

Energy Storage Alberta

Powering progress: Breakthroughs in energy storage



MODERATOR
Heather Stephens
CHIEF OPERATING OFFICER
EMISSIONS REDUCTION ALBERTA



SPEAKER
Amanda Mitchell
PROGRAM MANAGER, ENERGY
ALBERTA INNOVATES



SPEAKER
Kevin McGeough
CEO
GRAPH ENERGY INC.

Impact Through Innovation

Energy Storage Technology Development Support

April 16, 2026



ABOUT US



11 Locations
1 million+ sq ft
of lab space
600+ acres of
research
farmland



Employees
589 FTEs



2 Subsidiaries
InnoTech Alberta Inc.
C-FER Technologies
(1999) Inc.



Operating
Budget
\$250 million



Our Role



**FUNDER &
SERVICE
PROVIDER**

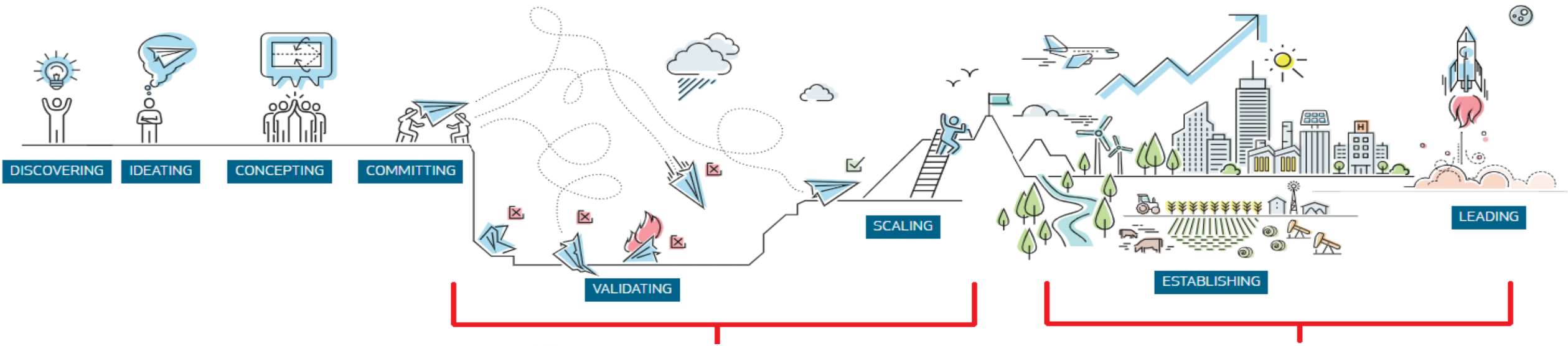


**PARTNER &
COLLABORATOR**



**CONVENOR &
CONNECTOR**

Advancing Technologies



Energy, Aerospace, Defence, Advanced & Materials

Entrepreneurship, Digital & Talent

Ecosystem Development



Funding*

EADAM

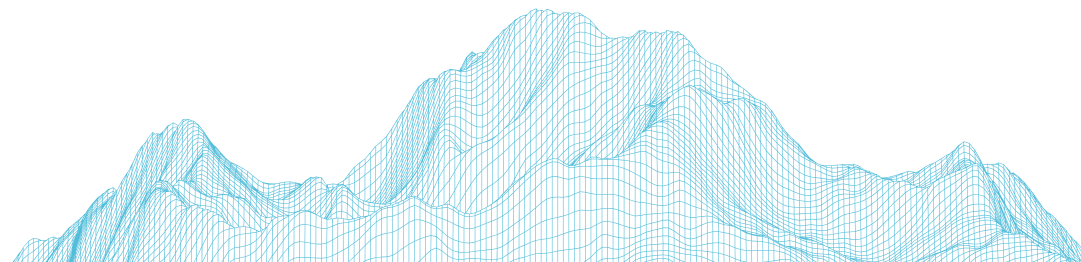
Must Have

- Alignment with portfolio objectives
- Proof-of-concept to early pilot scale level of technology
- Grants typically around 25% - 30% of technology-development costs
- Up to \$750K grant awards
- Agnostic to applicant type (academia, SME, MNE, NFP, etc.)
- Fund Tech Development and Ecosystem Projects, not Companies or Program
- Evidence of market pull
- Benefits back to Alberta (Social, Economic, Environmental)
- Some
- Prefer that projects have contributing partners other than applicant

