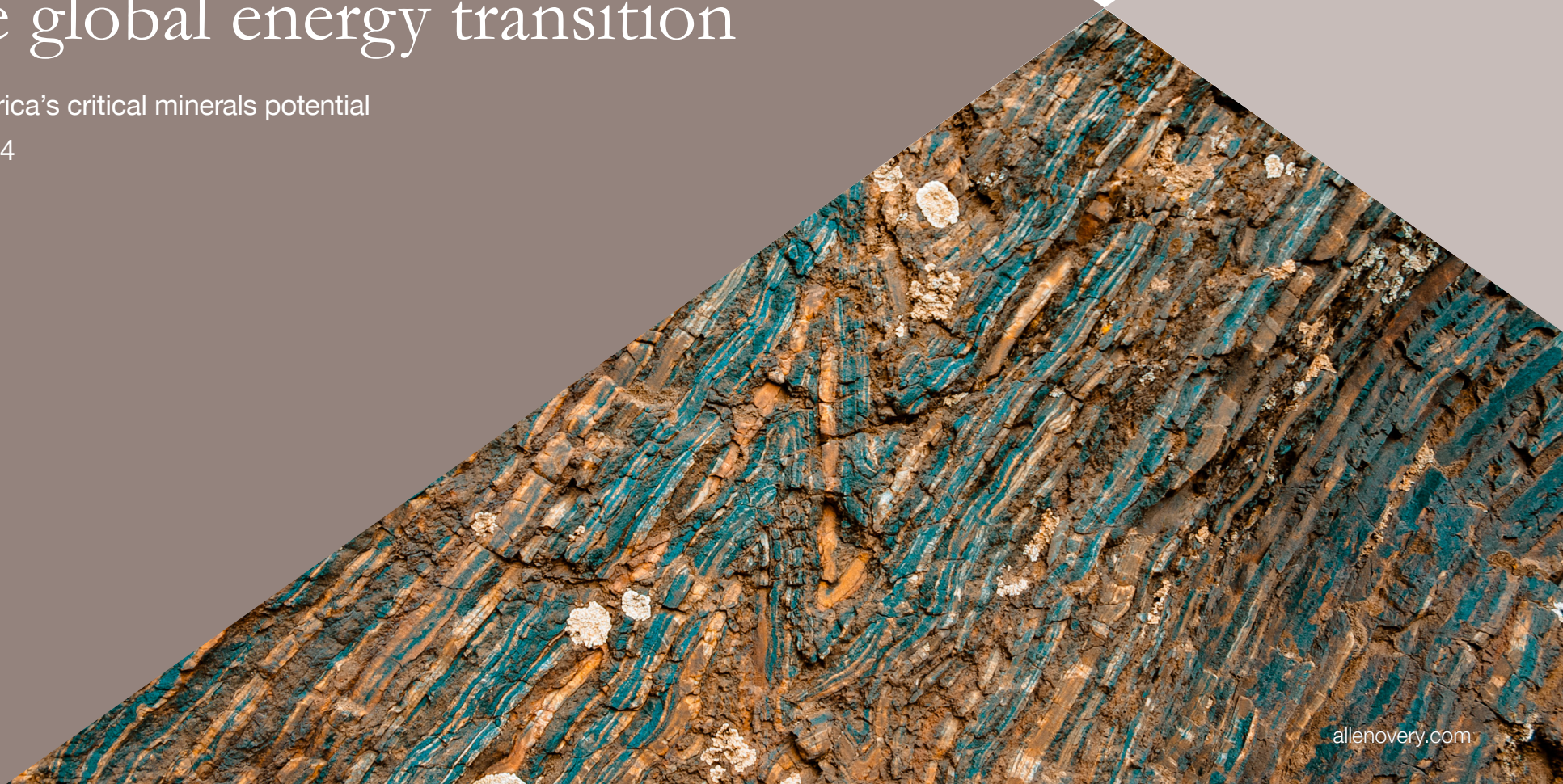


Mining in Africa and its role in the global energy transition

Unlocking Africa's critical minerals potential

February 2024



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The road to decarbonisation

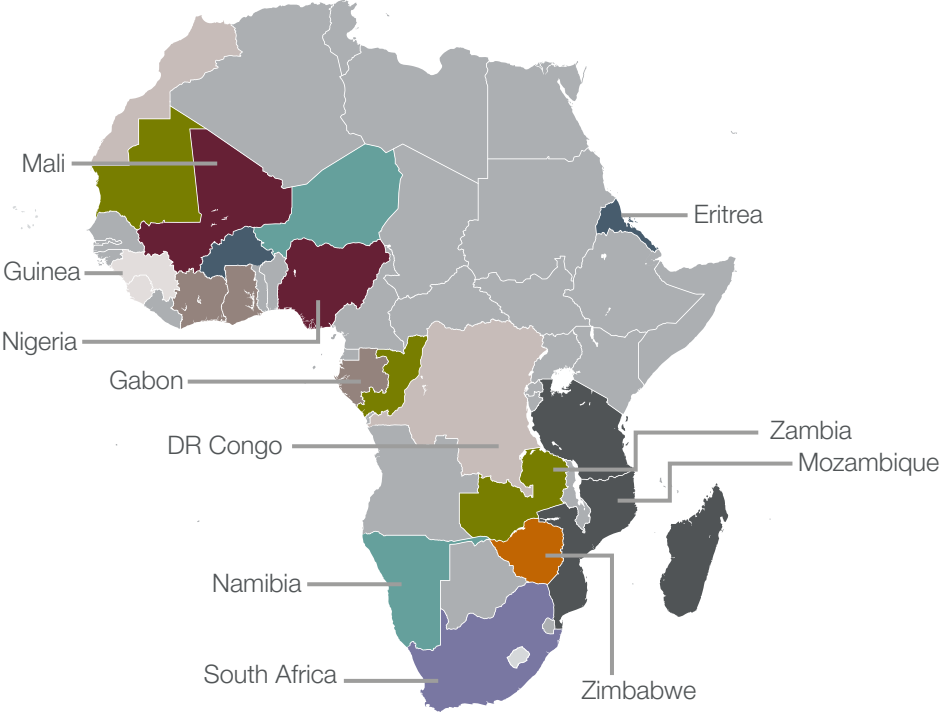
From the copper belts of Zambia and the lithium and cobalt deposits in the Democratic Republic of the Congo (DRC) to the manganese mines in Gabon, the African continent holds much of the promise of the world's transition to a clean energy future.

