Public Community Meeting for Picton BESS Project



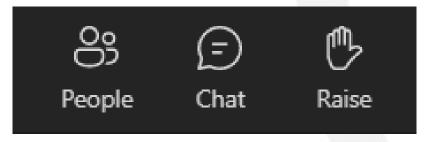
Presented by -





# Meeting Format

- The presentation and the meeting will be recorded.
- The presentation and Meeting minutes will be available on the Project Website within one week of today's session.
- Reminder for everyone to keep their microphones on mute for the duration of the presentation.
- We will pause at various points in the presentation during which attendees can use the "raise your hand" functionality and unmute their mic to provide feedback.
- You can also ask us questions through the chat box.







# Meeting Agenda

- 1. About Us
- 2. Ontario's Power Needs
- 3. What is Battery Energy Storage?
- 4. Why Picton?
- 5. Picton BESS Project Development
- 6. Community and Indigenous Engagement Plan
- 7. Questions and Comments





### Purpose of today's Public Community Meeting

Picton BESS Limited Partnership is proposing Picton BESS, an up to 250-megawatt (MW) lithium-ion battery energy storage project in Prince Edward County located at County Rd 5, County of Prince Edward, ON, KOK 2TO.

### Overview

- The Independent Electricity System Operator ("IESO") is running two Request for Proposals (RFP) for 4,000 MW of new capacity projects in the province.
- The Picton Transformer station and connecting transmission lines have been identified by the IESO as priority areas in their 'Revised Locational Preference Breakdown' document, available on the Long-Term Procurement website.
- Picton BESS Limited Partnership has been created by Compass Renewable Energy Consulting Inc. ("Compass") and is being supported by Capstone Infrastructure Corporation ("Capstone") to develop the Project.
- Capstone & Compass own and operate over 33 energy projects throughout Canada. Capstone has total capital assets of more than \$1.3 billion.
- Picton BESS will bring significant benefits and investment including grid stability
   & flexibility, employment, and spending in the local economy.
- In order to successfully integrate the project into Prince Edward County, we are seeking Community and Indigenous feedback and support that will inform the development of the project.



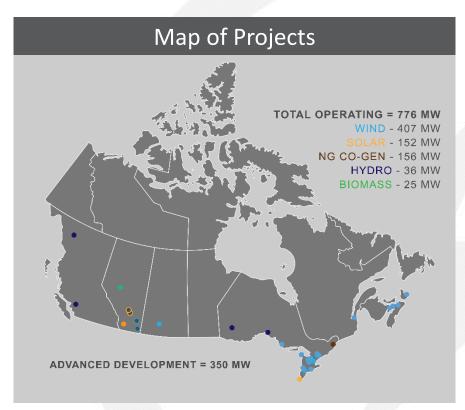


# About Capstone Infrastructure

Capstone Infrastructure Corporation ("Capstone") is an independent, pure-play power producer focused on providing energy to homes and businesses across North America. Capstone currently develops, owns and operates thermal and renewable power generation facilities with a total installed capacity of more than 776 megawatts (MW).

### **About Capstone**

- Founded in 2004 and based in Toronto, Capstone is publicly traded on the Toronto Stock Exchange (TSX:CSE.PR.A).
- Capstone has a long history of operating and investing in clean power businesses including wind, solar, run-of-river hydro, biomass, and natural gas.
- Capstone prides itself as being a leading Canadian independent power producer with over a decade of experience developing, owning and operating diversified power facilities across Canada.
- Capstone is focused on sustainable development and operational excellence to deliver reliable emission-free power to communities.



https://www.capstoneinfrastructure.com/





# About Compass Energy Consulting

Compass Renewable Energy Consulting Inc. ("Compass") has been consulting and developing energy projects in Ontario for over 10 years. We have experience across the development lifecycle from pre-screening, contracting, construction, commissioning and operations.

### 10+ years Experience in Energy Development in Ontario

- We have developed over 100 renewable energy projects in Ontario representing over 100 megawatts (MW) in the last 6 years and supported the development of over 2,000 MWs for our clients.
- Track record of success with principles that designed and launched Ontario's renewable and clean energy procurements in the public sector.
- Our projects provide sustainable energy to communities while offering landowners long-term, guaranteed passive income through lease payments.

