# ABOUND an energy solutions company

## April 2024

ABOUND

#### CSE: ABND - OTC: ZAIRF - FSE: 0E9

# WHERE ENERGY KNOWS NO BOUNDS

## **IMPORTANT DISCLOSURES...**

Certain information in this presentation constitutes forward-looking statements under applicable securities laws. Any statements that are contained in this presentation that are not statements of historical fact are forward-looking statements. Forward looking statements are often identified by terms such as "may", "should", "anticipate", "expect", "potential", "believe", "intend", "estimate" or the negative of these terms and similar expressions. All statements, other than statements of historical fact, included herein are forward-looking statements and are based upon assumptions regarding expected growth, results of operations, performance, industry trends and expansion opportunities as of the date of this presentation. Forward-looking statements regarding: the Company's mass storage system's ability to offer both environmental and efficiency benefits; the Company's ability to meet the needs for secure and reliable power; that the company's technology will work as described herein; that there will be market adoption of the Company's technology; that the Company's technology will be scalable; that there are cost savings for longer duration storage systems; that there is an abundance of the raw materials required for the production of the Company's products; that the Company will commence manufacturing of its products; that there is a large and growing market for the Company's products and that the Company will be able to address market demands for its products; the projected market data for behind the meter and front of meter technology; that government regulation will continue to drive adoption of bettery and for the Company's business; that there will continue to be a favorable regulatory landscape for the Company's business; that the Company's production, if any, will be at the rate and on the timeline described in this presentation; that the Company will be able to scale production if required; that the Company's business; that the Company's production, if any, will be at the rate and on the timeline descri

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This presentation contains future-oriented financial information and financial outlook information (collectively, "FOFI") about the Company's prospective results of operations, including revenue from sales, tax credits and other sources, size of a prospective market for the Company's product, and potential value of tax credits that may be available to the Company and the timeline for their availability, all of which are subject to the same assumptions, risk factors, limitations, and qualifications as set forth in the above paragraphs. FOFI in this presentation may not prove to be accurate and actual financial results could be materially different than the estimates herein for a variety of reasons. FOFI contained in this presentation was made as of the date of this presentation and was provided for the purpose of providing further information about the Company's future business operations. The Company disclaims any intention or obligation to update or revise any FOFI contained in this presentation, whether as a result of new information, future events or otherwise, except as required by securities law. Investors are cautioned that the FOFI contained in this presentation should not be used for purposes other than for which it is disclosed herein. The FOFI and financial outlook in this presentation were approved by management of the Company.

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## **OVERVIEW – ABOUND ENERGY**

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**CORPORATE VIDEO** 

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## **OVERVIEW – ABOUND ENERGY**

## WHAT WE DO ...

Cost-effectively **store and sustainably integrate Green Energy into the grid**, reducing overall power curtailment and improving grid stability and resiliency.

## HOW WE DO IT ...

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Utilize our Zaeras<sup>™</sup> Technology to safely **store and deliver vast amounts of electricity on demand** without the restrictions or risks associated with today's market leaders.

## WHY WE DO IT...

To streamline Long-Duration Energy Storage, thereby **meeting future energy needs** and **enhancing shareholder** value. \*ABOUND's cutting edge, clean energy storage technology is another tool that will allow us to achieve our bold climate agenda and continue to make New York State a leader in advancing the green economy." - Kathy Hochul, \*Formally Zinc8

# **THE EVOLUTION OF ENERGY STORAGE...**

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Zaeras<sup>™</sup> stands apart from conventional or legacy technologies; it represents the next generation of Long DURATION ENERGY STORAGE (LDES) innovation, disrupting the industry with its cutting-edge decoupled approach.



# **PROBLEM - ELECTRIFICATION AND SUSTAINABILITY...**



### **Traditional Power...**

- Emit GHG
- Utilize Outdated fossil fuel Peaker plants dating back several decades
- Expensive and timeconsuming construction of transmission and distribution infrastructure
- **Unable to meet** the increasing **demand** for electricity.