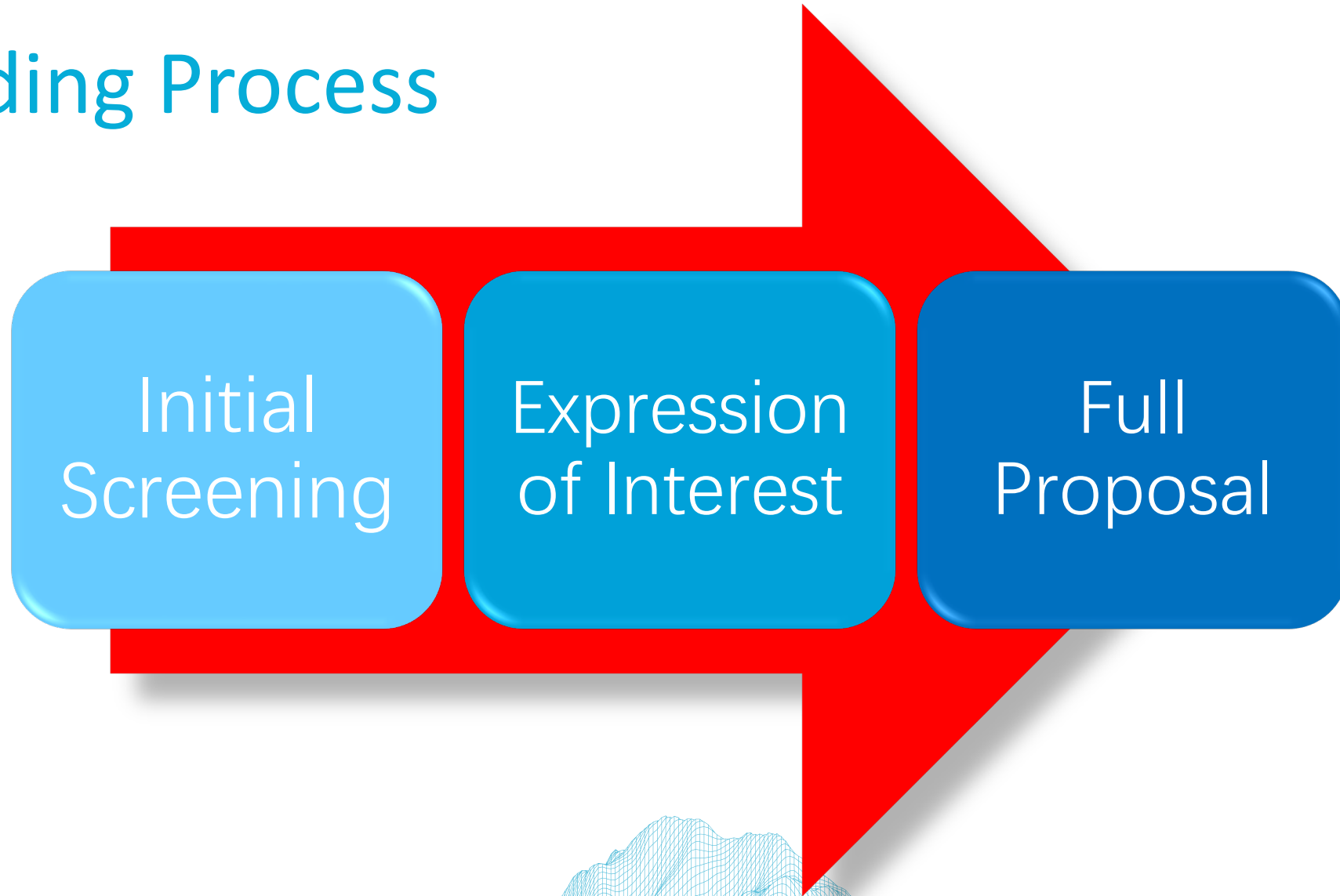
Investment & Talent

Must Have

- Have corporate operational presence and appropriate Alberta ownership
- Have fewer than 500 full-time employees and less than \$50,000,000 in annual gross revenue
- Minimum 25% cash contribution of total project cost by the applicant for most programs
- Are creating a high-potential, data-enabled innovation, digital technology, or a knowledge-based product
- May have additional requirements pending on the program



Funding Process



Funded Projects/Initiatives

Types of Projects Funded to Date:

- Battery chemistries and components
- Non-battery related energy storage
- AI and machine-learning enabled smart energy systems
- Battery material discovery technologies
- Charge management
- Lab and pilot-scaled BESS projects
- Ecosystem support projects



***Over \$10M
Invested***

***Over \$25M
Project Value***

Over 30 Projects

Thank you

Amanda Mitchell, P.Ag, M.A., B.Sc.
Program Manager, Energy

www.AlbertaInnovates.ca

<https://connectwithus.albertainnovates.ca/>



About Emissions Reduction Alberta (ERA)

MANDATE

Reduce GHG emissions and grow Alberta's economy by accelerating the development and adoption of innovative technology solutions.