### About Picton BESS Limited Partnership

- Picton BESS Limited Partnership has been created by Compass and is being supported by Capstone for the development of the Picton BESS Project.
- Picton BESS Limited Partnership will be the Proponent submitting the project proposal for the IESO's Expedited Long-Term 1 Request for Proposals (E-LT 1 RFP).



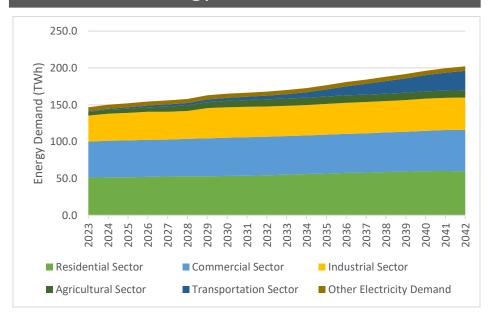


### Ontario's Power Needs

Ontario's Independent Electricity System Operator (IESO), has identified the urgent need to bring 4,000 megawatts (MW) of new supply onto the electricity grid by 2030 as energy demand is expected to grow 30% over the next 20 years.







### What is causing this growth?

- Increased Economic Activity
- Electrification of Transport
- Agricultural Sector
- Retirement of Generation

To close this supply gap by 2030, the IESO has planning two major procurement cycles over 2023-24 — the Expedited Long-Term 1 (E-LT1) RFP and the Long-Term 1 (LT1) RFP.

Capstone has been recognized by the IESO as a Qualified Applicant for both procurements, having the experience and capability to construct new projects in the Province.





# Minister of Energy's Directive

On October 7, 2022, Ontario's Minister of Energy, Hon. MPP Todd Smith, issued a directive to the to procure new electricity resources, with a minimum of 1,500 MW for standalone energy storage out of 4,000 MW.



### MOE's Directive to the IESO

#### MINISTER'S DIRECTIVE

#### TO: THE INDEPENDENT ELECTRICITY SYSTEM OPERATOR

I, Todd Smith, Minister of Energy ("Minister"), hereby direct the Independent Electricity System Operator ("IESO") pursuant to section 25.32 of the *Electricity Act, 1998* (the "Act") in regards to the procurement of electricity resources to ensure the reliable operation of Ontario's electricity system in response to ongoing and growing electricity needs expected in the future and require IESO to report back on certain questions respecting electricity as set out in this Directive pursuant to section 25.4 of the Act, as follows:

#### IV. Procurement Eligibility and Target Capacity

- 11. The Expedited Process, Upgrades Solicitation, and LT1 RFP shall be open to all resource types that meet the mandatory criteria established by the IESO, which may include renewable energy, energy storage, hybrid renewable energy with storage, biofuels and natural gas-fired generation.
- 12. The Expedited Process, Upgrades Solicitation, and LT1 RFP shall have a combined target capacity of approximately 4,000 MW, out of which the target capacity for i) standalone energy storage projects shall be a minimum of 1,500 MW and ii) natural gas-fired generation shall be no more than 1,500 MW.

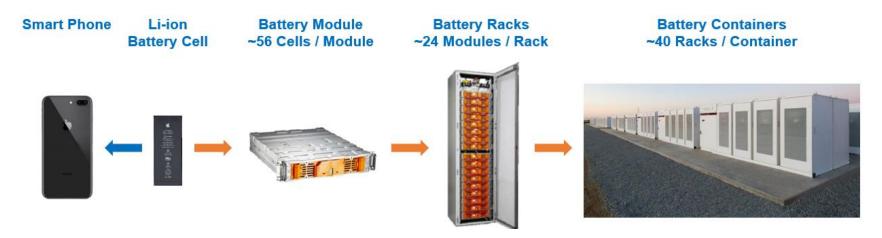
https://www.ieso.ca/en/Corporate-IESO/Ministerial-Directives



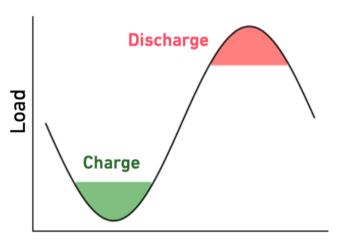


# What is Battery Energy Storage?

### **Battery System Components and Integration**



- Lithium-ion battery cells are the building blocks of Battery Energy Storage Systems (BESS).
- BESS can bridge the gap between high and low demand period, improving the stability and quality of grid power and reducing the price burden on the consumers in the long run.