With critical minerals being core ingredients of nearly all clean energy technologies, the World Economic Forum predicts that around three billion tonnes of metal are needed for the world to attain Net Zero emissions by 2050.¹ African supplies – both those accessible now and those currently in the ground – are key to achieving that goal. We examine the drivers for sustainable critical mineral mining development in Africa and the challenges and opportunities it presents.

¹ <https://www.worldbank.org/en/news/feature/2022/06/06/mineral-rich-developing-countries-can-drive-a-net-zero-future>



Snapshot of selected critical minerals in Africa



- Zinc
- Copper
- Manganese
- Cobalt
- Bauxite
- Graphite
- Lithium
- Uranium
- Platinum Group Metals
- Chromium

Source: MIF based on Atlas of Economic Complexity, United States Geological Survey & World Nuclear Association



Africa's resources essential for global clean energy targets

A closer look at the figures demonstrates why the world's clean energy goals cannot be achieved without Africa's resources. African countries alone hold 30% of the world's mineral resources² and 19% of global reserves of metals³ needed for battery-powered electric vehicles (EVs) as well as other low-carbon infrastructure. Moreover, the current confirmed mineral resources in the continent are generally considered to be the tip of the iceberg – as yet unidentified deposits could help mitigate the problem of insufficient global reserves of critical minerals being available to satisfy current and anticipated demand.

Small wonder that Africa, still relatively unexplored, has become a magnet for mining companies looking to unearth new deposits to accelerate the energy transition and unlock wealth for the continent. Exploration budgets targeting Africa have continued to grow year on year, maintaining a 10% share of global budget in 2022, according to S&P Global Market Intelligence.⁴

Major mining companies with assets in Africa are, of course, well advanced in their strategic plans to become suppliers of critical metals and minerals required for the transition. As Matthew Johnson, partner, co-lead of Allen & Overy's Global Mining practice, observes: *“Critical mineral supply will continue to be a key focus of business agendas for the next few decades. It is already affecting the profile of assets being sought for acquisition and targeted for development, together with capital allocation going forward.”*

² <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf>

³ <https://resourcegovernance.org/publications/triple-win-mining-africa-environment-energy-transition>

⁴ <https://www.spglobal.com/marketintelligence/en/news-insights/research/africa-mining-by-the-numbers-2022>

“Critical mineral supply will continue to be a key focus of business agendas for the next few decades. It is already affecting the profile of assets being sought for acquisition and targeted for development, together with capital allocation going forward.”

Matthew Johnson, partner, co-lead of Allen & Overy's Global Mining practice



The Net Zero global financing gap

Securing financing, unsurprisingly, is key to bringing additional production online for assets under exploration and development. However, while global financing continues to shift in favour of clean energy infrastructure and its inputs, there remains a considerable gap between what is needed and what is in the funding pipeline. A joint study between Allen & Overy and the Climate Policy Initiative⁵ in September 2023 found a significant shortfall in the amount of capital reaching the necessary sectors

to drive the global transition to Net Zero. It estimated that USD6.2tn of climate finance is required annually between 2023 and 2030 and a further USD7.3tn to 2050 (a total of almost USD200tn) – yet, tracked global finance supporting the energy transition is thought to have only passed USD1tn for the first time in 2022. A similar story is found in mining and processing of critical minerals: investment must triple by 2050 to USD331.5bn annually to maintain the Net Zero pathway.

⁵ <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/delivering-net-zero-by-2050-the-200-trillion-opportunity>

Africa's ambitious decarbonisation goals and striking the right balance

Operational challenges and the power dilemma

While the business case for mining critical minerals is clear, there are supply challenges involved with long-term planning for minerals destined for ever-evolving products and technologies. Years of capital constraints and general underdevelopment by mining companies in this region present challenges in bringing assets into production to meet and capitalise on current and future demand. This is in addition to the difficult balance facing governments trying to address domestic energy shortages and consistency, alongside managing their own CO2 emissions under international agreements.

So far, twelve African countries that account for 40% of the continent's total emissions have pledged to reach Net Zero emissions by 2050, while nearly all African countries are signatories to the 2015 Paris Climate Accord and its overriding goal to limit global warming to 2°C (or preferably 1.5°C) above pre-industrial levels. *"There is clearly no shortage of bold ambition on the part of many African governments to play a key role in global efforts to tackle climate change,"* notes Tim Scales, partner and head of Allen & Overy's Africa Group and co-head of the Global Projects practice.

Balancing domestic needs

Nevertheless, African governments may feel increasingly marginalised from the global climate debate. This is coupled with the realisation that the utilisation of African resources cannot simply be about revenue for mining companies and governments. Extraction of resources in Africa must also be conducted with a view to enhancing living standards within the local communities, mitigating environmental impacts and increasing education, employment and food security for the African people. More than ever before, mining companies need to demonstrate that they are anticipating and planning how to meet these essential needs as well as ever-expanding Environmental, Social and Governance (ESG) requirements from an increasing number of stakeholders – and that they are embracing new and sustainable production technologies.

