

Thought leadership

Energy transition perspectives: batteries, trade and critical minerals



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Key takeaways

- 1 Concentration and political sensitivity:** Extraction and processing of critical battery minerals (lithium, nickel, cobalt) are dominated by a few countries, especially China. This has led the US, EU, and UK to seek supply chain diversification and reduce reliance on single sources.
- 2 Rapidly evolving regulations:** The US, EU, and China are reshaping regulations for critical minerals. The US favours protectionist measures and China is tightening export controls and licensing requirements. The EU mandates thorough due diligence and ESG compliance across the battery supply chain, with new laws and funding to promote sustainable mining, processing, and recycling, and to accelerate permitting for strategic projects.
- 3 Investment challenges:** Mining projects face political risk, infrastructure demands, long timelines, and shifting regulations. New financial products and government guarantees are emerging to support investment and secure long-term supply.

Critical minerals are integral to energy transition technologies, from wind turbines and solar PV plants to battery storage and electric vehicles. In this extract from a recent webinar, we explore the full value chain from mine to battery plant, looking at the issues for investors in and financiers of critical mineral projects, including trade and regulatory issues impacting the sector.

Battery minerals outlook

Lithium, nickel and cobalt are some of the key minerals for battery production. Currently, lithium production is running ahead of demand, which, while it is difficult to predict, may start catching up around 2027.

There is a concentration of current mining projects in a limited number of jurisdictions – lithium in Australia, Argentina and Chile (albeit there are projects being developed elsewhere, including in Europe), nickel in Indonesia, cobalt in the Democratic Republic of Congo – and these jurisdictions have an important influence on the supply of much-needed minerals and metals.

It is a different story for refining, where China has a significant portion of the refining capacity for copper, lithium, graphite, rare earths, cobalt and other critical minerals. Nickel is different as Indonesia has imposed a requirement for nickel mined in Indonesia to be processed in Indonesia. “A question is whether other jurisdictions which have significant resources in critical minerals will impose similar requirements,” says Nikolai Eatwell, a Partner in Clifford Chance’s Paris office, “but it is worth noting that Chinese companies own a higher proportion of the nickel refining capacity in Indonesia than companies from other countries.”

This concentration of both resource and processing capacity has led to a political reaction in the United States, the European Union and the UK where, for example, there are the US Critical Minerals List, the Ukraine–United States Mineral Resources Agreement, the EU Critical Raw Materials Act and the UK Critical Minerals Strategy.

For example, the EU Critical Raw Materials Act sets targets, specifying that at least 10% of the EU’s annual consumption of strategic raw materials should come from the EU, at least 40% of processing should be in the EU, and a 25% target for recycling. There is a specific provision that no more than 65% of the EU’s annual consumption at any stage of the supply chain should be from a single third country. To implement this strategy the EU has nominated 47 strategic projects which will benefit from streamlined permitting and access to finance, including the potential involvement of the European Investment Bank (EIB).

“We are starting to see mining extraction transactions in the EU, which we haven’t seen for many years,” says Eatwell. “We are also seeing processing projects, which tend to be located in jurisdictions where there is a lower cost of energy – for example in the EU in Scandinavia.”

Mining transactions – the challenges

With any mining transaction, the first consideration is the reserves and resources, without which there is no mine, and the second is the mining company's title to the mine.

On the legal side, given the significant capital expenditure involved, a key question is the investment and fiscal regime and the stability of that regime, for example in relation to political risk. In many countries where mining projects are located, a mining agreement between the mining company and the relevant state may be put in place to seek to address this. Investment treaties should also be considered.

Infrastructure can be a challenge. If the mine is located inland, there may be a need to construct infrastructure to transport the resource to a port. To address this, some countries have put in place dedicated infrastructure projects, such as the Lobito Corridor, a railway project connecting Zambia to Angola via the DRC, to enable mining development.

For developers looking for long-term financing, lender requests for long-term offtake can also be a challenge – for example, where a car manufacturer is the offtaker.

“On the financing side, a welcome development is an increased focus from traditional sources of finance on critical minerals and that certain institutions are developing new products to finance critical minerals projects, including the UK export credit agency (UKEF), which has introduced a new guarantee scheme for banks making loans to overseas projects which have a long term contract in place to supply critical minerals to a UK exporter,” says Eatwell.

The Chinese perspective

China has spent years cultivating relationships with African nations. The Forum on China-Africa Cooperation (FOCAC) has been held every three years since 2000 and is typically attended by 53 African countries. It hosts a discussion about broad areas of cooperation, not just in mining but also in areas such as infrastructure, agriculture and the digital economy.

“Chinese investors appear to be more willing to invest in countries with higher political risk,” says Terence Foo, a Partner in Clifford Chance's Singapore office. “For example, one study estimates that Chinese investors have taken stakes in 30 out of the DRC's roughly 40 active copper and cobalt mines, representing between two-thirds and three-quarters of the country's cobalt supply.”

“Chinese investors who are looking at countries with higher political risk, or even conflict zones, will typically obtain a risk assessment from the local Chinese embassy, speak to other Chinese companies already operating in the country, and put teams on the ground,” says Foo.

