**Lithium Deposits:**

1. Bolivia – 21 million tonnes. ...
2. Argentina – 17 million tonnes. ...
3. Chile – 9 million tonnes. ...
4. United States – 6.8 million tonnes. ...
5. Australia – 6.3 million tonnes. ...
6. China – 4.5 million tonnes.

China controls most of the world's processing capability.

With 8 million tons, Chile has the world's largest known lithium reserves. This puts the South American country ahead of Australia (2.7 million tons), Argentina (2 million tons), and China (1 million tons).

The world's largest lithium producer, Albemarle Corporation, operates at the Chilean resource of Salar de Atacama in partnership with the second biggest producer, Sociedad Química y Minera de Chile (SQM)

Australia is the world’s largest Lithium producer.

The Greenbushes lithium mine is an open-pit mining operation which is in **Western Australia** and is the world's largest hard-rock lithium mine. It is located to the south of the town of Greenbushes, Western Australia. The Greenbushes lithium mine produces approximately 1.95 million tonnes (4.3 billion pounds) of lithium spodumene annually. The mine is 250 kilometers (160 mi) south of Perth and 90 kilometers (56 mi) southeast of the Port of Bunbury.

**The Canadian province of Alberta** has significant lithium resources and is poised to compete in the global market, which is expected to triple by 2025. Although demand for oil and gas decreased and commodity processes dropped due to the COVID-19 pandemic, Alberta is recovering.

US and Canada:

Why don't we mine lithium in the US?

Despite dozens of potential lithium mines in the United States and Canada, most projects are in various stages of development, and many are years away from production, particularly with **environmental lawsuits delaying development due to multiple entry points for litigation in U.S. regulatory law**.

**Albemarle** is the biggest company on the list and the world's largest lithium producer. Albemarle operates the only active lithium mine in the U.S., located in Silver Peak, Nevada. Lithium is ALB's biggest line of business, accounting for just over half of the company's revenue.

Albemarle operates two world-class raw material resources based on the brine. **One is located in the Salar de Atacama (Chile), and the other one is in Clayton Valley near Silver Peak, Nevada (USA)**. The company also holds a 49% share in the spodumene mine of Talison Lithium in Australia.

The mine is owned and operated by **Talison Lithium** which as of 2014 became a joint venture partnership between the **Tianqi Lithium Corporation** and the **Albemarle Corporation**. At the mine's current size, it can fulfill a third of the worldwide demand for lithium spodumene concentrate, which is used to produce lithium hydroxide, a component of lithium-ion batteries.

Global demand for lithium is expected to grow at a rate of 33.3% annually, and as such, the mine is undergoing expansion along with the construction of the two nearby lithium processing facilities. The Kemerton facility is owned by Albemarle Corporation and the Kwinana facility is owned by Tianqi. Lithium industry revenue has increased at an annual 8.6% from 2019–20 to a total of $2.7 billion.

Currently, **Chinese companies make up 56% of the EV battery market, followed by Korean companies (26%) and Japanese manufacturers (10%)**. The leading battery supplier, CATL, expanded its market share from 32% in 2021 to 34% in 2022. One-third of the world's EV batteries come from the Chinese company.

Contemporary Amperax Technology Co., Ltd (CATL) is the global leader in electric vehicle batteries and is the main supplier for companies such as **Tesla, NIO, Ford, BMW**, and more.

 The company already supplies batteries to almost all the world’s automakers, including G.M., Volkswagen, BMW, and Tesla. CATL has emerged as one of the biggest winners of the electric car boom, along with Tesla.

CATL isn’t government-owned, according to its filings, but investors with connections to Beijing have held stakes during its rise, according to a Times analysis of its filings. So did a Chinese investment firm that counted Hunter Biden, son of President Biden, as a board member and shareholder.

The Chinese battery cell manufacturer CATL has secured the mining rights for a lithium mine in Yichun in Jiangxi province for 865 million yuan (123 million euros). According to CATL, the mine is expected to yield 2.66 million tonnes of lithium metal oxide. The prospect area reportedly covers 6.44 square kilometers.

They called it CATL. BMW, its first main customer, switched from A123, a battery supplier in Massachusetts and Michigan.

Tesla buys lithium for its batteries **directly from mines**. In spring 2022, the company reportedly signed two significant contracts with Australian mining operators; specifically, the lithium-spodumene concentrate comes from Core and Lion town Resources. In addition, Tesla purchases lithium hydroxide from Ganfeng. Ganfeng Lithium Co., Ltd. is a company that produces lithium, lithium products, other metals, and batteries in mainland China and globally. It was founded by Li Liangbin in 2000 and is headquartered in Xinyu, Jiangxi.

Tesla’s major Lithium suppliers: Albemarle,

**Piedmont Lithium**: Piedmont Lithium is developing a world-class integrated lithium business in the United States, enabling the transition to a net zero world and the creation of a clean energy economy in America.  Our location in the renowned **Carolina Tin Spodumene Belt of North Carolina**, the cradle of the lithium industry, positions us to be one of the world's lowest-cost producers of lithium hydroxide, and the most strategically located to serve the fast-growing US electric vehicle supply chain.

Where does Piedmont Lithium get its lithium?

Piedmont Lithium is on target to become the only integrated producer of lithium hydroxide from **spodumene ore** in the United States. With assets located in the mineral-rich, world-renowned Carolina Tin Spodumene belt in North Carolina, we're just 25 miles west of the bustling city of Charlotte.

We are designing our Carolina Lithium project, located in Gaston County, North Carolina, to be a fully integrated site. We expect it to be one of the world’s most sustainable lithium hydroxide operations. The project, currently in the development stage, is located on a world-class mineral resource within the renowned Carolina Tin-Spodumene Belt.

With ideal proximity to lithium and by-products markets, the integrated project will consist of a proposed mine, spodumene concentrator, and lithium hydroxide conversion plant. It is expected to produce 30,000 MT of lithium hydroxide per year when fully operational. Our goal is to obtain necessary permits and approvals1 in 2023, commence construction in 2024, and begin production of spodumene concentrate and lithium hydroxide in 2026.

**Tennessee Lithium** is planned to be a world-class lithium hydroxide production facility. Located in the City of Etowah and McMinn County, the plant is expected to produce 30,000 MT of lithium hydroxide per year – double the amount of lithium hydroxide currently being produced in the United States.

An offtake agreement from [Atlantic Lithium’s project in Ghana](https://piedmontlithium.com/projects/ghana-project/) is expected to bring spodumene concentrate to the United States for production and conversion to lithium hydroxide at Tennessee Lithium.

We plan to invest approximately $600 million in the development of the operation, which is expected to drive significant economic activity and create approximately 120 new, direct jobs. Construction should begin in 20232, subject to permitting, with the first production targeted for 2025.

Silver Peak:

Inside the only lithium producer in the U.S., which provides the critical mineral used in batteries by Tesla, EV makers. **Silver Peak** has been producing lithium since the 1960s and is currently the United States of America’s only lithium production site.

Why is lithium extraction bad for the environment? Any type of resource extraction is harmful to the planet. This is because removing these raw materials can result in **soil degradation, water shortages, biodiversity loss, damage to ecosystem functions, and an increase in global warming**.

Lithium Americas: To operate at Thacker Pass.

Extraction:

Australia, China, and South America

Processing: China

Manufacturing: China, USA

Assembly, China, and USA

Research topics:

Lithium mining and processing in NA. Potential to improve the supply chain in NA by looking at solutions to the lithium problem. A look at silver peak lithium mine’s operations and understanding the successes reasons and failures.