All this has major implications for how mining companies operating in Africa pivot practices and operating principles to ensure the sector's viability and sustainability into 2050 and beyond. There are significant benefits for the continent in realising the opportunities that the energy transition presents — if they get this right.

"There is clearly no shortage of bold ambition on the part of many African governments to play a key role in global efforts to tackle climate change."

Tim Scales, partner and head of Allen & Overy's Africa Group and co-head of the Global Projects practice



Managing the global demand and supply challenge for critical minerals

A key challenge for mining companies has always been determining when and where to make investments and allocate capital to ensure production matches supply and demand dynamics. Mining for critical minerals adds additional complexity to the decision-making processes for mining companies, financiers and other key stakeholders.

Critical mineral supply and demand factors

Supply and demand drivers for critical minerals differ substantially from those of fossil fuels. Low-carbon technologies are far more mineral-intensive than their fossil-fuel-based counterparts, requiring greater volumes to meet demand. Then there are the timescales involved, with many nations making critical mineral and Net Zero plans out to 2050 and beyond.

Commodity price volatility can also create major challenges for investment decisions and timing, even where the commodities in question appear scarce and global demand high. A case in point is lithium, a highly specialised commodity that is produced in limited quantities in limited regions, with fluctuating demand affected by geopolitical conditions and regulations. Lithium prices surged in 2021 and 2022 based on growing demand for EVs but underwent tumultuous changes in 2023 due to various factors such as rising inflation and economic uncertainty.⁶

On the supply side, as a matter of geography, many critical minerals are concentrated in a few countries. This can create bottlenecks and inefficiencies, and enhances the impact of geo-political issues and resource nationalism on financier comfort, construction certainty and – consequently – supply. And, of course, the mining industry is capital intensive and requires a long lead-time to bring new production online.

Demand for critical minerals depends on the technologies in which they are to be utilised – and demand for those technologies. That demand is constantly evolving as the energy transition accelerates. For example, the International Energy Agency projects that manufacturers of clean energy technologies (mostly batteries) will need 40 times more lithium, 25 times more graphite and about 20 times more nickel and cobalt in 2040 than in 2020.⁷

Disruptive technology and mineral substitution risk

With potential implications for investment decisions, the energy transition itself is encompassing a technology transition as stakeholders look to innovations such as new designs, efficiency improvements and, most impactfully, mineral substitutions (in whole or part). Improvements in technology may result in less of a particular critical mineral being needed for a particular process or can bring an alternative technology to prominence using a different mineral.

Indeed, the characteristics of critical mineral supply and the potential for delays in commercial production scheduling mentioned above create strong financial and other incentives for research. Candidates for this are the so-called battery metals (chiefly lithium, cobalt, nickel and graphite) used in the currently favoured lithium-ion technology as either part of battery cathodes or anodes. This is because there will be high demand for the end-product (batteries for EVs and grid storage), and geographic concentration of each of these metals means that future supply is expected to be insufficient to meet demand.

Several factors determine the degree of sensitivity a particular critical mineral has to shifts in its demand forecasts due to technological evolution. An in-demand critical mineral with many uses and few effective substitutes has more stable forecasts. A good example is copper, which is used in a wide range of clean energy infrastructure and has, at least under the current technological horizon, no potential effective substitutes. Demand for copper, at least in the later stages of the energy transition, is expected to be equivalent to whatever can be produced.

⁶ <https://www.reuters.com/markets/commodities/cmcs-lithium-contract-volumes-thrive-after-price-slump-2024-01-09/>

⁷ <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>

Exploring resource nationalism in Africa

Resource nationalism drivers

Resource nationalism is another key factor with the potential to impact on the stability of supply for critical minerals. A loose definition is the tendency of governments to assert control, for strategic and economic reasons, over natural resources located on their territory. It can take several forms, from an increase in taxes or royalties applying to mining activities, requirements for onshore processing, right through to the expropriation of foreign-owned assets with or without compensation.

The risk of resource nationalism is linked to the extraction of critical minerals because it is often attributed to an upswing in market cycles. When prices and demand are high, governments have greater leverage and may be more inclined to secure concessions from extractive firms. Revenue protection measures may also be implemented, particularly in relation to minerals forecast to be in long term demand. Countries seen as the highest risk are generally those dependent on the minerals they export but which have suffered significant economic contractions. In such instances, governments are considered more likely to try and recoup financial deficits by targeting the mining industry in their countries.

“The announcement of a Solid Minerals Roadmap and the focus on attracting investment which also benefits the economy have already led to a precedent-setting foreign investment in a battery manufacturing facility in Nigeria itself.”

Mitchell Ikoghode, partner in Allen & Overy's Global Projects practice

African resource nationalism

Resource nationalism has a long and varied history in many parts of Africa, a legacy of its colonial past. While often depicted as a predatory exercise by governments, research⁸ shows that this is uncommon in African cases; in most cases, political actions are generally rooted in widely expressed popular grievances and expectations amongst the general population that more domestic benefit should be obtained from exploitation of national commodities.

In recent context, a 2021 study from risk consultancy Verisk Maplecroft⁹ found that the economic impact of Covid-19 aggravated an already growing tendency for government interventionism in the natural resource sector world-wide, with several mining jurisdictions in Africa seeing their Resource Nationalism Index (the score given by the consultant to countries based on resource policy), rising significantly.

In 2022 – 2023, common risk indicators included political instability, inflation and rising global demand for the commodities produced. In Guinea and Mali, for example, greater resource nationalism reflected coups that brought to power strongly nationalistic leaders seeking reduced influence of former colonial powers, particularly France. Relevant factors included Guinea's role as a producer of bauxite and consistently strong demand for aluminium during 2023, while Mali produces “in-demand” gold and lithium. Namibia banned the export of unprocessed lithium ore in 2023 (following a similar measure enacted by Zimbabwe in December 2022¹⁰), despite criticism that such action will deter foreign investors.¹¹ Nigeria is similarly looking at how its critical minerals can boost its economy. Mitchell Ikoghode, partner in Allen & Overy's Global Projects practice, notes: “The announcement of a Solid Minerals Roadmap and the focus on attracting investment which also benefits the economy have already led to a precedent-setting foreign investment in a battery manufacturing facility in Nigeria itself.”

