



Public Community Meeting Minutes

Project: Grey Owl Storage Project
Location: Tara Community Ctr
Meeting Date: November 2nd, 2023
Nameplate Capacity: 400MW Battery Energy Storage
Proponent: Shift Solar Inc.

Summary

A Public meeting was hosted by Shift Solar to present information on the proposed Grey Owl Storage project and give members of the public an opportunity to provide comments, concerns and ask questions.

The Community Hall was open at 5:30pm for folks to arrive, grab a coffee or snack and find a seat. Shift was available for questions as well. At or around 6pm, Shift presented a PowerPoint (slides to follow), that provided project name, legal name of the proponent and contact information, nameplate capacity, type of technology, info about Shift, information about the IESO procurement, information about energy storage, the project proposed location and connection including a scale map, and a project timeline.

Following the presentation, Shift opened the floor for Q&As (notes by Stantec to follow).

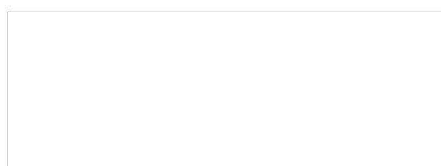
Notification

Notice of the Public Community Meeting was provided through the following mechanisms:

- Email to Chief Administrative Officer of the municipality attention Sylvia Kirkwood and Christine Fraser-McDonald as well as Deputy Clerk Julie Hamilton
- Registered mail notices to property owners of land adjacent to the boundaries of the project site
- Standard mail notices to property owners within 1km of the project site
- Email to other regulatory agencies and stakeholders identified as having potential interest
- Although the project is not located on indigenous lands, Email notice was sent to Saugeen Ojibway First Nation
- Newspaper ad in the Grey Bruce This Week posted October 26th, 2023.

Attendance

There were 36 people in attendance.



To: Mike Brugge
Shift Solar
Project/File: 160901047

From: Dominique Zeldin and Justine Lunt
Stantec Consulting Ltd.
Date: November 8, 2023

Reference: Grey Owl Storage Open House Q&A Summary

PRESENTATION DATE: November 2, 2023

PRESENTATION BY: Mike Brugge, Mario De Agüero, Benoit Pinot de Villechenon.

PRESENTATION START TIME: 5:57 pm

Q AND A START TIME: 6:16 pm **END TIME:** 7:23 pm

Question: How many containers will there be?

Answer: approximately 400 containers, but this is at preliminary stage.

Question: You mentioned that you considered it a good spot to conceal the project, can you elaborate on how you conceal the project?

Answer: Not a lot of residents, natural buffer to the south, with some added landscaping along the roads and along west side should be able to visually conceal.

Question: No solar panels?

Answer: no solar panels, just energy storage.

Question: When doing site selection, do you look at zoning? Almost the entire area is in a flood plain.

Answer: It's not the first thing we look at but we do consider it. We have met with local planners and Conservation Authority to get those details and discuss, but a lot of that would be worked out in other phases of the project, such as permitting. At this time, we don't have access to flood maps, just the area regulated by the Grey Sauble Conservation Authority.

Question: Could this move to somewhere where there is no fresh water and good farmable land? What about quarries?

Answer: It is difficult to permit on brownfields such as quarries with possible remediation requirements and other permitting requirements. We will continue to look at all the constraints and mitigation measures that can be implemented, and all things being noted, would be considered through more detailed permitting phases.

Question: Are there neighbors?

Answer: roughly 10 adjacent neighbors and 25 total within 1km radius of the project.

Question: Your graph shows that until 2028 we have energy, if it's built next year, it would be wasted?

Answer: This project wouldn't start until 2027, so it does cover where there are predicted shortages in the future. Further, the province needs to build above the projected need to serve the public reliably. The graph is a high level visual aid, and not intended to be viewed at a granular level.

Question: Will the site be on a concrete slab? What type of batteries will be used?

Reference: Grey Owl Storage Open House Q&A Summary

Answer: Screw piles with gravel underneath. Concrete is not the best for a project like this. Lithium Ion batteries are extremely safe. There is a low risk of fire, but many design elements are designed to prevent spread of fire in the containers themselves.

Question: Are you a farmer? This is good farmland that shouldn't be used for this type of work. We can't survive without fossil fuels.

Answer: Understood if the site truly isn't suited to it then the project wouldn't proceed.

