

SULPHUR SPRING BESS

# Investing in the City of Hamilton



A BLACKSTONE  
PORTFOLIO COMPANY

**PRESENTING TOINDRA MAHARJAN**

November 2023

# Agenda

- Who We Are
- Ontario Electricity Market & IESO Procurement
- About Our City of Hamilton Project
- Driving Economic & Environmental Benefits
- Aypa's Best in Class BESS
- Aypa's Partnerships-Driven Model

# Who We Are

## A Canada-founded energy transition leader



### OUR MISSION

At Aypa Power, a Blackstone Portfolio Company, our mission is to responsibly decarbonize the grid to make North American energy markets more affordable, sustainable and efficient.



### OUR COMPANY

As an independent power producer, we build world-class dispatchable energy resources through standalone storage and renewable hybrid projects.



### OUR VALUES

Our core values center around safety, trust, integrity, innovation and environmental justice. Our work is community driven and partnerships led.

# A Trusted Energy Transition Leader



**>15 GW**  
North American  
pipeline



**60+**  
utility-scale projects  
in development



**32**  
projects in operations  
or construction

Aypa Power is a leading Independent Power Producer (IPP) in North America – proud to be built and based in Ontario, Canada.

Our team has spent years researching and investing in battery storage technologies, applications and uses to bring 30 projects safely online in Canada. We also have projects operating or under development in 15 US states, representing in total hundreds of millions of dollars in infrastructure capital deployed since our founding.

# Aypa in Ontario

Our continued investments throughout the region are helping Canada meet its grid reliability and modernization needs, while creating jobs and contributing to the development of a reliable, net-zero electricity systems by 2035.

Our customers include utilities, municipalities, co-ops and commercial and industrial (C&I) leaders.

Importantly, we are committed to strong community partnerships throughout the siting, construction and operation of our project by:

- Working collaboratively with partners to improve surrounding communities and the environment
- Ensuring safe delivery of projects and commitments



# Ontario Electricity Market and IESO Procurement

The IESO procurement favours BESS projects based on the projected capacity needs of the province in the near- to medium-term future, driven by decarbonization and electrification

## Electricity Market

- The Ontario electricity grid is operated by the Independent Electricity System Operator (“IESO”). The IESO’s 2022 Annual Planning Outlook has identified growing Ontario capacity needs over the course of the next decade
- “Capacity Products” meaning any product related to the rated, continuous load-carrying capability of a generating facility to generate and deliver electricity at a given time
- This need is a result of:
  - The retirement of the Pickering nuclear
  - The natural gas generation moratorium
  - Increasing electricity demands due to the electrification of various heavy industries and transportation

## IESO LT1 Procurement

- The IESO is focusing on innovative solutions to meet that demand and improve **grid reliability**, including Battery Energy Storage Systems (BESS), while **contributing to climate change and emission reduction targets**.

### IESO Procurement Targets by 2027

Upgrades	300MW
E-LT1	1,500MW
LT1	2,200MW
<b>Total</b>	<b>4,000MW*</b>

### IESO LT1 timelines:

LT1 Contract – draft	May 2023
LT1 Contract – final	Sept 2023
Proposal Deadline	Dec.12 <sup>th</sup> 2023
LT1 Contract Award	Q2-Q3 2024

