

# Arnprior Battery Energy Storage Project

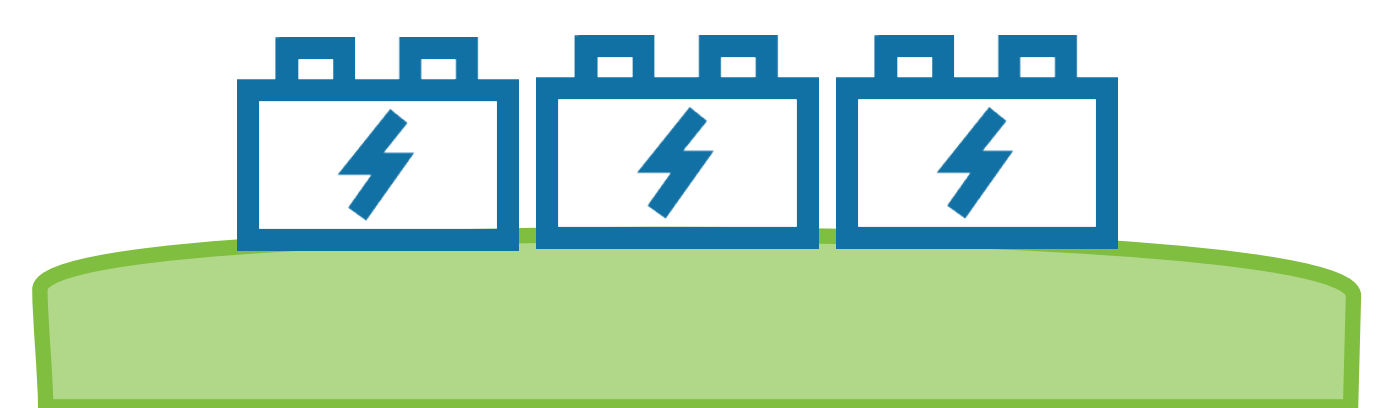
## WELCOME!

Arnprior BESS Limited Partnership (the “Proponent”), a controlled subsidiary of PR Development LP (the “Qualified Applicant”, an affiliate of Potentia Renewables Inc) is developing the Arnprior Battery Energy Storage Project (Arnprior BESS).

Please sign in at the front desk and provide your contact information if you would like to receive project updates.

We, the developers of Arnprior BESS, are here to provide information and answer any questions about the Project and our team. We invite you to walk around and look at the displays.

If you have questions or comments, please reach out to one of our team members.



All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Ministry of the Environment, Conservation and Parks' Freedom of Information and Privacy Coordinator at [foi.mecp@ontario.ca](mailto:foi.mecp@ontario.ca).)

# ABOUT THE PROJECT TEAM



**Potentia**  
RENEWABLES

Arnprior BESS Limited Partnership is a controlled subsidiary of PR Development LP (PRD), who is the Qualified Applicant under the Ontario IESO Long Term 1 Request for Proposals (“LT 1 RFP”).

Arnprior BESS Limited Partnership will be the Proponent under the LT1 RFP. PRD and Arnprior BESS Limited

Partnership are affiliates of Potentia Renewables Inc. (“PRI”), a Canadian developer, owner, and operator of energy assets with over 1,200 MW of solar and wind projects that are in operation, under construction, or under contract.

PRI is an indirect wholly owned sub of Power Corporation Canada, a company listed on the Toronto Stock Exchange. Our team has been involved in either the development, construction, or operation of 30% (or 2.4 GW) of utility-scale renewable energy projects in Ontario.

Please visit [www.potentiarenewables.com](http://www.potentiarenewables.com) to learn more.



On October 23, 2023, the Project Team cancelled a separate connection for the Project referred to as Arnprior BESS Connection Option 2.

