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### WE MUST ACCELERATE THE ENERGY TRANSITION

### **ENERGY ACCESS**

- We are aiming to have 500 million Electric Vehicles on the road by 2040 equating to millions of tons of battery materials including lithium which is a vital component.
- 1.2 billion people around the world have little or no electricity, but off-grid renewable energy solutions are quickly changing this.

### **CLIMATE CRISIS**

- With an impending global climate crisis, it is vital that we swiftly move away from fossil fuels and transition to a renewable energy future.
- Earth's temperature is set to increase by 7-8°F degrees by 2100, requiring a rapid move towards

### **LITHIUM STOCKS & PRICES**

- In the next 10-20 years, lithium will become one of the most demanded natural resources in the world.
- It will replace fossil fuels and become a leading source of renewable energy storage source,

 Energy access is life-changing: allowing children to study in the evening, charge their mobile phones at home and providing a safer source of power. sustainable sources.

 The intermittency of wind and solar power means that huge amounts of energy storage will be necessary and lithium-ion batteries are the best option.

OUR TECHNOLOGY

paving a path forward to a sustainable future.

 Society will see a paradigm shift in the value of lithium and other battery materials resources versus oil and fossil fuels.

## THE SOLUTION

Through cutting-edge innovations and breakthrough solutions, EnergyX is working hard to solve these problems. As renewable energy demand soars, the need for efficient, low cost, large-scale energy storage systems is also rising. EnergyX looks to drive the growth of the global lithium industry while making low-carbon technology cheaper, sustainable and more accessible.

### **BRINE TO BATTERY**

EnergyX has developed radical innovations impacting all aspects of the battery supply chain from best-in-class direct lithium extraction, low cost production of battery grade cathode material precursors, new cathode materials, direct brine metal technology culminating in lithium metal anode and solid state batteries with high safety and energy densities.

Lithium batteries have been identified as a major part of the future of any renewable energy transition, and their implementation in electric mobility and projects of various scales has shown just how versatile they can be. EnergyX has positioned itself to be a major player throughout the value chain from the production of raw materials for current lithium batteries to new solid state battery chemistries.

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To address lithium supply shortage, EnergyX has developed a portfolio of patented Direct Lithium Extraction Technologies under the aegis of LiTAS<sup>™</sup> (lithium ion transport and separation). The portfolio of technologies makes efficient extraction of lithium from every lithium containing brine possible. In many cases, the use of LiTAS<sup>™</sup> realizes up to four fold increase in lithium recovery over conventional processes at the lowest cost and lowest fresh water usage. LiTAS also makes sustainable extraction of previously uneconomic resources possible enabling a massive increase in low cost green lithium supply.

Next-generation batteries will allow a whole new era of e-mobility and carbon emission reductions to become a reality. EnergyX is developing critical elements of solid state batteries, which are the lithium metal anodes that can be directly produced from the brine, as well as the solid electrolyte separator. The patented SoLiS<sup>™</sup> is a non-flammable and high energy density material that enhances safety and enables transition to next generation lithium metal anodes, thereby increasing energy density in batteries.

## TEAGUE EGAN **CEO & FOUNDER**

Teague Egan is the founder, CEO, and product architect of EnergyX. He is responsible for all aspects of building the company into a world leader in renewable energy technologies, primarily focused on commercializing the LiTAS<sup>™</sup> for lithium extraction and SoLiS<sup>™</sup> solid state battery electrolytes.

With a background of entrepreneurship, investing, and inventing, Teague has been involved in public sector energy assets and sustainable technologies, including a large bet on Tesla in 2013 at \$9 per share. Prior to EnergyX, he started or has been involved with a variety of businesses, and is also the inventor of energyDNA - a patented multi-component graphene textile fiber technology. In 2012, Teague founded Innovation Factory VC, a venture capital fund focused on tech, life sciences, real estate, space and consumer products.



Thomas Edison is a hero of mine. I envision EnergyX playing a role in the global energy transition to develop and commercialize a variety of technologies that move the transition forward. Direct Lithium Extraction and Solid State Batteries are the first two areas we are focused on.

When it was proven electric vehicles were economical, every single car company added them to their product road map. The demand for batteries is skyrocketing and we are going to ride that wave."

Teague is actively involved with several philanthropic efforts and is an alumnus of the USC Marshall School of Business. He also studied exponential technology including artificial intelligence, synthetic biology, and nanotechnology at Singularity University. Teague has a mission to transition the world to sustainable energy.

EnergyX's technology was developed with:

- The University of Texas at Austin
- Monash University
- CSIRO (Australian National Laboratory)
- Membrane Technology and Research
- U.S. Department of Energy



- Adsorption (AX), primarily used for water treatment and polishing, is the most commonly employed DLE technology.
- Sorbents, which look like spherical beads, adsorb Li molecules preferentially with high recovery rates. Water then releases lithium.
- EnergyX has developed best-in-class sorbents that can handle high temperatures with fast kinetics and long lifecycles.
- EnergyX has optimized the adsorption process to make it simple to use while drastically reducing freshwater usage.
- Solvent extraction (SX) is a widely used separation technology in the entire mining and metals industry.
- EnergyX has developed proprietary SX reagents to perform purification + concentration of brines, capable of generating Li content of 60,000 ppm.
- The SX unit operation enables simplified direct production of lithium carbonate and direct conversion of brine to lithium hydroxide via membranes.

- Membrane (MX) technology is used in every type of separation globally including agriculture, water desalination, oil & gas, and others.
- EnergyX has developed selective membranes to separate Li ions preferentially over the most promblematic multivalent cationic and anionic impurities.
- MX is used for direct conversion of lithium chloride to lithium hydroxide or Li metal.

90%+ LITHIUM **RECOVERY RATE** 

**1-2 DAYS CONTINUOUS PROCESS**  MINIMAL FRESH WATER NEEDED

LOWEST CAPEX & OPEX

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## ENERGYX

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