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Committee Secretary
Senate Standing Committee on Environment and Communications
Parliament House, Canberra
via email: ec.sen@aph.gov.au

INQUIRY INTO WASTE REDUCTION AND RECYCLING POLICIES

Lithium Australia Limited (ASX:LIT) welcomes the opportunity to contribute to the *Inquiry into Waste Reduction and Recycling Policies* and assist the committee as it seeks to gain a better understanding of the progress achieved and challenges ahead within Australia's waste management and recycling industries. As a company deeply involved with waste management and recycling, we are always supportive of initiatives and policies that will better harmonise Australia's waste management systems and allow for a thriving recycling sector.

About Lithium Australia (ASX:LIT)

LIT is an ASX-listed technology company with a national footprint and over 20 years' expertise spanning the breadth of the battery materials supply chain. We are the essential link between Australia's mining sector and a future local battery manufacturing industry, and the only licensed mixed-battery recycler in Australia.

Through our various technology platforms across the battery value chain, we have a unique perspective on waste management, the safe handling of potentially hazardous materials, and the implications for governments and consumers of the circular economy over time:

Envirostream: Battery Recycling

Envirostream leads Australia's battery recycling industry as the only EPA Licenced lithium battery recycling facility. Envirostream provides sustainable services for collection, sorting, and processing of end-of-life batteries of all types (including those from Battery Energy Storage Systems and

electric vehicles), to capture critical metals for re-use. With enterprise-level battery recycling agreements with global corporations, and consumer-level collection partnerships with some of Australia's leading brands; Envirostream provides true circularity to the battery industry.

VSPC: Advanced battery materials

With over 20 years' experience, VSPC develops leading-edge cathode materials for next-generation lithium-ion batteries. Our high-quality, high-performance, and globally cost-competitive LFP cathode powder already features in electric vehicle and energy storage applications. Going forward, it will continue to enable safer, cheaper, and more environmentally-friendly transport and energy storage options to come to market as Australia moves towards a zero-carbon economy.

Lithium Chemicals: Technology and Innovation

Novel and disruptive technologies developed by Lithium Australia will allow greater and more efficient extraction of Australia's lithium deposits from traditionally non-viable low-grade sources and the recovery of lithium from tailings that would otherwise go to waste. The technology, called LieNA[®], is now in Joint Development with Mineral Resources Limited – a leading lithium ore miner in Western Australia.

As a present-day recycler of end-of-life electric vehicle and energy storage system batteries, LIT uniquely understands the complexities of collecting, making safe, and properly recycling large-format batteries. We are one of just two companies in Australia accredited by the government-backed B-cycle scheme to both sort and recycle used batteries after collection.

The average home storage battery weighs between 50kg and 110kg and requires special transport and storage systems. The batteries in Australia's best-selling EV weigh in excess of 700kg and demand similar safe handling practices.

LIT believes there are significant opportunities for expanding the battery manufacturing and recycling industries in Australia, particularly for large-format batteries. However, the widescale electrification of Australian homes, fleet, and businesses presents several challenges that require government support and intervention.

Battery recycling should be mandated and enforced

The disposal of batteries is a key event that must be appropriately regulated. It will also ensure critical minerals are utilised to their fullest extent. The risk of fire to people and the environment caused by damaged batteries and/or thermal runaway is well documented. Batteries can easily be damaged during the disposal process and when compacted on the active face of a landfill site. This can lead to significant fires, some of which occur under the surface of landfills which are extremely difficult to extinguish and pose a significant hazard.

Through the Environment Ministers Meeting forum, the Australian Government should mandate the recycling of spent batteries and see a nation-wide ban on the disposal of batteries to landfill agreed (such a ban is already in place in the ACT, South Australia, Victoria, and proposed in Western Australia).

Banning the disposal of batteries to landfill will not only address a key environmental and safety hazard in the end-of-life stage of batteries; it will also be of significant benefit to the burgeoning domestic battery manufacturing and recycling sectors.