## YOUR INPUT IS IMPORTANT TO US!

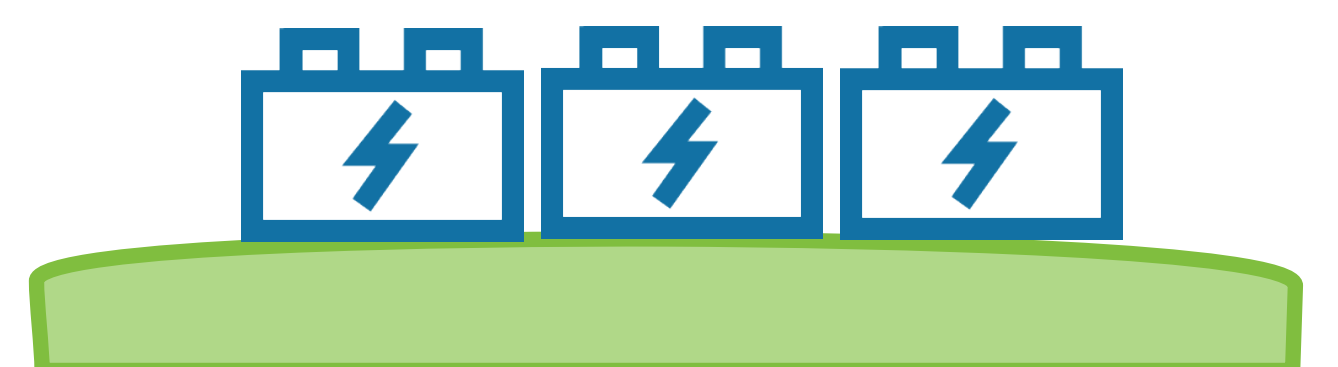
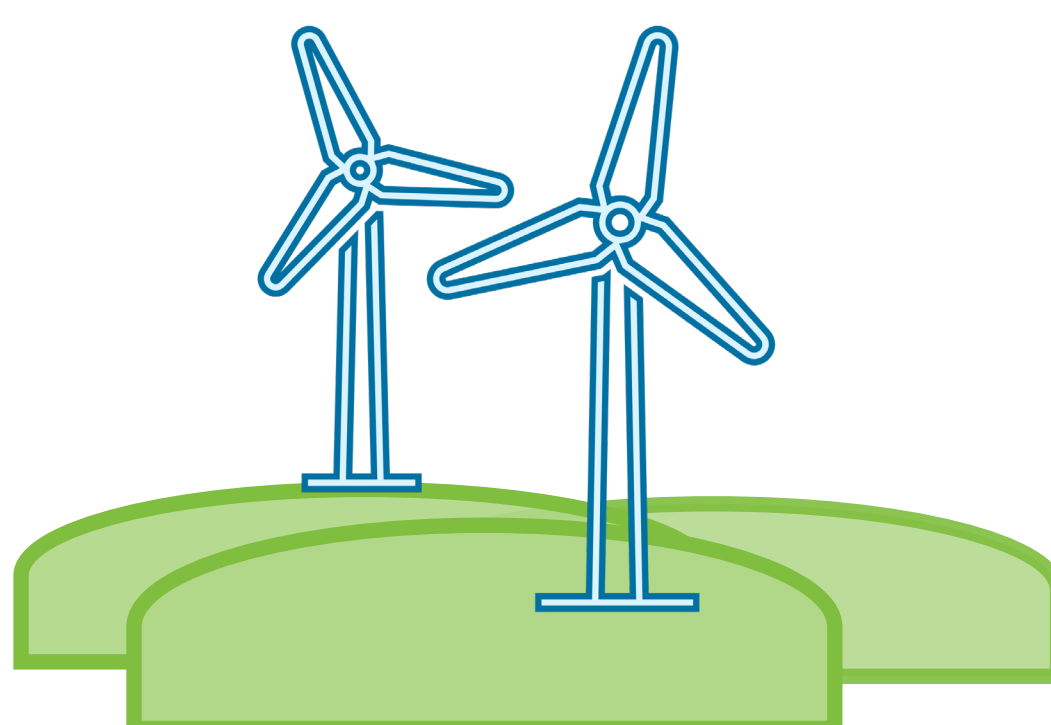
