



Edgeware Battery Storage Project Public Community Meeting – Meeting Minutes

Date: November 23rd, 2023

Time: 6:00 pm to 8:00 pm

Location: CASO Station, Farley Waiting Room (750 Talbot Street St. Thomas, ON N5P 1E2)

Hosts: EDP Renewables Canada Ltd. and Edgeware BESS Project Limited Partnership

- Four (4) EDPR Canada employees were present.
- Two (2) DNV employees were present.
- Two (2) SunGrid employees were present.

Summary of the Event

EDP Renewables Canada Ltd. (the “Qualified Applicant”) and Edgeware BESS Project Limited Partnership (the “Proponent”) hosted a Public Community Meeting on November 23rd, 2023, at the CASO Station, Farley Waiting Room in St. Thomas, ON.

EDP Renewables Canada Ltd. greeted attendees at a welcome table near the entrance of the room. Guests were able to voluntarily provide contact information on the sign-in sheet, and were also offered event feedback forms, as well as take-home information about the Company and Battery Storage. Light refreshments were also made available to attendees.

Approximately 8–10 community members attended. The attendees were encouraged to view the informational poster boards displayed, listen to the presentation, and ask questions during the Question-and-Answer Session.

Schedule of the Event (approximate timing) and Resources:

6:00 pm to 6:57 pm – Doors opened at 6:00 pm. Attendees were encouraged to view the Poster Boards which were displayed in the room. EDP Renewables Canada and Subject Matter Experts were available to answer any questions. The Poster Boards that were displayed may be viewed on the project website or in Appendix A.

6:58 pm to 7:10 pm – EDP Renewables Canada presented a PowerPoint presentation.

7:11 pm to 7:21 pm – A Question-and-Answer Session was held where attendees could ask questions that were answered by EDP Renewables Canada, DNV, and SunGrid employees. The Question-and-Answer Session notes may be viewed on the Project Website or in Appendix B.

7:21 pm to 8:00 pm – Many of the guests left after the Question-and-Answer session. Doors were closed at 8:00 pm

Other Information:

Project Website: <https://www.edpr.com/north-america/edgeware-battery-storage-project>

Project Email: edgeware-bess@edpr.com

Appendix A – Poster Boards

WELCOME
EDGEWARE
BATTERY STORAGE PROJECT
OPEN HOUSE



edpr.com/north-america

This Open House is hosted by "Edgeware BESS Project Limited Partnership" (the "Proponent") and EDP Renewables Canada Ltd. (the "Qualified Applicant")



ABOUT EDP RENEWABLES NORTH AMERICA

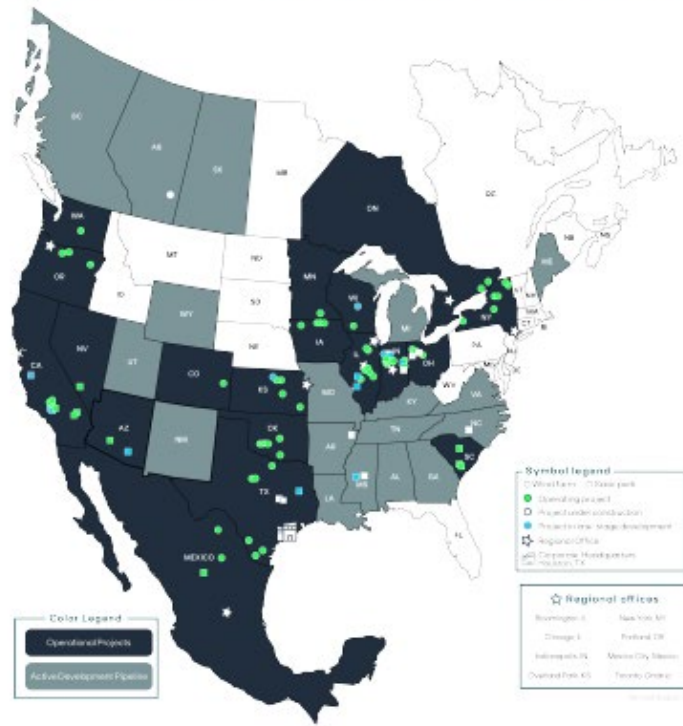
EDP Renewables Canada is a wholly-owned subsidiary of EDP Renováveis, S.A. EDP Canada is headquartered in Toronto, Ontario and has been developing projects since 2012. The company currently operates the South Branch Wind Farm (30MW) and the Nation Rise Wind Farm (100MW), in the United Counties of Stormont, Dundas, and Glengary, Ontario. Additionally, EDP Canada is currently constructing the Sharp Hills Wind Farm (300MW) in Alberta and has over 1GW of wind, solar, and battery storage projects in development across the country. The company is supported by EDP Renewables North America, headquartered in Houston, Texas.