Ban export of batteries as e-waste

Caution must be taken to avoid an unintentional abdication of Australia's responsibilities. Consideration should be given to the potential for individuals and businesses to offshore the responsibility of safe handling and disposal of batteries, including to countries with poor ESG credentials.

Notwithstanding the requirement for a permit from the Department of Climate Change, Energy, the Environment and Water, spent batteries are routinely exported for disposal and/or processing internationally. Australia should not offshore the responsibility of safe handling and disposal of batteries and ought to implement a phased ban on export permits for batteries and e-waste. This would additionally ensure a feedstock of product is available for processing by Australia's growing battery recycling sector and underpin its future viability.

The Recycling and Waste Reduction Act 2020 and accompanying rules establish several Regulated Waste Material streams including: Glass, Plastic, Tyres, Paper, and Cardboard, notably omitting batteries or e-waste. Establishing batteries and/or e-waste as a Regulated Waste Material would be an appropriate vehicle to ensure batteries are prioritised for onshore processing and recycling, rather than being offshored to the cheapest available recipient.

Improved and harmonised regulations

There is an urgent need to establish and enforce consistent safety regulations for large-format batteries throughout their lifetime. From manufacture through to end-of-life, batteries must be considered a 'dangerous good' and regulated as such.

Australian jurisdictions must implement a consistent set of regulations covering all stages of batteries, including the manufacture, use, collection, transportation, and end-of-life processing/recycling. Regulations must cover all individuals and businesses who may at any time possess large-format batteries, including warehousing of batteries before use.

Commonwealth leadership is needed to harmonise dangerous goods regulations and guidelines, with a common approach for lithium-ion batteries. This will ensure a best practice approach in the movement and storage of end-of-life batteries across Australia – reducing environmental and exposure risks, preventing fires, and making doing business in this growing sector easier for Australian companies.

For example, EPA Victoria provides guidelines for the storage and management of waste batteries and recommends collection containers contain no more than 30kg of waste batteries in a single container.

Safety regulations should be strengthened and provide specific guidance concerning batteries that are damaged, especially those that may have been impacted by fire. Batteries impacted by fire can pose a significantly higher risk and present a risk for an extended period of time, compared to normal. Specific requirements should apply to their collection and storage.

Long term viability of product stewardship schemes

As a member of the Australian Council of Recycling's (ACOR) Product Stewardship Industry Leadership Group, LIT has contributed to the production of ACOR's *Fixing Product Stewardship: Challenges, priorities, and recommendations from the recycling sector* Issues Paper that covers, in significant detail, the recycling industry's experience and concern for the long term prospectives for product stewardship schemes.

Among the schemes evaluated in the issues paper was B-Cycle, the ACCC-authorized product stewardship run by the Battery Stewardship Council, launched in January 2022. As an industry-led, voluntary product stewardship scheme, B-Cycle has struggled to find its footing within Australia's recycling network, with many users still opting to pay directly for their batteries to be recycled by a service provider rather than paying the levy to B-Cycle.

Last year, the collection rate was only 12% of loose in-scope batteries. B-Cycle's success is further hampered by a narrow set of battery types that can be accepted. With more and more single use or disposable products containing batteries (e.g. electronic cigarettes / "vapes"), schemes like B-Cycle need to be increasing their scope for battery recycling.

As a matter of priority, the range of batteries covered by B-cycle should be expanded to more accurately reflect the types of batteries that are in use. Furthermore, the scheme should be expanded to be mandatory for small and consumer batteries. These changes would significantly improve the viability and sustainability of the scheme by ensuring recyclers have a consistent stream of input materials. As EVs and large scale domestic batteries become more common, it would be appropriate to consider including these types of batteries in a mandatory scheme.

ACOR's Issues Paper provides 24 recommendations for the Australian Government to improve the viability of product stewardship schemes, including battery recycling schemes like B-Cycle. For the Committee's convenience the issues paper is also attached to this submission.

Public hearings

Thank you again for the opportunity to contribute to the *Inquiry into Waste Reduction and Recycling Policies*. Lithium Australia would be pleased to appear before the Committee's public hearings and/or provide any further clarification, information, or advice as necessary.

Yours sincerely

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