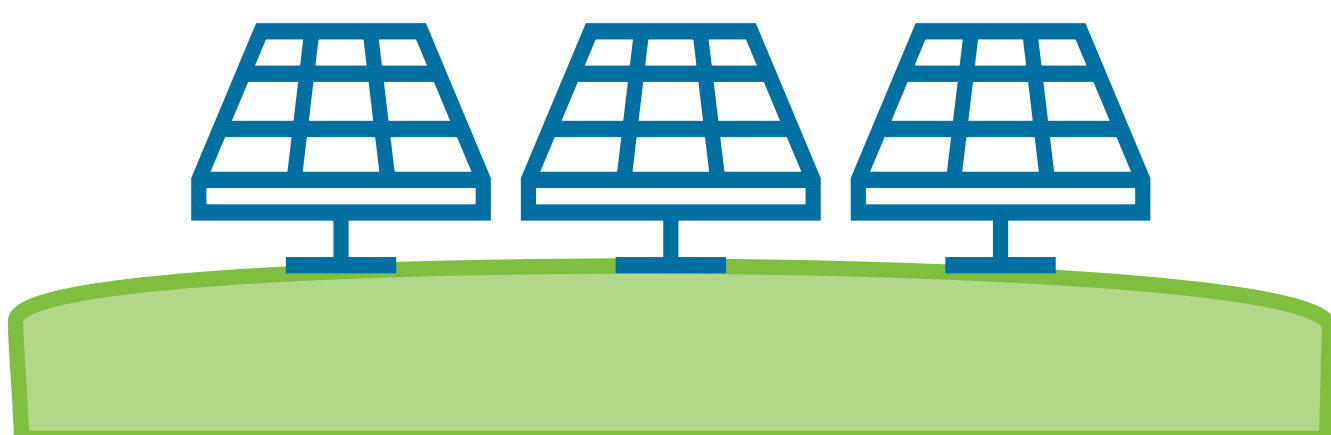
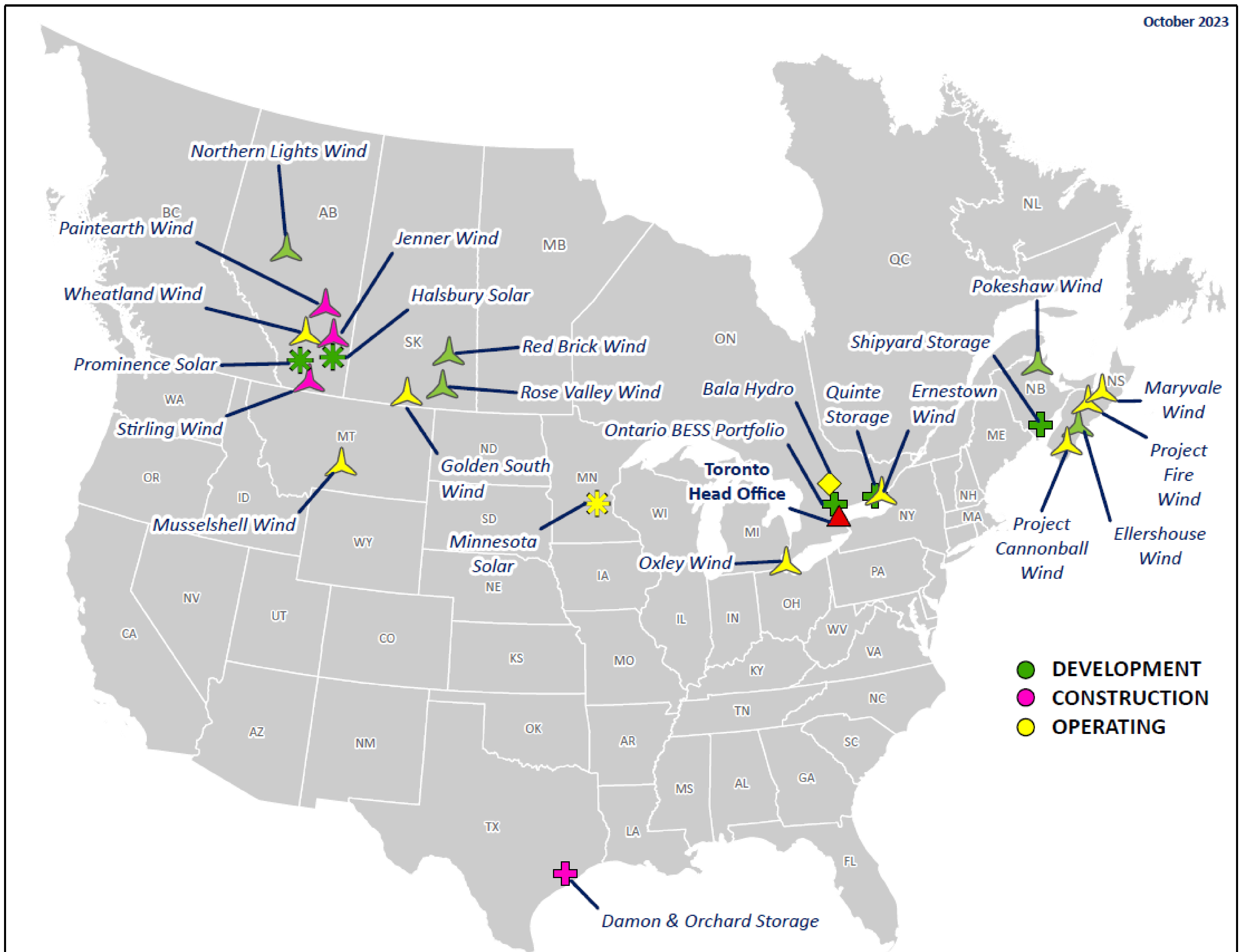
Fill out a feedback form or speak to a Project team member.