OPERATIONAL PROJECTS

 **58**
WIND FARMS

 **10**
SOLAR PARKS

 **8,400+**
MEGAWATTS



EDPRNA'S IMPACT (dollar figures in USD)

 **CREATED**
1,090 permanent jobs
7,900+ construction jobs

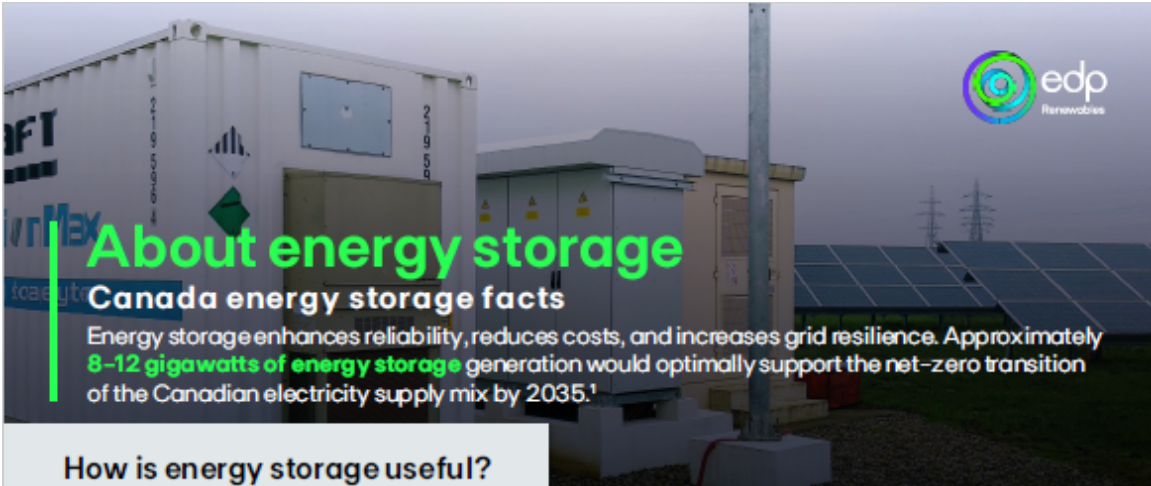
 **GENERATED**
the equivalent of
2 million+ homes'
energy consumption

 **MAINTAINED**
278 million+ hours
of operational history

 **PAID**
\$379 million+ to landowners
\$308 million+ to local governments

 **SAVED**
12.4 billion+ gallons of water
AVOIDED
24 billion+ pounds of CO₂

 **INVESTED**
\$17 billion+ (approx.)
in capital



About energy storage

Canada energy storage facts

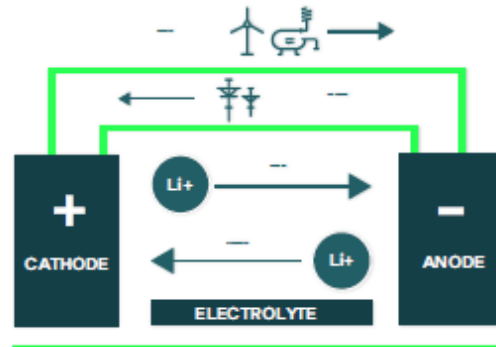
Energy storage enhances reliability, reduces costs, and increases grid resilience. Approximately **8-12 gigawatts of energy storage** generation would optimally support the net-zero transition of the Canadian electricity supply mix by 2035.¹

How is energy storage useful?

