



### LILY LAKE BATTERY ENERGY STORAGE PROJECT

Long Term 1 Request For Proposal

### Community Open House October 30, 2023 Bridgenorth Community Hall 6PM TO 8PM

Meeting Summary Prepared November 6, 2023

Paul Ernsting, PMP E: <u>pernsting@pui.ca</u> M: (705) 875-7366

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### 1.0 LAND ACKNOWLEDGEMENT

We recognize that the project is located on the traditional territory of the Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations, which include Curve Lake, Hiawatha, Alderville, Scugog Island, Rama, Beausoleil, and Georgina Island First Nations.

PUI respectfully acknowledges that the Williams Treaties First Nations are the stewards and caretakers of these lands and waters in perpetuity, and that they continue to maintain this responsibility to ensure their health and integrity for generations to come.

### 2.0 INTRODUCTION

Peterborough Utilities Inc. (PUI) and Enfinite are proposing the Lily Lake Battery Energy Storage project, a 50 MW battery energy storage facility at the Lily Lake Solar Farm in Selwyn Township, located at 394 Lily Lake Road. This proposal is responding to the Long Term 1 Request For Proposals (LT1 RFP) issued by the Independent Electricity System Operator (IESO) in 2023 for new capacity in Ontario to be operating by May 2028.

The 50 MW Lily Lake Battery Energy Storage project will provide up to four hours of continuous power (200 MWh) each business day, contributing to a more reliable grid and enhancing the integration of variable power generation like wind, solar and run-of-river hydro.

As part of the LT1 RFP process, PUI and Enfinite are committed to engaging members of the community to get their feedback on the conceptual design. Hosting an open house is one part of the Community and Indigenous Engagement Plan.

### 3.0 MEETING NOTIFICATIONS

The project website (<u>www.peterboroughutilities.ca/lilylakebess</u>) went live on October 2, 2023 with information about the project and which included the Community and Indigenous Engagement Plan. The website provided details of the community open house event for October 30, 2023 at the Bridgenorth Community Hall located at 836 Charles Street in Bridgenorth, Ontario. A screenshot of the website is provided in APPENDIX A.

On October 2, 2023, notices of the project and the community open house were delivered via registered mail to the adjacent landowners and by email to the seven Williams Treaties First Nations, the Township of Selwyn and the County of Peterborough. These notices were provided more than 15 days before the open house meeting was scheduled.

The notice letter to the adjacent landowners is provided in APPENDIX B.

A notice was posted to the Peterborough Examiner on October 9, 2023, provided in APPENDIX C.

The notice was posted to PUI's Facebook and X (Twitter) social media account on October 6, 2023 (APPENDIX D)

The Township of Selwyn posted the above notice twice on October 5 and 30, 2023.

### 4.0 OPEN HOUSE SUMMARY

The open house was held October 30, 2023 from 6pm to 8pm at the Bridgenorth Community Hall located at 836 Charles Street in Bridgenorth, Ontario. The hall is approximately 10 km away from the project site.

### 4.1 Agenda

The format of the open house was as follows:

- Open meeting with the project team, poster boards for discussion.
- 7pm, host a short presentation with an opportunity for questions and answers afterward.

### 4.2 Hosts

The open house meeting had the following representatives on hand to help answer questions from attendees:

### Peterborough Utilities Inc.

Keith Rye: Manager, Risk & Asset Management Jason Hoskin: Manager, Generation Operations Paul Ernsting: Project Manager

### Enfinite

Taylor Smith, VP Corporate Strategy



### 4.3 Attendees

Attendees were asked to sign in and to indicate if they wanted to be on the mailing list for future project updates.

A written comment sheet was available if attendees preferred to relay their questions that way. No comment sheets were submitted. The template comment sheet is available in APPENDIX E.

A total of nine people attended the open house event. Four people represented Selwyn Council and staff. The remaining five were members of the public and/or adjacent landowners.

### 4.4 Presentation

The presentation was scheduled for 7pm. This was not presented given all attendees arrived well before this time and did not have any further questions when the meeting was set to begin. The presentation slides were a replica of the poster boards prepared for the open meeting. The poster boards are available in APPENDIX F.

### 5.0 **RESPONSES TO QUESTIONS**

A summary has been prepared outlining the main questions that were asked during the open house event from all attendees.

