium-ion battery can be recycled into new batteries.
- Battery storage is easily scalable for the size of the site available.
- New local storage assets may result in reduced outages during extreme weather events, and improve restoration timelines when outages do happen.

Many of the proponents to date are proposing the use of lithium-ion batteries. Lithium-ion batteries at small scale are used in mobile phones and electric cars, but are also currently the dominant storage technology globally for large scale plants to help electricity grids ensure a reliable supply of renewable energy.

Grid-scale lithium-ion energy storage systems have been deployed across a range of pilot projects, as well as fully commercialized projects since 2012 within Canada, and through the IESO since 2014.

Battery storage systems generally look like storage or shipping containers situated on concrete pads, but also include several additional components, such as air conditioning components, electrical controls and wiring. The design of the systems must meet provincial sound limits.

The storage system is connected to a transformer before connecting to the local distribution system or provincial grid.

Proponents will be required to consult with a number of regulatory bodies to secure various permits and approvals including: Ontario Ministry of Energy, Northern Development and Mines; Ontario Ministry of Environment, Conservation and Parks, the IESO, Electrical Safety Authority, Local Conservation Authorities and Public Utilities (Enwin Utilities, Hydro One). Administration is currently supporting the proponents through the City of Windsor planning processes and other supporting services (i.e. real estate, etc.).

As the City of Windsor does not currently have grid scale battery storage systems, it has been identified that additional training will be required to ensure an appropriate fire response. Chief Laforet has already had preliminary conversations with a proponent to discuss the training requirements that will be required prior to commissioning a battery storage system. The training will be certified by the National Fire Protection Association (NFPA).

Zoning By-Law

The City of Windsor's Zoning By-law 8600, currently does not clearly define the use of battery storage. However, a battery storage system does fall under the definition of Public Utility, which means Hydro One or any corporation that distributes or provides any one or more of the following services or commodities to the public: cable television, **electricity**, internet, natural gas, telegraph, telephone, water, wireless telephone (cell phone).

As a public utility, section 5.8.5 states that, A *lot* may be used for any use of a public utility provided that:

1. All *buildings* comply with the least restrictive provisions of the *zoning district* in which they are located;

3. Any *structure*, not including a *building*, may be erected for the purposes of the distribution of a service or commodity provided by a *public utility*, without restriction as to height, except in any *residential district* where the *maximum* height of the *structure* shall be 20.0 m; and

5. In any *development reserve district* or *residential district*, an *outdoor storage yard* is prohibited. In all other *zoning districts*, an *outdoor storage yard* is permitted.

To date, the many of the proposed sites are zoned MD1.1 MD1.4 and ID1.2, which Administration regards as an acceptable use for battery storage.

As noted above, Administration is currently supporting six possible proponents looking to locate battery storage systems in Windsor.

Many proponents are working on securing long-term property leases; identifying connection capacities through Hydro One or Enwin which will determine the maximum contract capacity in their applications. Therefore, the proponents are at various stages of readiness to request a Project-Specific Municipal Support Resolution. For this reason and as there are limited council meetings before the proposal deadline of January 24, 2023, Administration is recommending that City Council delegate the issuance of a Municipal Support Confirmation Letter (project specific) to the Chief Administrative Officer for battery storage projects satisfactory in form to the Commissioner, Economic Development and Innovation.

Proceeding with the delegation of authority will also provide time for the proponents to undertake community engagement, which is a requirement in the draft E-LT1 RFP. This engagement includes:

- Creation of a public website that will host the proponent's Community Engagement Plan, including notice of public meeting(s)
- Evidence of at least 1 public meeting with each local community in which the project is proposed to be located prior to Proposal Submission
- Evidence that the local municipality(ies) was/were notified of the public meeting(s).

If issues are raised within the community, Administration should be made aware prior to the Municipal Support Confirmation Letter being released.

Administration expects most proponents to ask for a Municipal Support Resolution prior to the January 24th E-LT1 proposal submission deadline to secure the rated criteria points. Proponents that have not attained a municipal support resolution prior to Proposal Submission, will have to do so and provide it to the IESO, no later than 60 days after the first anniversary of the Contract Date. Therefore, Administration may continue to see such requests following the January 24th deadline.

Risk Analysis:

Timing Risks: Administration is currently working with six possible proponents for battery storage systems. Each of these proponents are at various stages of readiness to apply for the municipal support resolution. To ensure flexibility for the proponents and to reduce timing challenges for the municipal support resolution, Administration is recommending the delegation of authority to the CAO for battery storage projects only. Administration is aware that proponents may not have all their requirements (capacity, location) for a municipal support resolution finalized until the weeks proceeding the January 24, 2023 deadline.

Resource Risks: As noted above, Administration is currently assisting six proponents for battery storage projects that are planning to apply under the E-LT1 RFP. Administration may see additional proponents come forward after the release of the RFP in December. In addition, Administration may be approached by proponents looking to apply under the LT1 RFP for additional battery storage projects. Allowing the delegation of authority for battery storage systems will streamline the process for battery storage systems, allowing more resources to manage applications that may come forward for non-storage projects. To date, Administration has only received one request for non-storage (generation) projects. Any non-battery storage projects will be presented to Council in future Council reports.

Energy Risks: As noted in the Power Advisory Energy Report (C 161/2022), there is a significant risk that the ability of Windsor and region to secure additional investment opportunities will be hindered without confidence that the electricity supply is robust and sustainable. Battery Storage Systems are part of the solution to mitigate these risks in the short-term.

Climate Change Risks

Climate Change Mitigation:

The addition of battery storage as a component to the provincial electricity network allows for the opportunity to store energy during the off peak times, when supply is higher than demand. Often the energy produced at these times is from low/no carbon sources such as nuclear, hydro, and wind which makes up the province's base electricity load. Storing excess low/no carbon electricity sources allows the province to reduce the usage of natural gas peaker plants during peak demand periods. Therefore, battery storage provides the opportunity for the province to keep the amount of greenhouse gas emissions produced during electricity generation low.

Climate Change Adaptation:

New local storage assets may result in reduced outages during extreme weather events, and improve restoration timelines when outages do occur.

Financial Matters:

There are no financial costs associated with the issuance of the municipal support confirmation letters.

Consultations:

Planning Department – Thom Hunt

Fire Department – Chief Laforet

Economic Development and Innovation – Sandra Bradt, Milan Vujanovic

Conclusion:

Proponents applying for IESO contracts have been qualified by the IESO and require a municipal support resolution be included in their proposal submissions (E-LT1 due

January 24th, 2023; LT1 due July 2023) to earn rated criteria points. After the proposal submission deadline(s), municipal support resolutions may be obtained for a period of up to one (1) year after the awarding of an IESO contract.

Delegating the issuance of a municipal support confirmation letters to the Chief Administrative Officer for battery storage systems will streamline and accelerate the process and assist the proponents of achieving the E-LT1 January 24th, 2023 deadline.

The delegation of authority is not being requested at this time for non-battery storage projects.

Approvals:

Name	Title
Natasha Gabbana	Senior Manager Asset Planning
Joe Mancina	Commissioner of Corporate Services and Chief Financial Officer
Jelena Payne	Commissioner of Economic Development and Innovation
Onorio Colucci	Acting Chief Administrative Officer

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Appendices:

Appendix A: Form of Municipal Support Resolution