

## Why do we need to recycle lithium batteries?

With the demand for electric vehicles (EVs) and stationary energy storage projected to increase the lithium battery market by as much as ten-fold by 2030, it is essential to invest in sustainable, reduced-cost recycling of consumer batteries in support of a secure, resilient, and circular domestic supply chain for critical materials.

## Can electric-vehicle lithium-ion batteries be recycled and re-used?

Here we outline and evaluate the current range of approaches to electric-vehicle lithium-ion battery recycling and re-use, and highlight areas for future progress. Processes for dismantling and recycling lithium-ion battery packs from scrap electric vehicles are outlined.

## Why should we recycle advanced batteries?

"Recycling advanced batteries presents an enormous opportunity for America to support the creation of a secure and resilient domestic battery supply chain to reach our clean energy and transportation future," said U.S. Secretary of Energy Jennifer M. Granholm.

## Can batteries be recycled?

Given the costs of making batteries, recycling battery materials can make sense. From the estimated 500,000 tons of batteries which could be recycled from global production in 2019, 15,000 tons of aluminum, 35,000 tons of phosphorus, 45,000 tons of copper, 60,000 tons of cobalt, 75,000 tons of lithium, and 90,000 tons of iron could be recovered.

## Who recycles lithium ion batteries?

Brupn Recycling Technology Co.: A subsidiary of the leading Li-ion battery maker CATL, Brupn is the largest recycler of those batteries in Asia (and therefore the world). Its new plant in China's Hunan province reportedly can recycle 100,000 metric tons of lithium-ion battery scrap per year.

## What's new in battery recycling?

WASHINGTON, D.C. -- The U.S. Department of Energy (DOE) today announced more than \$192 million in new funding for recycling batteries from consumer products, launching an advanced battery research and development (R&D) consortium, and the continuation of the Lithium-Ion Battery Recycling Prize, which began in 2019.

To avoid massive mineral mining and the opening of new mines, battery recycling to extract valuable species from spent LIBs is essential for the development of renewable energy. Therefore, LIBs recycling needs to be widely ...

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# Energy storage battery recycling opportunities