

March 28, 2024

Sumitomo Metal Mining to Build Recycling Plants for Lithium Ion Batteries

Partnership agreement concluded for construction of a recycling supply chain

Sumitomo Metal Mining Co., Ltd. (TSE: 5713) has decided to construct recycling plants to recover copper, nickel, cobalt and lithium from used lithium ion batteries (LIB) and other materials in the Toyo Smelter & Refinery located in Saijo City, Ehime Prefecture, Japan, and the Niihama Nickel Refinery located in Niihama City, Ehime Prefecture, Japan. Construction of the plants is scheduled to start in FY2024 (from April 2024 to March 2025) and be completed in June 2026. The capability of the facilities at the plants, which means the volume of raw material can be processed, is planned to be the equivalent of approximately 10,000 tons of LIB cells per year. Along with the construction of these plants, Sumitomo Metal Mining has also concluded partnership agreements with leading recycling companies to put in place a recycling supply chain. With this as a spur, it shall work together with the partners and accelerate its studies on a collection system for used LIB.

Sumitomo Metal Mining has been worked on the commercialization of “battery-to-battery” recycling that takes the metals in used LIB and in the intermediate materials occurring in the LIB production process and recycles them into battery materials, and has established LIB recycling technology for the recovery and recycling of copper, nickel, cobalt and lithium through a process of joint development and process combination with Kanto Denka Kogyo Co., Ltd. in 2022.

The LIB recycling plants that Sumitomo Metal Mining has decided to build will enable the efficient processing of used LIB that contains many impurities through a combination of pyrometallurgical smelting and hydrometallurgical refining, and their design takes into account handling the expecting future increase in used LIB and the metal recovery rate and recycled material inclusion rate defined in EU Battery Regulation in force since August 2023. The plants also incorporate the company’s own technology for suppressing CO₂ emissions, and it shall undertake further technology development and optimization with the goal of reducing its carbon footprint.

The construction of the plants is supported by the Green Innovation Fund Project, which was publicly solicited by the New Energy and Industrial Technology Development Organization (NEDO), Japanese national research and development corporation.

Sumitomo Metal Mining shall continue with its initiatives towards establishing an LIB recycling system, and shall contribute to the achievement of a sustainable circular economy.

[Overview of LIB Recycling Plants]

Main raw materials : Black mass (concentrate obtained by crushing and sorting used LIB after detoxifying through thermal or other treatment)

Facility capacity (raw material processing volume): Equivalent of approx. 10,000 tonnes/year of LIB cell

Location :

- Facilities for pyrometallurgical process: Toyo Smelter & Refinery
- Facilities for hydrometallurgical process: Niihama Nickel Refinery

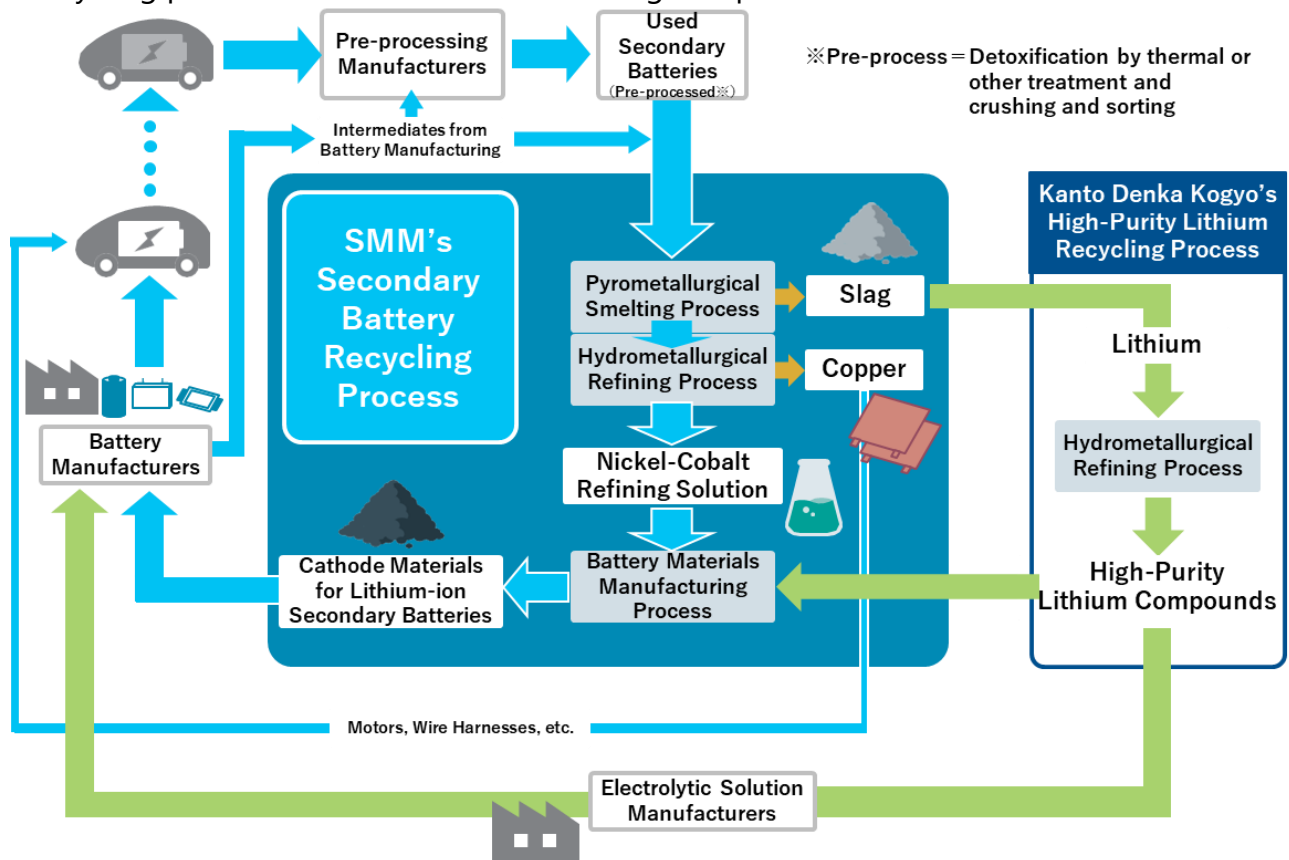
Schedule : Completion in June 2026

[Partnership agreements concluded with]

- MM&KENZAI Corporation
- OONO DEVELOPMENT CO., LTD
- Sanyo-Rec Co., Ltd.
- Toho Zinc Co., Ltd.
- DOWA ECO-SYSTEM CO., LTD.
- TOYOTA TSUSHO MATERIAL INCORPORATED
- Nippon Magnetic Dressing Co., LTD.
- Nippon Recycle Center Corp.
- MATSUDA SANGYO CO., LTD.

(Reference)

The recycling process of Sumitomo Metal Mining and partners



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