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Project information is also available at [www.Arnriorbess.ca](http://www.Arnriorbess.ca).



# POTENTIA RENEWABLES PORTFOLIO



# PROJECT DETAILS

## PROJECT NAME

Arnprior Battery Energy Storage Project  
(Arnprior BESS)

## NAMEPLATE CAPACITY

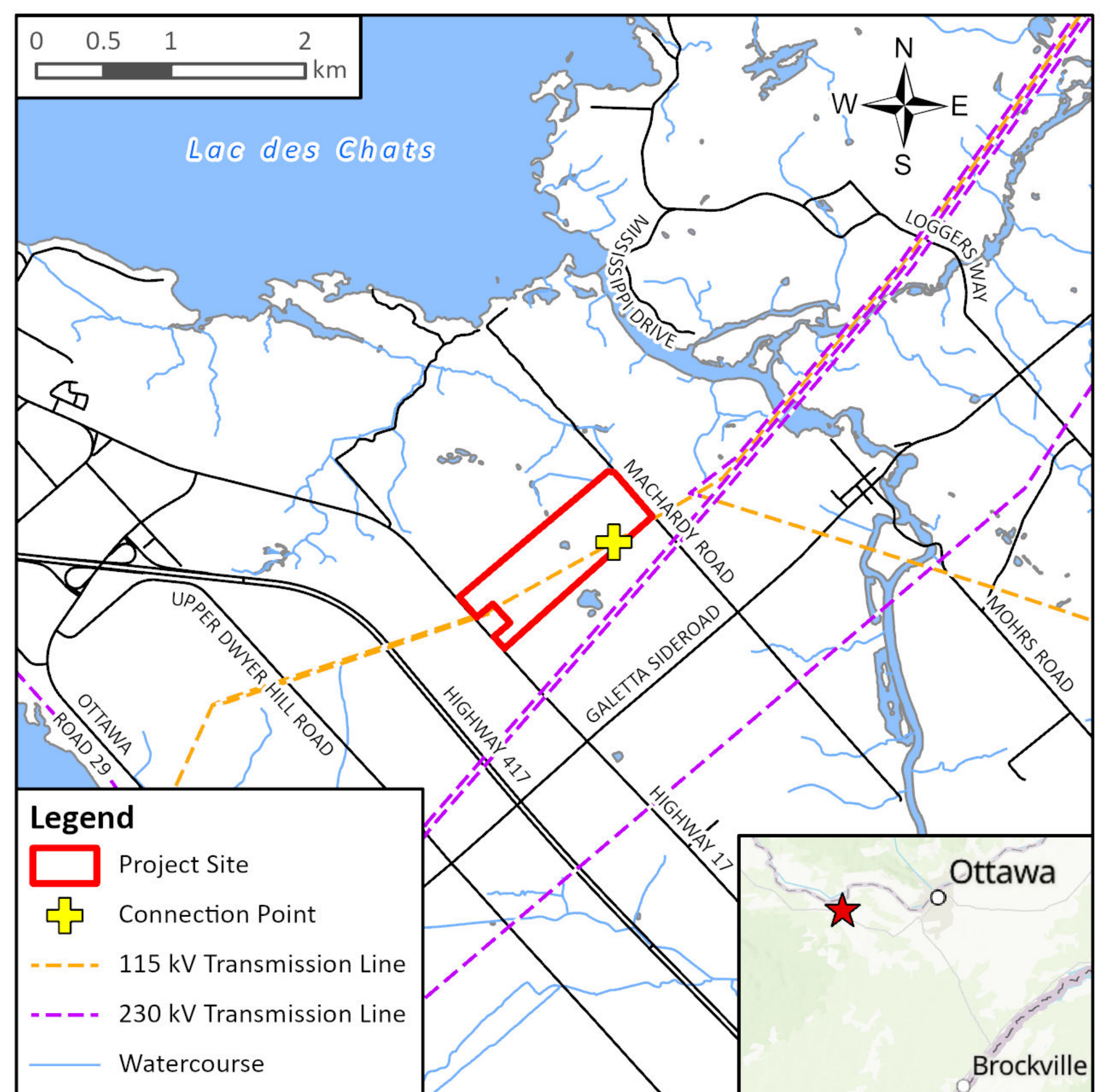
Up to 50 Megawatt (MW) over four hours  
(200 MWh)

## STORAGE TECHNOLOGY

Lithium-ion battery

## LOCATION

City of Ottawa, occupying less than 5 acres of land on the northeast side of ON-17, just north of Galetta Sideroad. Project address is 5034 Hwy 17, Ottawa, K7S3G7.



## PROJECT COMPONENTS

- **Batteries (BESS):** lithium-ion DC cell blocks placed in a rack within a temperature-controlled enclosure that stores and release energy.
- **Power Converter System (PCS):** controls the current and voltage of the electricity received from the grid and adjusts the batteries via inverters and medium voltage transformers.
- **Energy Management System (EMS):** a.k.a. the brains of the facility, which commands, controls, monitors, and manages the functionality of a project.
- **Substation:** the electrical connection point to the grid composed of main power transformers and protection and control equipment.
- **Other:** underground collector cables, roads, noise walls, foundations, and more.

## CONNECTION POINT

Arnprior BESS will connect to Hydro One's 115kV line(s) that runs northeast from the Arnprior Transmission Station towards Fitzroy and the surrounding area.

## DEVELOPMENT & OWNERSHIP

Arnprior BESS is being proposed by Arnprior BESS Limited Partnership, a controlled subsidiary of PR Development LP.

# SCALED PROJECT MAP



# ENERGY STORAGE FACTS

- Energy storage works by storing energy when it is most plentiful and supplying it during periods of peak demand. This helps to maximize the use of our existing electrical grid and reduces the need for additional transmission infrastructure. The figure below illustrates a sample charge and discharge cycle of an energy storage project.
- Over the last 10 years, prices for lithium-ion batteries have fallen by more than 50% while their energy density has increased by over 50%.
- Lithium-ion batteries (used in cell phones and cordless tools) are a mature technology and are used in grid-scale applications due to their cost competitiveness, density, and financeability.
- There are 8,800 MW+ utility-scale battery storage projects operating in the USA.
- Batteries can provide a host of valuable services to help balance and control the grid.