Chinese investments often come with the support of “China Inc.”. If a Chinese mining company is looking to acquire control over a mine in Africa, there will be no shortage of co-investors, including state-backed funds such as the China-Africa Development Fund or the China-Africa Industrial Cooperation Fund.

If debt financing is required, potential lenders include Chinese policy banks such as China Exim Bank and China Development Bank (CDB) and state-owned banks such as ICBC, Bank of China and China Construction Bank. There is a plethora of Chinese EPC contractors who can handle mine development, expansion and the construction of rail ports, as well as Sinosure to cover export credit insurance.

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Nikolai Eatwell
Partner

On the other hand, there are challenges for Chinese investors, particularly the need for Chinese regulatory approvals, including Outbound Direct Investment (ODI) approvals or filings from the National Development and Reform Commission (NDRC) and/or the Ministry of Commerce (MOFCOM). These approvals can take between six weeks

and four months, depending on complexity. Chinese state-owned entities may also need to seek approval from the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) in certain cases. In a competitive process, the time required by Chinese investors to obtain these approvals could be a handicap.

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Terence Foo
Partner

A new value chain: conversion and offtake

“Auto manufacturers have traditionally relied on their tier suppliers to secure their supply chains, but, when it comes to the battery supply chain and the specialist metals and conversion capacity required for that, this has shown to be insufficient to de-risk auto manufacturers who are now looking to secure volumes and conversion capacity through contracts and/or through vertical integration,” says Nic Cookson, a Partner in Clifford Chance’s Düsseldorf office and co-lead of the metals and mining group at the firm.

A key factor in these value chains is the evolving chemistries and constant need for cutting-edge R&D. As an example, the industry has, in the last two years, been disrupted by the arrival of lithium iron phosphate (LFP), as an alternative to lithium nickel manganese cobalt (NMC) batteries, with auto manufacturers looking to shift their supply chains to keep up with the market and remain competitive. These assets all have long lead times, three to five years to reach nameplate capacity, and are very capital intensive. As a result, access to adequate debt and investments have been and remain core concerns.

Qualification of the products all the way down the battery value chain is critical to ensure that the end cells are competitive.

Regulations, including compliance, ESG, incentives and bilateral agreements, are also playing a big role in determining where assets are located and how these value chains are secured.

Trade and regulation in the United States

“The US regulatory landscape for international trade is constantly in flux,” says Renée Latour, a Partner in Clifford Chance’s Washington, DC office. “Things change, often on a daily basis, sometimes multiple times a day. The Trump administration is actively taking action to reduce what is perceived as a US over-reliance on global supply chains and non-US sources for critical minerals. The US is moving towards a more protectionist, security-driven approach to critical minerals, with an emphasis on domestic production.”

These recent executive efforts build upon those of the first Trump administration, a broader strategy of onshoring as well as “ally shoring”, a term that means that the US is working together with strategic allies to try and retain access to those critical mineral supply chains.

The US has negotiated tariffs bilaterally with many countries, but certain sectors, including critical minerals, are, or are likely to be, targeted with specific sector-based tariffs. Imports from many significant US trading partners –

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Renée Latour
Partner

including those which have struck deals with the US, such as the EU, Japan and South Korea – continue to be subject to higher additional tariffs on most goods (although lower than the rates that were originally announced). “We are seeing tariffs being used as a tool, specifically in this industry, to further US goals,” says Latour.

Section 232 is a tool that the US government uses to impose restrictions on imports if the US Secretary of Commerce determines, following an investigation, that those imports threaten to impair US national security. Currently there are multiple active investigations and, in late April 2025, President Trump ordered the Department of Commerce to conduct a Section 232 investigation on critical minerals to determine whether or not their derivative products pose a national security threat.

There is a significant impact on the global market. Tariffs on critical mineral imports and their derivative products raise costs for US manufacturers. They also provoke retaliatory trade actions, disrupting global supply chains and complicating compliance for downstream industries such as EVs or semiconductors and even the defence space, particularly where the scope of the products covered is broad and exceptions are limited.

From a US domestic perspective, a significant number of incentives and tax credits were introduced related to the EV market. The Trump administration has taken steps to scale back these credits and the US is at a crossroads as to how it will proceed in this market. The One Big Beautiful Bill Act (OBBBA) eliminated certain credits for consumers that purchase EVs – which foreign suppliers have relied upon when accessing the EV market – while taking significant steps to promote US domestic battery manufacturing.

The administration has taken further steps, beyond tariffs, to ensure domestic access to the critical mineral supply chain. It is subsidising and incentivising domestic mining: in March 2025, President Trump issued an executive order invoking the Defense

Production Act to accelerate domestic mining and processing of critical minerals. It has also acquired equity stakes in mineral producers including Trilogy Metals, Lithium Americas and MP Materials.

The administration is also looking to allies and partner countries to attempt to secure access to critical minerals and supply chains. In May 2025, the US government signed a bilateral agreement with Ukraine, it continues to explore mining partnerships in Greenland, and President Trump has signalled that the US will receive mineral rights within the DRC following its involvement in brokering the recent peace agreement between the DRC and Rwanda.