# What is Battery Energy Storage?

Battery energy storage projects are critical infrastructure assets that provide flexibility and stability to the electricity grid during peak demand periods, avoiding events such as rolling blackouts. Battery energy storage systems (BESS) have been procured by the IESO since 2014.

### **Battery Storage Characteristics**

- Small Footprint Size: 1 13 acres
- **Secure:** Project is fenced in and locked.
- Operations:
  - Project is 24/7 remote monitored and controlled. Operations and maintenance contractors are locally based in Ontario.
  - Scheduled site visits occur 4 times a year.
- Design: Each container or battery storage cabinet will have its own HVAC system and meet provincial sound limits.
- **Safety:** Project will be built to comply with several accredited international standards to ensure safe operation and prevent damage to the BESS and land.

### Look and Feel

- The project will consist of painted, 40 ft containers, electrical equipment and a transformer.
- The containers will rest on a concrete pad and be interconnected.
- The containers will then connect to the transformer before going out to the grid.







# Why Picton?

The Picton Transformer station and connecting transmission lines have been identified by the IESO in their 'Revised Locational Preference Breakdown' document, available on the Long-Term Procurement website.

### **Picton Transformer Station**

rickering 6 55	1 μω
Picton TS	2 pts
Port Hope TS	2 pts
Rexdale TS	4 pts
Richmond Hill MTS #1	4 pts
Richmond Hill MTS #2	4 pts
Richmond South MTS	2 pts
Richview TS	4 pts
Riverdale TS	2 pts
Rockland DS	2 pts
Rockland East DS	2 pts
Runnymede TS	4 pts
Russell DS	2 pts
Russell TS	2 pts
Scarboro TS	4 pts
Seaton MTS #1	2 pts
Sharbot DS	2 pts
Sheppard TS	4 pts
Sidney TS	2 pts
Slater TS	2 pts
Smiths Falls TS	2 pts
South March SS	2 pts
South March TS	2 pts
St.Isidore TS	2 pts
St.Lawrence TS	2 pts
Stayner TS	2 pts
Stewartville TS	2 pts
Strachan TS	4 nts

Source: Revised Locational Preference Breakdown, IESO

Transmission Lines X21, X22					
M?R	115	∠ pts			
W6CS	115	2 pts			
X1H	230	2 pts			
VIL	230	z pts			
X21	230	2 pts			
X22	230	2 pts			
/\ <del>-</del> !!					
X2Y	115	Not Allowed to Connect			
ХЗН	230	2 pts			
X4H	230	2 nts			

- The Picton station is the largest transformer station that serves the Prince Edward County
- The IESO has identified both the Picton Transformer Station and the 230-kV transmission lines X21, X22 as connection points worth 2 points for the RFP's locational scored criteria.





# About The Picton BESS Project

Picton BESS is a proposed up to 250 Mega-Watt ("MW") stand-alone lithium-ion battery storage Project located at County Rd 5, County of Prince Edward, ON, K0K 2T0, being developed by Picton BESS Limited Partnership. It will connect to either the Hydro One distribution lines on County Road 5 or the Hydro One transmission lines running through the property.





- Zoning of the property is Rural Zone 3 (RU3-3)
- Per Zoning By-law No.1816-2006, this zoning allows for wayside pit and wayside quarry, public or private cellular
  and wireless communication towers, private or public water treating plants, water pumping stations, water
  storage towers and sewage pumping stations.
- Our proposed project is within 1 2 km of a solar farm and heavy industry (quarries and cement plants).





# Scale Site Map for Picton BESS

#### Picton BESS

Connection Point Option #1

Connection Point Option #2

Proposed Site Area

Property Outline

4 Hydro One - Circuit X21

4 Hydro One - Circuit M8

PICTON TS







# Scale Site Map for Picton BESS: Option 1







# Scale Site Map for Picton BESS: Option 2







### Local Benefits

Picton BESS will be a critical infrastructure asset that will provide supply to meet growing power demand, additional revenues for landowners, property taxes for Prince Edward County, and economic activity within the County.

### **Local Benefits**

- Grid Stability Prevention of rolling blackouts, power brown outs, and grid failure.
- **Grid Flexibility** The proposed project is neighbouring a solar farm and heavy industry (quarries and cement plants), enabling Picton BESS to be utilized as a key grid flexibility asset.
- **Employment** 900,000 hours\* of high skill, sustainability employment in construction civil works, mechanical installation, electrical connection, landscaping.
- **Financial** Property tax benefits, diversified income stream for the landowners that currently have underutilized land.
- **Economic Growth and Diversification** Needed energy capacity allows for increased development in PEC.
- Natural Gas and Transmission Line Offset Up to \$760M\* in net savings to ratepayers through electrical grid support, intelligence, and resilience.

