



NESI Fact Sheet

OVERVIEW

NORAM Electrolysis Systems Inc. (NESI) is a Vancouver-based company specializing in industrial electrochemical technologies.

NESI is part of NORAM Industrial Holdings Inc., leveraging decades of engineering, fabrication, and process design expertise.

Established as a standalone company in 2022, NESI evolved from NORAM Engineering & Constructors' electrochemical division.

The company develops electrified chemical processing solutions that reduce emissions, waste, and reliance on traditional reagents.

Operations span Canada and Europe, with facilities in British Columbia and the Czech Republic, and active projects across multiple international markets.

NESI supports domestic lithium refining and battery supply chain localization.

NESI reduces environmental impact and waste associated with traditional chemical processing.

Core Technology: NORSCAND® Platform

NESI's flagship offering is the NORSCAND® electrolyser platform, a modular, membrane-based electrochemical system designed for industrial-scale salt-splitting processes. The technology uses electricity to separate lithium or sodium salts into their constituent products, enabling cleaner and more efficient chemical production.

NORSCAND® Applications

NESI's NORSCAND® platform enables electrified chemical processing across lithium refining, waste recovery, and industrial electrochemistry. The technology replaces traditional chemical-intensive processes with electricity-driven systems that improve efficiency, reduce waste, and lower environmental impact.

Lithium Conversion

Processes lithium chloride and lithium sulphate from hard rock, brines, produced water, and recycling streams into high-purity, battery-grade lithium hydroxide. The system reduces reliance on chemical reagents and enables circular recovery of acid and inputs, lowering operating costs and simplifying supply chains.

Waste Recovery and Valorization

Converts sodium sulphate into valuable sulphuric acid and caustic soda, eliminating waste streams and creating reusable inputs for upstream processing.

Sodium Hydroxide Production

Produces sodium hydroxide from sodium carbonate without generating chlorine gas, improving safety, reducing regulatory complexity, and creating new revenue streams.

Advanced Electrochemical Applications

Supports a range of industrial electrolysis processes, including organic electrosynthesis and integration with advanced lithium extraction systems, enabling scalable, circular, and lower-emission chemical production.

TECHNOLOGY ADVANTAGES

NESI's approach replaces traditional chemical processes with electricity-driven reactions, enabling:

- **Reagent-Free Processing:** Replaces traditional chemical-intensive conversion with a modern electrochemical platform that electrifies industrial processes, eliminating waste streams and chemical costs.
- **Closed-Loop Recovery:** Recovers valuable materials from waste streams
- **High-Purity Outputs:** battery-grade materials for EV supply chains

- Flexible Feedstocks: Compatible with lithium chloride and lithium sulphate sources
 - Modular Scalability: Modular cell stacks simplify scale up
 - Reduces chemical reagent use by up to 80–100% (depending on feedstock)
 - Eliminates or converts sodium sulphate waste streams into saleable products
 - Electrification pathway aligns with low-carbon grid integration
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COMMERCIAL POSITIONING

- Proven at Scale: Technology has progressed beyond pilot stage into commercial deployment
 - Cost Efficiency: Reduces operating costs by simplifying processes and eliminating reagents
 - Supply Chain Localization: Enables lithium refining in North America and Europe
 - Sustainability Impact: Supports industrial decarbonization and cleaner critical mineral production
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KEY PROJECTS & CUSTOMERS

- Nemaska Lithium - a Quebec-based chemical manufacturing company focused on developing a fully integrated "mine-to-lithium-hydroxide" supply chain to fuel North American electric vehicles.
- Vulcan Energy - a Germany-based company pioneering green lithium and renewable energy focused on extracting zero carbon lithium from geothermal brine in Germany's Upper Rhine Valley to power Europe's electric vehicles.
- Lifthium - a Portuguese-led industrial venture focused on producing green lithium hydroxide through advanced electrolysis and renewable energy to establish a sustainable, low-carbon battery supply chain for Europe's electric vehicle industry.

Customers

- Lithium producers (hard rock, brine, recycling)
- Battery materials companies
- Chemical and industrial processing companies

Leadership

- Jeremy Moulson – Chief Executive Officer

Facilities & Locations

- Canada (HQ + manufacturing)
- Europe (distribution + projects)