- Reduces outages and enhances resilience
- Decreases costs and saves money
- Bolsters a sustainable electrical grid
- Supports local economies

How does energy storage work?

The most common electrochemical storage method is the **lithium-ion battery**. These are similar to the batteries that power your cell phones, laptops, or electric vehicles.



What is a lithium-ion cell?



The battery is comprised of a positive cathode, a negative anode, a separator, an electrolyte, and positive and negative current collectors. When the battery is being charged by a power source, such as wind or solar power, lithium-ions move from the cathode, through the electrolyte and to the negative anode, storing energy for future use. When discharging power, lithium-ions are released by the anode and received by the cathode.

Energy storage systems are fuel-neutral.

This means that they can capture and dispense electricity from oil, gas, coal, nuclear, geothermal, and EDP Renewables' wind and solar energy projects.

Energy storage will contribute to powering Canada's journey to net-zero by 2050.¹

Canada's energy transition BY THE NUMBERS

10.5% increase

Overall, the wind, solar, and energy storage sectors grew by **10.5%** in 2023.¹

~ 7+ megawatts (MW) will be added

Forecasted to gain **more than 5 GW** of wind and **2 GW** of solar in the short term.¹

Ranked 8th in the world

Canada ranked **8th in the world** for installed wind energy capacity at the end of 2022.²

19+ GW of clean energy

More than **19 GW** of installed utility-scale wind and solar energy.¹

1.8+ GW of new generation

More than **1.8 GW** of new generation capacity in 2022, more than 2021's new capacity.¹

~ 7% of electricity demand

Approximately **7%** of Canada's 2020 electricity demand was met by wind and solar energy in 2021.³

1. Canadian Renewable Energy Association (CREA), 2023 Value Report
2. EDP Renewables North America, 2023
3. Canadian Renewable Energy Association (CREA), January 2022



Edgware Battery Storage Project

Proponent name: Edgware BESS Project Limited Partnership

Edgware Battery Storage Project will be located in the City of St. Thomas in Elgin County, Ontario. The Edgware Battery Storage Project is being developed in answer to the Independent Electricity System Operator's (IESO) Long-Term Request for Proposals (LT1 RFP) for the procurement of capacity services to meet system reliability needs..



UP TO
75 MW



The proposed Edgware Battery Storage Project is a battery energy storage facility sized to provide up to 75 MW of power over at least four (4) consecutive hours, totalling 300 MWh.

Community Benefits

EDPR Canada has a strong track record of providing benefits to the local communities that host projects through tax revenue and economic development funds that create additional growth and civic investment, as demonstrated through our existing operational projects in Ontario.

The Edgware Battery Storage Project will contribute annual tax payments to the City of St. Thomas.

STABLE JOB CREATION

During construction, typical jobs include general labourers, BESS installers, concrete suppliers.

During operations, employees are needed for inspection and maintenance activities.

LOCAL BUSINESS GROWTH

The project will spur new business for community halls, restaurants, gas stations, hotels, and more.

STRENGTHENING LOCAL INFRASTRUCTURE

The project's tax payments will help fund local resources such as roads, schools, and first responders.



ENERGY INDEPENDENCE

Edgware Battery Storage Project will contribute to the energy security for the Province of Ontario, helping diversify domestic supply.



Energy storage will contribute to powering Canada's journey to net-zero by 2050.



Energy storage enhances reliability, reduces costs, and increases grid resilience.

EDPRENEWABLES CANADA LTD.
219 Dufferin Street, Suite 117C,
Toronto, ON M6K 3J1

edgwarebatterystorage.com

DARREN CARL, PROJECT MANAGER
416.988.9198
darren.carl@edp.com

©2022 EDP Renewables North America. All rights reserved.



The Province of Ontario's Need

After more than a decade of strong electricity supply, Ontario is entering a period of electricity generation needs. This is largely due to an increase in demand, the retirement of the Pickering Nuclear Plant, expiration of contracts for existing facilities, and the refurbishment of other nuclear generating units.

To address these needs, the IESO is procuring energy storage systems (capacity services) through the Long-Term 1 Request for Proposals (LT1RFP).