- 1. Why Lily Lake?
  - a. This will be a stand-alone project located at the Lily Lake Solar Farm (meaning it will have a separate grid connection and will be charged from the grid, not from the solar farm).
  - b. The project will occupy up to 4 acres of land.
  - c. Property is currently zoned for solar generation.
  - d. Close proximity to the Dobbin Transformer Station, reduced impact on interconnection
  - e. PUI has an operations office on site.
- 2. We are concerned about property values.
  - a. The site is located on an existing utility scale solar farm. However, we recognize that there is concern over the location of the substation.
  - b. This is a conceptual layout and subject to change based on further detailed investigations, permitting and engagement.
- 3. We hear about lithium battery fires and the potential of harm related to the smoke.
  - a. The chemistry of the Tesla MegaPack 2 is Lithium Iron Phosphate, or LFP. This type of technology does not have a lithium-metal oxide as early grid-scale batteries used. These batteries will not react with water to release the heavy metal compounds noted in earlier incidents (i.e. Arizona in 2019).
- 4. How do you address fire safety concerns?
  - a. Use equipment that meets NFPA-855 requirements (this is the primary safety standard) and that are fully tested to meet the UL 9540A test requirements.
  - b. We use Tier 1 equipment (Tesla) that meets the highest safety standards and reliability with a sophisticated Battery Management System that monitors the performance and health of the batteries to proactively address any issues.
  - c. Design the project to minimize the risk:
    - Enclosures designed to contain the fire and prevent its spread;
    - Physical separation of enclosures to prevent fire from spreading;
    - HVAC and venting systems to maintain appropriate temperatures and remove gases
    - Tesla utilizes "sparkers" to flare any gas build up; and
    - Provide a sophisticated Battery Management System to monitor for gases, smoke, heat and take actions to address any issues.
  - d. Prepare an Emergency Response Plan with Selwyn, Cavan, Kawartha Lakes and the City of Peterborough that will include expert advice and training before the project is operational.
  - e. In the unlikely event of a battery fire, the best and safest approach is to let the fire burn itself out. Emergency Response staff will only control the area outside of a burning container to prevent it from spreading.
- 5. Will this project make noise?
  - a. Yes, the equipment will generate noise from the HVAC equipment, inverters, and the substation.
  - b. The noise study included all sources of sound inside the solar farm property and traffic volumes along Fife's Bay Road and Lily Lake Road. It does not include other sources.

- c. The preliminary results show that acoustic sound barriers will be needed around the battery enclosures and substation.
- 6. Are there any known health issues being close to the battery equipment?
  - a. No, there are no known health issues being around the batteries.
  - b. Please see responses 3 & 4 with respect to fire safety
- 7. Are there any known issues with electromagnetic interference, especially with sensitive equipment like spectrometers?
  - a. There are no known issues with electromagnetic interference related to battery storage and how it injects energy into the grid
  - b. The IESO controls all electricity flow in Ontario. This includes robust protection and control systems to ensure the delivered electricity meets design expectations
- 8. What are the environmental considerations?
  - a. The site location is an existing field within a solar farm, no tree removals and no major grading is expected
  - b. We have placed the battery units over 120 metres away from wetland or water features
  - c. Detailed investigations will be completed to ensure the final project design will meet all regulatory requirements
- 9. What is the municipal support resolution for?
  - a. The LT1 RFP provides proponents with the opportunity to obtain rated criteria points, which will be used to position their proposal more favourably in the LT1 RFP evaluation process. Four (4) rated criteria points are available for evidence of having obtained support from the local municipality where the project is proposed to be located.
  - b. This resolution's sole purpose is to enable PUI and Enfinite to receive rated criteria points for the LT1 RFP or to satisfy its obligations under any awarded LT1 Contract. It may not be used for the purpose of any other form of approval in relation to the Proposal or Long-Term Reliability Project or for any other purpose. The project will still require all applicable regulatory permits before proceeding to construction.
  - c. Peterborough Utilities Inc and Enfinite believe that this project will be of net benefit to the Township of Selwyn

### APPENDIX A – WEBSITE NOTICE

### Utilities Inc.

ӣ / ...What We Do / Power Generation / Battery Energy Storage

### Lily Lake Battery Energy Storage

### **About the Project**

Peterborough Utilities Inc. (PUI) and Enfinite (Project Team) are proposing the development of a Battery Energy Storage System (BESS or Energy Storage) project on its property which hosts the 10 MW Lily Lake Solar Farm. This project is responding to a growing need to increase capacity to meet future electricity requirements in Ontario as requested by the Independent Electricity System Operator (IESO) through the Long Term 1 Request For Proposal (LT1 RFP) program. PUI and Enfinite are both Qualified Applicants in the LT1 RFP.

