Lithium: the light metal with a heavy impact

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Key Takeaways

- The electrification of transport is the single biggest force shaping lithium demand growth.
- After rapid expansion in recent years, lithium supply growth is forecast to decelerate into the 2030s.
- Mining and refining remain geographically concentrated, increasing the potential for future tightness.

In 1817, a young Swedish chemist, Johan August Arfwedson, was analysing a mineral called petalite when he identified a new element. He named it lithium, from the Greek word lithos, meaning stone, because unlike sodium and potassium, it was discovered in rock rather than plant ash. It turned out to be the lightest metal on the periodic table. Light but quick to react even with water, lithium has always ignited curiosity in the laboratory[1].

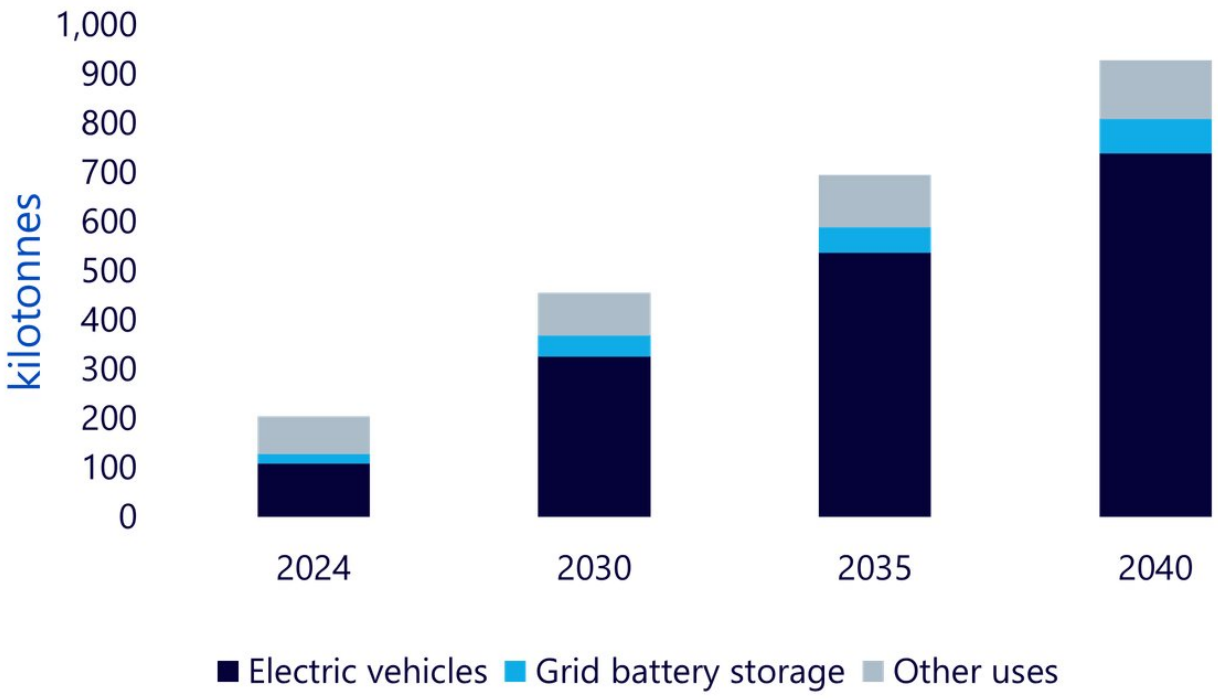
Two centuries later, that same element sits at the heart of a very different revolution. Lithium is the backbone of the modern rechargeable battery. From electric vehicles (EVs) and grid storage to smartphones and data centres, it quietly powers the electrification and digitalisation of our world.

As economies push to decarbonise, digitise, and electrify, lithium's strategic importance is rising rapidly. Demand is expected to grow strongly, while supply could tighten relative to that demand in the years ahead. In this blog, we outline the key demand and supply forecasts for lithium and what they could mean for investors.

Demand for lithium is expected to rise

The International Energy Agency's (IEA) Stated Policies Scenario, in other words, its base case which projects the future based on currently stated policies globally, forecasts a notable increase in demand for lithium.

Figure 1: Total demand for lithium in the IEA's base case



Source: International Energy Agency (IEA), May 2025. **Forecasts are not an indicator of future performance, and any investments are subject to risks and uncertainties.**

We can make three key observations from the graph. First, electric vehicles are the dominant driver of growth. Lithium-ion batteries sit at the heart of both battery electric vehicles and plug-in hybrid electric vehicles, and as EV penetration rises, so too does lithium demand. Wood Mackenzie estimates that rechargeable batteries account for around 90% of global lithium demand in 2025, with the automotive sector representing the majority of that share[2]. Demand is also shaped by evolving battery chemistries, including strong growth in lithium iron phosphate (LFP) and high-nickel cathodes[3]. In short, the electrification of transport is the single biggest force shaping lithium markets.

Second, grid battery storage is also a growing segment. As renewable energy capacity expands, energy storage systems are increasingly needed to balance power grids and smooth intermittency. Wood Mackenzie expects annual energy storage systems installations to grow by nearly 60% between 2025 and 2030[4]. More renewables mean more storage, and more storage means more lithium.

