

Building resilient net-zero critical supply chains – recent developments and key considerations

Recent policy and regulatory developments have shown that governments and businesses around the world are increasingly focused on consolidating their competitive positions in the green industrial revolution. Significant efforts are being made to strengthen, onshore and “friend-shore” supply chains and value chains of raw minerals, components, machinery and technologies which are critical for the transition to a net zero, climate resilient and nature positive future. This bulletin identifies several key considerations for businesses in light of such developments.

Policy backdrop

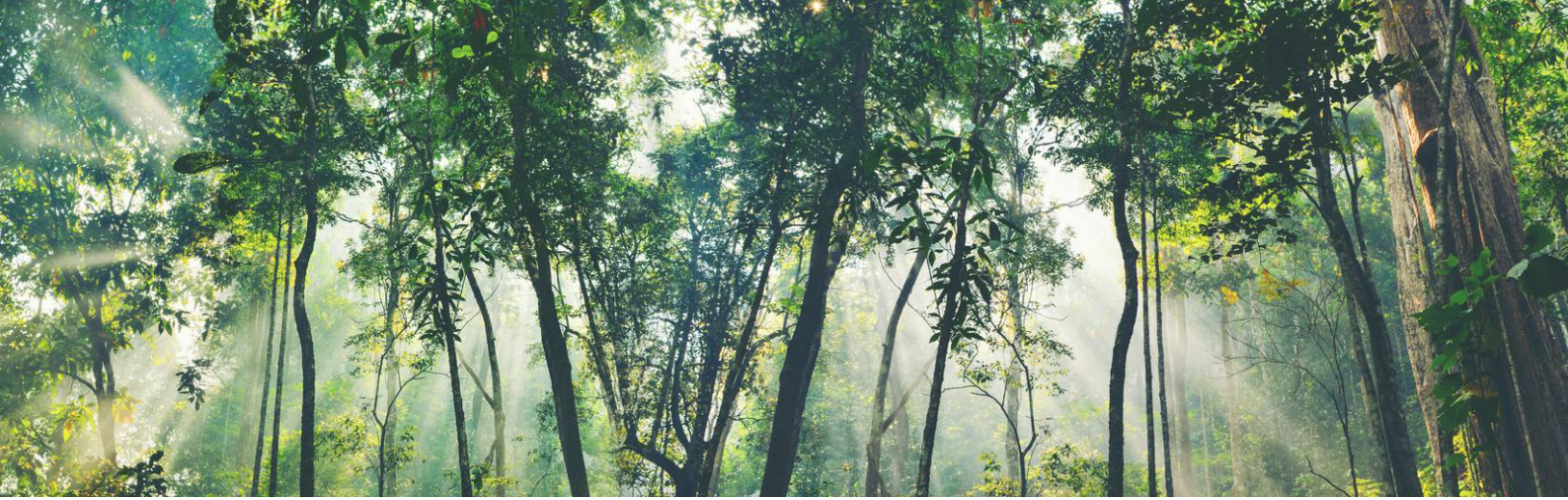
There has been a flurry of policy announcements relating to green technology supply chains. These policies are commonly driven by the aims of expanding domestic capabilities to achieve increased self-sufficiency, and of reducing dependence on dominant third country suppliers – by diversifying import sources across third countries which are selected based on national security considerations and standards of ESG compliance.

A vast range of businesses will be impacted by these developments, including those operating along the supply chains and value chains of net-zero technologies (such as battery/storage, carbon capture and storage, wind and solar technologies, heat pumps and geothermal energy, green hydrogen, electrolysers and fuel cells, grid technologies, and sustainable biogas/biomethane technologies), and those operating along the critical minerals supply chain and value chain (exploration, extraction, refining, and manufacturing).

Notable developments include:

– **The Minerals Security Partnership (“MSP”)** partners met in February 2023 with key minerals-rich African countries including South Africa, Angola, Botswana, the Democratic Republic of the Congo, Tanzania, Uganda, and Zambia. The MSP announced that it will support socially responsible projects for the mining, processing, and recycling of critical minerals that meet recognised international ESG standards. MSP partners include Australia, Canada, Finland, France, Germany, Japan, Italy, the Republic of Korea, Norway, Sweden, U.S., UK and EU. Intergovernmental collaboration is also evident through the Conference on Critical Materials and Minerals and the International Energy Agency Critical Minerals Working Party.