⁸ <https://www.tandfonline.com/doi/full/10.1080/03057070.2023.2272547>

⁹ <https://www.maplecroft.com/insights/analysis/resource-nationalism-surges-in-2020-covid-19-worsens-outlook/>

¹⁰ <https://www.bloomberg.com/news/newsletters/2023-06-20/next-africa-resource-nationalism-or-a-fair-share>

¹¹ <https://www.bloomberg.com/news/articles/2023-06-19/namibia-seeks-to-tap-resource-potential-after-lithium-ore-ban>



Africa's longer term outlook for critical minerals

Putting these points together in the African context, gives us a picture of some of the demand and supply pressures and difficult choices facing mining companies, governments and other stakeholders.

Africa is blessed with a range of high in-demand critical minerals, albeit with similar relatively narrow geographic concentrations as much of the world. However, African countries are some of the least explored, with exploration budgets only increasing over recent years. Processing and refining infrastructure is limited across the continent, requiring significant further time and investment for relevant countries to move up the value chain.

Use case of current reserves

Extensive ore production coupled with a lack of regional refining capacity explains, in part, significant foreign interest in buying or investing in mining infrastructure in recent years. China, for example, can pair extensive local demand of its own with its commanding refining

capacity, particularly for lithium and rare-earth minerals. Last year saw Chinese investment in a new USD250 million lithium battery factory in Nigeria, a country looking to shift economic reliance from petroleum towards critical minerals – and not just as a raw form export.

In terms of **battery metals**, Africa produces cobalt (with the DRC having over 70% of global production and huge supplies) and graphite (in Mozambique and Madagascar, with Tanzania also having significant reserves).¹² Cobalt has the added benefit of being versatile, with many applications in renewable energy infrastructure as well. Significant lithium reserves exist in Nigeria, Mali and the DRC (with the latter having vast unexplored potential reserves), but nickel (used in currently favoured lithium-ion technologies) is so far largely lacking.

As regards **critical minerals for renewable energy technologies**, Africa produces various: chromium – key for nuclear as well as renewable plants (South Africa

accounts for nearly 44% of global production and has the vast majority of global reserves); aluminium (Guinea accounted for over half of global bauxite ore exports in 2020, the primary source of aluminium); and manganese – important for many clean technologies as well as EVs and without apparent alternatives (South Africa, Gabon, Côte d'Ivoire and Gabon being main sources).¹³

In terms of **other versatile critical minerals**, the DRC, Namibia and Zambia feature copper, used almost everywhere in renewable energy technologies and wire and cable, and essential to the expansion of electric grids and the electrification of the energy sector.

As to **uranium used in nuclear power**, Namibia had 470,100 metric tons of uranium in recoverable resources as of 2021, the largest amount in Africa (and fifth globally). South Africa, the second main uranium producer in Africa, had 320,900 metric tonnes of the mineral, with Niger also having significant reserves.¹⁴

¹² <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf>

¹³ <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf>

¹⁴ <https://www.statista.com/statistics/1298888/uranium-resources-in-africa-by-country/>



Lithium-ion supply chain investment considerations

Perhaps the biggest question in mining African critical minerals is the extent to which mining companies, relevant governments and other stakeholders are prepared to invest substantial amounts in **lithium-ion supply chains**. Producing cobalt, required for EV battery cathodes, requires investing in the DRC, which of course comes with a number of government-related issues. Expanding lithium production likely requires the rapid expansion of lithium exploration and a sustained focus on new mining development within reasonable timeframes (so shortening the time for consents would be key for governments with lithium reserves). Creating a true regional lithium-ion supply chain – which has been on the mind of African governments but requires even greater investment – will also need a build-up of refining capacity for lithium and cobalt, not to mention significant regional cooperation to make it all happen. On top of that, there is the “gamble” of lithium-ion technology remaining dominant long enough for these investments to be profitable.

With sufficient investment, however, African countries are showing they can construct substantial related infrastructure of their own. With plans for Africa’s first gigafactory announced in May 2023¹⁵, Morocco is positioning itself to be a key player in the battery supply chain. Chinese investors are providing USD6.4bn to establish a new 100 gigawatt-hour EV battery manufacturing facility in the country. Lithium deposits were also discovered near Morocco’s border with Mauritania in June 2023. If these are significant, it would bolster Morocco’s EV business even further and make it a ready target for further mining investment.

Technological and substitution risk?

Much is being made in recent news of Chinese and western companies¹⁶ chasing **commercialisation of sodium-ion batteries** which require iron but do not require any critical minerals. As yet, lithium-ion is not in immediate danger of being replaced by sodium-ion, at least for passenger EVs (sodium-ion has a lower energy density than lithium-ion, resulting in bulkier and heavier

batteries). But, as the technology develops, sodium-ion is rapidly becoming an alternative for industrial use and transport, as well as for batteries for grid storage. Sodium-ion technology will inevitably continue to evolve, given the expected ever-increasing scarcity of battery metals.

Demand for other African critical minerals is perhaps easier to predict, or at least less likely to shift due to material substitutions as a result of technology, as these minerals do not as yet have foreseeable alternatives. Most of the world’s chromium and manganese reserves lie in Africa and demand for these metals sits with global demand for renewable energy infrastructure generally. The recent agreement at COP28 to expand global renewable energy capacity by 2030 to at least 11,000GW can only help to confirm demand forecasts for these metals.