<sup>\*</sup>over the 20-year life of the asset





### **Environmental Benefits**

Battery energy storage can facilitate deeper renewable energy integration in Ontario's grid to help decarbonize our provincial energy system further. Installation of BESS supports the goals and objectives laid out by the County's Official Plan.

### Prince Edward County's Official Plan

County of Prince Edward's Official Plan – 2021 – Draft, Section 3.4.7 – Energy Generation and Transmission - This Section of the County of Prince Edward Draft Official Plan highlights the support for alternative energy development, including solar and bio-digesters.

Lithium-ion batteries minimize the need for natural gas peaker plants and compliment the ongoing development of renewable energy systems.

Picton BESS can provide up to 4.1 Million tonne in CO2 emission offset over the 20-year life of the project.





# Regulatory Compliance

We have made careful note of the regulatory bodies that must be engaged to secure the required permits and approvals for a battery energy storage Project.

### **Authorities Having Jurisdiction**

- ✓ Prince Edward County
- ✓ Prince Edward County Fire and Rescue
- √ Hydro One
- ✓ Ontario Ministry of Energy
- ✓ Independent Electricity System Operator
- ✓ Ontario Ministry of Environment, Conservation and Parks
- ✓ Electrical Safety Authority





# Safety Features

Picton BESS will be a state-of-the-art development that complies with internationally accredited codes and standards developed to safeguard energy storage systems from operational risks. The system will be certified by an independent third-party for compliance.

### Codes & Standards

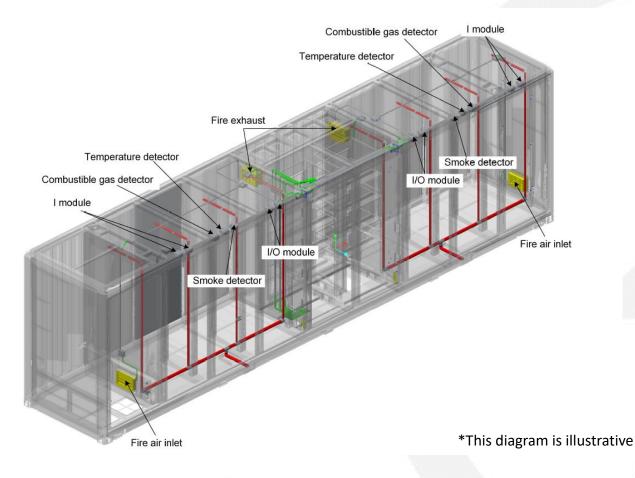
- National Building Code
- National Fire Code Canada
- NECB 2017 National Energy Code of Canada for Buildings
- ULC Underwriters Laboratories of Canada
- UL 1741 Standard for Inverters, Converters, Controllers, and Interconnections
- UL 1973 Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER)
- UL 9540 Standard for Energy Storage Systems and Equipment
- UL 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems
- NFPA855 Standard for the Installation of Stationary Energy Storage Systems





# Automated Fire Suppression

All fire-related components (combustible gas sensor, smoke sensor, temperature sensor, input and output modules, aerosol (if any)) in the BESS system meet UL9540/UL9540A.







# Development Timeline

Successful developments require up to five years to reach commercial operation from initiation. Picton BESS is expected to come online by 2025-26 and have an operating life of more than 20+ years.

#### Commercial Land Lease **IESO Procurement** Decommissioning Operation Consultations with IESO contract award Equipment is removed, Storage System is Technical Municipality, installed and reused, recycled assessments Design and commissioned neighbours, and any construction is Land fully remediated Permitting review **Indigenous** planned 24/7 monitoring in stakeholders accordance with Local electrical grid **Emergency Event** connection process Response Plan **Annual Newsletter** Scheduled maintenance and repowering 2023/2024 2025/2026 2022 2047





# Community and Indigenous Engagement Plan

Capstone and Compass, on behalf of Picton BESS Limited Partnership, has issued a **Community and Indigenous Engagement Plan** that is available on the Project Website. We invite you to read this document to understand more about our public engagement process.