### Who we are?

<u>PUI</u> is a local generation company, owned by the City of Peterborough, providing energy services and generation from renewable resources like solar and waterpower in the Peterborough area since 1975. We are committed to providing safe and reliable generation to our community.

<u>Enfinite</u> is an energy storage solutions company based out of Calgary, Alberta, developing and operating innovative new methods of power generation and storage to support a smooth transition to a net zero power grid. We are the largest battery storage operator in Canada with six operational projects totaling 210 MWh of energy.

### What is a Battery Energy Storage System?

Energy Storage Systems help support Ontario's clean electricity grid by drawing and storing energy when the demand for electricity is low and there is excess generation, and then delivering that energy back to the grid when the demand for electricity is high.

- Improves the utilization of variable power like wind, solar and run-ofriver hydro
- Increases the capacity needed to meet Ontario's growing electricity

needs

• Improves grid reliability and reduces the impact of outages on the network

### **Proposed Project**

The project will be at 394 Lily Lake Road, co-located on the property used for the Lily Lake Solar Farm in the Township of Selwyn, outside the City of Peterborough.



- 50 MW project capacity delivering four hours of continuous energy (200MWh).
- Occupy up to 4 acres for Energy Storage components and power equipment
- Connect to Hydro One's Dobbin Transformer Station (Dobbin TS) located across the road from the project property minimizing the impacts associated with grid connection.



The Deliverability Test (an IESO assessment to determine if the proposed Energy Storage project can connect to the electricity system) has shown that there is available capacity at Dobbin TS to connect this project. Detailed design will consider additional connection impact assessments with Hydro One.

### **Community Open House**

We are hosting a community information session on October 30th from 6pm to 8pm at the <u>Bridgenorth Community Hall</u>, located at 836 Charles Street in Bridgenorth. We would like to encourage you to attend and ask any questions you may have about the proposed project.

### Consultation

A <u>Community & Indigenous Engagement Plan</u> has been developed for this project which outlines the approach for communication important information about the project. The Project Team will provide information on upcoming meetings through this website, as well as through our Facebook and X (Twitter) accounts.

### Schedule

The Project Team will submit the LT1 RFP application by December 12, 2023. The target date for notice of award to successful proponents will be June 30, 2024

If the Project Team is awarded a contract for the project, the project is expected to be in operation by May 2028. The plant is expected to operate for at least 20 years.

### **Frequently Asked Questions**

### What are you proposing to build?

The Project Team is proposing to install a battery energy storage system on available lands within the 10MW Lily Lake Solar Farm that PUI has operated safely since 2011. This project will be 50 MW providing four hours of continuous power (200 MWh) each business day, using up to 4 acres for the batteries, substation and supporting components.

How will this benefit our community?

- Improves local grid reliability and resiliency
- Creates opportunities for local employment and services
- Generates local tax revenues and dividends

### What are the environmental benefits?

- Clean non-emitting resource, reduces reliance on natural gas plants
- Reduces energy loss and waste
- Avoids the need to build major transmission upgrades

### What are the environmental considerations?

The project will be located within the existing solar farm, with the battery components located away from any sensitive water features. Studies will be completed to review the new equipment, which will influence the final design and location of the project as needed. If a contract is awarded, the project will require a Minor Class Environmental Assessment for the substation, which will also include the Energy Storage components. It may also include a development permit with the Otonabee Region Conservation Authority.

### What are the noise considerations?

The noise is generated by the HVAC systems for the battery packs, fans for the inverters and the transformer equipment. Studies and mitigation measures (where required) will be implemented to ensure no adverse impacts on the adjacent lands or surrounding areas.