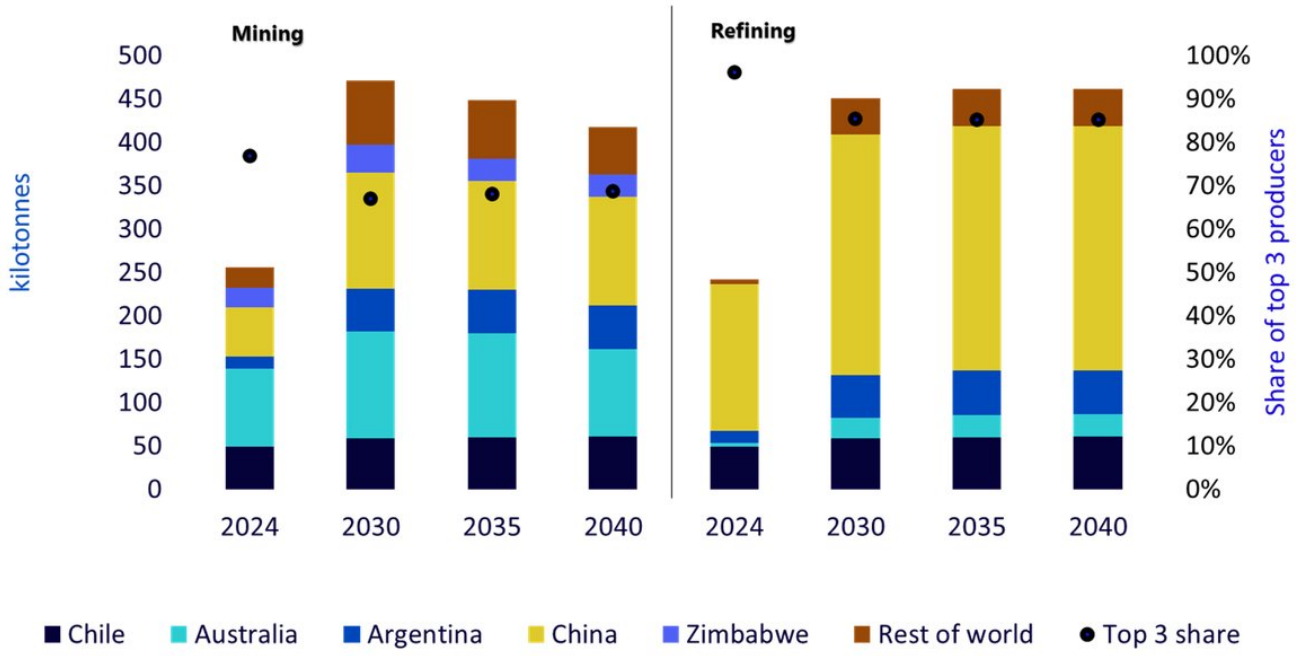
Third, there is an ‘other uses’ category which is, quite clearly, significant. Lithium is used in portable electronics, power tools, industrial applications such as ceramics and glass, and a range of specialised products. Steady growth is expected across this segment of lithium demand as well.

Lithium, therefore, has a crucial role to play not just in transport, but across the broader electrification and digitalisation of the global economy.

Supply is expected to tighten and remain concentrated

The IEA's base case on supply makes the analysis of market dynamics even more revealing.

Figure 2: Lithium supply from existing and announced projects in IEA's base case



Source: International Energy Agency, May 2025. **Forecasts are not an indicator of future performance, and any investments are subject to risks and uncertainties.**

Again, from the chart, we can make three key observations. First, supply growth slows meaningfully over time. While the market has seen exceptional expansion in recent years, Wood Mackenzie notes that lithium extraction grew at a 31% compound annual growth rate between 2020 and 2025 but is expected to slow to 6% over the longer term to 2035[5]. This is because known resources would have been discovered and developed resulting in the plateauing in extraction. In other words, after a period of rapid buildout, supply growth begins to slow down just as demand continues to rise. In commodity markets, such deceleration is where tightness begins to emerge.

Second, supply remains concentrated in a handful of countries. On the mining side, Australia and China are expected to maintain dominance, even as their relative shares shift over time. In addition to hard rock mining, lithium is also extracted from salt-rich underground water reservoirs known as brines, particularly in South America. Chile, Argentina and China account for the majority of this brine production[6]. This concentration means that disruptions, policy shifts, or underinvestment in a few regions can have outsized global effects.

Third, refining capacity is also heavily concentrated, particularly in China. Wood Mackenzie highlights that Chinese-based refineries delivered 74% of refined output growth between 2020 and 2025[7]. Although growth is expected to become more geographically balanced in the future, China is still projected to contribute over half of new refining capacity in the near term. As with many strategic metals, control over refining is just as important as control over raw material extraction.

Overall, supply growth is slowing and remains geographically concentrated, creating the conditions under which periods of tightness can become pronounced if demand continues on its projected path.

Closing word

Lithium is the lightest metal on the periodic table, yet it carries the weight of the world's rapidly rising energy needs on its shoulders. From electric vehicles and grid storage to the devices we use every day, lithium enables electrification, mobility, and digital connectivity.

It does not always dominate headlines in the same way as oil or gold. But as demand rises and supply growth slows and remains concentrated, its strategic importance is becoming harder to ignore. For investors looking ahead to the next phase of electrification, lithium is increasingly central to the conversation.

[1] International Lithium Association, 2023.

[2, 3, 4, 5, 6, 7] Wood Mackenzie, Global lithium investment horizon outlook, Q4 2025.

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