- **The U.S. Inflation Reduction Act 2022** – this provides for incentives to support deployment of clean energy technologies, including renewable energy systems, carbon capture, nuclear energy, and critical minerals processing, manufacturing, and recycling. It also includes programs to increase domestic production of clean biofuels and sustainable aviation fuels, as well as a tax credit regime for purchasers of clean vehicles meeting the prescribed supply chain requirements (eg as regards the location of final assembly, the proportion of critical minerals extracted or processed in the U.S. or trusted trade partners, or the percentage of battery components manufactured or assembled in North America).
- **At the 10th EU-U.S. Energy Council meeting** held on 4 April 2023, the EU and the U.S. indicated their intention to work together to foster energy investments aiding the transition towards climate neutrality, and noted the importance of diversifying and securing supply chains for critical minerals and raw materials necessary for the energy transition.



– **The EU’s proposed Net Zero Industry Act (“NZIA”) and Critical Raw Materials Act (“CRMA”)**

– these proposals intend that, by 2030: (i) the EU’s manufacturing capacity of strategic net zero technologies approaches or reaches at least 40% of EU annual deployment needs for the corresponding technologies necessary to meet the EU’s climate and energy targets; (ii) the EU should have capacity to extract, process and recycle to produce at least 10, 40 and 15 per cent respectively of the EU’s annual consumption of strategic raw materials; and (iii) no third country provides more than 65% of the EU’s annual consumption of each strategic raw materials at any stage of processing. Projects that contribute towards the EU’s sustainability and supply resilience aims will be prioritised for accelerated financial support and streamlined permit approvals. The European Critical Raw Materials board and Net Zero Europe Platform will be newly established to consider which third countries should be prioritised for the conclusion of strategic partnerships.

– **The UK’s ongoing efforts to diversify and strengthen the resilience of supply chains which are critical to its net zero and energy security ambitions.** The UK’s 2030 Strategic Framework for International Climate and Nature Action highlighted the intention to shift trade and investment rules and patterns to strengthen the resilience of critical supply chains, including through multilateral and plurilateral cooperation and trade agreements. To ensure reliable access to vital inputs, the UK has already been deepening collaboration on green technology supply chains with international partners, including Canada, Kazakhstan, Saudi Arabia and South Africa. The UK’s upcoming accession to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership will also contribute to the UK’s supply chain resilience. Domestically, to anchor supply chains of low carbon technologies in the UK, the Government is pursuing a course of providing public funding strategically for key green industries (recently highlighted in the Net Zero Growth Plan, the 2030 Strategic Framework and the Critical Minerals Refresh of March 2023), alongside

sustained efforts to mobilise private investment to deliver net zero (recently refreshed in the 2023 Green Finance Strategy). Examples of public funding include the deployment of UK R&D funding to develop critical new clean energy technologies in the UK, the funding mechanisms and non-financial measures supporting UK companies across the critical minerals supply chain, new funding for domestic rare earth elements supply chains and recycling, and funding targeted at growing an end-to-end zero emission vehicle supply chain in the UK. Targeted funding is expected to be announced to support the Government’s semiconductor strategy, which is due to be published as soon as possible.

– **Mineral-rich countries are also enhancing their capabilities to meet the increasing global demand for mineral supplies** (eg rising demand for lithium, cobalt and graphite is expected to lead to an increase in production of nearly 500% by 2050)¹. Australia is developing a new strategy in 2023 to grow its domestic manufacturing and industrial sectors to support its international partners in diversifying supply chains. Brazil established a National Strategic Pro-Minerals Policy in 2021 to prioritise the environmental licencing and implementation of projects for strategic minerals production, especially projects relating to minerals that generate a surplus in Brazil’s trade balance (but also minerals that depend on a high percentage of imports into Brazil and are essential for key sectors of the economy, and minerals that are used in high-tech products and processes). Canada’s critical minerals strategy 2022 seeks to increase Canada’s domestic supply of responsibly-sourced critical minerals, in support of domestic and global value chains for the green and digital economy. The China Rare Earth Group was announced in 2021 as the world’s largest producer of strategic rare earth elements. South Africa’s 2022 exploration strategy for its mining industry is intended to attract mineral exploration investment, reignite mineral development, and encourage utilisation of its mineral resources in accordance with ESG principles.

¹ ‘2030 Strategic Framework for International Climate and Nature Action’, March 2023 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147496/2030-strategic-framework-for-international-climate-and-nature-action.pdf).

Supply chain reorientation

Businesses operating along net-zero critical supply value chains will be looking to reorientate their supply chains and operations in light of relevant developments, so as to minimise vulnerabilities to supply disruptions and to ensure greater alignment with ESG objectives.