### Are batteries a fire hazard?

Lithium-ion batteries are commonly found in many electronics and electric vehicles today and are a safe and reliable form of delivering electricity. Tier 1 suppliers include safety at all levels of design and production and are equipped with a sophisticated Battery Management System (BMS) which can detect potential issues early on and allow operations staff to address the issue in a timely manner. The Project Team will incorporate international standards and best management practices, and work with the local fire departments to educate them about the technology and coordinate a plan in the unlikely event of a fire.

### If the project is approved, when will it be built?

- Contract award is expected June 30, 2024
- Detailed design, permitting and procurement will take up to 2 years
- Construction will take up to 12 to 16 months
- The milestone date to be in operation is May 2028

Will there be another opportunity to provide comment or feedback on the project?

- Questions or comments on the project can be directed to Paul Ernsting
- There will be ongoing community and Indigenous engagement and consultation through out development process. Should the Project Team be successful in obtaining a contract, additional meetings will be held to solicit feedback.

### **Peterborough Utilities Group**

PO Box 4125, Station Main 1867 Ashburnham Drive Peterborough ON K9J 6Z5 <u>Contact Us</u>

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### APPENDIX B – NOTICE LETTER



### PETERBOROUGH UTILITIES INC. 2245 Keene Road, PO Box 4125, Station Main Peterborough ON K9J 6Z5

October 2, 2023

Dear Landowner,

I am writing to you on behalf of Peterborough Utilities Inc. (PUI) who own and operate the Lily Lake Solar Farm (LLSF) near you, located at 394 Lily Lake Road, Selwyn.

The Independent Electricity System Operator (IESO) has commenced procurement of 4,000 Megawatts (MW) of new power capacity to address future growth in electricity demand and enhance grid reliability as we move towards a clean energy economy.

PUI and our partner Enfinite are planning to participate in this procurement process, referred to as the Long-Term 1 Request for Proposals (LT1 RFP), by proposing a Battery Energy Storage System (Energy Storage) within LLSF.

The project capacity will be 50 MW and will provide four hours of continuous power (200 MWh) each business day as required. The project will use up to four acres of land within the solar farm for the components and supporting infrastructure.



Energy Storage helps support Ontario's clean electricity grid by drawing and storing energy when the demand for electricity is low and there is excess generation, and then delivering that energy back to the grid when the demand for electricity is high.

Energy Storage will improve the utilization and integration of variable renewable power generation like wind, solar and run-of-the-river waterpower and will enhance the reliability of Ontario's electricity grid.

	Activity	Schedule
1	Submission of LT1 RFP Applications	December 12, 2023
2	IESO Notice of Project Award & Contract Signing	June 30, 2024
3	Target Commercial Operation Date of the Project	May 2028

The IESO schedule to consider applications for Energy Storage projects is as follows:

If the project is successful in receiving a contract, it will require permitting through the Minor Transmission Facilities Class EA, the Otonabee Region Conservation Authority, the Ministry of Environment, Conservation and Parks (MECP) for noise emissions. and the Township of Selwyn for Site Plan approval and building permits. These regulatory processes will include additional study and design work, combined with ongoing consultation and engagement opportunities.

You can also visit our webpage at <u>www.peterboroughutilities.ca/lilylakebess</u> for more information about the project.

We are hosting a community information session on October 30<sup>th</sup> from 6pm to 8pm at the Bridgenorth Community Hall, located at 836 Charles Street in Bridgenorth. We would like to encourage you to attend and ask any questions you may have about the proposed project.

If you have any questions regarding these matters, please do not hesitate to contact me directly. Your input and consideration for this exciting storage project is greatly appreciated.

Yours very truly,

Paul Ernsting Project Manager Mobile: (705) 875-7366 E-mail: pernsting@pui.ca

### APPENDIX C – PETERBOROUGH EXAMINER NOTICE

### SPORTS A14

### NATIONAL HOCKEY LEAGUE

### **Golden Knights are looking to repeat**

McDavid's next trick and Ovechkin's quest to catch Gretzky in all-time goals among top storylines

### JOSHUA CLIPPERTON

Jack Eichel felt like the clock was going in slow motion.

The Vegas Golden Knights were well on their way to capturing the franchise's first Stanley Cup back in June - up 3-1 on the Florida Panthers in the series and 6-1 through 40 minutes of Game 5.