“It’s a very a dynamic environment, with active negotiations,” says Latour. “But also, an interesting and complicated time from a trade regulatory perspective, encompassing national security, market access, and a technology race.”

Trade and regulation in China

“Given its unique position in the global supply chain, China’s industrial and trade policies on the processing and export of critical minerals are vital to all commercial players,” says Yufei Liao, a Partner in Clifford Chance’s office in Beijing. “China does not have an equivalent to the critical materials law in the US and EU, and there is no unified definition of the scope of critical minerals. Export regulations generally cover those minerals of which China has the leading reserves or processing capability, such as graphite, tungsten, gallium and various types of rare earth.”

China has started to regulate the export of critical minerals in a more systematic way in the last five years. Between 2020 and 2024, China introduced the Export Control Law and Regulations on the Export Control of Dual-use Items, which created a framework for the export of critical minerals. Then, from 2023 to 2025, China intensified its regulatory measures on rare earth exports and has established a four-tier structure for export control, consisting of laws, regulations, lists and detailed rules.

The Regulations on the Export Control of Dual-use Items explicitly acknowledge for the first time the dual-use nature of rare earths for both military and civilian purposes. They bring certain key rare earth materials and sensitive technologies into the scope of control and establish a licensing management system based on grading and categorisation.

In 2025, China introduced new export licensing requirements for some medium and heavy rare earth compounds and products through two announcements, made by MOFCOM and the General Administration of Customs. The new export controls cover metals, alloys and oxidised compounds, and certain high-performance rare earths and permanent magnet materials of elements such as samarium, dysprosium and scandium, which are important for battery and magnetic material making, and to the semiconductor industry.

The Chinese government has issued a statement to acknowledge global stakeholder concerns about supply chain disruption and has taken measures to address the supply constraint issues. Following the recent China-US trade talks in Geneva and the UK, an agreement was made for the mutual rolling back of non-tariff trade restrictions. China has since accelerated the issuance of export licences to international battery and auto manufacturers. “It is anticipated that the commercial supply of rare earth, magnets and other critical minerals will continue and be restored to normal levels,” says Liao. “However, the supply for military use or dual-use will remain challenging.”

Trade and regulation in the EU

“In recent years, the EU has been very active in creating a framework to protect the environment, human rights, and other social issues and the value chains of various industries and products,” says Thomas Volland, a Partner in Clifford Chance’s Düsseldorf office and co-chair of the firm’s Global ESG Board. “This is particularly relevant for batteries and their raw materials. For example, under the EU Batteries

Regulation, manufacturers, importers and distributors of batteries are required to conduct due diligence assessments throughout the entire battery supply chain, including social and environmental risk. Moreover, they have to determine and publish the carbon footprint of their products.”

Additional due diligence requirements apply under other frameworks, including the Corporate Sustainability Due Diligence Directive (CSDDD), together with national requirements, such as the German Supply Chain Act, which have been influential in shaping new contractual standards in business relationships between automotive OEMs (namely those based in Germany) and their suppliers. New measures are also planned, including an import ban on products made with forced labour, which will affect the import of batteries or battery raw materials from regions in the world where modern slavery or forced labour is or may be an issue.

In order to simplify this complex range of requirements, the European Commission has made several “Omnibus” proposals, bringing together certain legislative measures, particularly the due diligence and ESG-related requirements. “The entry into force of some of the requirements has been delayed, and this is an ongoing process which requires close monitoring, particularly as it is subject to negotiations between the European institutions. However, we expect to see further streamlining measures coming through,” says Volland.

The EU also has a Dual-use Regulation dealing with goods, know-how and software that may have both civil and military uses. There has been a tightening of the application of these rules in light of current geopolitical tensions.

There are also measures in place that are intended to support the European battery industry. Under the Critical Raw Materials Act, EU Member States have accelerated permitting procedures and established funds

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Partner

to build up reserves and/or access to battery raw materials. For example, the German government has established a Raw Materials Fund, managed by the German promotional bank KfW, which can provide equity for mining, processing and recycling projects through the entire battery life cycle. The fund will support projects outside Germany and the EU if the output of the project is beneficial to the European battery industry.

The Net Zero Industry Act (NZIA) enhances European manufacturing capacity for net zero technologies, including batteries. The NZIA ensures that technology projects located in the EU benefit from rapid administrative processes and faster permitting and prioritisation, including in potential dispute resolution procedures. EU Member States are obliged to put in place single points of contact which help investors and sponsors of battery projects with accelerated implementation.

Finally, the European Commission recently adopted a new Clean Industrial Deal State Aid Framework (CIDSAF), which replaces the temporary Crisis and Transition Framework that was put in place in light of the war in Ukraine. The new regime facilitates the granting of state aid by EU Member States for clean technologies, including batteries and battery components. Funding comes from the Member States, but the framework aims to level the playing field and accelerate funding. The amount of the funding is dependent on the region and the size of the company: the smaller the company and the less developed the region, the higher the amount.

“The EU and its Member States are focusing sharply on the battery sector and are making huge efforts to support this industry, since they consider it to be the backbone of the transition to green mobility and clean energy,” says Voland.

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