¹⁵ <https://www.verdict.co.uk/morocco-africa-batteries-electric-vehicles-investment/?cf-view>

¹⁶ <https://think.ing.com/articles/can-sodium-ion-batteries-replace-lithium-ion-batteries>

African mining and the ESG imperative

Mining companies globally are increasingly being faced with the challenges of rationalising operations and limited research budgets, alongside meeting public and key stakeholder demands for improved environmental and social behaviours, as sustainability rightly continues to climb political, corporate and social agendas.

It is almost trite to say that ESG implications have become a primary issue for every mining company as they and their stakeholders seek to satisfy increasing mandatory ESG regulation and green supply chain requirements, as well as their own sustainable investment principles and “green credentials” ambitions.

Yet the drive for improved ESG behaviours in mining companies operating in Africa is not just a result of the global drive towards Net Zero.

The “social” aspect of ESG

NGOs and CSOs have lobbied governments and stakeholders alike for some time to encourage developing countries in Africa to move away from purely extractive priorities while adopting sustainable long-term practices that benefit local communities and mitigate environmental impact. As a result, the “social” aspect of ESG is particularly important for African projects. “With a population set to double in the next thirty years, wider development challenges are immense,” observes Scales. “While hundreds of millions of people have no access to electricity and clean water, there is also an urgent need to tackle famine, upgrade other infrastructure and improve education and healthcare.”

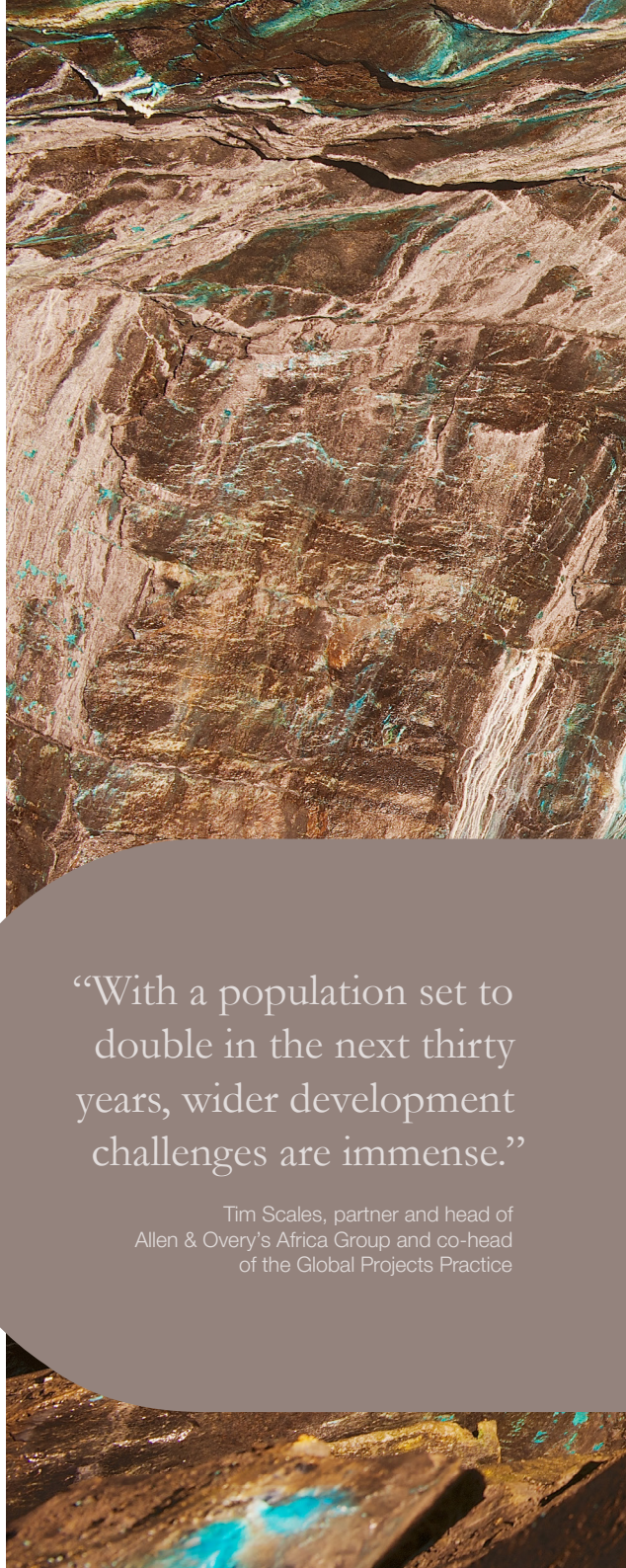
These considerations can manifest in laws or regulations directly affecting mining companies in the relevant jurisdiction and/or in the terms of various government consents or agreements with local communities.

International ESG standards and drivers

Mining companies may also be subject to mandatory and non-mandatory requirements emanating from outside the local jurisdiction, particularly in relation to public reporting and disclosure obligations (for example, disclosure requirements from standard-setters such as the Taskforce on Climate-Related Disclosures (TCFD)). Our recent publication “ISSB Sustainability Disclosure Standards – challenges in global regulatory implementation and market adoption”¹⁷ considers the implementation and market adoption of the ISSB Standards.

Such standards can also be particularly relevant from an investor, customer (eg offtakers such as automotive and other original equipment manufacturers) and funder perspective. With finance such a key factor in enabling further African mining development, it is worth exploring what is driving investment and lending behaviour from a sustainability perspective.

Matthew Townsend, partner, and co-head of Allen & Overy’s International Environmental, Climate and Regulatory Law Groups, highlights: “There is an enormous amount of policy pressure on capital markets and lenders to be redistributing or diverting capital away from so-called dirty or brown industries to green and sustainable activities and there is a whole wave of regulatory change that is just now starting to emerge for those capital providers.”