The teams then proceeded to combine for five goals in the third period, including Vegas captain



point campaign - the NHL's highest total since the mid-1990s - on the way to another MVP performance.

So what's next on the docket? Deciding to become an elite defensive forward and win the Selke Trophy?

"I mean, he probably could," said Oilers forward Leon Draisaitl, who finished second behind his teammate in points. "He's that talented." But individual accolades have never been the focus

### MARKETPLACE

### NOTICE BOARD

PUBLIC NOTICE

CG57JC8V.



The Independent Electricity System Operator (IESO) has opened the Long Term 1 Request For Proposals (LT1 RFP) to procure over 2,500 MW of new energy capacity in Ontario.

Peterborough Utilities Inc. and Enfinite are planning to participate in the LT1 RFP by proposing a stand-alone 50 MW battery energy storage project at the Lily Lake Solar Farm in Selwyn Township, located at 394 Lily Lake Road.

We would like to invite everyone to an open house at the Bridgenorth Community Hall (836 Charles Street, Bridgenorth, ON) on October 30, 2023 from 6pm to 8pm to meet our project team and learn more about the proposed project. A short presentation will be made at 7pm.

Please consider attending as we continue to explore this exciting opportunity. You can read more about us and the project at www.peterboroughutilities.ca/lilylakebess



### OBITUARIES

MACDONALD, Robert "Bob"

It is with great sadness that the family of Robert "Bob" his MacDonald announce passing. Peacefully with family by his side on Wednesday, October 4, 2023, at the age of 74 at Peterborough Regional Health Center. Bob, who battled with serious medical issues in recent years, showed his courage in facing life's challenges with a smile. Despite the challenges Bob came out a hero and stayed strong till the end.

Bob was born in Scarborough Ontario on November 7, 1948. Predeceased by his parents William and Helen Macdonald, Bob was the oldest of three and was sadly predeceased in 2018 by both his brother Doug and Sister Linda (Rick). His special Aunt Helen, who flourished his love of sports and bought him his first pair of hockey skates was a constant in his life till her death in 2017.

Bob worked as a teenager at Dominion and then at Hobart Canada before joining the Metro Toronto Police force in 1970. As a Constable Bob worked in many departments on the police force and was a member of their sports teams, Blue team for Baseball and in the Hockey league.

Georgian Bay introduced Bob to the cottage life that he would come to love throughout his life. Most of all Honey Harbour gave Bob the love of his life Bev, who he met on the dance floor in the summer of

1968. Bob and Bev married in 1971 and created a beautiful life together first settling in Ajax, Ontario for 30 years then retiring to Peterborough, Ontario for the past 18 years.

Bob became a father when his son Brad (Annie) was born. Then welcoming a daughter Heather (Keith) soon after. Bob spent countless hours coaching and supporting his family in their love of sports and activities before retiring in 2000. Retirement gave him some time to enjoy a round of golf, game of pool or darts. Soon after Bev also retired, they began welcoming grandchildren.

Beloved Papa of grandsons Nolan, Ty, Ian, and Ethan, and granddaughter Allison. Bob was extremely passionate and proud of his grandchildren. He spent countless hours in the bleachers whether it was a game or just a practice. He truly loved attending all of their school events, recitals, graduations and sports, watchhis grandchildren with ing pride and endless love.

Over the past 33 years Bob and his family have enjoyed their summers at Lovesick Lake in Burleigh Falls, ON. He will be fondly remembered by his extended family, colleagues, and friends. Many of these people would describe Bob as a kind, supportive, honest man. Countless memories have been made with Bob at family and friend gatherings throughout the years.

Family, friends, and others whose lives Bob touched are invited to the Newcastle Community Hall, 20 King Ave invited W. Newcastle, Ontario from 1 p.m. - 4 p.m. on Sunday, October 29, 2023, to reminisce, grieve, support each other, and of course remember Bob.

APPENDIX D – SOCIAL MEDIA NOTICES



### Peterborough Utilities Group October 6 at 8:32 AM · 🕥

### Community Information Session

Peterborough Utilities Inc and Enfinite are proposing a 50 MW battery energy storage project to be co-located at the Lily Lake Solar Farm. We are hosting a community information session on October 30. We encourage you to attend and ask any questions you may have about the proposed project. https://bit.ly/lilylakebess

The Independent Electricity System Operator (IESO) has opened the Long Term 1 Request For Proposals (LT1 RFP) to procure over 2,500 MW of new energy capacity in Ontario.