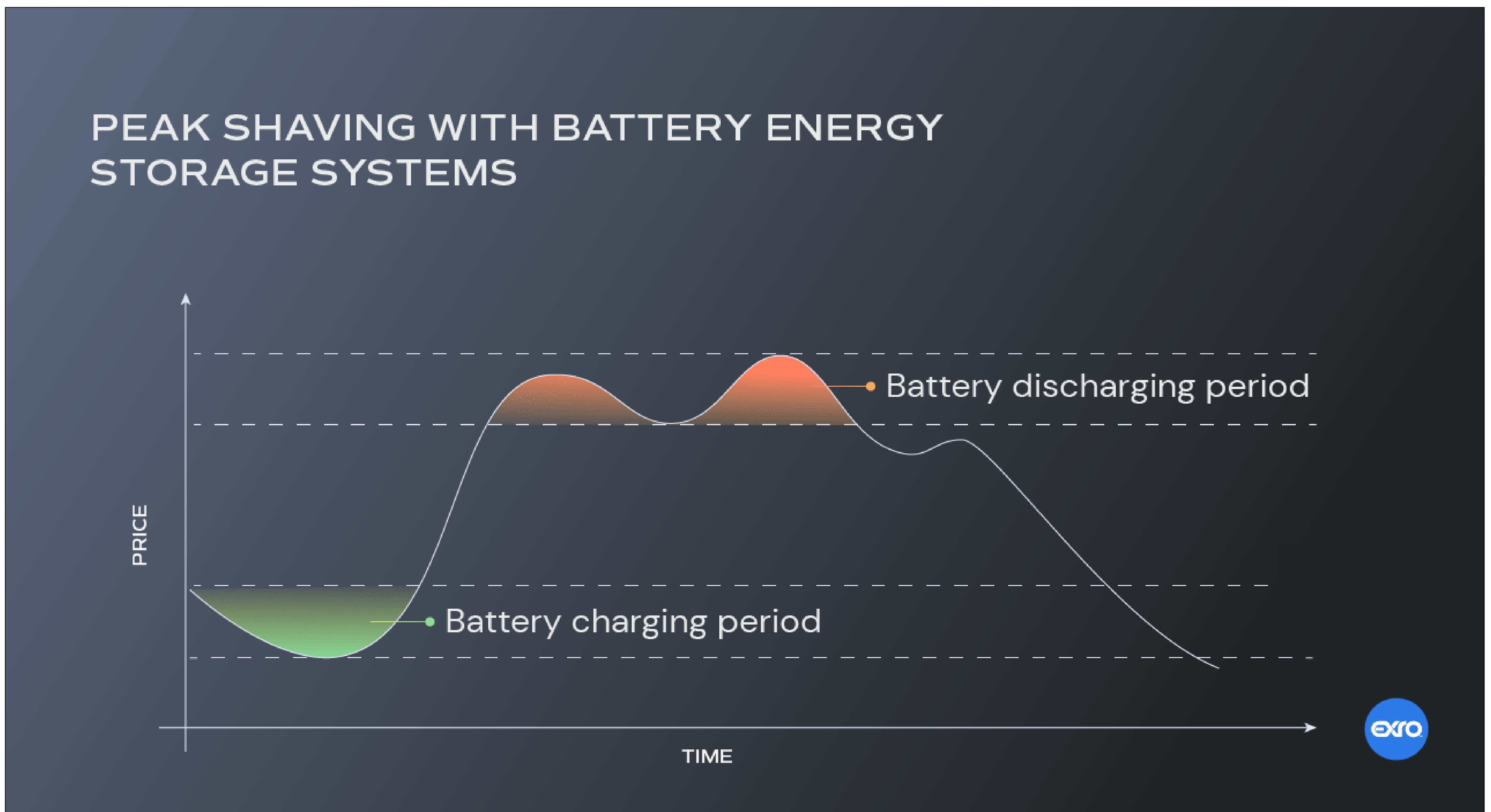
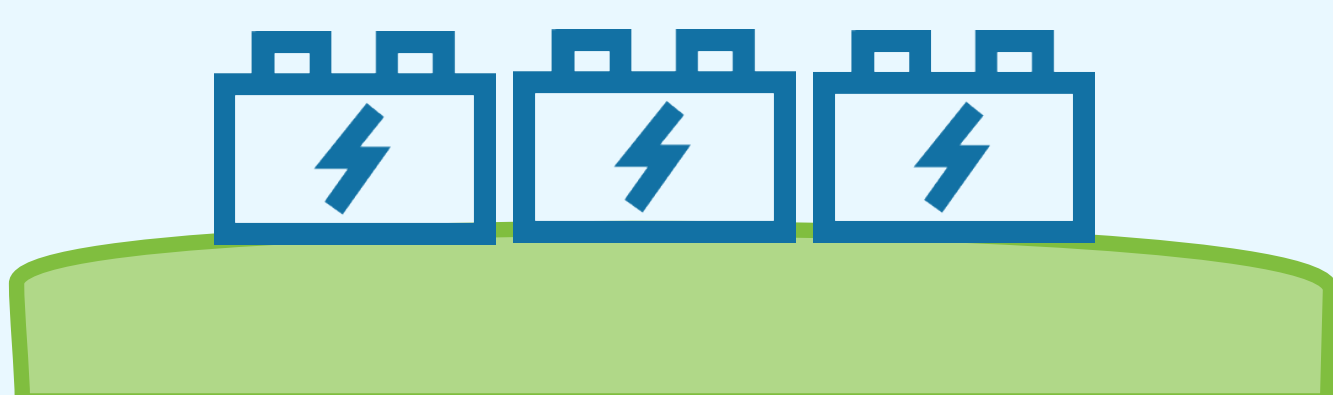


Figure sourced from: <https://www.exro.com/industry-insights/peak-shaving>



**HAVE A COMMENT OR QUESTION?  
FILL OUT A FEEDBACK FORM OR SPEAK TO  
A PROJECT TEAM MEMBER**

# COMMUNITY BENEFITS

## Long-Term Tax Revenue

Over the course of its life span, the Project will be a source of significant and reliable contributions to the Municipality's tax base while requiring minimal municipal services. The Municipality can use the increased tax revenue to fund roads, schools, and improved municipal services.

