Livium Granted Australian Patent Protecting Battery Recycling Process

Highlights

- **Livium has secured an Australian patent protection for its wet shredding and separation process for recycling of lithium-ion batteries until 2041**
- **Wet shredding is capable of materially mitigating thermal events and capturing volatile components, improving safety and operability**
- **IP is considered a strategic asset to protect Livium's process know-how and supports the defined Australian battery recycling roadmap**

Livium Ltd (ASX: LIT) ("Livium" or the "Company") advises that the Australian Patent Office has granted a standard patent **covering the Company's wet-process recycling of lithium-ion batteries** — the same process used by Livium's subsidiary Envirostream Australia Pty Ltd (**Envirostream**), Australia's market-leading lithium-ion battery recycler.

The patent, which expires in **2041**, has been granted **through Livium's subsidiary** Resource Conservation and Recycling Corporation Pty Ltd (**RCARC**), the entity that **holds all recycling-related intellectual property (IP) within the Livium Group.**

Livium CEO and Managing Director, Simon Linge commented *"Grant of this patent is a timely milestone in supporting our core focus on safe, efficient clean energy resource recovery. Our wet-process route underpins Envirostream's operations and is designed to mitigate fire risk while delivering high-quality black mass for downstream refining.*

This patent strengthens our technology portfolio and compliments others such as the REE processing technology with the University of Melbourne. This grant increases confidence whilst we scale our business through a consolidated Hub."

What the patented process covers (wet vs dry)[1]

The patent protects a **wet shredding and separation** process to recover valuable electrode material ("black mass") and metals from lithium-ion batteries. In broad terms, batteries are **wet-shred in water**, producing an aqueous slurry from which electrode material is separated.

By contrast, **dry** shredding systems (mechanical size reduction without an aqueous medium) can involve **higher fire/thermal-runaway risk** and therefore demand more stringent pack disassembly and discharge steps. As a result, they are more commonly found in applications with high proportions of production scrap rather than end-of-life batteries. Using a **wet shredding and separation** process can therefore materially **mitigate thermal events** and capture volatiles, improving safety and operability.

International context and relevance

- **Global adoption of wet shredding:** Industry sources describe submerged/wet shredding as an increasingly used method for EV and LIB recycling to **suppress energy release, deter thermal runaway, and enable efficient black-mass recovery**[2].
- **Policy tailwinds (EU):** The **EU Battery Regulation (2023/1542)** mandates stricter collection and **recycling-efficiency and content targets**, underpinning demand for efficient recovery flowsheets such as aqueous/mechanical + hydrometallurgical routes[3].
- **Process families:** Academic reviews classify mainstream flowsheets as **pyro-hydro** or **(thermo)mechanical-hydro**, the latter aligning with **wet mechanical liberation + hydrometallurgical** refining of black mass[4].

[1] Source: https://recyclinginside.com/battery-recycling/lithium-battery-recycling-the-dry-vs-wet-debate
[2] Source: https://www.altenergymag.com/article/2025/02/no-disassembly-or-discharge-required-shredding-the-largest-ev-battery-packs-in-one-system/44641
[3] Source: https://eur-lex.europa.eu/EN/legal-content/summary/sustainability-rules-for-batteries-and-waste-batteries.html
[4] Source: https://www.mdpi.com/2075-4701/13/12/1915

Patent Summary

- **Patent number**: AU 2025202070 B2
- **Title**: Process for recovering values from batteries
- **Patentee**: Resource Conservation and Recycling Corporation Pty Ltd
- **Grant date**: 16 October 2025
- **Expiry**: 12 August 2041

These particulars are confirmed in the notice and certificate of grant from IP Australia.

Authorised for release by the Livium Board.

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About Livium

Livium Ltd (previously Lithium Australia) is Australia's market leading battery recycler, Envirostream, a revenue and profit generating business with a focus on the recycling of clean energy waste. Livium is also dedicated to leading the clean energy transition by extracting critical materials from sustainable material recovery.

Livium's growth strategy is to expand its services into recycling rare earth elements and solar panels and processing black mass to meet its customers' needs.

Beyond recycling, Livium has developed other innovative technologies. Lithium extraction technology, LieNA®, has progressed to a 50:50 joint venture with Mineral Resources Ltd (ASX: MIN). Livium's subsidiary, VSPC, has developed next generation lithium ferro phosphate (LFP) process, the fastest growing battery material.

Forward-looking statements

This announcement contains forward-looking statements. Forward-looking statements are subject to a variety of risks and uncertainties that it is beyond the Company's ability to control or predict and which could cause actual events or results to differ materially from those anticipated in such forward-looking statements. Investors should be aware that past performance should not be relied upon as being indicative of future performance.