Electra Produces Lithium from Battery Recycling Trial, Significantly Improving its Project Economics

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Electra Battery Materials Corp. (NASDAQ: ELBM; TSX-V: ELBM) ("Electra", or the "Company") announced today that it has successfully recovered lithium, a critical mineral needed for the electric vehicle (EV) battery supply chain, in its black mass recycling trial being conducted at its refinery north of Toronto. The recovery and subsequent production of a technical-grade lithium carbonate product in a plant-scale setting validates Electra's proprietary hydrometallurgical process and efforts to date in commissioning its larger refinery complex.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20230313005237/en/

Lithium carbonate produced by Electra in its black mass recycling trial (Photo: Business Wire)

"Recovering lithium from black mass represents a potential game changer for Electra and the North American EV supply chain," said Trent Mell, CEO of Electra Battery Materials. "Recycling lithium from expired batteries through hydrometallurgy lowers the carbon footprint of manufacturing electric vehicles and represents an important source of future supply for a commodity whose demand is expected to grow significantly in the coming years. From Electra's perspective, it considerably strengthens the economics of our battery recycling strategy by providing another high-value product we can sell."

Mr. Mell added, "Successfully demonstrating our lithium recovery process in a plant-scale environment supports our plans to commercialize our process with our industry partners and is a testament to efforts of Electra's technical team."

"Our refinery team, combined with our consulting engineering partners, achieved a significant milestone in proving up our hydrometallurgical process for treating black mass," said Mark Trevisiol, Electra's Vice President of Project Development. "We achieved these outstanding results in less than two years, going from bench-scale laboratory testing to plant scale production."

Black mass is the industry term used to describe the material remaining once expired lithium-ion batteries are shredded and all casings removed. Black mass contains high-value elements, including lithium, nickel, cobalt, manganese, copper, and graphite, that once recovered, can be recycled to produce new lithium-ion batteries.

Established North American battery recyclers have focused on collecting and shredding of batteries with the resulting black mass material primarily treated by a pyrometallurgical smelting process that has a higher carbon footprint and lower metal recoveries than hydrometallurgical processes.

Recycling black mass will increasingly become a key feature of the EV battery supply chain given the strong demand for critical minerals and the looming supply deficit of metals such as nickel and cobalt. According to data from McKinsey & Company, available battery material for recycling is expected to grow by 20% per year through 2040.

Electra launched its black mass demonstration plant at the end of December 2022, and has processed material in a batch mode, successfully extracting lithium, nickel, cobalt, manganese, copper, and graphite.

As disclosed previously, Electra has decided to extend its black mass processing and recovery activities

through June 2023, beyond the Company's initial target of 75 tonnes, as a result of preliminary results achieved to date and interest expressed by potential commercial partners.

The total amount of material to be processed and recovered through June will be determined in the coming weeks. The Company has identified multiple sources of supply, and is in discussions on terms and conditions with vendors.

All of Electra's recovered material will be sold to third-party companies for additional processing and re-use in a number of applications.

About Electra Battery Materials

Electra is a processor of low-carbon, ethically-sourced battery materials. Currently commissioning North America's only cobalt sulfate refinery, Electra is executing a multipronged strategy focused on onshoring the electric vehicle supply chain. Keys to its strategy are integrating black mass recycling and nickel sulfate production at Electra's refinery located north of Toronto, advancing Iron Creek, its cobalt-copper exploration-stage project in the Idaho Cobalt Belt, and expanding cobalt sulfate processing into Bécancour, Quebec. For more information visit www.ElectraBMC.com.

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