According to the MSP's Principles for Responsible Critical Minerals Supply Chains, supply chains with high ESG standards will involve projects that:



Businesses may seek to secure their supply chains through various means such as vertical integration, partnering with suppliers, or investing in recycling processes and technologies.

Increased supply chain reporting, disclosure and labelling obligations

Supply chain reporting and disclosure obligations are expected to increase as more authorities seek to monitor supply chain resilience for reasons of national security and economic competitiveness. For example, under proposed EU law, key market operators along the critical raw materials value chain and the net zero technology value chain will be expected to provide certain data to relevant authorities, to facilitate the monitoring and management of supply concentration risks, domestic manufacturing capacity, domestic stocks, value and volume of imports, and trade flows. The UK critical minerals strategy also aims to improve data and traceability and will “convene stakeholders across the supply chain from the EV and Wind Turbine sectors, with the objective of creating a pioneering data pooling network that securely brings together public and private data from across industry, government and academia”.² Notably, the UK’s National Security and Investment Act 2021 requires certain transactions relating to companies operating in the critical minerals sector to be cleared by the UK Government. If transactions falling within the scope of the Act’s mandatory notification regime are not cleared by the UK Government ahead of their completion, they will be void and criminal and civil liability may result.

Disclosure, reporting and labelling obligations specific to critical minerals are also emerging. Notably, the proposed CRMA specifies that any large company that manufactures strategic technologies using certain raw materials shall provide a report to its board of directors pursuant to an audit of its supply chain every two years, including mapping where the strategic raw materials have been extracted, processed or recycled, and stress testing the supply chain to assess vulnerability to supply disruption. In addition, persons placing critical raw materials with a significant environmental footprint on the market may be obliged to declare the environmental footprint of the materials. In due course, rules regarding the calculation and verification of the environmental footprint for different critical raw materials will be set out in EU delegated acts, and further steps will be taken to enhance the reliability of critical minerals certification schemes.

² ‘Critical Minerals Refresh: Delivering Resilience in a Changing Global Environment’, 13 March 2023 (<https://www.gov.uk/government/publications/uk-critical-mineral-strategy/critical-minerals-refresh-delivering-resilience-in-a-changing-global-environment-published-13-march-2023>).

Considerations for supply chain due diligence and planning

Businesses may make adjustments to their supply chains to enhance resilience and contribute towards sustainability goals (this may involve going beyond minimum environmental sustainability requirements, diversifying sources of imported inputs, and putting in place measures that upskill or reskill employees as required for the net zero transition). Depending on the prevailing policies of relevant jurisdictions, there may be real incentives for businesses to do so – for example, under the draft NZIA, the price-quality ratio and bid-ranking criteria shall include assessing the “sustainability and resilience contribution” of each tender/bidder, which means that such contributions will improve the chances of winning public procurement contracts or succeeding in auctions; in addition, products with high “sustainability and resilience contribution” may also face bolstered demand, flowing from governmental incentive schemes that are expected to encourage the purchase of such products. The UK government has also pledged support for UK companies to participate in building responsible, diversified supply chains overseas.

In making strategic supply chain adjustments, businesses should be wary of associated legal and reputational risks. As part of supply chain due diligence, business should assess factors such as the robustness of frameworks

that ensure the monitoring, prevention and minimisation of environmental impacts, the use of socially responsible practices (including in respect of human and labour rights and meaningful engagement with local communities), the use of transparent business practices, and the prevention of adverse impacts on the proper functioning of public administration and the rule of law. Businesses should be aware that they may in future face enforcement action for infringing due diligence rules under the draft EU Directive on Corporate Sustainability Due Diligence, which provides for in-scope companies to identify, prevent, mitigate, bring to an end and minimise human rights and environmental adverse impacts.

In the context of critical minerals, supply chains may be prone to environmental harms (eg deforestation, biodiversity damage and carbon emissions), human rights concerns (eg forced or child labour, and safety risks for workers), sanctions concerns (as EU, UK and U.S. sanctions target some relevant jurisdictions, such as Russia, as well as certain persons considered to be corrupt actors and human rights abusers who may be active in relevant jurisdictions) and corruption risks, which may be exacerbated by low levels of transparency and traceability in certain jurisdictions. There is therefore a significant challenge of carrying out proper due diligence to manage ESG-related risks, including with regards to climate, nature, human rights and inequality-related impacts.

Recycling and value chain circularity

Businesses can take steps to identify areas in their supply chains with high potential for recovery, in anticipation of more requirements and financial incentives to implement circularity in value chains. This will be particularly relevant to critical inputs for net zero technologies.