Peterborough Utilities Inc. and Enfinite are planning to participate in the LT1 RFP by proposing a stand-alone 50 MW battery energy storage project at the Lily Lake Solar Farm in Selwyn Township, located at 394 Lily Lake Road.

We would like to invite everyone to an open house at the Bridgenorth Community Hall (836 Charles Street, Bridgenorth, ON) on October 30, 2023 from 6pm to 8pm to meet our project team and learn more about the proposed project. A short presentation will be made at 7pm.

Please consider attending as we continue to explore this exciting opportunity. You can read more about us and the project at <u>www.peterboroughutilities.ca/lilylakebess</u>







APPENDIX E – COMMENT FORM



### QUESTIONS AND COMMENTS SHEET

Public Open House Meeting	October 30, 2023 from 6pm to 8pm		
Location	Bridgenorth Community Hall		
Name (Optional)			
Address (Optional)			
Phone (Optional)			
Email (Optional)			
Mailing List	Yes No		
This form can be filled out at this meeting or provided to Peterborough Utilities Inc at:	2245 Keene Road POI Box 4125, Station Main Peterborough, ON K9J 6Z5 Attn: Paul Ernsting	Paul Ernsting, Project Manager E: pernsting@pui.ca	

- 1. What best describes your interest in the project?
- □ Adjacent landowner
- □ Interested Community Resident
- Municipal
- □ Other:\_\_\_\_\_

2. How did you hear about the project and/or this meeting?

- Letter
- □ Social Media
- □ Newspaper Notice
- □ Website
- $\hfill\square$  Word of Mouth
- Other:

3. What did you find most useful about the meeting and the information presented?

- $\Box$  Purpose of the Long Term 1 RFP
- □ Project Team
- □ Project Details
- □ Project Location
- □ Project Timeline
- □ Supporting Studies
- □ Other:\_\_\_\_\_

Written comments on reverse ightarrow



4. What is your opinion of battery energy storage in general as a new source of power to help Ontario meet its growing electricity demand and address climate change? Are you supportive or opposed, and why?

5. Do you have any concerns about the development of a battery energy storage project at this location? Please explain.

6. What is your overall opinion about a battery energy storage project at this location? Are you supportive or opposed, and why?

7. Do you have any other comments related to the proposed project that you would like us to be aware of?

### APPENDIX F – POSTER BOARDS



Storage Project Public Meeting: October 30, 2023 Bridgenorth Community Hall



# Lily Lake Battery Energy



### Welcome!

## Meeting Plan

- Who we are
- The opportunity
- Battery Energy Storage
- Proposed project
- Regulatory pathways
- Supporting studies
- Schedule
- Next Steps
- Questions

Short presentation at 7pm



### Land Acknowledgement

We recognize that the project is located on the traditional territory of the Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations, which include Curve Lake, Hiawatha, Alderville, Scugog Island, Rama, Beausoleil, and Georgina Island First Nations.

PUI respectfully acknowledges that the Williams Treaties First Nations are the stewards and caretakers of these lands and waters in perpetuity, and that they continue to maintain this responsibility to ensure their health and integrity for generations to come.



### Who we are

- Peterborough Utilities Inc. (PUI) owns and operates local renewable energy facilities:
  - Our shareholder is the City of Peterborough
  - We own and operate 26 solar, hydro and biogas facilities including the 10 MW Lily Lake Solar Farm in Selwyn Township
- Enfinite is an energy storage solutions company based in Alberta:
  - Owned by TD Asset Management
  - The largest battery storage operator in Canada with 6 operational projects totaling 210 MWh of energy





## The Opportunity

- Ontario is entering a period of significant transition of its electricity grid driven by: (1) electrification of the economy (i.e. electric vehicles); (2) closure of the Pickering nuclear plant; and (3) climate change and net zero objectives.
- The Independent Electricity System Operator (IESO) is procuring over 2,500 MW of new capacity through the Long-Term 1 RFP (LT-1 RFP)
- Energy storage a key part of this new capacity
- Proposals are due **December 12, 2023**.
- LT-1 Contracts will be awarded to successful applicants in June 30, 2024.