### **Green Energy Transition...**

- Grid instability stems from the intermittent nature of renewable energy sources.
- Curtailing excess energy during periods of oversupply leads to the squandering of renewable resources.
- The absence of Grid Resilience is a direct outcome of sudden drops in renewable energy generation.
  - Present batteries are subject to limitations such as high costs, flammability, restricted operating cycles, and scalability constraints.

## **Tomorrows Energy Storage...**

- Resiliency
- Cost-Effective
- Enhanced Safety
- Future-Proof
- Seamless Integration
- Infinite Scalability



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**Existing** energy **storage technologies** lack the **cost-effectiveness** and operational **flexibility** necessary **to** effectively **support** the **green energy transition**.

# **ZAERAS<sup>™</sup> - Value Proposition...**

Providing affordable & highly scalable energy storage solutions with flexible operating parameters, enabling seamless integration of green energy & deferring investments in transmission & distribution infrastructure.



**Resiliency:** Provide **lasting performance** with the capability for **full discharge without degradation** and unrestricted charge & discharge cycles, ensuring zero capacity fade throughout its lifespan.



Future-Proof Architecture: Build on a flexible, adaptable and patented two-system-one-tank architecture, designed to evolve and support emerging storage requirements.



Cost-Effective Solutions: Benefit from the low-cost



chemistry and power & energy decoupling, Zaeras<sup>™</sup> reduces the capital cost by 2/3.



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Enhanced Safety: Utilize a zinc-based, nonflammable, environmentally friendly solution in a **non-pressurized** system ensures peace of mind.



Infinite Scalability: Scale to meet the evolving needs of diverse jurisdictions and businesses, providing smooth adaptation to varying demands.

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Seamless Integration: Integrate with existing systems and workflows, minimizing disruption and simplifying the **adoption process** for users.

Flow battery technology does not stand still. New ideas are buzzing through the industry. There are better ways of optimising performance, validating state of charge, improving lifetimes, choosing better materials to reduce costs, and improved manufacturing processes." -March 2024

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# **THE SCIENCE BEHIND ZAERAS<sup>™</sup>...**



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Zaeras<sup>™</sup> can charge and discharge at the same time and at different rates, depending on the grid demand or needs of a specific application.

Scaling up the energy capacity of Zaeras<sup>™</sup> is as simple as increasing the size of the fuel tank; a cost-effective solution, from kWh to MWh.

# **THE ZAERAS<sup>™</sup> LOW VOLTAGE CONTAINERIZED DESIGN...**

**MWh-scale Product** 

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# **ABOUND'S KEY INVENTIONS...**

**300,000+ Engineering-Hours & Over \$40 Million in Prior Investments** 

#### **AERAS BLADE<sup>™</sup> - Zinc Extraction Technology**

8 years of development

### **REZOLVE<sup>™</sup> - Advanced Metal Dissolution Technology**

6 years of development

## **QUANTUM CHARGE<sup>™</sup> - Regen Plating Technology**

5 years of development; 4th generation

# VARA STREAM<sup>™</sup> - Energy Harvest Technology > 2 years of development; 3rd generation

### ZAERO TEX<sup>™</sup> - Fuel Cell's Air Cathode

Over 90% cost reduction to-date since 2013

Project Sharkey – Cloud Computing Demo in 2022: 10kW / 80kWh (8-hour duration)





# **DECOUPLING LOWERS OVERALL COSTS FOR END-USERS...**

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nd energy storage, ZAERAS<sup>®</sup> is capable of reducing capital costs dramatically for longer-duration applications.

> **20,000+** Operating Life Hours

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#### Note: Data as of March 28, 2023.

Source: 1) Wentker M, Greenwood M, Leker J. "A Bottom-Up Approach to Lithium-Ion Battery Cost Modeling with a Focus on Cathode Active Materials". Energies. 2019; 12(3):504. https://doi.org/10.3390/en12030504. 2) Christine Minke, Ulrich Kunz, Thomas Turek, "Techno-economic assessment of novel vanadium redox flow batteries with large-area cells", Journal of Power Sources, Volume 361, 2017, Pages 105-114, ISSN 0378-7753, https://doi.org/10.1016/j.jpowsour.2017.06.066.