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¹⁷ <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/issb-sustainability-disclosure-standards-challenges-in-global-regulatory-implementation-and-market-adoption>


Funder side ESG considerations

Even without regulatory obligations, funders are becoming more discretionary about where they allocate funds, with thermal coal and certain minerals projects hard to finance. In addition, some lenders may need ESG criteria to be met to enable them to lend in certain sectors – often as a result of external commitments (including pressure from stakeholders). Specific requirements may feature in lenders' products, such as sustainability-linked loans (which typically include margin ratchets that depend upon whether certain key performance indicators (KPIs) are met, such as electricity and water usage). Investment funds seeking to deploy capital at scale are driven by the motivations of their limited partners, but they may also need to take account of specific sustainability and ESG principles when investing. A commitment to ESG is often a core business principle with funds highlighting their own ESG accreditations (such as the United Nations-supported Principles for Responsible Investment).¹⁸

In addition, there is an increasing level of sophistication among mining funds and private capital when it comes to assessing whether to invest in mining companies that do not demonstrate solid long-term relationships with local and national governments and communities. A positive narrative and demonstrated action on the ESG disclosure and behaviour front can therefore support access to financing.

Contractual ESG obligations

Whatever the driver, funder ESG requirements are generally considered to be “mandatory” on the mining company through contractual obligations in the relevant project/loan documents. The same is true as regards customer (ie offtaker) ESG requirements, imposed contractually on the mining company through incorporation of the customer's supplier code of conduct. Such codes may be driven by the customer's own ESG goals or by the customers it in turn supplies. While more typically seen in contractual arrangements in the gemstone and precious metals mining sector, these sorts of obligations are increasingly forming part of arrangements for critical minerals. Where accepted, the mining company may also become practically obliged to ensure other counterparties take on a back-to-back responsibility. Non-compliance can lead to contractual sanctions, as well as reputational damage and other losses, particularly if there is harm to the environment or local communities, in addition to any sanctions for breach of applicable laws or licence terms.



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¹⁸ <https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment>



Corporate ESG goals

Whether mining companies voluntarily adopt some of the non-mandatory ESG goals and standards that are emerging is an interesting question, with a variety of approaches seen so far in practice. Pressure from employees and shareholders, as well as insurers and other stakeholders (including funders and customers), can also play a part in what might be termed “artificial regulation”.

Common goals are voluntarily limiting Scope 1 and/or Scope 2 emissions. A number of mining companies operating in Africa have pledged a 30% reduction in Scope 1 and 2 emissions by 2030 and carbon neutrality by 2040 – 2050, demonstrating that they are taking steps to limit their own operational emissions. Some mining companies are also pledging to transition to renewable energy to provide power for operations at mine sites and displacing the use of diesel in operations for hydrogen, electric and/or biofuel alternatives, potentially reducing costs as well as emissions.

As Alessandra Pardini, partner in Allen & Overy’s project finance practice describes: *“South Africa, mining companies are procuring their own renewable power plants (either behind the meter or through bilateral wheeling arrangements) which not only provide energy security at a reduced cost, but also taking pressure off the grid and enhancing their green credentials. Such initiatives also have certain positive social impacts as they create local jobs during the construction phase and may demand local content.”*

South Africa, mining companies are procuring their own renewable power plants (either behind the meter or through bilateral wheeling arrangements) which not only provide energy security at a reduced cost, but also taking pressure off the grid and enhancing their green credentials. Such initiatives also have certain positive social impacts as they create local jobs during the construction phase and may demand local content.”

Alessandra Pardini, partner in Allen & Overy’s project finance practice



Positive corporate benefits of an effective ESG strategy

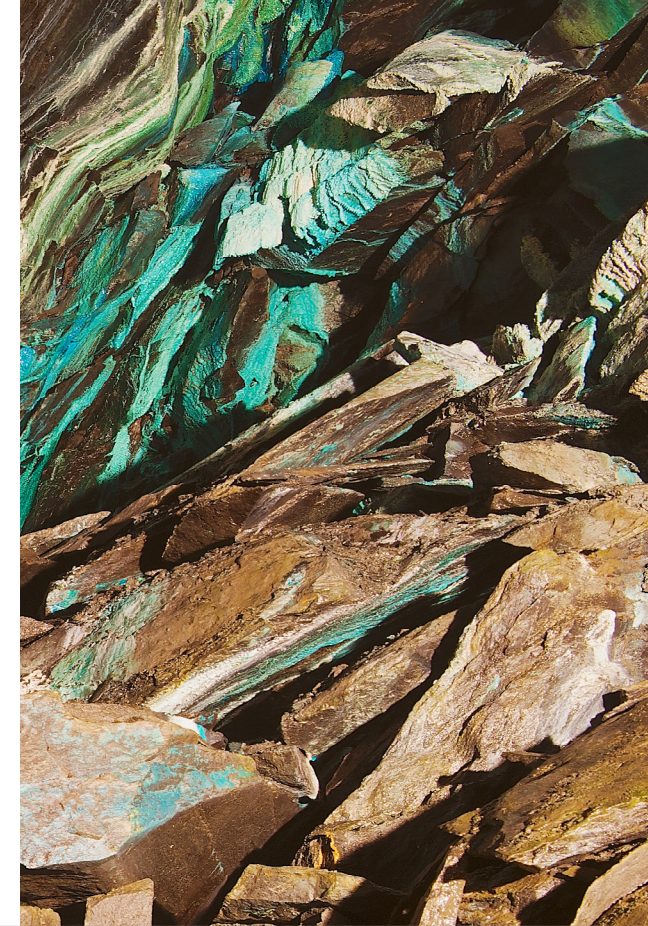
Savvy operators are realising that pro-active ESG action can bring potential advantages, such as better financing availability and terms, enhanced reputational/brand benefit and, fundamentally, improved revenue and operating efficiency. However, while companies of all stripes tend to announce ESG goals, the critical factor is to deliver on them to avoid the loss and damage associated with failing to do so.