For more information, visit the following websites:

IESO: www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook

Ministry of Energy: www.ontario.ca/page/powering-ontarios-growth

Sources:
IESO, Annual Acquisition Report & Long-Term Request for Proposals (LT1RFP) Procurement Update (March 2023)
Ministry of Energy, Powering Ontario's Growth: Critical Plan for a Clean Energy Future (July 2022)

LT1 RFP – Natural Gas and Battery Storage (Capacity)

Competitively procure 2,518 MW of year-round capacity services:

- 1,600 MW of storage
- 918 MW of non-storage capacity (natural gas)

Edgeware Battery Storage Project is intended to help address the growing electricity needs identified by the Independent Electricity System Operator in their Annual Planning Outlook, and the Ministry of Energy's report Powering Ontario's Growth.

IESO Opportunity – Long Term 1 Request for Proposals (LT1 RFP)

The proposed Project is being developed in answer to the Independent Electricity System Operator's (IESO) Long-Term Request for Proposals (LT1 RFP) for the procurement of capacity services to meet system reliability needs.

LONG TERM 1 RFP TIMELINE

September 29, 2023	IESO's released the Final LT1 Request for Proposals (RFP) and LT1 Contract
November 17, 2023	Proponent's deadline to submit questions and comments to the IESO
November 28, 2023	IESO's deadline for issuing Addenda to LT1 RFP and LT1 Contract, if any
December 12, 2023	Proposal submission deadline
May 10, 2024	Target date for IESO notification to all proponents and announcement of selected proposals
May 2027 - May 2028	Commercial Operations Date





Safety Measures

As a company committed to a clean energy future, we take our impacts on the land, water, and air extremely seriously and devote significant resources to ensuring proper permitting, siting, and emergency preparations are taken.



Safe, Well-Tested Technology

Energy storage has been a part of our electricity grid since the 1930s and enjoys a safety record that is similar or better than other electricity generation, distribution, or management methods. In fact, the United States has more than 8,800 MW of battery storage capacity currently online.¹ In Canada, energy storage accounted for 214 MW by year-end 2022, with the majority coming from projects located in Ontario.²



Chemical Safety

BESS facilities are designed to manage chemicals on site. In the unlikely event of a leak containment measures such as bunding, spill trays and chemical absorbents are in place to capture materials on site.

Chemical hazards or 'dangerous goods' are typically identified and addressed by way of a Hazard Assessment and Emergency Management Plan (or equivalent).



Safety Risk

Most of us have a lithium-ion battery in our pocket all the time in our cell phone, or in electric cars – these aren't risk free either but are manageable and considered safe for the public when operated correctly.

BESS facilities are equipped with Battery Management Systems (BMS) that monitor the operational and fault status of the system for all parameters required to ensure safe operation of the BESS, including State of Charge (SOC), voltage, current, power limits, and temperatures. Parameters are monitored at the appropriate level of the battery cell, module and rack as applicable. The BMS functions to prevent potential fires by shutting down battery modules/racks if monitored conditions are outside of those permissible for safe operation.



Safeguarding the Environment

As with all BESS projects in Canada, we have to comply with federal, provincial and local wildlife regulations and standards to minimize any impact to surrounding wildlife.

Clean energy projects such as storage systems are far less harmful to wildlife than the energy sources it traditionally displaces, and the industry is proactively addressing the modest impacts on wildlife it could have.


1 U.S. Energy Information Administration. "Estimated U.S. installed energy storage capacity by generation August 2023."
2 Canadian Renewable Energy Association. "RENEW: Canadian Renewable Energy Association's 2023 Annual Report." January 2023.





Emergency Preparedness


EMERGENCY PREVENTION MEASURES


Containerized battery energy storage systems (BESS) are mandated to have a variety of prevention measures to ensure safe operation.


- 

To begin with, the BESS is designed to strict federal and provincial standards.
- 

Each BESS features smoke and temperature sensors as well as internal fire suppression systems. They are also monitored 24/7.
- 

BESS systems feature internal containment trays to capture any dripping liquids from internal fire suppression systems and battery cell electrolytes which prevents spillage.
- 

The layout of the BESS incorporates adequate spacing to mitigate fire spread to adjacent containers.
- 

BESS containers are designed with exterior steel walls, with interior insulation for better cooling and to ensure fire containment.
- 

BESS containers feature pressure relief systems such as deflagration panels which automatically vent any gases generated and allow the flames to vent out in a controlled manner to prevent damage to the surroundings.