Question: How big the batteries would be?

Answer: Showed map of site plan, and talked about the size of containers being comparable to a shipping container.

Question: Let's assume that a suitable location can be found, what is it like to live next to one of these? Emissions, sounds?

Answer: Noise assessments are part of the key studies completed. 40 decibels is the requirement for nearest receptor. If you stand next to a container it is something like 60 decibels. Also sound walls would be installed if required to help reach the levels the regulation requires. No emissions as no combustion is happening, it's just batteries.

Question: What voltage do the batteries have? Do you need a transformer?

Answer: transformer would be needed yes, similar noise to the containers, and a larger transformer substation closer to the line, likely to be surrounded by noise walls.

Question: So it's sounding like this isn't the best location for it, but if you did find a place and the property changes hands? What happens if the new landowner doesn't want it?

Answer: We lease land from the landowners, so it is tied to the land. If they don't want the project any new landowners shouldn't buy the land.

Question: When the project is done, would it carry on?

Answer: maybe a chance for a small extension, only have a lifespan of 20-25 years due to battery life.

Question: In terms of temperature what is the benefit or disadvantage of dealing with cold temperatures?

Answer: there would be power draw continually for HVAC equipment, and heating, the containers stay quite warm from the batteries themselves. Otherwise no real impact from cold temperatures.

Question: You picked this location because it's accessible, and your close to the power line? I don't think you took into consideration the neighbours beside you? And it's very good agricultural land. Are you really considering the neighbours? This is interfering.

Answer: It is something we consider, and it's something we address during the design phase. It's difficult to find land where people don't live in Ontario, it's something we do our best with, but we just have to mitigate and listen to feedback.

Question: Why does the project include the 50 acres to the left of the project site?

Answer: We do have site control over both properties, to have some buffer to allow for flexibility in design choices if the project is to move forward. Important thing to mention is that the project is only the footprint, the rest is still farmable.

Question: if I get this right, we need proximity to transmission line? There are a lot better properties that would be less intrusive on neighbours, that have not grown arable land? Are you people here to put a site on this property? Or to put a site on this corridor?

Answer: We're here to talk about this property and this project. It doesn't mean that the project can't be moved over the next 3 to 4 years of development. Shift Solar does prefer lands that have been worked

Reference: Grey Owl Storage Open House Q&A Summary

Question: What does that do to local planning if this was successful because it's difficult to imagine this as a permitted use?

Answer: Nothing. If a contract is secured, we still need to abide by the local planning process.

Question: How then do you go about looking for a property? Was the owner willing to work with you? Did you look at a map?

Answer: We start with where the project is needed, following transmission lines with capacity, and looking for flat cleared land, close to major roads, being close to larger towns. Then Shift Solar approached multiple landowners.

Question: Viability is based on buying power from OPG in the night, and sell it back in the day while it's high?

Answer: Yes, it's the IESO that buy the power and pay for the capacity service it provides. The IESO need storage to accommodate the gap between generation and demand of power and when it's needed.

Question: Are you not telling the whole truth, the landowner was talking about solar panels, and is under the impression it's solar panels?

Answer: When we first approached the landowner, we were planning for a solar project at the time, since then the project has changed to be an energy storage project based on the procurement.

Question: Any existing projects in Ontario?

Answer: Yes, there are many smaller pilot projects in Ontario. I helped develop and construction the Stratford project that is roughly a tenth the size of this project. There is also a 250 MW site in construction called the Onieda project.

Question: Any time you change state of something there is some loss, AC to DC back to AC etc., so what percentage are you getting back after drawing it out?

Answer: We refer to that as round trip efficiency (RTE), and we lose around 5-6%.

Question: Have you measured the energy fields off of these projects? Energy storage radiates something off of it.

Answer: Transmission lines have magnetic flux that is relatively small. The batteries are DC power, so the batteries don't produce a magnetic field.

Question: How common is it just to have power storage by itself? Because creating energy and storing it is a more common situation isn't it?

Answer: It depends on where you are in the world and what's needed. Certainly wind and solar and storage work well together. When solar is generating power that's when we need the power here in Ontario, but from wind and nuclear they are going at night and that's when we want to shift.

Question: You're hoping to make a successful bid to IESO, does Shift Solar maintain ownership for its life?

Answer: Shift Solar maintains ownership currently and will during bid submission, construction and operation.

Question: Who would be applying for permits?