Putting all this together, what every mining company needs is a comprehensive and coherent set of sustainability / ESG plans addressing all of its ESG actions – mandatory or voluntary.

And it is essential to get the ESG narrative right. As Townsend says: *“The challenge is how you develop a strategy that combines refocusing the business on critical minerals whilst also addressing the other operational aspects of sustainability such as supply chain transparency, good risk governance and reporting. We shouldn’t under-estimate the task for many businesses”*

Much is already being done. On the carbon emissions front, for example, a major mining company operating in South Africa has started using hydrogen-powered trucks. Replacing diesel trucks and using hydrogen produced onsite can lead to a significant reduction in Scope 1 emissions.

Yet this means making the exercise forward-looking, rather than just reflecting the status quo. *“It’s about applying ESG both in terms of what current mining operations look like and how they may look in future, with the business examining its “environmental and social conscience” in the process”,* observes Goran Galic, partner in Allen & Overy’s Global Energy and Resources practice. *“That might mean thinking about transitioning away from diesel-dependent operations to a captive on-site renewable power generation or green haulage fleet. Or, depending on the commodities they are producing, they may consider green contribution, such as pivoting to technology minerals and playing a more relevant role in the green value chain more broadly.”*



“It’s about applying ESG both in terms of what current mining operations look like and how they may look in future, with the business examining its “environmental and social conscience” in the process.”

Goran Galic, partner in Allen & Overy’s Global Energy and Resources practice

“The challenge is how you develop a strategy that combines refocusing the business on critical minerals whilst also addressing the other operational aspects of sustainability such as supply chain transparency, good risk governance and reporting. We shouldn’t under-estimate the task for many businesses.”

Matthew Townsend, partner, and co-head of Allen & Overy’s International Environmental, Climate and Regulatory Law Groups



Disputes and litigation risk in African mining

Understanding the legal landscape

A pro-active approach to sustainability and an awareness of the differences between jurisdictions across Africa is crucial to help mining companies minimise the risk of legal challenge on ESG grounds.

Some countries have reasonably reliable regulatory and enforcement systems, meaning that mining companies have to maintain records and report on operational and environmental practices. That being the case, the history of an asset and any associated risks can be diligenced and assessed by a prospective investor. This is not the case in all countries, however, which can present investment (and divestment) challenges if the information is unavailable. Gerhard Rudolph, partner and co-lead of Allen & Overy's global mining practice, describes the nature of these challenges: *"The risk burden on you as a mining operator if you are going to acquire an existing operation in Africa and the level of due diligence that you'd have to undertake can vary dramatically dependent on the quality and sophistication of the local regulatory environment."*

In weaker regulatory jurisdictions the risk levels for investors increase substantially, both reputationally and in terms of other consequences that might flow from that particular operation."

Types of action

Where disputes and litigation do arise, prospective claimants are trying to bring actions against mining companies in major global money centres with foreign plaintiff-friendly court access, rather than within the jurisdictions where the claims themselves arose. This is often done on the basis that the jurisdictions where the mining operations are located offer no reasonable prospect of effective recourse through the local courts. As Guled Yusuf, partner in Allen & Overy's litigation and arbitration practice specialising in Africa, also highlights: *"There have been relatively few claims brought before courts in Africa where there is less legislation in relation to climate change and more barriers to advance such claims, such as lack of standing or limited financial resources."*

Class actions, in this context, are increasingly driven by well-funded non-governmental organisations (NGOs), which encourage and facilitate claims by local communities, often based on a mining company's historic environmental or health and safety operational practices.

Rudolph points out that whereas claims brought by regulators and governments typically seek compensation for historic misconduct by mining companies, litigation now being brought by NGOs and communities is increasingly forward-looking in terms of the anticipated future environmental and community impact of new mining and energy projects, most often focussed on delaying, restricting or completely halting new projects. *"This is a litigation trend that simply wasn't contemplated even a decade ago but is now very real,"* he explains. *"It's something you'd have to factor into the cost of any new mining development or energy-related project."*

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Gerhard Rudolph, partner and co-lead of Allen & Overy's global mining practice

Technological impacts in African mining

Historically, mining companies and those operating in the sector have not invested greatly in research and development. That has certainly changed in recent years, however, and innovative technologies are creating a new era of positive disruption as mining companies look to make improvements in efficiency wherever possible. As regards Africa, Yusuf highlights the region's track record in rapidly adopting new technologies: *"Africa's ability to adopt and develop new technology is often underestimated, but just look at how the implementation of mobile telecommunications leapfrogged the landline phase and led to early adoption of large-scale mobile banking."*

Together, new mining and energy technology are key components in creating sustainable mining practices. Digitisation and smart technology are being used not only to accelerate development and improve productivity, but also to improve energy efficiency, enhance worker safety, increase diversity in the workforce and reduce operational emissions.

"The use of technology in the mining industry is definitely one of the fundamental pillars of creating sustainable mining practices," Johnson comments. *"From the perspective of mining companies operating in Africa, there are real and tangible opportunities to be leaders in the use of technology and harness the benefits it brings."*

The use of digital applications and "big data" is prevalent, with mining specialists remotely monitoring mining operations and using data to predict maintenance requirements. Drones can be used for site inspection rather than the labour-intensive dispatch of workers in diesel-powered trucks to remote locations. Developments in metallurgical testing processes can be used to discover new resources on existing sites, thereby extending the life of assets.

The emergence of generative Artificial Intelligence (AI) also heralds the commencement of true "smart mines", with mining companies already using digital technology and machine automation to improve the productivity and safety of mining operations and developing the deployment of mining robotics for dangerous underground tasks.