VISION

Alberta has competitive industries that deliver sustainable environmental outcomes, attract investment, and are building a diversified, lower emissions economy.

STRATEGIC PRIORITIES

- 1 ACCELERATE TECHNOLOGY
- 2 DRIVE COMMERCIALIZATION
- 3 MAXIMIZE IMPACT



TECHNOLOGY INNOVATION

\$1.15B
TOTAL INVESTMENT



351
PROJECTS

28.5
MILLION TONNES
OF CUMULATIVE
EMISSIONS
REDUCTION BY 2030

83.2
MILLION TONNES
OF CUMULATIVE
EMISSIONS
REDUCTION BY 2050

\$11.1 BILLION

TOTAL
PROJECT
VALUE



5.5:1

LEVERAGED
FUNDING
FROM PUBLIC
AND PRIVATE
INVESTORS

ACCELERATING UPTAKE OF COMMERCIAL-READY TECHNOLOGIES THROUGH THE ENERGY EFFICIENCY PROGRAMS

\$70.19M
INVESTED Three small blue-outlined dollar sign icons arranged horizontally.

24222 PROJECTS SUPPORTED
THROUGH THE ENERGY
SAVINGS FOR
BUSINESS PORTFOLIO

4.66 MT OF LIFETIME
EMISSIONS
REDUCED Five small blue-outlined downward-pointing arrow icons arranged horizontally.

ERA Funded Projects



Elemental Energy Chappice Lake Solar Storage



ENMAX Crossfield Energy Center Hybrid Fuel Project



Graph Energy's Supercapacitor Energy Storage Solutions

2026

www.graphenergy.ca



Alberta's Grid & Generators Face Five Challenges



Slow Response

Grid events happen in milliseconds. Storage that reacts in seconds leaves the grid exposed.

Undersized Power Delivery

Peak power demands require massive short bursts. Oversizing by 30–50% just to deliver them drives costs higher.

Short Lifespan

High-frequency cycling degrades storage fast. Replacement costs exceed the original investment.

Temperature Failure

Alberta winters hit -40°C . Most storage requires costly thermal management to survive.

Fire & Safety Risk

One fire. \$400M written off. 1,500 evacuated. Adds insurance and suppression costs and limits where it can be deployed.

***California Moss Landing fire, 2025

What makes us different

Graph's Supercapacitors

< 5ms

FAST

**Response
Time**

*BESS: 100–500ms
typical*

**Up to
20C**

POWERFUL

**High Charge &
Discharge
C Rate**

Li-ion: 0.5C typical

100K+

DURABLE

Cycle Life

*10–20× longer than
Lithium*

**–40°–
62°C**

RESILIENT

**Operating
Range**

*Built for Alberta's
Climate*

ZERO

SAFE

**Thermal
Runaway Risk**

CSA Validated

Lithium-ion stores energy for hours. We manage power in milliseconds.

Product Focus & Where We Deliver Value



Design, tested, and commercialized in Alberta.

COMPLETE

48V Polar Series

Gen 3 Supercapacitor

CSA Certified

- 4.2 kWh · 48V · 100,000-cycle warranty (est. 20+ yr life)
- -37°C to +62°C — no thermal conditioning required
- Non-flammable · 100% depth of discharge
- 1 million+ cycles of charge/discharge testing on the same cell
- High C-Rate

< 1 YEAR

High-Voltage System

300V Module · MW Scale

cUL Certification

- 300V / 800F / 6 kWh per module to stackable 5 in a series (1500 VDC)
- 5 MW DC / 540 kWh in a single 22-ft container
- UL certification pathway — target completion < 1 year
- High C-Rate
- Unlocking industrial and utility markets

48V infrastructure:

Oil & Gas • Mining • Rail • Telecom • Data Centres

Remote & Off-Grid Power • Remote & Off-Grid Power •
Locomotive Engine Assist • Extreme Environments
Deployment • Industrial Load Management

High Voltage infrastructure (100 kW to 1 MW+):

Industrial applications • Grids • Data Centres

Generator Optimization & Runtime Reduction • Frequency
Regulation • Voltage Sag & Flicker Mitigation • Millisecond
Response • Grid Stabilization

Thank you

**I am always available to discuss Graph.
Please feel free to reach out.**

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