Answer: Shift Solar will be applying for permits.

Question: All units will have to be air conditioned? My history tells me when we are short on hydro, it's the hottest days when everyone has their air conditioning on etc. So you're going to use a lot of hydro on those hot days, when we are short hydro already?

Answer: The containers are fan-cooled, and will be using a small amount of power, and the energy in the shortage is being sent out back into the system from the batteries, so they would be providing more than they are using.

Reference: Grey Owl Storage Open House Q&A Summary

Question: We (farmers) don't depend on hydro, and we don't care if hydro goes out, we all have generators, so whether you put the hydro on the system or not, some of the large farms are using energy a lot more than one household. This hydro is probably going to go to Toronto, this is to keep the cities going if we have a blackout?

Answer: Yes, it's an overall provincial need, and the projects do help local availability and reliability.

Question: Why not go to northern Ontario?

Answer: There isn't much availability to connect up north and there is less need up there. It's very infrastructure dependent.

Question: I'm not positive on the Meaford project? Bang for your buck, is that not a cheaper way to store energy then?

Answer: Pumped storage is much, much more expensive with a longer timeline to develop and construct. But both are very different economic profiles where pumped storage can support longer duration needs.

Question: What kind of information will you be providing to people who left their email?

Answer: If we're successful in the award, and kick off that work, then we would be reaching out to engage with stakeholders, adding your name to the list ensures you are contacted should this project proceed, for further engagement.

Question: For future presentation can you provide a street level or rendering of what this project would look like from the ground

Answer: Yes

Question: Moving forward, could it be only half the size there? Or a sound wall?

Answer: Yes, and yes

Question: What size is economically feasible? Up to 400?

Answer: Yes it could be half this size., It's not the size that determines economic feasibility, it's the duration. An hour to 4 hours are typical, and if you need longer duration storage, that's where you get into different technologies like pumped storage.

Question: What is the life expectancy of batteries?

Answer: 20-25 years

Question: Is there an efficiency drop every year in the battery?

Answer: Yes, it's minimal and depends on how much you use it and what the stresses are on the battery. You would be at around 70% of original capacity at end of battery life generally.

Question: Wouldn't it be better to be closer to where its ultimate customers are or where the power is being generated.

Answer: Not always possible to locate next to generation sources, really infrastructure dependent.

Question: What guided you to this area?

Answer: In the last round there was guidance to get storage in the southwest, for this round there was no guidance, we looked for targeted spots where there is infrastructure capacity and where redundancy is needed in the system.

Question: How many others are bidding?

Answer: We don't know what will be bid, there are 48 qualified applicants, there are a lot of projects we don't know how many will be bid.,

Reference: Grey Owl Storage Open House Q&A Summary

Supplemental Detail: There were 388 projects representing 67GWs that applied for deliverability. About 265 projects representing 45GW were accepted. From E-LT1, we figure less than half of that will be bid.

Question: Is Shift Solar publicly traded?

Answer: No, private company of 3 people.

Question: Who has the money in this so far?

Answer: Shift Solar and our investors

Question: How do you figure out the sound that's produced?

Answer: We have to do on site baseline tests and desktop modelling to make that determination.

Question: Is the municipal planning in place to deal with these projects, related to setbacks etc.?


Answer: Probably not specifically for battery storage, but we tend to fall under other utility infrastructure, and will work closely with the municipality to ensure we are proceeding in line with their expectations.

Question: Is there something where you put money into the community to operate here, like a community benefit fund?

Answer: Usually there are benefit sharing programs, but they are determined on a case by case basis. No specific answer at this time, but Shift Solar would be open for discussion as the project moves forward, and we would be open to discussing with the community what something like that would look like here.

Question: You put these where the problem isn't to help elsewhere?

Answer: No, these help stabilize the problem locally, as well as support the overall grid. There is a need in the Owen Sound transmission substation where this transmission line leads. The Owen Sound transmission substation has distribution feeders that supply this area and all around Bruce County.



Grey Owl Storage - Community Engagement Meeting



WELCOME

Community Engagement Meeting

Welcome, please sign in and provide your contact information if you would like to receive project updates. If you have any questions, there will be a formal Q&A period after the presentation. We will be available until 7:30pm for more private discussions or comments.

