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BLOG

LPO Announces a Conditional Commitment for Loan to Li-Cycle's U.S. Battery Resource Recovery Facility to Recover Critical Electric Vehicle Battery Materials

With a first-of-a-kind lithium-ion battery recycling facility, Li-Cycle is supporting a circular economy for critical materials.

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February 27, 2023

 5 min



LI-CYCLE

ROCHESTER, NEW YORK



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**DIRECT LOAN:
CONDITIONAL
COMMITMENT**

FINANCED BY
U.S. DEPARTMENT OF
ENERGY



LPO
Loan Programs Office

The U.S. Department of Energy's (DOE) [Loan Programs Office](#) (LPO) today announced a conditional commitment to Li-Cycle US Holdings, Inc. (Li-Cycle) for a \$375 million loan to help finance the construction of the first-of-its-kind lithium-ion battery resource recovery facility in North America. If finalized, the loan will help Li-Cycle, already North America's largest lithium-ion sustainable pure-play battery recycler, further expand its operations. The facility, located in the Rochester, New York area, is expected to support the battery needs of approximately 203,000 electric vehicles (EV) annually and will advance the electrification of the U.S. automotive fleet to lower related emissions, strengthen the domestic EV supply chain, and create good-paying clean transportation jobs. This latest project under LPO's Advanced Technology Vehicles Manufacturing Loan Program (ATVM) would support the Biden-Harris Administration's effort to onshore and re-shore EV and critical mineral supply chains, create thousands of jobs, and make half of all new vehicles sold in 2030 zero-emissions vehicles.

Specifically, EVs that will be supported by the facility's output would reduce gasoline use by about 80.6 million gallons per year, equivalent to more than 716,000 tons of CO2 emissions annually. By supporting a circular economy for critical materials, the project is expected to reduce the U.S. reliance on global supply chains or new mining. At peak construction, the project is anticipated to create more than 1,000 construction jobs. Once fully operational 270 permanent operations jobs are expected to be created. Li-Cycle has committed to hiring local labor from surrounding New York counties, including [DOE-identified disadvantaged communities](#) in the Rochester, New York area, for all construction jobs. This, in addition to engagement with local contractors,

labor groups, and the local industrial development agency, will drive local labor participation throughout construction of the project. LPO works with all borrowers to create good-paying jobs with strong labor standards during construction, operations, and throughout the life of the loan and to adhere to a strong Community Benefits Plan.

This conditional commitment is the fifth critical materials and EV supply chain project announced under the ATVM program within the past year and is the first conditional commitment from the program that supports a resource recovery facility by a sustainable pure-play lithium-ion battery recycling company. ATVM provides loans to support U.S. manufacturing of advanced technology vehicles, qualifying components, and materials that improve fuel economy. With several recent ATVM projects in the last year and approximately \$50 billion in lending authority remaining through the program, LPO is helping catalyze the EV battery and critical materials supply chain in the United States.

The critical materials that make up EV batteries are in high demand and can be difficult to procure. The Li-Cycle project will use a technique called hydrometallurgical recycling to efficiently recover battery-grade lithium carbonate, cobalt sulfate, nickel sulfate, and other critical materials from manufacturing scrap materials and used batteries. Li-Cycle's hydrometallurgical process will recover these critical battery materials with high efficiency and with low energy use, operational costs, and emissions. The final product will be a U.S.-made supply of battery-grade critical materials.

The project has secured several supply agreements for recycled lithium-ion battery feedstock across the United States and Canada as the North American battery supply chain grows. As part of Li-Cycle's proprietary Spoke & Hub Technologies™ model, source materials will be aggregated and processed into black mass (recycled lithium-ion battery feedstock) at four current operational sites throughout North America – including from Rochester; Gilbert, Arizona; Tuscaloosa, Alabama; and Kingston, Ontario – and shipped to the Rochester Hub facility for additional processing. Li-Cycle has commercial agreements in place with battery companies in the United States, such as LG Energy Solution, Ltd., and EV manufacturers, for source materials as part of its efforts to enable a closed-loop supply chain for lithium-ion batteries and their component critical materials. The growing electrification of the U.S. transportation sector, and particularly the rise in EV sales, is expected to result in strong U.S. demand for domestically manufactured critical materials. Since President Biden took

office, domestic EV sales have tripled and there have been 82 processing and manufacturing announcements, representing over \$96 billion in investments. These investments in our industrial capacity will leave our economy better positioned to innovate, weather future shocks, and help all Americans thrive.

The Biden-Harris Administration has identified strengthening the country's critical mineral supply chain as an important step toward securing America's energy independence. Last year, DOE announced a [comprehensive strategy](#) to secure the nation's clean energy supply chain. A core focus of the strategy is increasing the availability of the critical materials that are essential components of clean energy technologies. Currently, a handful of countries control most of the global battery recycling supply chain, with China dominating lithium carbonate refining markets. Li-Cycle expects its facility to be the first source of recycled battery-grade lithium carbonate in North America, in support of the Administration's efforts to ensure that the clean energy transition is powered by America's workers and American manufacturing.

While this [conditional commitment](#) demonstrates the Department's intent to finance the project, several steps remain for the project to reach critical milestones, and certain conditions must be satisfied before the Department issues a final loan.

Learn more about [LPO's critical materials projects](#).

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