ASX ANNOUNCEMENT

FOR IMMEDIATE RELEASE TO THE MARKET

Li-S Energy Limited – ASX Code: LIS

Tuesday 11 June 2024

Market update

Australian battery technology company Li-S Energy (ASX:LIS) is pleased to provide the following market update.

- Installation of the Phase 3 facility, including 55 pieces of high-tech equipment, is now complete. As the Company continues to optimise the line during commissioning, we are currently producing cells for calibration, process optimisation and testing.
- Expansion and diversification of the Phase 3 manufacturing line is underway to meet customer demands for small and large format pouch cells.
- Diversification of product offerings with a greater emphasis on lithium metal cells.
- Operational testing facility and successful nail penetration tests to global standards with GEN3 cells.
- Development of a battery management system (BMS) prototype for lithium metal and lithium sulfur battery packs.

Update on the commissioning of the Phase 3 facility

Installation of the Phase 3 production facility is complete. The Company is internally testing cells made in the Phase 3 facility, with line commissioning continuing to progress as planned for the ongoing calibration of cells and testing for reliability and consistency during commissioning.

The Phase 3 line is the largest and most complex pouch cell manufacturing line in Australia, consisting of 55 pieces of highly technical equipment required to manufacture our cells.

While cells are being made from the line for internal testing, the ongoing commissioning involves many steps, including the integration of electrolyte filling, trimming and sealing processes as the line is optimised for consistency and reliability.

The past few months have been spent testing the calibration and operational performance of each component of the manufacturing line and development of data sheets for cell

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performance. While the Company is producing cells during this optimisation phase, manufacturing consistency for the development of customer sample cells is critical.

Given the size of the Phase 3 facility, commissioning is expected to be substantially complete by the end of Q3 in CY24, subject to the availability of additional engineering resources. At that point, it is anticipated that the first cells will then be sent to partners for testing.

Once fully commissioned, this facility will have the capacity to produce up to 2MWh of pouch cells per year, depending on the configurations used and the exact customer requirements.

The Company has also identified ways to diversify its offering for strategic partners and customers, ensuring the optimal output from the Phase 3 facility. In recent months, the Company has identified the strategic potential for a number of new products including smaller format pouch cells, rapid development of our lithium metal cells and a potential lithium foil sovereign production capability.

We set out below some more information on the product diversification opportunities.

(a) Installation of specialised Phase 3s small format cell fabrication line

Market feedback has indicated that there is a significant opportunity to introduce a separate production line in the Phase 3 facility.

As the needs of our partners in the drone and defence sectors continue to evolve, there is a growing demand for small format pouch cells designed for smaller devices and battery packs. To meet this demand and capture the opportunity this represents, the Company is installing a small format cell fabrication line, Phase 3s, in our existing dry room.

This new line represents a diversification of product offering and will be capable of producing both lithium sulfur and lithium metal cells depending on the specifics of the partner requirements. We anticipate that the new line will be installed by 31 August 2024.

(b) Ongoing lithium metal cell development

The Company continues to advance its lithium metal cell development to meet the growing partner demand for lightweight cells that offer a balance of higher energy density than lithium-ion, but also higher power draw capabilities than is easily achievable with lithium sulfur cells. The new Phase 3s line will enable us to accelerate this development as we match our unique Li-nanomesh coated lithium anodes with high performing lithium-ion cathode materials to optimise cell performance.

(c) Building lithium metal foil production sovereign capability

By leveraging our existing dry room, the Company is exploring the opportunity to install lithium foil manufacturing equipment, enabling the production of high-quality lithium foils and laminates. This would allow the Company to optimise this challenging material for our own battery production and scale our nanomaterial electrode coating capability. This capability also has the potential to create an additional revenue stream for the Company, selling Australian manufactured lithium foil to the local and international advanced battery industry.

Phase 3 Cell Testing Facility

The Phase 3 facility also includes our Cell Testing Facility, which is fully operational.

This Testing Facility featured in the recently announced nail penetration test results, in respect of our GEN3 cells. The Company has tested more than 290 multi-layer commercial sized cells using various destructive and non-destructive performance tests, delivering essential data for development optimisation. This data is integral to the creation of a cell product data sheet for delivery to our partners.

The testing is conducted in line with a range of international standards and input from our partners. It is evident from market feedback that, for many of our target applications, the trade-off between energy density and cycle life in customer demand is shifting, with 100-200 cycles deemed more than acceptable to many partners coupled with the improvement our cells offer in gravimetric energy density. Given the long duration of cell cycle testing, this is an important development to reduce our time to market.

Nanomaterials continue to be a key differentiator

One of the key differentiators of the Company's technology is our access to advanced nanomaterials to improve battery stability, performance, and cycle life. The Company continues to work closely with our partners at White Graphene Limited and BNNT Technology Pty Ltd on the use of their boron nitride nanomaterials. We see positive results from the use of these materials in several component parts of our cells and we are undertaking further development work to characterise the potential benefits for electrode protection and electrolyte performance as well as methods to integrate these materials into the manufacturing process. We have a growing portfolio of IP in this field.

Battery management system (BMS) in development

The Company has developed an intelligent battery management system (BMS) prototype, together with control and sensor systems to enable us to deliver an advanced battery module to partners with strong performance and safety management. A BMS is an

essential component to ensure effective battery operation, control, efficiency and management and our prototype will expand our offering for customers.

The prototype intelligent BMS has been developed in Australia and the Company owns the design and related IP.

We continue to develop market opportunities alongside our scientific and engineering activities. Our core partners across defence, drone and eAviation sectors remain committed to Li-S Energy and our lightweight, high-energy batteries and with recent developments we anticipate being able to support both their cell and BMS requirements.

The Company believes that all of the opportunities it is pursuing align closely with the new Battery Breakthrough Initiative and Made in Australia policies from the Federal Government and we have been in discussions with the National Reconstruction Fund regarding potential support for our future growth plans and sovereign manufacturing capability. Our Phase 3 facility on the Deakin University campus has also been supported by the Trailblazer Universities program.

CEO Lee Finniear commented:

"*The highly skilled LIS team continues to forge ahead on the path to commercialisation of our batteries. I believe our batteries are the most advanced lithium sulfur batteries in the world, based on my market analysis. With the announcement of the Battery Breakthrough Initiative in the Federal Budget, we look forward to further support and collaboration in Australia, to enable Li-S Energy to play a world leading role in the advanced battery industry".*

This announcement has been made and authorised by the Board.

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