Project Name:	Grey Owl Storage
Date:	November 2nd, 2023
Legal Name of the Proponent:	Shift Solar Inc.
Nameplate Capacity:	400MW
Technology:	LFP Storage



TODAY'S MEETING

Overview of the Meeting

- Land Acknowledgement
- About Shift Solar
- IESO Procurements
- Why Energy Storage?
- Grey Owl Storage Project
- Project Timelines
- Q&A



BEFORE WE START

LAND ACKNOWLEDGEMENT

We would like to begin by acknowledging that we are meeting on the traditional lands and treaty territory of the Saugeen Ojibway nation which includes the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation. We also recognize the Metis, whose ancestors shared this land and these waters. We extend our gratitude to all Anishinaabe and Metis people, and their descendants - past, present and future, who continue to care for and inhabit these lands and tend these waters.

GREY OWL STORAGE



ABOUT US

Catalyzing a more sustainable future

Shift Solar Inc. is an Ontario-based solar and energy storage developer with clients in Canada and the United States. Our goal is to expedite the adoption of green energy initiatives and support the shift to sustainable energy infrastructure.

With a development motto of “do the greatest good,” the Shift team is committed to the communities we work in and thus, are focused on engaging with stakeholders.



SYNERGY

A Collaborative Partnership

The local expertise of Shift in project development, combined with Neoen's extensive international experience in developing, building, and operating storage projects, will ensure the creation of a responsible, sustainable, and high-quality project.

Together we will oversee the LT1 RFP and permitting stages.

Subsequently, Neoen will assume sole responsibility for the planning, construction, and long-term operation of the energy storage project





ABOUT US

Neoen is dedicated to the energy transition...

Founded in 2008, Neoen is the leading French independent producer of renewable energy and a major player on the world stage.

Our mission: we design and implement the means to produce the most competitive renewable electricity, sustainably and on a large scale.

Our total capacity in operation or under construction is currently close to 7 GW and we are aiming for more than 10 GW by end 2025, with the ambition to reach 20 GW by 2030.



EXTENSIVE EXPERIENCE

We have surpassed 1 GW of storage

EUROPE

Yllikkälä Power Reserve (2020)



 30 MW / 30 MWh

Azur (2019), Pod tredan (2022),
Antugnac (2022)



 22 MW / 22 MWh

Storen Power Reserve
(2024⁽¹⁾)



 40 MW / 40 MWh

AMERICAS

Albireo (2020),
Antares (2022)




 14 MW / 10 MWh

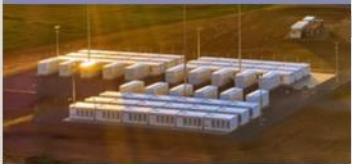
AUSTRALIA

Hornsedale Power Reserve
(2017)



 100 MW / 129 MWh

Hornsedale Power Reserve
Extension (2020)



 50 MW / 64.5 MWh

Victorian Big Battery
(2021)



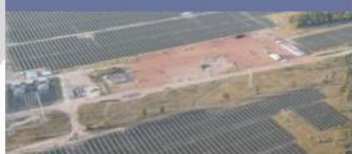
 300 MW / 450 MWh

Capital Battery (2023⁽¹⁾)



 100 MW / 200 MWh

Western Downs Storage (2024⁽¹⁾)



 200 MW / 400 MWh


Blyth Battery (2025⁽¹⁾)



 200 MW / 400 MWh


DeGrussa (2016)

