

MEDIA RELEASE

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AI-EES invests \$1.5 Million in game-changing energy storage technology projects

Results from six projects to help harness renewable energy

Alberta Innovates – Energy and Environment Solutions (AI-EES) announced \$1.5 Million in funding for six new energy storage projects that aim to help the province meet its targets to reduce greenhouse gas emissions and accelerate the deployment of renewable energy.

As a result of an international competition seeking the energy storage technologies that could have the most potential for Alberta, AI-EES received over 50 proposals. The Corporation’s experts and external advisors chose the technologies with the greatest potential for implementation to Alberta’s power grid.

“Clean power generation is a critical challenge for Alberta. Our goal is to have 20 per cent electricity generation from renewable energy in 2030. These energy storage projects will be instrumental in harnessing Alberta’s renewable resources and integrating them onto the electricity grid affordably and efficiently,” says Dr. Mark Summers, Director of Renewable Energy for AI-EES.

AI-EES Board of Directors has allocated \$250,000 each for the development of the following projects:

- Unify Energy: Liverpool Wind and Regenerative Air Energy Storage Project
- TransAlta Emerging Technologies: TransAlta Commercial-Scale Battery Pilot Project
- ZincNyx Energy Solutions Inc.: Zinc-Air Fuel Cell for Renewable Energy Storage
- University of Calgary: Redox Flow Battery Innovation for Large Scale Electrical Energy Storage
- Ambri: Project Energy Bank
- Eguana Technologies: Distributed Lithium-Ion Storage for Demand Charge Reduction.

“Alberta has strong wind and solar energy resources. Developing these resources offers a great opportunity to reduce provincial greenhouse gas emissions and provide long-term sustainable energy,” says Dr. Summers.

Solar and wind energy are intermittent by nature, and some of the most promising resources in Alberta are largely concentrated in certain regions of the province. According to Dr. Summers, “this creates challenges for increasing the deployment of renewable energy to augment fossil fuel

consumption in a significant way. Investing in new technologies will lead to broader use of renewable energy within Alberta's interconnected electric system."

Proposals were invited from qualified researchers, technology developers, and project developers within academic institutions, research and development organizations, private, government centres, and not-for-profit organizations.

Applications were accepted from around the globe but to be considered, projects had to demonstrate that the technology was applicable and well-suited for grid-scale energy storage on Alberta's electric system. Proposed projects could be at any stage of development from initial proof-of-concept to deployment in Alberta.

"We are focusing on new chemistries of large scale liquid batteries which will have the potential to be cost competitive with technologies like hydroelectric and compressed air storage but will benefit from the flexibility of battery technologies. Partnering with AI-EES will help elevate research and development in this area and could lead to a Centre of Excellence for battery storage research right here in Alberta."

-Ted Roberts, [University of Calgary](#), Redox Flow Battery Innovation for Large Scale Energy Storage project

"AI-EES will be fundamentally important for bridging the gap between our Nova Scotia company and the Alberta energy industry. As a partner, they will add significant value to the project by enabling Unify to access a network of excellent Alberta companies with which Unify can collaborate to help increase the amount of renewable energy generated in Alberta."

-Sebastian Manchester, [Unify Energy](#), Liverpool Wind and Regenerative Air Energy Storage Project

"We are pleased to have received this support from AI-EES for the development of a rechargeable zinc air fuel cell that combines the advantages of a rechargeable battery with the economy and capacity of a fuel cell. The ZincNyx system can eliminate the variability and unpredictability inherent in renewable energy sources such as wind and solar and enhance Alberta's promotion and deployment of the micro generation system. AI-EES' participation enables ZincNyx to prioritize the development of larger systems that are compatible with Alberta's year-round climate."

- Suresh Singh, [ZincNyx Energy Solutions](#), Inc., Zinc-Air Fuel Cell for Renewable Energy Storage

"This support from AI-EES will be instrumental for Ambri in demonstrating the capabilities of our Liquid Metal Battery energy storage solution to meet the unique requirements of wind integration within the Alberta energy market. Our goal is for this demonstration project to serve as a model

that accelerates a broad expansion of renewable resources in Alberta and across the world. The entire project team, including Enbridge, looks forward to making this project a success."

- Kristin Brief, [Ambri](#), Project Energy Bank

"Calgary based Eguana is quickly gaining recognition as a world leader in power controls for energy storage based on technology conceived and developed here in Alberta. This project will support development of a new advanced distributed storage product to be installed and demonstrated at a commercial building in our home province. The goal of this innovative battery and power conversion system is to help smooth the renewable power output to the electrical system and to shave peak load, potentially reducing strain on the electrical system and demand charges on the building's utility bills. We are currently reviewing project siting opportunities with ENMAX Energy Corporation and its subsidiary. AI-EES' involvement will help us continue to build capacity and technology right here in the province and will give AI-EES firsthand experience that will help inform investment decisions for future grid infrastructure."

-Brent Harris, [Eguana Technologies](#), Distributed Lithium-Ion Storage for Demand Charge Reduction

"TransAlta is an integral part of Alberta communities, supplying safe, reliable electricity to residents and businesses for over 100 years. We bring this same care and commitment to our leading-edge energy storage project, integrating Tesla battery technology at a commercial business in Alberta. TransAlta's pilot project will demonstrate how energy storage can reduce the cost of electricity for commercial customers; therefore enhancing the competitiveness of Alberta businesses in the global marketplace. Having AI-EES as an innovation ally brings this project to fruition much sooner than would have otherwise been possible."

- Dan Chapman, [TransAlta](#), Commercial-Scale Li-Ion Battery Project

About AI-EES

Alberta Innovates -- Energy and Environment Solutions (AI-EES) is the lead agency advancing energy and environmental technology innovation in Alberta. AI-EES serves as a catalyst for the development of innovative, integrated ways to convert Alberta's natural resources into market-ready, environmentally responsible energy and the sustainable management of Alberta's water resources.

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