Lithium powering the world's electrification: Sigma Lithium's CEO Ana Cabral on The Next Big Thing

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Key Takeaways

- Sigma Lithium is one of the largest hard-rock lithium producers in the Americas and one of the lowest-cost producers globally.
- The company has built its business around "quintuple zero green lithium", with no tailings dams, no drinking water use, no hazardous chemicals, 100% renewable power and a strong safety record.
- Lithium demand has stayed strong, even through periods of price weakness and geopolitical noise.
- Data centres, artificial intelligence (AI), electric vehicles (EVs) and other battery-powered technologies are all adding to long-term demand for lithium.
- Sigma believes the lithium market will remain underpinned by structural demand, but success will still come down to cost, scale and disciplined execution.

When people think about the energy transition, they often focus on the end product, the electric vehicle (EV), the battery or the charging network. But beneath all of that sits something more basic. The raw materials.

Lithium is a key material in this context. It powers the batteries used in EVs, energy storage systems, drones, data centres and a growing list of other technologies. But the lithium market has not been simple. Prices have moved around sharply, supply has shifted and investors continue to ask where the long-term winners will come from.

That is why Chris and I were delighted to speak with Ana Cabral, Chief Executive Officer (CEO) and Co-Chair of Sigma Lithium, on The Next Big Thing. We discussed how Sigma was built, what makes its business model different, and why lithium remains such an important part of the world's electrification.

This blog summarises the key messages from the conversation. To watch or listen to the full discussion, click here.

Why WisdomTree spoke with Sigma Lithium

As of 1 April 2026, Sigma Lithium is the top holding in WisdomTree Strategic Metals and Rare Earths Miners UCITS ETF (RARE). It is also one of the top 10 holdings in both WisdomTree Battery Solutions UCITS ETF (VOLT) and WisdomTree Megatrends UCITS ETF (WMGT).

The WisdomTree Strategic Metals and Rare Earths Miners UCITS ETF provides investors with exposure to the value chains of ten different commodities, including lithium. The WisdomTree Battery Solutions UCITS ETF invests across the battery value chain, which includes raw materials like lithium. Both exchange-traded funds (ETFs) are built in partnership with industry experts, Wood Mackenzie. This partnership allows us to incorporate bottom-up expertise into the stock selection and weighting process, with value chains defined and stocks assessed using a forward-looking approach. The WisdomTree Megatrends UCITS ETF is a curated basket of 18 themes, with weightings influenced by momentum signals.

What did we learn from the conversation?

What is Ana Cabral's story?

Ana's background is not the typical mining CEO story. She started in banking and spent years working in natural resources from Latin America, with a particular focus on markets outside North America. She also has a computer science background, which came through strongly in the conversation.

Her move into Sigma began through an impact investment lens. She and her partners were initially looking at technology and financial inclusion in Brazil. But after Sigma's assets were acquired in 2012 and the company later ran out of cash, she moved from being an investor into being an executive.

She described herself, with a smile, as the "most permanent temporary CEO" in lithium. She has now been at the company for close to nine years, which in a sector as volatile as mining is a long time.

What does Sigma Lithium actually do?

In simple terms, Sigma produces lithium from hard rock in Brazil. Hard rock means the lithium comes from ore, not from brine or salt flats.

Ana explained that Sigma is the largest lithium mineral producer in the Americas and one of the biggest industrial lithium producers in the world. It is also one of the lowest-cost producers globally.

That combination matters because, in a commodity business, cost position is a key factor. Sigma's approach has been to build a large, efficient operation and then improve it through process design, automation and sustainability.

What does "quintuple zero green lithium" mean?

This was one of the most memorable parts of the conversation, and one of the easiest ways to understand Sigma's identity.

The company uses the phrase "quintuple zero green lithium" to describe its operating model. The five "zeros" are:

1. zero tailings dams, as the company dry-stacks its tailings, which means the leftover material is stored in a dry form rather than behind a dam;
2. zero drinking water use, as it sources water in from a river and treats it before use, rather than taking water from local communities;
3. zero hazardous chemicals, as its process is based on physics and separation, not chemical leaching;
4. zero dirty power, with operations powered entirely by renewables;
5. zero lost-time accidents, reflecting its strong safety record.

Ana was clear that this model was not built for marketing. It was built because the company wanted to prove that mining can be done differently and still be cost competitive.

Why did Sigma choose this path?

A big theme in the conversation was that Sigma did not simply invent new technology. It redesigned an existing process in a smarter way.

Ana explained that the key pieces of the puzzle already existed. The challenge was how to assemble them differently. That meant dry stacking instead of tailings dams, a plant built on top of the mine, and a different approach to processing and logistics.