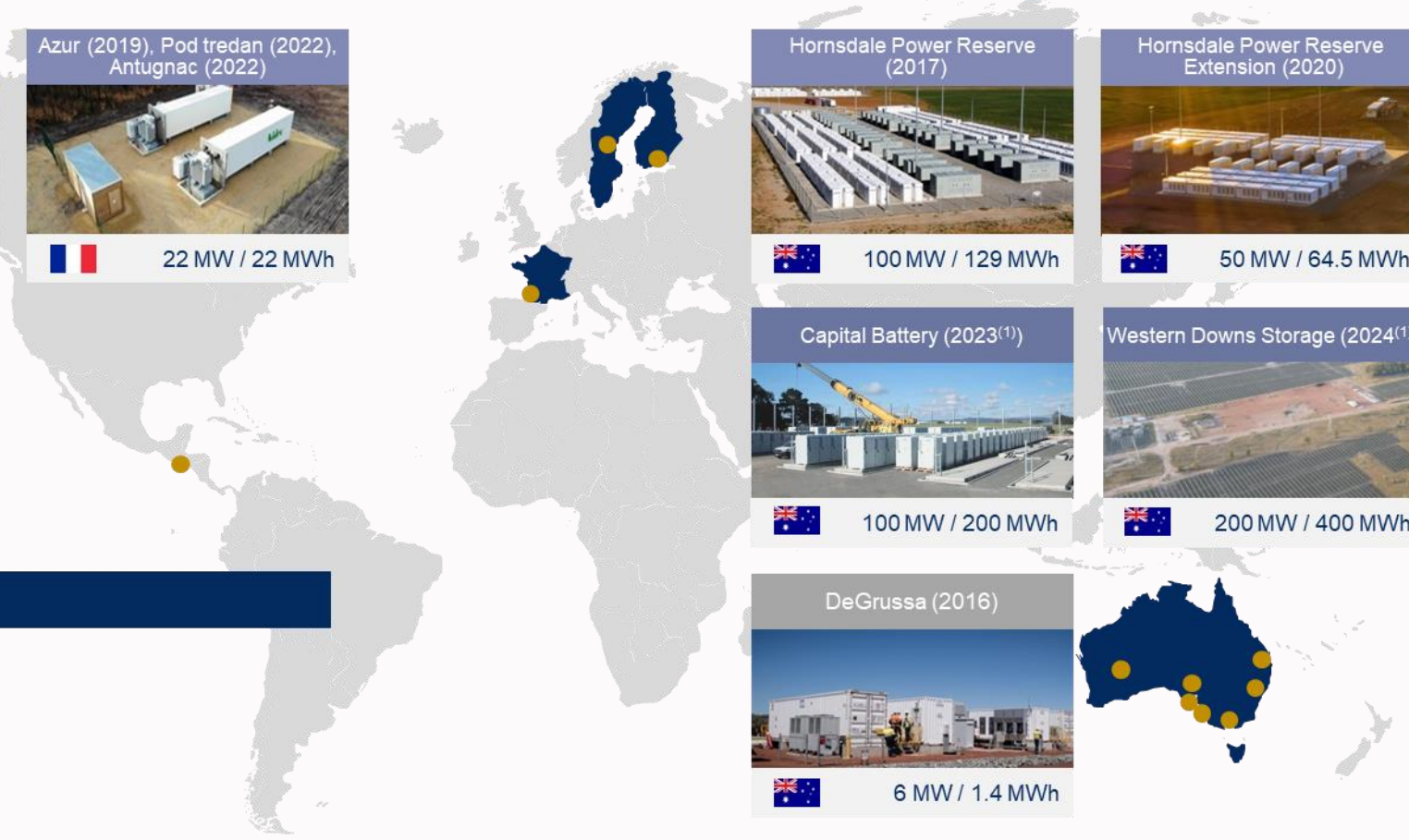


 6 MW / 1.4 MWh

Bulgana (2020)