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# **COMPETITIVE LANDSCAPE...**

# ZAERAS<sup>™</sup> possesses ALL 3 fundamental advantages:

- Power & Energy Decoupling
- Inexpensive Raw Materials
- Scalability

## Leading to...

- Unprecedented Flexibility and Cost Efficiency
- Greater Flexibility of Cycle Times
- Easily Meeting Grid Demand

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Being Ideal for Grid Storage, EV Charging, Wind and Solar Farms



# SUPERIORITY OF ZAERAS<sup>™</sup> OVER OTHER FLOW BATTERIES...

	Zaeras™	Li-ion	Vanadium Redox Flow Battery	Iron-based Flow Battery	Zinc Iron Redox Flow Battery	Zinc Bromine Flow Battery	Zinc Air Hybrid Flow Battery
Decoupled Power & Energy	<ul> <li>✓</li> </ul>	*	1	*	*	*	*
Independently Scalable Charge & Discharge Units	✓	*	*	*	*	*	*
Inexpensive & abundant Raw Material	✓	*	*	-	1	$\checkmark$	$\checkmark$
Zero Energy Capacity Fade	✓	*	*	$\checkmark$			*
Non-Toxic	✓	×	*	✓	$\checkmark$	*	✓
No Fire Risk	✓	×	✓	✓	✓	$\checkmark$	-
Eco-Friendly	✓	×	*	✓	✓	*	✓
Low Capital Cost @ 8+ hours (250 \$/kWh)	✓	×	*	✓	✓	✓	$\checkmark$
Capital Cost @ Long duration (<100 \$/kWh)	✓	*	*	*	*	*	*
Supply Chain Security	<ul> <li>✓</li> </ul>	*	*	✓	✓	$\checkmark$	$\checkmark$
Long Lifetime	✓	*	✓	✓	✓	✓	✓
Simultaneous Charge and Discharge	✓	*	*	*	*	*	*
0% - 100% State of Charge	✓	*	✓	✓	✓	×	✓
Wide Operational temperature range	✓	×	✓	✓	✓	✓	✓

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## **TECHNOLOGY – ABOUND ENERGY**



**TECHNOLOGY VIDEO** 

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## **INVESTMENT HIGHLIGHTS**

Strategically Positioned for Exponential Growth: Building upon a \$40M technology investment, to access the LDES Market, valued in the trillions, with a CAGR of 23%\*.

Under new management, **ABOUND has launched** with a strategic corporate shift, emphasizing a go-forward plan with a **disruptive technology**.

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An opportunity arises for investors to leverage the groundwork of nearly \$40 million in both Facility Upgrades and over 300,000 engineering hours, to advance our Zaeras<sup>™</sup> Energy Storage Technology. Our cost-effective energy storage solution, designed to tackle grid challenges during the shift to electrification, setting new benchmarks in the industry.



Positioned for **exponential growth** with the unveiling of a **scalable demonstration unit**, set for 12 months from financing, and the projected implementation of **streamlined production** capacity within the following six months.

Utilizing our state-of-the-art **Testing and Development services** to enhance the development of **sustainable technological solutions** to propel the world towards a **cleaner and more efficient energy landscape**, with the added benefit of generating **early revenue**.

## **CORPORATE STRATEGY AND FORESIGHT**

#### **Execution of Technology**

Pre-2023

#### Our accomplishments...

- Technology validated by renowned institutes and industry stakeholders such as New Energy Nexus, Rocky Mountain Institute, New York Power Authority (NYPA), NYSERDA, ACRE; winning numerous industry awards
- Developed Air Cathode, recognized by industry players for collaborations
- Accumulated over **decade of Expertise** in the Zaeras<sup>™</sup> LDES Technology

**2<sup>nd</sup> generation Pilot Battery** built and generated multiple patent applications

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#### What's Next...