## Local Employment

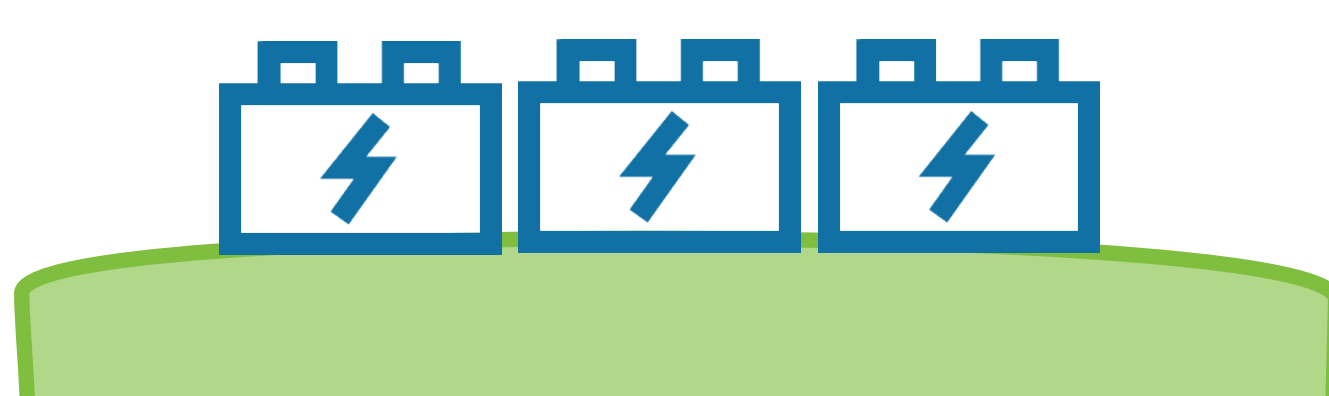
Jobs created during construction will include those related to land surveying, road construction, concrete and aggregates supply, equipment installation, substation construction, electrical testing and technical commissioning to name a few.

## Boosting the Economy

Construction site services, materials, and contractors will be sourced locally as much as possible subject to meeting quality, quantity, and workmanship requirements. Workers may also require local accommodation and services while working on the Project. In addition to the direct jobs, the Project will increase electrical capacity enabling further investment in eastern Ontario.

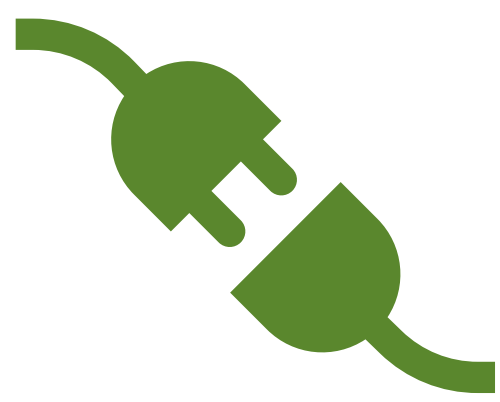
## Reducing Emissions

The Project will also help to reduce Ontario's emissions by limiting the need to run natural gas generators during times of peak loads.



# WHY HERE?

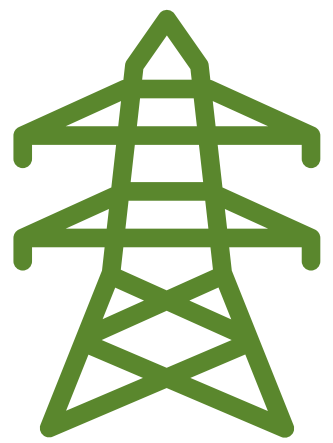
The Arnprior BESS project site was chosen for the following reasons:



The Independent Electricity System Operator (IESO) is forecasting a capacity need of 4,000 MW by 2030 and is in the process of administering various procurement programs to address this. The Project will provide energy when it's needed most improving the capacity of Ontario's grid.



Strategically located near the recently upgraded Arnprior Transmission Station, and off lands identified as mineral extraction and mineral reserve zones.



Proximity to existing power line infrastructure with the capability of interconnecting the Project.



Minimal impact on the local environment.



Relatively flat terrain for construction and suitable site access.



A willing landowner.

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# WHY ENERGY STORAGE?

## Flexibility

Arnprior BESS will allow energy produced during periods of low demand to be stored and released to the grid during periods of high demand. Balancing the supply of energy over the course of the day means better use of our mixed energy sources (renewables, nuclear, hydro) and reducing our reliance on out-of-province energy sources.

## Timing

In comparison to building a new transmission line infrastructure, energy storage can be deployed relatively quickly. The timely installation of energy storage will help ensure the electrical grid supports our growing economy.