 20 MW / 34 MWh



■ Behind the meter



■ Stand alone



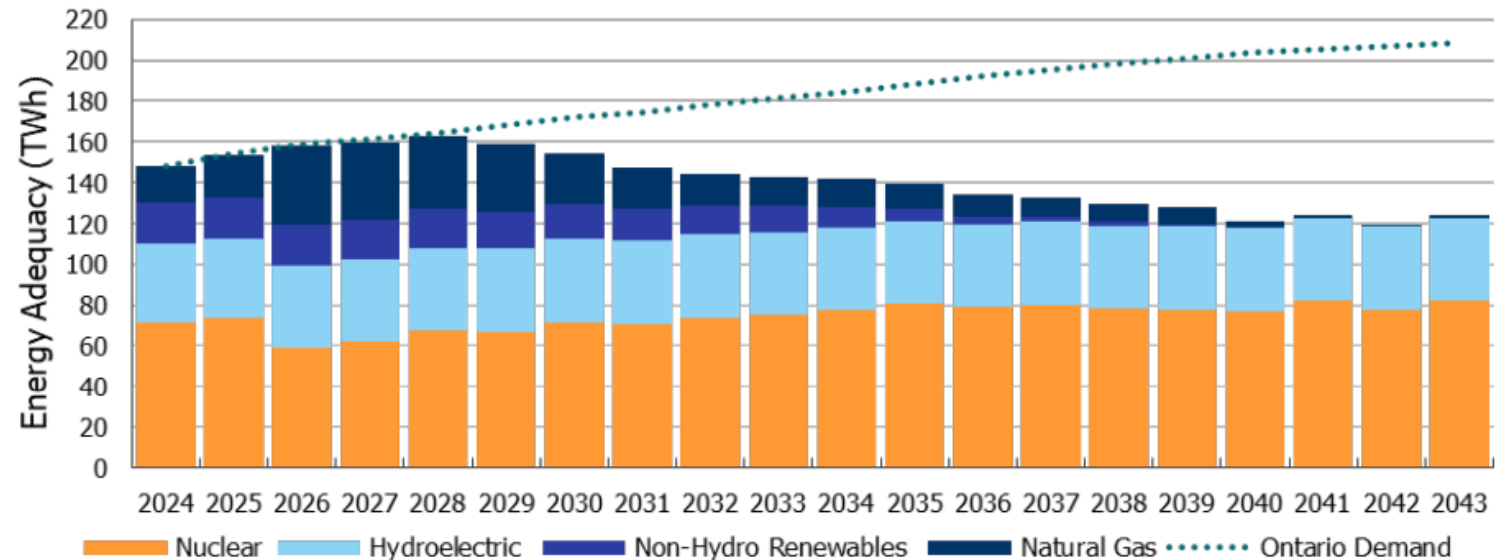
THE NEED FOR NEW STRATEGIES

Ontario is on the brink of an energy crisis

In their planning outlooks, the IESO predicts an energy and capacity shortfall as soon as 2026.

- Between 2025 and 2027, Ontario needs 4,000 MW of new supply
- The gap between demand and generation is expected to expand for 20 years
- Multiple storage projects have been awarded under the E-LT1 procurement and there will be an additional 1,600 MW worth of projects awarded under this LT1 procurement.

Figure 21 | Energy Adequacy Outlook (Case 1)

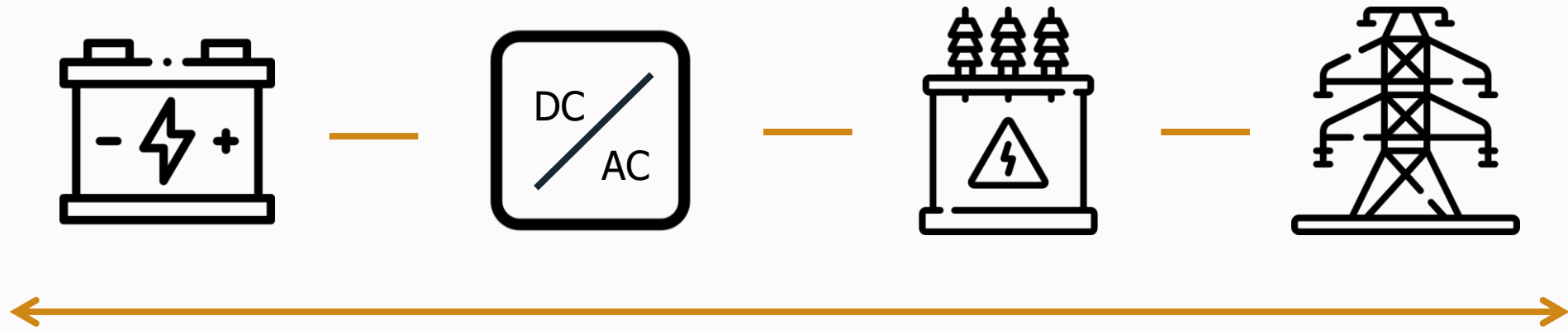


www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook



THE TECHY BITS

Here's how energy storage works



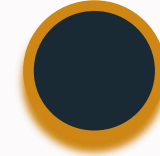
Flow of Power

Battery Energy Storage Systems (BESS), are power plants that enable energy from the electrical grid, to be stored and then released when customers need power most. Typically in Ontario, storage is charged during the night when nuclear base load and wind power is producing more energy than the demand. Lithium-ion batteries, which are used in mobile phones and electric cars, are currently the most-used storage technology for large scale energy storage projects.



THE TECHY BITS

Here's how energy storage looks



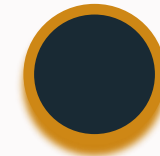
Construction

A site consists of containerized batteries, inverters, medium voltage transformers, gravel internal access roads, buried collector and communication cabling, a small transmission substation, potential garage and operations and maintenance building.



