

Are new lithium mines boosting production?

Demand for batteries has sent lithium prices soaring. But building new mines is controversial and time-consuming. So existing mines are hitting overdrive and boosting production as much as they can.

Can you recycle lithium-ion batteries used in electric vehicles?

A Massachusetts startup has an innovative method for recycling lithium-ion batteries used in electric vehicles. The company says the recycled batteries are cheaper and perform better than new ones. They're less polluting, too.

Are lithium ion batteries hazardous waste?

Lithium-ion batteries are hazardous waste if they're discarded, but they're a valuable resource if they're recycled. Because they're hazardous, some states legally require battery recycling. And because they're valuable, EV batteries are often recycled even where it's not mandated: Vehicle dismantlers can sell the batteries for money.

Is lithium the most important material in a lithium-ion battery?

"Ironically, lithium is not the most important material in a lithium-ion battery," says Jeffrey Spangenberger, director of Argonne National Laboratory's ReCell Center, which works to advance battery-recycling technologies.

Where are lithium ion batteries made?

They were ground up in Georgia, processed in Massachusetts and headed to Michigan for manufacturing -- every step happening in the United States. Lithium-ion batteries are hazardous waste if they're discarded, but they're a valuable resource if they're recycled. Because they're hazardous, some states legally require battery recycling.

Can a lithium battery be made online?

"There is very little production of lithium raw materials, or any battery raw materials, in the US. The potential's there, but it'll take time to bring it online," says Piedmont Lithium CEO Keith Phillips. When Piedmont Lithium dedicated its new headquarters in the nearby town of Belmont this summer, U.S. Sen. Thom Tillis was there.



Aviation authorities in the U.S. and abroad have grounded the new Boeing 787 because of problems with its big lithium batteries. The batteries pack an electrical punch, but can create incredible



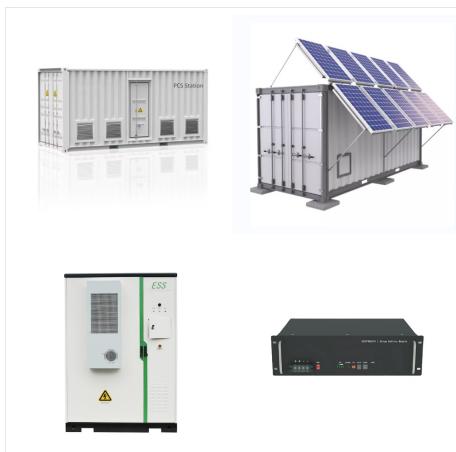
Today, though, the Nobel Prize in Chemistry honored batteries, specifically lithium-ion batteries. NPR's Nell Greenfieldboyce reports those batteries helped usher in a revolution in how people



NPR's Camila Domonoske talks to Allan Swan, president of Panasonic Energy of North America, about the challenge of producing enough electric vehicle batteries to meet U.S. climate goals.



The answer is no. Here's why. Batteries do more harm upfront and less year after year. With all that's required to mine and process minerals from giant diesel trucks to fossil-fuel-powered refineries and EV battery a?



The company, Vanadis Power, told NPR it initially planned to continue making the batteries in China and then would set up a factory in Germany, eventually hoping to manufacture in the U.S., said



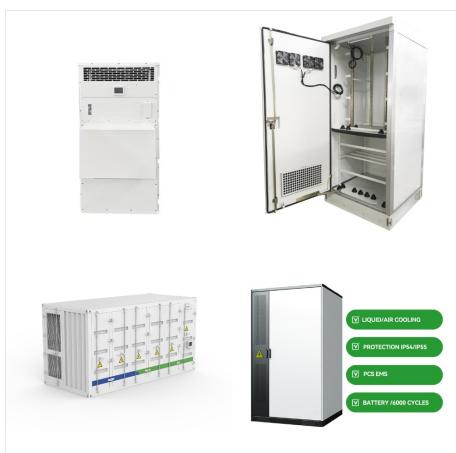
Lithium is in such high demand globally that it's now being called "white gold," says Mihri Ozkan, an expert on lithium batteries also at UC Riverside. She says this demand is driven mostly by



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The Federal Aviation Administration reported more than 60 incidents last year in which lithium-ion batteries - mostly battery packs, vapes or cell phones - overheated, began smoking or caught



