Electra Starts Commissioning of Battery Materials Recycling Demonstration Plant at its Ontario Refinery Complex

13.10.2022 | CNW

TORONTO, Oct. 13, 2022 - Electra Battery Materials Corp. (NASDAQ: ELBM) (TSXV: ELBM) ("Electra") today announ
of commissioning of its black mass recycling demonstration plant at its battery materials park located north of Toronto f
successful installation of material feed handling and lime delivery systems, two key circuits in Electra's hydrometallurgic
designed to recycle end of life lithium-ion battery materials.

"Automakers are looking for a closed-loop supply chain for their batteries and Electra's recycling process presents a co
solution to move to a circular model for recycling end-of-life batteries and battery manufacturing scrap," said Trent Mell,
Electra Battery Materials. "Consistent with our strategy, integrating battery materials recycling to our cobalt sulfate prod
activities at our refinery will not only serve as an important differentiator but will allow us to generate incremental cash f
strengthening our relationships with various stakeholders that make up the North American EV supply chain."

Mr. Mell added, "Pending completion of the demonstration plant and a review of project economics, success could pave
towards the buildout of a 5,000 tonne per annum black mass processing facility within our battery materials park in Ont
existing infrastructure, personnel, and lab facility. Additional capacity would be added through construction of additional
the market for recycled battery material expands."

Electra is currently retrofitting its existing cobalt sulfate refinery located in Temiskaming Shores, Ontario to accommoda
proprietary hydrometallurgical process designed to treat black mass, a byproduct generated from the recycling of end-o
other lithium-ion batteries.

Under the parameters of the black mass demonstration, Electra plans to process up to 75 tonnes of material in a batch
Using its lab tested process, Electra anticipates the recovery of high value elements found in lithium-ion batteries, inclu
cobalt, lithium, manganese, copper, and graphite.

Electra also anticipates the full commissioning of all equipment and circuits of the black mass recycling demonstration i
2022 with the full commissioning of the cobalt sulfate refinery expected in the spring of 2023. The Company will provide
updates on the status of its demonstration plant and commissioning efforts.

In preparation for the black mass demonstration plant, Electra completed process development and engineering on rec
mass material. Electra previously sourced black mass samples from suppliers in North America, Europe, and Asia, stud
characteristics, and developed a hydrometallurgical process route to recover contained lithium, nickel, cobalt, copper a
The test work was conducted using the facilities of SGS Labs in Lakefield, Ontario and engineering was completed usin
combined resources of Electra technical personnel, supported by process design engineers of Hatch Associates and m
and electrical engineering support by Bestech.

Electra's proprietary hydrometallurgical process has a low carbon footprint and produces stable non-acid generating tai
thereby reducing environmental impacts while meeting or exceeding water discharge effluent criteria as stipulated by b
and provincial regulations.

Electra completed a benchmarking study that indicates that the carbon intensity of the cradle-to-gate battery grade nick
produced from recycled black mass using its hydrometallurgical process in a low-carbon electricity grid is lower than ot
options, including Class 1 nickel metal, nickel mixed hydroxide precipitate or ferronickel.

In addition, the carbon intensity of nickel sulfate produced from recycled black mass at Electra's refinery, which uses
hydroelectricity as its primary energy source, is less than 50% of the carbon intensity of nickel sulfate produced from m

hydroxide precipitate when the source of energy relies on non-renewables such as coal-powered electricity. The refiner power source is hydroelectric from Ontario Power Generation, resulting in a nearly zero greenhouse gas emissions.

About Electra Battery Materials

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

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