Operators along the value chain of products incorporating certain permanent magnets can expect to face additional regulation around the recovery and recycling of those magnets. For example, under the draft CRMA, persons who place certain³ products on the EU market will be required to label the products and include a data carrier on/in the products to facilitate the removal of permanent magnets. In addition, anyone who places such products on the market which incorporate Neodymium-Iron-Boron, Samarium-Cobalt, or Aluminium-Nickel-Cobalt exceeding a weight threshold shall be required to publicly disclose the share of neodymium, dysprosium, praseodymium, terbium, boron, samarium, nickel and cobalt recovered from post-consumer waste which are present in the product. Further legislation or policy guidance will be issued to prescribe the calculation and verification of the share of critical raw materials, and to identify specific products, components and waste streams that may be considered as having high critical raw material recovery potential. The EU also intends to adopt delegated acts after 2030, to prescribe requirements for the minimum share of recycled critical raw materials in certain products.

The UK government has also set out plans to support the development of the circular economy in its Resources and Waste Strategy and Net Zero Strategy, and has initiated the National Interdisciplinary Circular Economy Research to help identify, develop and embed circular economy approaches and technologies across key industrial sectors.

These developments in the EU and UK are indicative of the likely direction of travel in other jurisdictions, including Australia, Canada, France, Germany, Japan and U.S. As members of the Sustainable Critical Minerals Alliance, they have committed to “*build a circular economy by promoting material stewardship, including byproducts and recovery from waste, keeping products in use longer as well as accelerating the reuse and recycling of critical minerals*”.⁴

³ The products are (except for those primarily designed for defence or space applications): magnetic resonance imaging devices, wind energy generators, industrial robots, motor vehicles, light means of transport, cooling generators, heat pumps, electric motors, including where they are integrated in other products, automatic washing machines, tumble driers, microwaves, vacuum cleaners or dishwashers.

⁴ ‘Countries Commit to the Sustainable Development and Sourcing of Critical Minerals’ 12 December 2022 (<https://www.canada.ca/en/natural-resources-canada/news/2022/12/countries-commit-to-the-sustainable-development-and-sourcing-of-critical-minerals.html>).



Collaboration

The task of strengthening supply chain resilience to achieve net zero targets is an immense one, which requires collaboration. This is recognised at governmental level, as countries seek out trusted partners. Businesses should stay updated as regards which third countries are being prioritised for strategic partnerships, and what such collaborations might entail, which could impact on sales and procurement decisions. For example, companies with an interest in the EU strategic raw materials sector will likely want to participate in the joint-purchasing system and off-take system which the European Commission intends to establish. Under the draft CRMA, a joint-purchasing system will be established to aggregate demand from interested undertakings and national authorities, and to seek offers from suppliers to meet the aggregated demand based on more attractive terms. An off-take system will also be established to facilitate the conclusion of off-take agreements, allowing bids and offers to be made.

The need for industry cooperation to advance net zero goals is acknowledged in law and policy. For example, the draft EU Directive on Corporate Sustainability Due Diligence and draft EU Regulation on Deforestation-free

Supply Chains already anticipate that companies will collaborate in areas including tackling adverse environmental impacts and human rights impacts, and transitioning to sustainable commodity production methods. The draft NZIA also anticipates that entities who hold an exclusive right to prospect or explore for or produce hydrocarbons in a geographical area may choose to develop CO₂ storage projects alone or in cooperation, or enter into agreements with other such entities or third party storage project developers or investors, to meet the requirement to make individual contributions to the EU-wide target for available CO₂ injection capacity (ie annual injection capacity of at least 50m tonnes of CO₂ by 2030).

At a business-to-business level, companies will likely increasingly contemplate collaborating with each other to achieve goals of sustainability and supply chain resilience. In this context, businesses should be mindful of the developing competition law policies which vary across jurisdictions (see our recent publication [here](#)).⁵

Conclusion

The developing policy and regulatory landscape presents fresh opportunities for businesses to adapt their supply chains, to better position themselves for continued success in the net zero transition. Businesses should take considered steps towards reorienting supply chains (including to incorporate circularity) and identifying areas for collaborations, bearing in mind the need to achieve high standards of compliance with the ever-expanding web of ESG-related regulations.

⁵ 'Environmental sustainability agreements: UK guidance to cooperating competitors' 7 March 2023 (<https://www.allenoverly.com/en-gb/global/news-and-insights/publications/environmental-sustainability-agreements-uk-guidance-to-cooperating-competitors>).

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