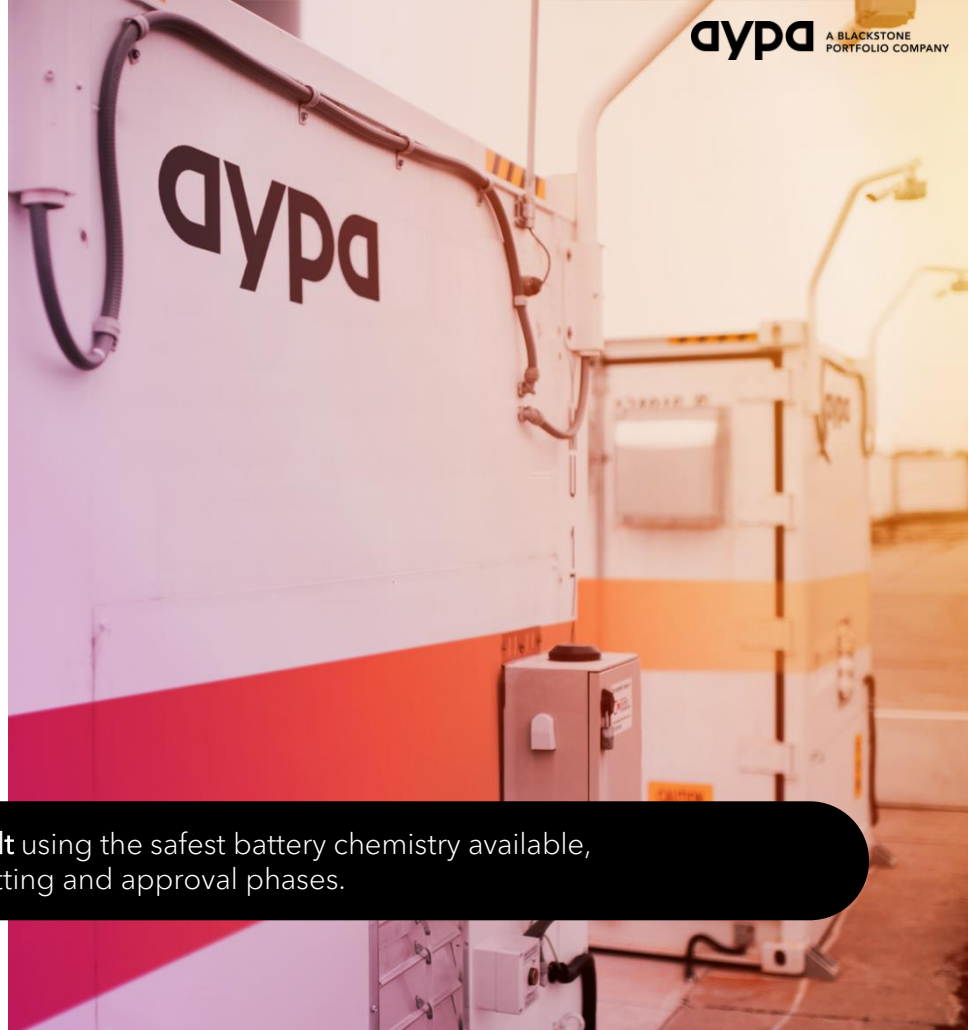
## Ontario Capacity Gap\*

- Closing Pickering by 2026 will take ~3,000MW of supply out of the system
- Nuclear fleet refurbishments into 2030s has the potential to put 8,400MW of existing capacity at risk
- Expiring contracts will make a major impact. Summer effective capacity will drop from ~28,000MW in 2020s to 17,000MW by 2043 without reactivation of the existing contracts
- Phasing out natural gas-fired fleet thru. 2030s could result in frequent blackouts. Ontario has 10,600MW of Natural Gas plants in the province, and for the last summer peaks ~7,000MW were activated

## Our BESS Facilities

- BESS facilities charge from the grid and then discharge that energy later when there is demand.
- Ensures homes and businesses are powered by green energy even when renewable energy power generation is lower.
- Use lithium iron phosphate batteries which have several advantages over other lithium-ion chemistries, including:
  - High thermal stability + long life cycle
  - Increased energy storage capacity; ideal for rapid charge and discharge
  - Friendly to the environment; recycled at end-of-life
- Safety features that meet the National Fire Protection Association's standards for fire prevention, detection, and response in BESS's
  - Protocols to prevent fires that include fire suppression technology, alarm systems, an emergency shut down feature, and containment systems.

Aya Power's battery energy storage systems are **designed and built** using the safest battery chemistry available, and the project passes stringent environmental and land use permitting and approval phases.