## Procurement

The Ontario Independent Electricity System Operator (IESO) has released a procurement opportunity for additional capacity, the LT1 RFP. The Arnprior BESS has been designed specifically to support local system needs and bring much-needed energy capacity to eastern Ontario and the surrounding area. The Project will be submitted to the LT1 RFP procurement process in 2023.



*This image is not representative of the battery storage technology to be installed for the Arnprior BESS.*

# COMMITMENT TO SAFETY

Lithium-ion energy storage systems are safe and present a low fire risk. Energy storage systems do have unique safety considerations, because they contain high levels of energy. The Project will follow local and internationally recognized safety standards established to ensure storage systems are designed, constructed, and operated safely.



## UL 9540

UL 9540 is an internationally recognized fire safety standard for energy storage systems. UL 9540 evaluates the compatibility and safety of the various components (e.g., power conversion system, battery system, etc.) integrated into a system to ensure safety is maintained across the system when various components are used together. The Project will be compliant with UL 9540.



## UL 9540A Test Method

The UL 9540A Test Method assesses the fire safety hazards associated within battery systems and is widely recognized by safety authorities. UL 9540A requires testing on the battery cells, modules, unit level, and installation level testing until performance requirements for fire safety are met. For example, the unit level test requires no flames beyond the outer dimension of the BESS, no explosion hazards exhibited by the product, and limits temperature increases on adjacent walls. The batteries used for the Project will meet the performance standards identified in UL 9540A, providing confidence that in the rare event of a fire it will not spread past the container in which it started.



In addition to compliance with evolving internationally recognized safety standards, the BESS will have cell and module level sensors, be separated from flammable materials, placed on gravel, and will be remote monitored 24/7. The Project team will work with local fire authorities and 3<sup>rd</sup> party fire experts to develop an emergency response plan.

# PRELIMINARY PROJECT SCHEDULE



# CLASS EA PROCESS UPDATE



ONGOING COMMUNITY CONSULTATION

**Q3 2023**

**Identify Need for the Project  
Assess Alternatives  
Issue Notice of Commencement**

**Q4 2023**



**We are here**

**Issue Notice of Commencement  
(NOC) and website  
Public Information Session #**

**Q2/Q3 2024**

**Preparation of Draft Environmental  
Study Report (ESR)**

**May 10, 2024**

**IESO Contract Award**

**Q2/Q3 2024**

**Issue final notification and  
commence 30-day review period for  
Draft ESR**

**Q3 2024**

**Finalize ESR and submit Statement  
of Completion to MECP**

**Q2/Q3 2025**

**Anticipated Start of Construction**

**Q4 2026**

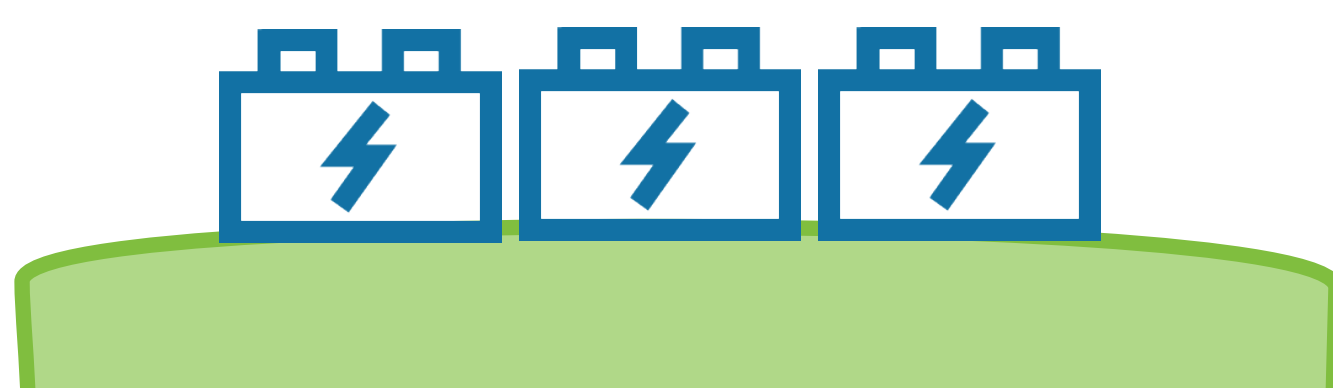
**Anticipated Start of Operations**

# WHAT IS A CLASS ENVIRONMENTAL ASSESSMENT?

PR Development LP and Arnprior BESS Limited Partnership are initiating a Class Environmental Assessment (Class EA) for Minor Transmission Facilities for Arnprior BESS. The Class EA for Minor Transmission Facilities sets out a planning and decision-making process for projects with predictable environmental effects that can be mitigated.

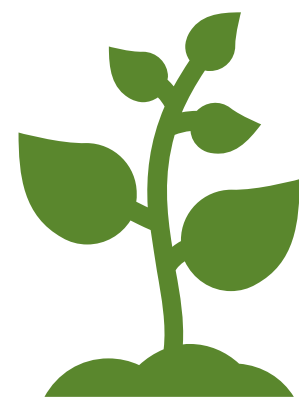
## Key Components

- Identify the need for the Project.
- Define the Study Area and potential alternatives.
- Consultation with Indigenous communities, community members, elected officials, interest groups and government agencies.
- Collection of environmental inventory.
- Identification and evaluation of alternative methods.
- Identification of potential effects and mitigation measures.
- Selection of a preferred alternative.
- A draft Environmental Study Report (ESR) that will be made available for a 30-day public review and comment period.
- Submission of Statement of Completion and Final ESR.