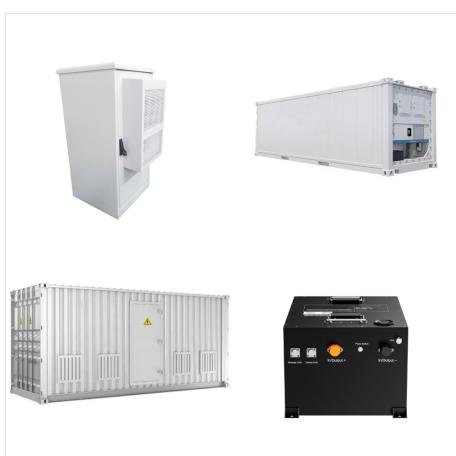
CAMILA DOMONOSKE, BYLINE: Lithium-ion batteries - the kind found in phones, laptops and electric vehicles - they're in pretty tight supply right now. Elon Musk says that's why the Tesla semitruck



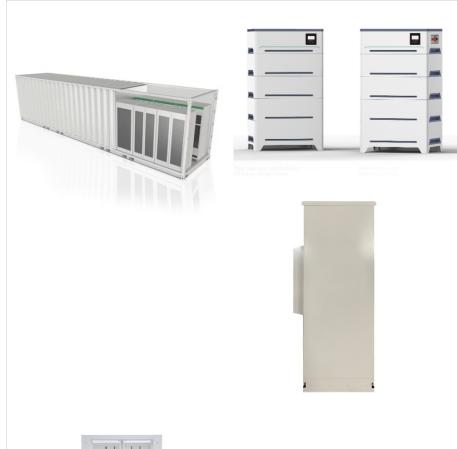
In 1980, John Goodenough's work led to the lithium-ion battery, now found in everything from phones to electric cars. He and fellow researchers say they've come up with a faster-charging alternative.



NPR Central Europe correspondent Rob Schmitz reports on why a proposed lithium mine in Serbia is spurring social unrest. (SOUNDBITE OF BEES BUZZING) ROB SCHMITZ, BYLINE: Vladan Jakovljevic's bees are angry. As he lifts a hive cover, they swarm, one of them stinging him in the cheek. which refines 80% of the world's lithium for EV batteries



A spokesman for American tells NPR that rules banning the bags" powerful lithium batteries from checked baggage aren't because they're more likely to catch fire in a cargo hold, but because it's



Developing sodium-ion batteries. After its success supplying lithium-ion batteries to the electric vehicle market, Northvolt has been working secretly on a sodium-ion battery technology and is now



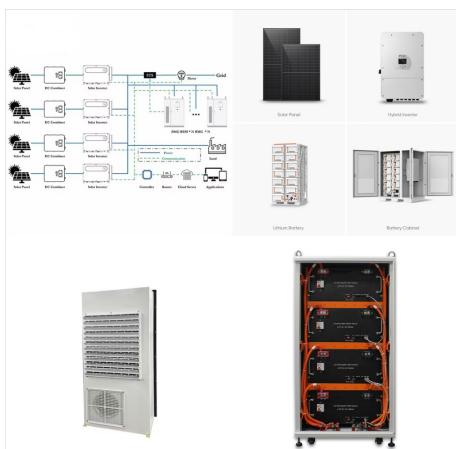
Nevada is the only state in the country that produced lithium and it has the largest known lithium clay deposit in the world, according to the Nevada Bureau of Mines and Geology. the NPR app



Ford's plans to produce electric vehicle batteries based on technology and licensing from China has become a flashpoint in the debate over relations between the two countries. //



In northern Chile, lithium mining is booming. The metal is used for batteries in everything from cell phones to electric cars, and it's crucial for the transition away from fossil a?|



Lithium-ion batteries are a known troublemaker a?? and a subject of numerous standards and international regulations. But the incidents keep cropping up. "This is the way standards normally work



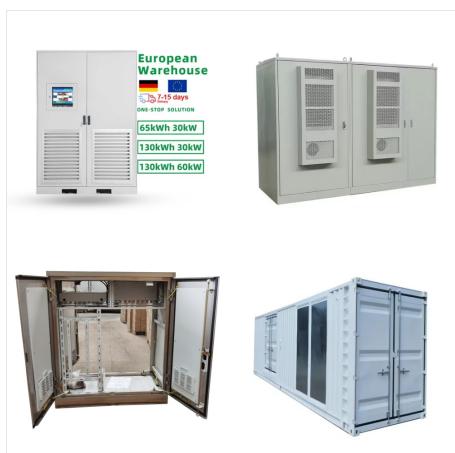
Lithium is essential to producing rechargeable batteries, like the giant ones used in electric vehicles. Demand is soaring. And, after decades of shifting production overseas, the auto industry is



The metal is used to make lithium-ion batteries for electric cars, solar panels and other green technologies. And all of this has led to a boom in lithium mining, especially in Chile, where NPR's



The lithium carbonate residue is exported to be refined and used to make lithium batteries, which end up in everything from our smartphones to electric cars. NPR transcripts are created on a



NPR's Ayesha Rascoe speaks with Thea Riofrancos, professor at Providence College, about her new research into the environmental costs of the transition to electric vehicles in the United States.