This was important for two reasons. First, it reduced environmental risk. Second, it helped Sigma move faster through permitting, because the company was already aligned with the higher standards regulators were starting to impose after Brazil's tailings dam disasters.

In other words, doing the harder thing early turned out to be a business advantage later.

What makes Sigma's operation unusual?

Sigma is not just trying to be sustainable. It is trying to be sustainable at scale.

Ana said the company is the fifth largest industrial mineral lithium complex in the world in production, with only Australian companies ahead of it. That is a big point. Scale gives Sigma more relevance in the market, but it also makes its operating discipline more important.

She also stressed that Sigma is not just a mine. It has a plant on top of the mine, which means it industrialises the material there and then, rather than simply shipping ore out and adding value elsewhere.

That matters because lithium ore is expensive to move and process if you are not close to the right infrastructure. Sigma's model is designed to solve that problem directly.

How did Sigma handle the difficult lithium market in 2025?

This was one of the clearest parts of the discussion.

Ana said 2025 was a very difficult year for metals and for lithium, in particular. Prices fell sharply, uncertainty around tariffs and global trade weighed on industrial activity, and many companies in the sector struggled.

Sigma's response was to get even more focused on costs.

She described going through the business line by line and asking where inefficiencies could be removed. The company did this without compromising sustainability or safety. Some optional social spending was shifted to the Partners Foundation, but core community programmes such as meals, microcredit and after-school support continued.

The message was that cost control is not a one-off exercise. In Sigma's view, it is something you need to revisit every week.

What is the demand picture for lithium?

The short answer from Ana was that demand has stayed strong.

She said the strange part of the last year was not weak demand, but market uncertainty and inventory moves. Underneath that, demand continued to grow at a double-digit pace.

A big surprise came from data centres, which are using far more batteries and storage than many people expected. Artificial intelligence (AI) is part of that story. As more power is needed for data centres and more grid systems come under pressure, batteries become more important.

She also pointed to broader electrification in the global south and to China's long-running push toward electrified transport. In her view, energy security is a major driver there, and it is not going away.

Could new technologies create even more demand?

Yes, and drones were one of the examples that came up in the discussion.

Lithium is no longer just about EVs. It is also about flying taxis, autonomous vehicles, humanoid robots, factory robots and drones. All of these need high-performance batteries.

Ana said drones may be particularly important. Some supply chains will increasingly be local or regional for security reasons, especially in defence-related uses. That could affect pricing, but she does not think it changes the basic long-term demand story.

Her view is that the market is splitting into two broad areas: consumer applications, where cost and scale matter most, and defence or security applications, where supply chain control matters more.

What does Ana think about long-term lithium supply?

Ana was cautious, but optimistic.

She does not believe the world will run out of lithium. Her view is more nuanced. Lithium is abundant, but good deposits, good processing and low-cost production are what matter.

She thinks the market is moving toward a new plateau. In other words, lithium prices may not go back to the extreme lows seen in 2025, but they may also not return to the peaks of previous cycles. Instead, the question is where the sustainable floor and ceiling settle over time.

Her broader point was that the winners will be the companies that can produce low-cost oxides safely and efficiently. That is the real bottleneck, not geological scarcity.

How is Sigma using automation and AI?

This part of the conversation was especially interesting.

Ana explained that Sigma had been using automation for a long time, long before 'AI' became a popular term. The original reason was practical. The company wanted to avoid problems on night shifts and reduce dependence on scarce specialist labour.

Later, Sigma added a bot that learned from the ore body it was processing. That improved recovery rates over time.

This matters because recovery is everything in mining. If you can extract more usable material from the same amount of ore, your economics improve quickly.

Ana said Sigma's plant now reaches around 70% recovery, which is very strong for dense media separation, the process it uses. That has helped make the operation more efficient and more profitable.

What should investors take away from Sigma's story?

The big takeaway is that Sigma is not just a lithium producer. It is a case study in how a commodity business can be built differently.

The company has combined scale, low costs, automation, sustainability and discipline in a market that can be noisy and cyclical. That does not mean the business is simple. It means Sigma has chosen to focus on the things it can control.

In a lithium market shaped by long-term demand growth, the companies that control costs, manage risk and keep improving their processes are the ones that matter most.

The views expressed by Ana Cabral reflect her perspective as CEO of Sigma Lithium and may not represent the broader market or other industry participants. As with all thematic investments, outcomes depend on a range of economic and geopolitical factors. While demand drivers remain strong, lithium markets can be cyclical and are influenced by changes in supply, pricing and technological developments.

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