# Sulphur Spring BESS Project Overview

- 69 acres of Private land secured in proximity to an existing Hydro One Networks Inc. transmission line located east of the intersection of Powerline Road W and Field Road.
- Up to 300 MW or 1,200 MWh of energy storage
- Connect to Hydro One's 230kV transmission line

## 1. Municipal Development

- The permitted land uses reviews in progress
- Trucking logistics and road safety impact assessment planned
- Official plan amendment, zoning by-law amendment, consent to sever, minor variance, site plan approval, or other approval(s) as required such as building permits, are identified

## 2. Community Engagement

- Public Open Houses scheduled
- Public Notices mailed out
- Project Website: <https://sulphursprings.aypa.com/>
- Indigenous community engagement / Duty to Consult planned

## 3. Environmental Development

- Class EA screening for Medium Transmission Facilities in progress
- Phase 1 and 2 ESA in progress
- Studies: Environmental heritage, Cultural heritage, Archeological study, Noise Impact planned
- Wildlife habitat, rare vegetation/potential SOCCs mitigation as req'd.
- Listing of applicable sensitive noise receptors for further noise impact assessment and mitigation measures as req'd.



Project Map Legend:

**White polygon:** Proposed site boundary

**Yellow pin:** Proposed connection point

**Orange polygon:** Proposed connection line path

**Red line:** Existing transmission line

The project is in the development stage and has passed the IESO Deliverability Test phase.  
Target Commercial Operations Date is May 2027.



# Driving Local Benefits for the City of Hamilton

## Local Workforce

- Investing in ~200 to 300 labor & construction jobs
- Approximately 6 full-time positions
- Competitive salaries
- Investing in localized partnerships and workforce training programs



## Local Economic Impact

- Community Benefit Agreement developed in partnership with the City of Hamilton
- Millions of dollars in direct tax revenue over the lifespan of the project



## Local Partnerships

- Engage local professional associations and labour unions for hiring and contract services.
- Local Businesses: Maximize local vendor supply chains and contractors
- Make bidding opportunities publicly available on project website for local vendors and contractors.
- Engage Indigenous communities to ensure equitable access to employment and contract services.



# Our Partnership Model



## COMMUNITY BENEFITS

**Environmental & Health:** No GHG emissions or other air pollutants; no use of water to generate facility; a renewable supply of energy.

**Economic:** Job creation, workforce development & training; local tax revenues, and a Community Benefit Agreement.

**Community:** Investing in community partnership with local government, nonprofits, schools, planning and social groups to provide donations, scholarships, and investments in local infrastructure projects, as needed.



## GRID ENHANCEMENT

- Grid Reliability
- Frequency Regulation
- Voltage Support
- Reactive Power Support
- Operating Reserve



## LOCAL UTILITIES

By reducing the load at congested transmission and distribution systems, BESS may defer expensive upgrades and may also reduce investments in conventional resources (i.e., adding costly new generation).

# Next Steps for Aypa Power to submit its bid for to the IESO's LT1 RFP in the City of Hamilton

<b>Tuesday November 21, 2023</b>	<i>Aypa Power to host Virtual Public Community Meeting from 6:00pm to 8:00pm where Municipal Staff and Council are welcome to attend.</i>
<b>Tuesday December 12, 2023</b>	Deadline for Aypa Power to submit bid to the IESO's LT1 RFP.

# Revolutionizing the way that we power our communities

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PORTFOLIO COMPANY

October 2023

# Appendix

# Environmental and Community Engagement Process

## Project Development Milestones

<b>A</b>	<b>Land Use Review</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>
<b>B</b>	<b>Natural Heritage Review</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>
<b>C</b>	<b>Noise Impact Review</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>
<b>D</b>	<b>Archaeology Review</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>
<b>E</b>	<b>Community Engagement</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>
<b>F</b>	<b>Class EA</b>	<ul style="list-style-type: none"><li>• <i>Scope &amp; milestones available upon request</i></li></ul>

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