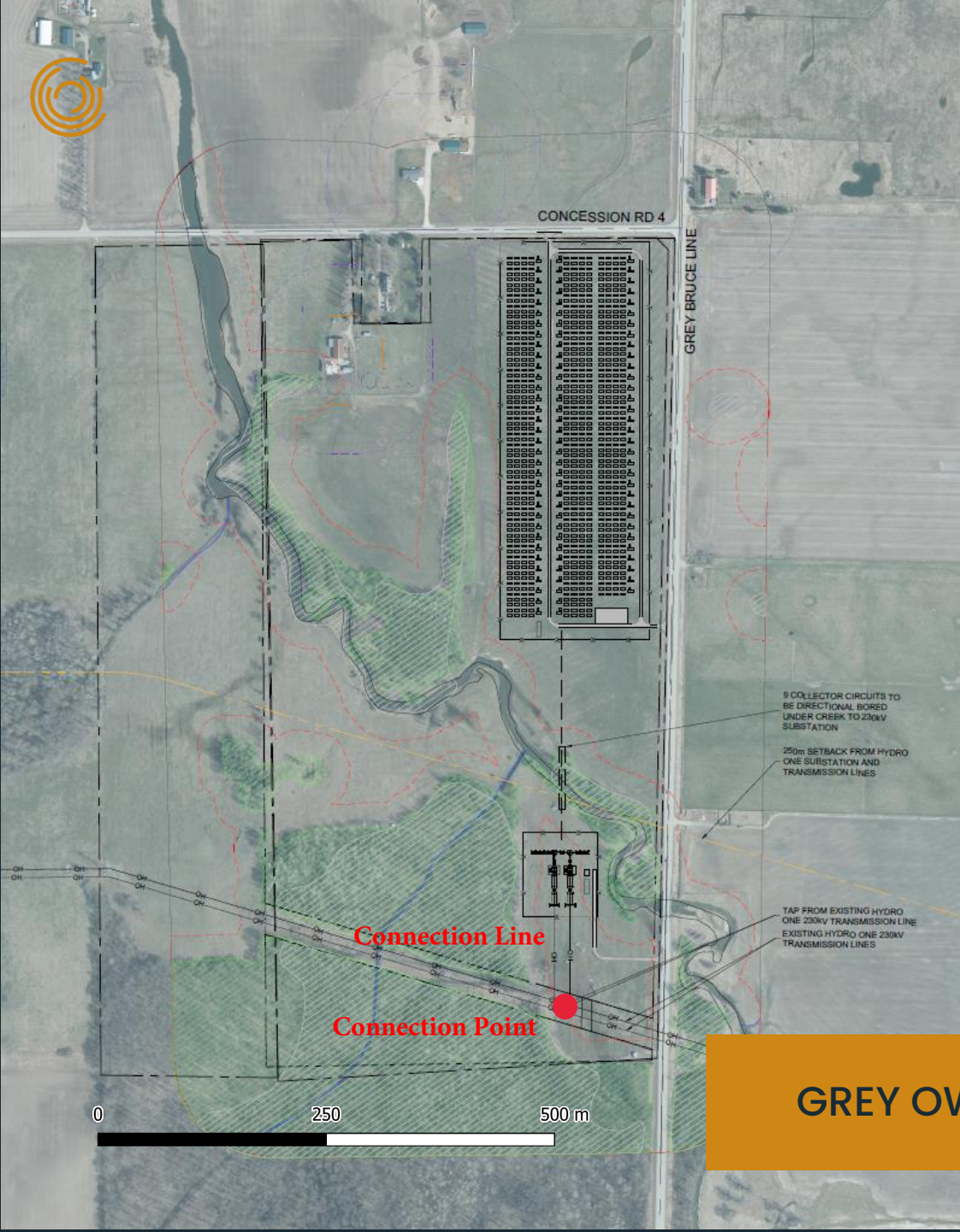
Containerization

Each 20 ft containers holds up to 6MWh of battery “stacks” connected with DC cables to a main protective device. Also included are communication cables, HVAC and fire safety equipment.



Fire Safety

Each container is equipped with fire alarms and detection as well as fire suppression. Battery management systems can monitor battery cell temperatures and allow for mitigation through disconnection and HVAC controls.