# CLASS EA EVALUATION CRITERIA

## Natural Environment



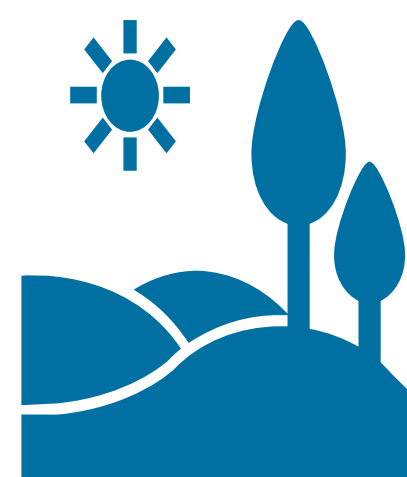
- Vegetation
- Water bodies or aquatic habitat
- Terrestrial wildlife
- Natural hazards (erosion, flood plains, etc.)
- Species at risk/sensitive species

## Socio-Economic Environment



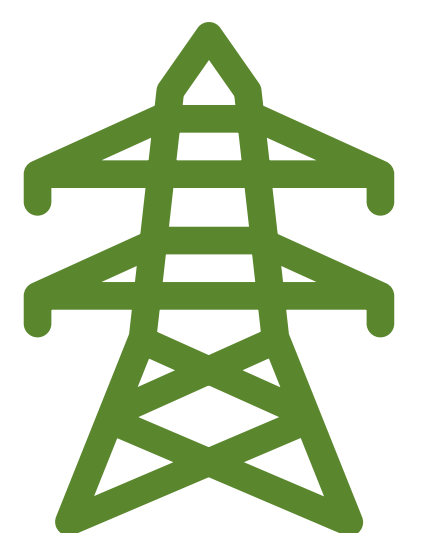
- Residences
- Commercial operations
- Existing infrastructure (roads, pipelines, transmission lines, etc.)
- Agricultural lands, resources and operations
- Archaeological or built heritage resources

## Indigenous / Traditional Land Use



- Indigenous interests (cultural sites, traditional areas, historical lands and resources)

## Technical and Costs

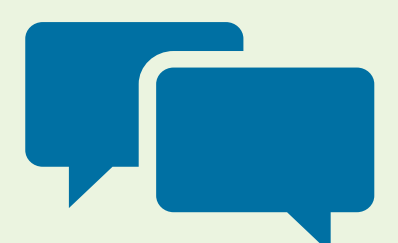


- Construction complexity
- Cost

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# Arnprior Battery Energy Storage Project

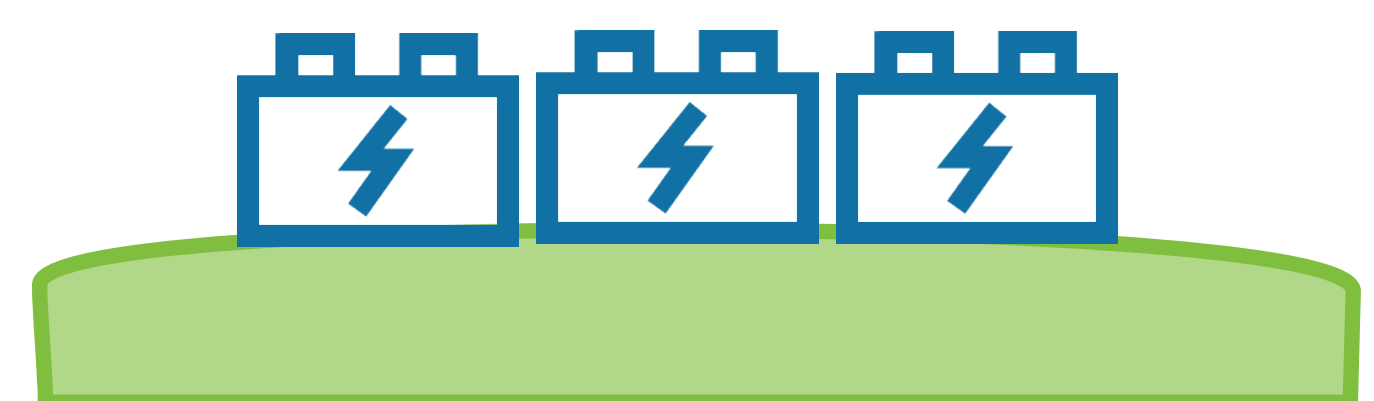
**THANK YOU  
FOR ATTENDING!**

If you have questions or feedback about the Arnprior Battery Energy Storage Project (Arnprior BESS), ask our team today, fill out a feedback form, or contact us at:

**[info@Arnpriorbess.ca](mailto:info@Arnpriorbess.ca)**

**236.808.5270**

**[www.Arnpriorbess.ca](http://www.Arnpriorbess.ca)**



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