Emergency Response Plan

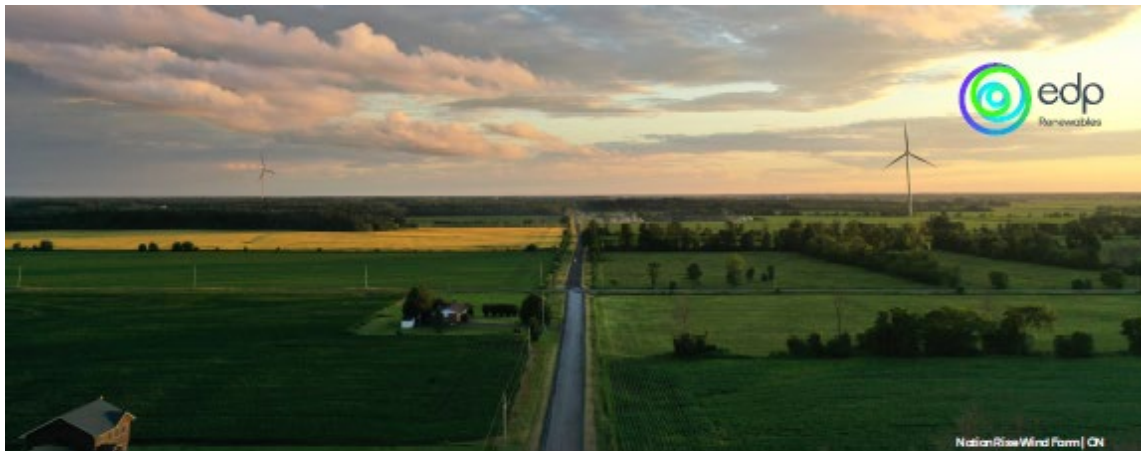
In addition to the emergency procedures, a successful applicant is **required to formulate an Emergency Response Plan** which includes first responder integration, education training and awareness of the local community.

In the unlikely event of fire or emergency, the remote monitoring centre will be informed and the affected battery container can be isolated from the rest of the installation, or from the grid altogether. The local fire department is informed, and additional cooling and the fire suppression systems are activated as preventative measures.

WHAT ABOUT SPECIAL EQUIPMENT & TRAINING?

No special equipment other than regular firefighting equipment is required during an emergency.

Safety features and internal fire suppression systems are already installed inside the BESS containers. As part of the development of the Emergency Response Plan, we would engage with the local fire department on emergency response plans in conjunction with training opportunities.



Permitting Overview

The Ministry of Environment, Conservation and Parks is the main authority that provides Provincial permitting and oversight.

The Project will be assessed through the Class Environmental Assessment (EA) for Minor Transmission Facilities. It will be eligible for registration on the Environmental Activity and Sector Registry (EASR) Air/Noise. It will also require an Environmental Compliance Approval (ECA) for Sewage Works. Some local permits may be required.

TENTATIVE PERMITTING TIMELINE

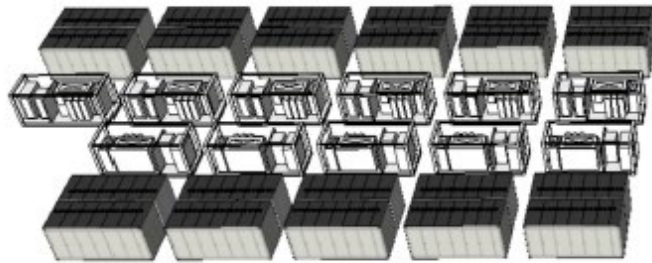
Q4 2023	Preliminary site characterization
Q2 2024	LT1 Selection Announcement
Q2 2024	Notice of Commencement of a Class EA Screening
Q2-Q3 2024	Natural Heritage Baseline
Q2-Q3 2024	Noise Impact Assessment
Q4 2024	Notice of Completion of a Class EA Screening
Q4 2024	Environmental Compliance Approval for Sewage Works
Q4 2024	Environmental Activity and Sector Registry
Q4 2024	Local permits