THE SOLUTION

Save it for a rainy day

This project is proposed to be a 400 MW battery energy storage system with 4 hours of capacity (1600 MWh) connected to the 230kV transmission lines. It will sit on roughly 40 acres of land. Each charge of this battery can power 1600 households for an entire month.

Location: Southeast Corner of Concession Road 4 and Grey Bruce Line

Why was this location chosen:

- Close to growing populous to provide power locally
- Close to major transmission lines for easy interconnection
- Land that is flat and cleared to cause no new environmental disruptions
- Long major roadway for ease of delivery during construction
- Limited residences affected and can be visually concealed

GREY OWL STORAGE



THE PERKS

Here's how your community can benefit



Grid Modernization for Greater Reliability



Conserving Fresh Water Resources



Emission Reduction



Supporting Community Growth

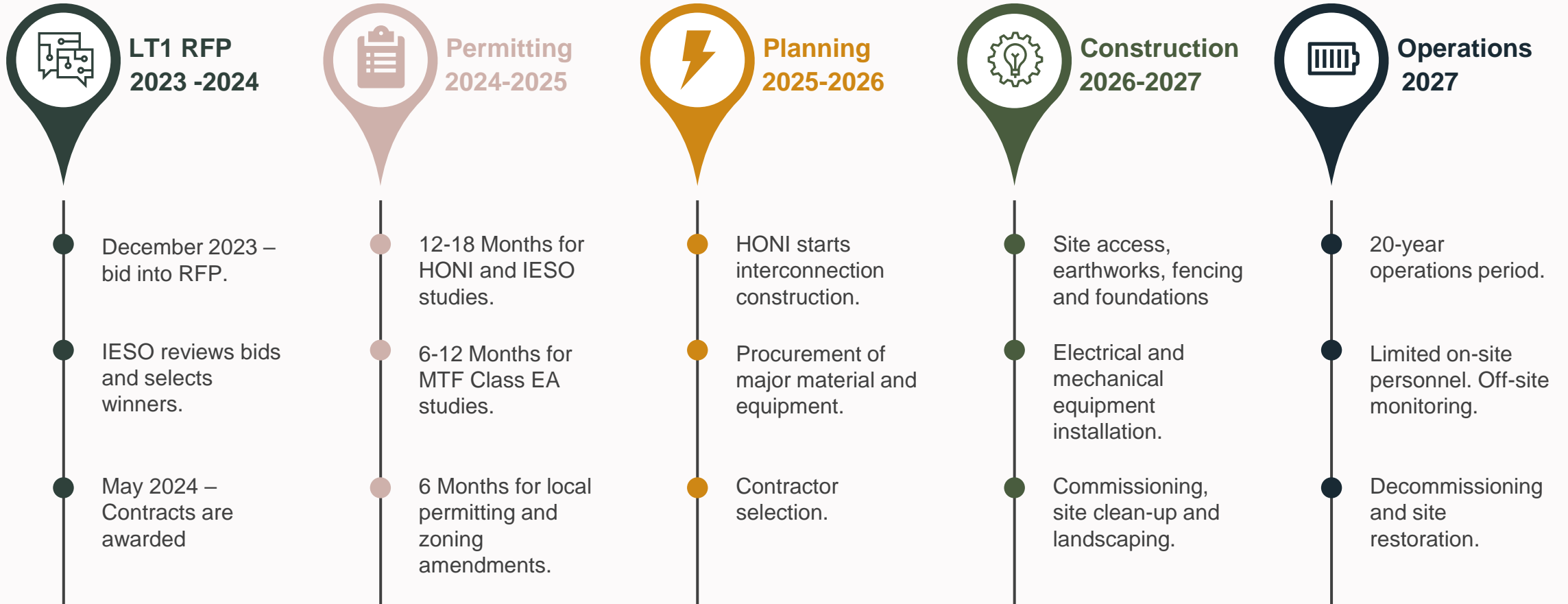


Economic Development



Project Timeline

NEXT STEPS





Questions?



MAILING ADDRESS

A-56 Mill Street East, Unit 183
Acton, Ontario
CANADA
L7J 1H3



OUR WEBSITE

<https://www.shiftsolar.ca/grey-owl-storage>



AVAILABILITY

Monday – Friday
8:00 – 5:00 PM EST



GET IN TOUCH

info@shiftsolar.ca