### Our Public Engagement Process Tools



- Project Website, hosts details about the Project and status of development activities, Notice of Public Community Meeting, Community and Indigenous Engagement Plan, regularly updated FAQ section, project Contact details;
- Notice of Public Community Meeting, posted to the Project Website, mailed to the mandatory stakeholders as defined by the IESO;
- Public Community Meetings, a proposed in-person meeting upon successful contract award through the IESO's procurement process;
- Public Community Meeting Minutes, posted to the Project Website after this meeting; and
- Project Email, will accept feedback and provide responses through electronic correspondence

Available on <a href="https://www.pictonenergystorage.com">www.pictonenergystorage.com</a>





# Thank you

### Contact

### **Rishabh Mundhra**

Senior Consultant

Email: info@pictonenergystorage.com

#### **James Marzotto**

Associate Director, Development

Email: james@compassenergyconsulting.ca

Cell: 905-650-3682





# Appendices

- 1. BESS Frequently Asked Questions
- 2. Battery Storage Systems Examples
- 3. Service Commitment





# 2. BESS Frequently Asked Questions

Question	Answer
How safe is a BESS from a fire hazard?	BESS enclosures have built in fire suppression system (FSS) solutions. The FSS system is composed of smoke detectors, gas detectors and aerosols, whose main function is to prevent fire spread in time when any open flame signal or gas signal appears in the battery system and sent out fire signal to EMS system. BESS are certified to UL9540 and UL9540A standards to prevent fire spread and suppression at the cell and the BESS system level. The management of any risks starts at the cell level, with selection of battery chemistry, and compliance with local authorities having jurisdiction (AHJs) and global certifications.  Compass has also engaged the local Fire department for a screening of our site and to provide additional training to equip firefighters with knowledge of the BESS fire protection standards.
What is the noise and visual impact of BESS?	As a part of the Environmental Assessment permitting process, we will conduct a Noise Impact Assessment for the Project. As a part of this report, the ambient noise survey will identify the 'noise envelop' for the Project location based on zoning, proximity to highways and other factors that may affect sound levels.  Once a survey is conducted, any potential risks of the BESS exceeding the 'noise budget' and violating any provincial norms would be mitigated based on suggested noise mitigation efforts that may be required to successfully secure an environmental permit.
What other assurances that BESS meet these standards?	BESS systems are subject to third party certification to ensure they comply with all of the required codes and standards. The Project will have to secure multiple environmental and electrical permits and complete a successful inspection certification prior to commissioning.





# Battery Energy Storage Systems – Lithium-Ion Technology Examples

Project Name	Project Size (MW)	Project Status	Project Address	Project Geolocation
Oneida Battery Storage	250	Contract Negotiation	Haldimand County, Ontario	Latitude: 42.887335° Longitude: -80.119111°
Ameresco Canada – "Project A"	2	Announced	Newmarket, Canada	Latitude: 44° 3' 22.529" N Longitude: 79° 27' 42.149" W
Parry Energy Storage, LP	2	Contracted	5 Elliot House Rd., Seguin, Ontario, P2A 0B2, Canada	Latitude: 45° 18' 9.828" N Longitude: 79° 56' 43.692" W
RES Amphora Ontario	4	Operational	Queen Street Strathroy, Canada	Latitude: 42° 57′ 15.85″ N Longitude: 81° 36′ 43.816″ W
Elmira Energy Storage, LP	2	Contracted	50 Martin's Lane, Elmira, Ontario N3B 2A1, Canada	Latitude: 43° 36' 13.129" N Longitude: 80° 32' 50.395" W
Owen Sound Regulation Services	25	Under Construction	Owen Sound, Ontario, Canada	Latitude: 44° 34′ 26.256″ N Longitude: 80° 55′ 23.772″ W

Source: https://gateway.eme.nrc.ca/en/es/demo\_projects?wbdisable=true





### 3. Service Commitment

We believe in the importance of transparency when communicating with all stakeholders and tying our success to their success.

### **System Design Consultation**

- Design adapted to site requirements and local building by-laws
- Layout review and consultation with landowner
- Engineered construction plan accepted by local building department
- Long-term, dependable designs

### **Risk Mitigation & Minimal System Impact**

- Scheduled Operation & Maintenance
- System insurance and liability insurance. Building owner named as 3<sup>rd</sup> party insured
- Physical security measures, and live performance monitoring

### **Updates & Transparency**

- Compass provides monthly project updates during the development and construction of the project
- Clarity for landlords to understand project progress