 3<sup>rd</sup> generation Battery with significant improvement on reliability and performance

2024

- **Contracts** with utilities, government agency, cleantech technologies developers, Oil & Gas companies.
  - System delivery slated to begin in 2026

#### 2025+

### Vision/Commercialization...

- Production Facility in NY
- Project Installations & Product Deployment
- Realized the Profitsharing Model
- Revenue Generation & Growth
- EBITDA Positive

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## **MARKET SIZE**

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Global Energy Storage, 2021 to 2030 (USD Billions)



**Driven by Production Scaling** 

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# **INVESTMENT RATIONALE**

Combined \$0.812 T Market Opportunity by 2025



ABOUND

**Energy Transition** The trajectory of energy storage investment has yet to commence

Unique Differentiators recognized by Industries The ZAERAS<sup>™</sup> Technology

- Energy Decoupling
- Low Cost
- High Scalability

#### Strong IP Portfolio

- Over 16 patents
- Cathode Zaero Tex™

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Component-level Technologies

#### **Publicly Traded Liquidity**

One of the few Canadian publicly traded, Long-Duration Energy Storage Companies.

#### Strong Sales Pipeline and Partnership

- Federal and State Government Support and Recognition
- Industries & Utilities

#### **Secured Site Agreements**

Validations of technology and Financial model in NYC

#### **Cash Flow**

- Development Services Generating Revenue
- Technology JV
- Zaeras<sup>™</sup> 24 Months to Revenue

## **LEADERSHIP TEAM...**

## **Committed to Maximizing Shareholder Value Under Strong Corporate Governance**



#### Jason Birmingham

Interim CEO and President, Director

 33+ years of entrepreneurial and consulting experience in private and public company finance, regulatory compliance, and investor relations
 British Columbia



#### Swapan Kakumanu, CPA CFO

 25+ years' experience in senior finance and operations experience –Alberta



#### Robert F. Parker, MBA

Chairman & CEO Zinc8 Energy Solutions USA

- Former 25+ years' experience in ClimateTech, Renewable Energy & Sustainability; advised 200+growth technology companies and helped raise more than \$500 Million for companies & projects
- New York, Washington DC



#### Keith Morlock COO, Director

 Over 20 years of expertise in fostering positive corporate governance, coupled with a track record of successfully spearheading strategic initiatives alongside industry leaders such as GE, Siemens, and Honeywell.
 California, Texas



#### Dr. Simon Fan, Ph.D, P.Eng CTO, Director

 17+ years' experience in R&D, Product Development and Management; founding Engineer of the ZAERAS Technology; spearheaded multi-million energy storage projects with utilities and industrial partners.
 British Columbia



#### **Doug MacDonald**

Chief Strategy Officer, Zinc8 Energy Solutions USA

 35+ years' experience Building International Manufacturing, Operations & Bringing Products to Market from the Lab; led Tech Launches for: General Electric, ATS, AMAT, Q-Cells, GT Solar, Dow Corning, Siemens, Samsung, Sovello, REC & Alta Devices –Ontario Canada, Florida

## **BOARD OF DIRECTORS...**

## **Committed to Maximizing Shareholder Value Under Strong Corporate Governance**



Jason Birmingham



**Keith Morlock** 



Dr. Simon Fan, Ph.D, P.Eng



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#### **Mike Simpson**

 Former Assistant Deputy Minister of Alberta's DOE; former COO of Canadian Energy Centre; 17+ years of government, community& industry Relations across both private and public sectors. -Alberta



#### **Scott Larson**

 CEO of SpaceAlpha Insights, an Earth Observation company; experience in technology and finance with a focus on startups; raised over \$200 mm. –British Columbia

## **ADVISORY BOARD**



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#### Robert Schwetzke P.Eng

 20 years of diverse expertise in engineering, project, and business management. –Dubai UAE.



#### <u>Talia Davis</u>

 Extensive experiences in strategic business planning in renewable energy, public affairs, government relations and finance domains
 British Columbia.



#### Lee Harrison

• 27 years growth-focused business and corporate development with venture such as Creative Concepts, Convergent Thinking -Ontario Jason Birmingham Jason@abound.energy

Dr. Simon Fan Simon@abound.energy

Keith Morlock Keith@abound.energy

Investor Relations Investors@abound.energy

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