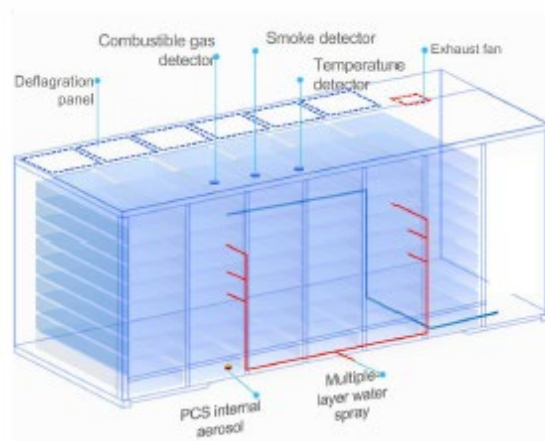
Example of Container & Transformer



Example of Multiple Containers & Multiple Transformers

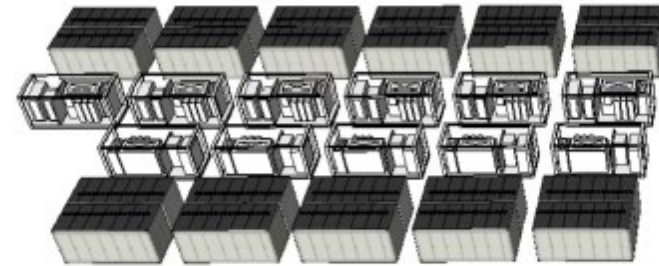


Example of BESS Safety Features

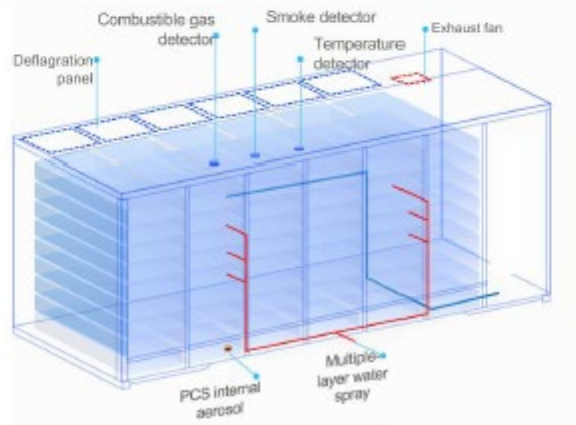




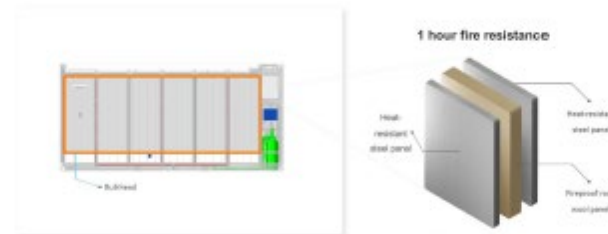
Example of Container & Transformer



Example of Multiple Containers & Multiple Transformers

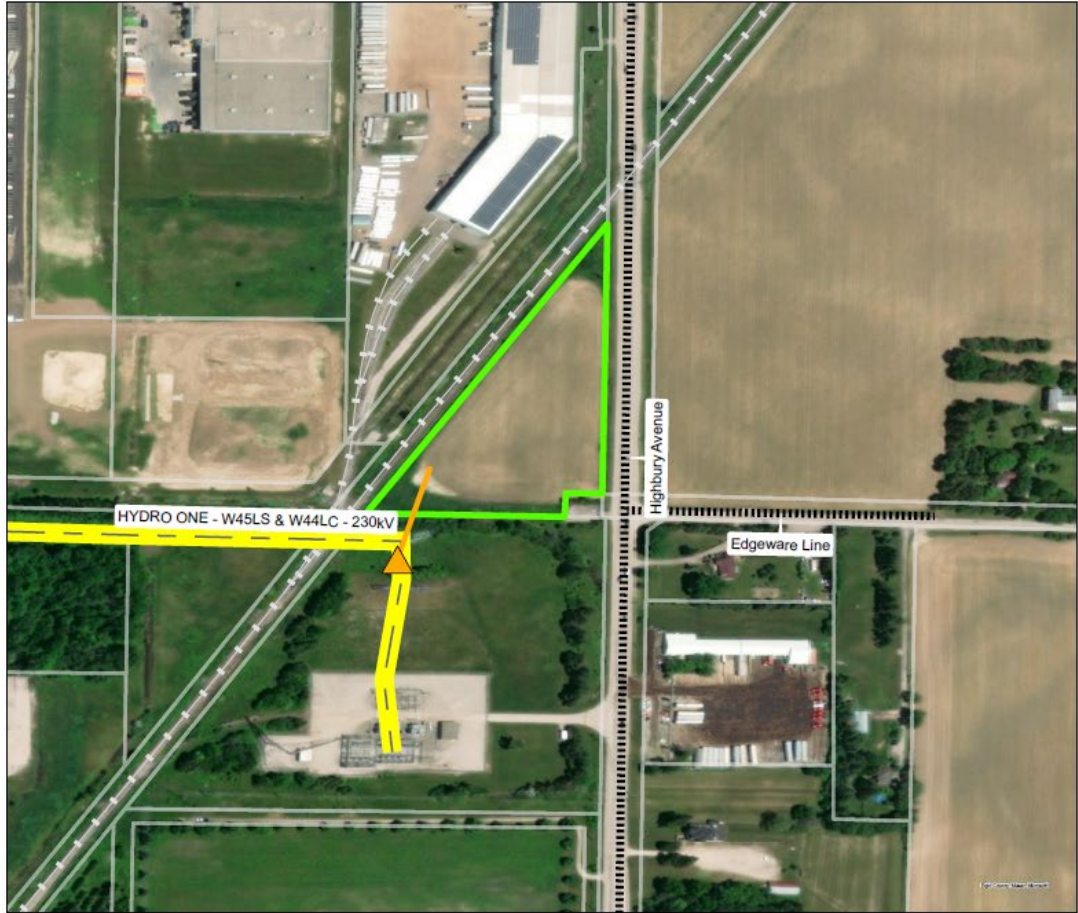



Example of BESS Safety Features



Example of BESS safety feature (construction)

Edgware Battery Storage Project



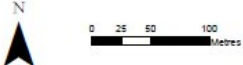



EDP Renewables Canada Ltd.
Edgware Battery Storage Project

Proponent: Edgware BESS Project Limited Partnership
 Project Name: Edgware Battery Storage Project
 Capacity: Up to 75MW
 Location: City of St. Thomas, Ontario
 Map Scale: 1: 1,500

Legend

- ▲ Connection Point
- Connection Line
- Existing Hydro One Transmission Line
- Railroads
- ▬ Public Roads
- South Branch Battery Storage Project Land (Project Site)
- Land Parcels

November 2023
 Note: Connection Line is approximate

Project Location

The proposed project would occupy approximately 5 acres of land within a parcel located on the west side of Highbury Avenue and Edgware Line in the City of St. Thomas, Ontario.

Project Proponent Name
 Edgware BESS Project Limited Partnership

Technology of the Long-Term Reliability Project
 Lithium-ion battery storage

Nameplate Capacity: Up to 75 MW
 The proposed Project is a battery storage facility size to provide up to 75 MW over at least four (4) consecutive hours (300 MWh).

edgwarebatterystorage.com

Appendix B – Question & Answer Session

Edgware Battery Storage Project – Public Community Meeting

Location: CASO Station, Farley Waiting Room
(750 Talbot Street, St. Thomas, ON N5P 1E2)

Date: November 23rd, 2023

Siting

1. Q: Do you own the land right now?

A. The property is under a purchase agreement between the project and the landowner.

2. Q: Why St. Thomas?

A. The project is located next to the Hydro One Networks (HONI) 230kV substation and transmission circuits which makes it an ideal location to connect to the transmission system. The project was submitted as part of the IESO Long-term I RFP Deliverability Assessment and received a positive result which qualified the project to be submitted into the Long Term I RFP.

