

# What lithium mines are needed for new energy batteries

How many new mines are needed for EV batteries?

Hundred of new mines are needed to source the materials needed for EV batteries. The demand for lithium, cobalt, nickel and graphite will skyrocket over the next decade.

How many lithium mines should we build by 2030?

The report concludes the industry needs to build 50 more lithium mines, 60 more nickel mines and 17 more cobalt mines by 2030 to meet global net carbon emissions goals. Source: IEA. Pressure on the supply of critical materials will continue to mount as road transport electrification expands to meet net-zero ambitions.

Are EVs and battery storage the fastest growing consumer of lithium?

Since 2015, EVs and battery storage have surpassed consumer electronics to become the largest consumers of lithium, together accounting for 30% of total current demand. As countries step up their climate ambitions, clean energy technologies are set to become the fastest-growing segment of demand for most minerals.

How many new mines need to be built by 2035?

According to a Benchmark forecast, more than 300 new mines could need to be built by 2035 to meet the demand for electric vehicle and energy storage batteries. At least 384 new mines for graphite, lithium, nickel and cobalt are required to meet demand by this year.

Will lithium supply rise by a third by 2030?

But the supply of some minerals, such as lithium, would need to rise by up to one-third by 2030 to satisfy the pledges and announcements for EV batteries in the 'announced pledges scenario (APS) of the same energy model.

What is the importance of nickel in lithium-ion batteries?

Nickel is one of the most relevant components in lithium-ion cells after lithium. It helps to improve the energy density of batteries. The current world production of this metal is 3.16 million metric tons. However, EVs will demand 6.2 million metric tons by 2035, which means we will need 3.04 million metric tons more.

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Another way to reduce these impacts further is to blunt demand for new lithium mines by boosting recycling rates. Today, Australia currently only recycles 10% of its lithium-ion battery waste.

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Lithium-ion batteries - the so-called "white gold" that powers electric vehicles and energy storage - requires graphite, lithium, nickel and cobalt to be mined. According to Benchmark the price of lithium soared 280% between January 2021 and January 2022 - and establishing a domestic ...

This report considers a wide range of minerals and metals used in clean energy technologies, including chromium, copper, major battery metals (lithium, nickel, cobalt, manganese and graphite), molybdenum, platinum group metals, zinc, ...

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Lithium is needed to produce virtually all traction batteries currently used in EVs as well as consumer electronics. Lithium-ion (Li-ion) batteries are widely used in many other applications as well, from energy storage to air mobility. As battery content varies based on ...

Benchmark is aware of 40 lithium mines that have been in operation -- producing lithium -- in 2022. By 2050, the company sees a need for 234 more lithium mines if there's no battery...

In a mid-2023 Tesla earnings call, Musk seemed relieved to see prices for the battery metal had declined. "Lithium prices went absolutely insane there for a while," he said.

Lithium mines use a lot of water--many thousands of gallons per minute, according to The New York Times--and groundwater contamination with antimony and arsenic are a real and persistent threat ...

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Lithium is crucial for the transition to renewables, but mining it has been environmentally costly. Now a more sustainable source of lithium has been found deep beneath our feet.

## What lithium mines are needed for new energy batteries

Currently, lithium (Li) ion batteries are those typically used in EVs and the megabatteries used to store energy from renewables, and Li batteries are hard to recycle.

Lithium is the core component of the most popular battery technology: lithium-ion batteries. This means electric vehicles and stationary batteries are highly reliant on this material. The second most popular technology -- lithium iron phosphate (LFP) -- also uses lithium, so the most likely alternative will still need large amounts of lithium.

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