### What is Battery Energy Storage?

- Battery Energy Storage Systems (BESS) enable energy from renewables, like solar and wind, to be stored and then injected back into the electricity grid when the power is needed most.
- Lithium-ion batteries, which are used in mobile phones and electric cars, are the most common technology for large scale plants.
- **BESS equipment** is assembled within purpose-built enclosures and installed at a site on foundations.
- Tier 1 BESS equipment suppliers include companies like Tesla.
- The BESS is connected to a **substation** which transforms the voltage to the required level to connect to the grid.
- The expected life of the batteries is **20 years**, after which the equipment is removed from site and can be recycled.



Image courtesy of Tesla

## Why Battery Energy Storage?

Battery Energy Storage Systems (BESS) help support Ontario's clean electricity grid by storing energy when the demand for electricity is low and there is excess generation, and then delivering that energy back to the grid when the demand for electricity is high.

- **Enhances** the integration of variable power like wind, solar and run-of-river hydro.
- **Increases** the capacity needed to meet Ontario's growing electricity needs.
- **Improves** grid reliability and reduces the impact of outages on the network.
- **Avoids** the need to build new transmission lines and fossil-fuel based generation.





### Battery Technology Overview

- Battery chemistry uses Lithium-Iron-Phosphate (LFP)
- Long lifespan, wide operating temperature range, safe to operate, recyclable
- Weather-proof modular enclosures (NEMA 4, IP66) are easily connected, quicker installation
- Temperature controlled with HVAC to provide optimal battery performance
- Heat, smoke, gas and fire detection systems installed. Includes effective ventilation, deflagration panels and sparkers.
- Battery Management System (BMS) continuously monitors all components and provides real-time information to our operators

### Lily Lake **BESS Project**

- 10 MW Lily Lake Solar farm occupies 130 acres.
- The lands can host a 50 MW battery energy storage project using about 4 acres
- The property is located adjacent to Hydro One's Dobbin TS for a simple, low-impact, grid connection.
- PUI has a local operations office on site to ensure reliable and safe operation.

### BATTERY DETAIL (SEE INSET) LOCAL **OPERATIONS** OFFICE SUBSTATION SEE INSET)







### **Regulatory Pathways**

### Ministry of Environment, Conservation & Parks

- Class Environmental Assessment for Minor **Transmission Facilities** 

  - $\checkmark$ process
- Environmental Activity Sector Registry (EASR), Noise
  - areas (Class 3, 40 dBA)
- Selwyn Site Plan Approval
  - Building permits
- Otonabee Region Conservation Authority

✓ Needed for a transformer substation >= 115 kVBESS will be considered as part of this Class EA

 $\checkmark$  Must comply with nighttime sound levels in rural





### Supporting Studies for RFP

- Stage I archaeology study
- Environmental screening
- Noise study to confirm compliance with noise levels (40 dBA at nighttime)
  This will include existing sound sources



March LT1 RFP engagement launch

May Draft LT1 RFP & Contract

June Preliminary Test

### Schedule Summary

Deliverability

September Conclude preliminary Deliverability Test

September Final LT1 RFP & Contract

- Proposals due December 12, 2023 Contracts to be awarded by June 2024 Detailed design, consultation/engagement and
- permitting to follow
- Construction anticipated to take up to a year
- Projects must be in service by May 2028
- 20-year contract, similar to previous energy programs (i.e. FIT)



December Proposal Submission

Q1/Q2 2024 Evaluation and Contract award

# Connecting community

### Our plan to connect

- Community and Indigenous Engagement Plan
- Notices to Williams Treaties First Nations  $\bullet$ 
  - community
- Notices to the adjacent landowners
- Notices to Selwyn and County of Peterborough
- Dedicated project website
- Social media and newspaper ads to share information
- Open house event

### **Ongoing engagement should** a contract be awarded

# Update plan based on feedback from each

### Next Steps

- Project feasibility & development work (ongoing)
- Community engagement (ongoing)
- Confirm project scope and proposal forms (November)
- Request for municipal support resolution (November 28, 2023)

 Considers community feedback and screening studies

 Submit RFP application for the project (December 12, 2023)

Note: Successful projects will be notified June 30, 2024