3. C: Please build on why you chose this location:

A. The further you get away from interconnection, the more losses there are in the distribution of the electricity to the system need. The closer we are to the substation, the more likely it is for the electricity to reach the system need.

4. Q: Will the output serve more than St. Thomas?

A. The output will support electricity demand both locally in St. Thomas and in other areas where the electricity is needed via the transmission system. Essentially, it's like a tree with branches. The transmission line is the root, as it hits branches, it shoots off and is taken where electricity is needed.

5. Q: Where is the start/finish of the transmission line?

A. The transmission line that runs near the site connects into a transmission grid that covers roughly a third of North America. It's all same frequency, stepping down voltages. The specific transmission lines connected to the HONI substation connect to other substations in London and continue west towards Windsor.

6. Q: When did you first start looking at this site?

A. This project was identified by EDP as a potential development early in 2022.

Project Timeline/Lifecycle

7. Q: When would you expect to have it up and running?

- A. We want to have the site commissioned by 2027. The earliest date would be May of 2027, at the latest, at the end of 2028.

8. Q: What is the timeframe for construction?

- A. After a contract award and successful permitting, we are assuming a year for construction. If we went operational in 2027, civil construction would begin in 2026 with testing and commissioning taking place in 2027.

9. Q: What's the life of the batteries?

- A. There are two types of battery aging – calendar aging and aging over use. Calendar aging is where the battery ages gradually over time. Aging over use is where the battery ages depending on its use. Battery systems usually have an 8,000-to-10,000-hour cycle of life. Contractually, they are useful for a period of 20 years.

Technology

10. Q: Where do the battery containers come from/where are the battery units themselves made?

- A. We don't have a supply agreement in place right now as we are early in the process, so we don't know what technology we would use at this time. Typically, the batteries used are lithium-ion. That said, we also do not yet have a selected manufacturer or supplier.

SunGrid Solutions: We are Ontario based, and our Canadian office is in Cambridge, ON. We build battery system across North America. The batteries could be coming from somewhere in Asia, like Japan or China, or the U.S. There are manufacturers here in Canada as well. The battery sites located in Ontario that are currently under construction have batteries from all the locations listed previously.

11. Q: What technology would change it from AC to DC and DC to AC?

- A. The most popular technologies are silicon carbide. They are standard inverters, same as a solar inverter, designed to discharge electricity. They are simple, run of the mill converters, just bigger. They do the transmission switching, and they do this very efficiently both ways. This is not new technology, and the quality is ever evolving.

Decommissioning

12. Q: What happens at the end of life?

- A. There is a growing industry for battery recycling in North America. Companies are incentivized to recycle the batteries and are seeing a 95% recovery rate. Batteries from the site will be recycled at the decommissioning phase. These batteries contain valuable materials and there would be multiple recycling

facilities that would be bidding to recycle them at their end of life. Some of these facilities are:

- i. Li-Cycle (Canada) with plants in Kingston (ON), Rochester (NY, USA), Tuscaloosa (AL, USA), Gilbert (AZ, USA), Germany (Magdeburg)
- ii. Redwood Materials (USA), Camp Hall, Berkeley County (CA, USA)
- iii. Lithion (Canada), St. Bruno-de-Montarville (QC, Canada), Montreal (QC, Canada) operational by year end 2023
- iv. Retrieval Technologies (recently acquired Battery Solutions and Heritage Battery Recycling) with facilities in Trail (BC, Canada), Lancaster, Baltimore, Ohio, Brea, California (USA).

13. Q: Will they then be replaced? Will you have new cells to replace the old ones?

- A. If the Independent Electricity System Operator (IESO) still needs the project to operate, we would likely do a re-powering. This is when we open and remove cells to replace them with new ones. The contracts for this procurement are 20 years in duration. At the moment, there are no discussions about re-powering or extending the contract past those 20 years.

14. Q: Would there be clean up at the site?

- A. Yes. We would establish a Decommissioning Plan as part of the permitting process. There will be practices involved to see what that would look like. We typically remove topsoil, stockpile it, and then return the land back to previous use. That is the ultimate goal: to bring the property back to its previous use.