AI is also playing a big part in improving geoscience by more effective modelling of subsurface characteristics, with a Silicon Valley start-up using AI to better pinpoint where to position a drill in a copper mine in Zambia.¹⁹ Another example is a pan-African mining technology platform company using a quadruped robot to collect critical data and imagery in "fly low" areas, such as narrow reef mining operations in South Africa.²⁰

¹⁹ <https://www.ft.com/content/a578165b-2096-4117-b649-aeb2cdc715f3>

²⁰ <https://www.miningreview.com/exploration/spot-robot-revolutionizes-exploration-in-mining-environments/>

"The use of technology in the mining industry is definitely one of the fundamental pillars of creating sustainable mining practices."

Matthew Johnson, partner, co-lead of Allen & Overy's Global Mining practice

"Africa's ability to adopt and develop new technology is often underestimated, but just look at how the implementation of mobile telecommunications leapfrogged the landline phase and led to early adoption of large-scale mobile banking."

Guled Yusuf, partner in Allen & Overy's litigation and arbitration practice specialising in Africa

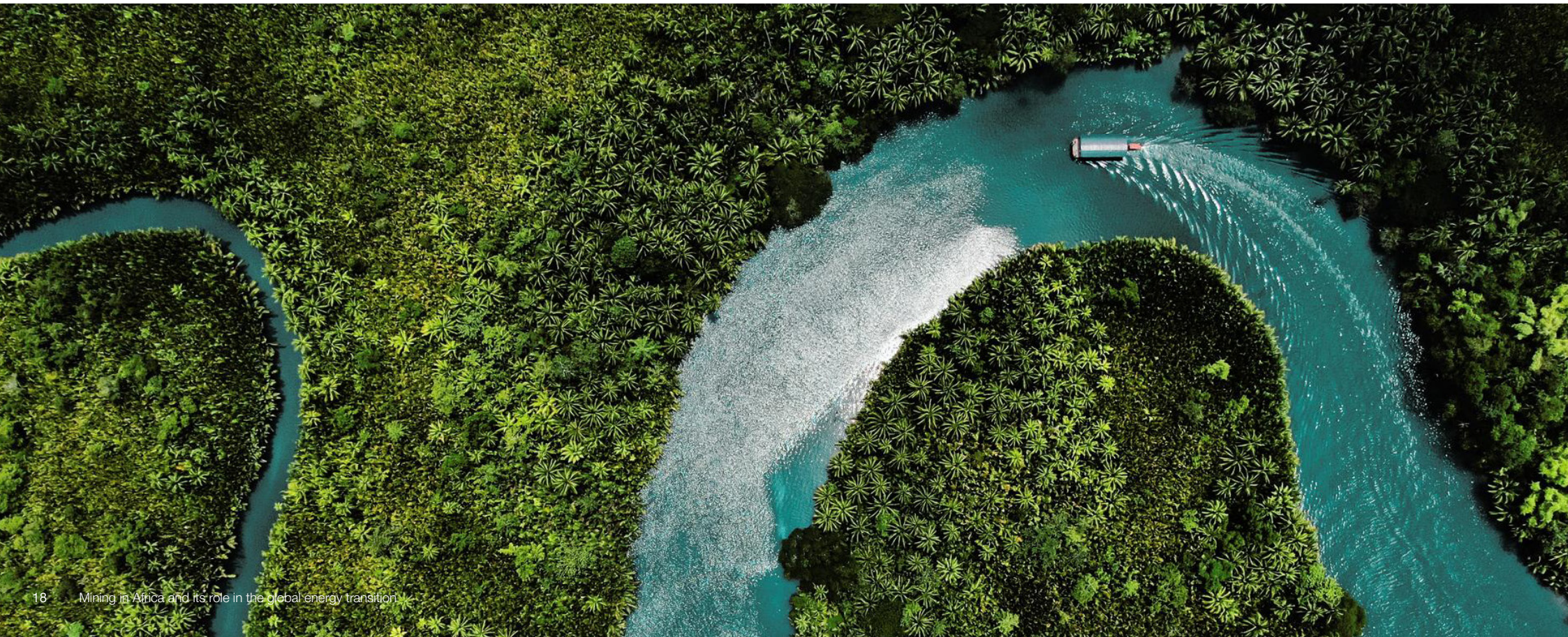
Africa's need for a just and fair energy transition

The development of clean energy infrastructure in Africa and the use of some of its own critical minerals to abate power shortages, improve living standards and reduce emissions is important to note. As of 2022, the total renewable energy capacity in Africa reached nearly 59GW, representing a growth of nearly five percent in comparison to the previous year, keeping an upward trend, but overall, Africa's renewable energy capacity accounted for less than two percent of the global total. Our recent article explores decarbonisation in Africa, including the role of renewables.²¹

²¹ <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/decarbonisation-in-africa>

²² <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/just-transition-through-climate-finance-a-matter-of-priority>

As one of the regions with the most exposure to the negative effects of climate change and the region that has nearly 600 million people without access to electricity (out of 800 million globally), there is a strong argument that a just and fair energy transition should allow for a significant amount of that capacity increase to be located in Africa. Read our recent article why a just transition through financing the energy transition is a matter of priority.²²



Conclusion – the potential of Africa’s mining sector transition

Africa's mining sector, and the continent itself, may be in the midst of an unprecedented global transition which presents significant opportunities for mining companies and their key stakeholders, notwithstanding the long-term challenges. There are potentially great benefits also for African governments and their people, provided an effective framework for sustainable development is implemented. If Africa can develop clean energy infrastructure and use some of its own critical minerals to abate power shortages, improve living standards and reduce emissions, African mining will also play a key role in a just and fair energy transition.



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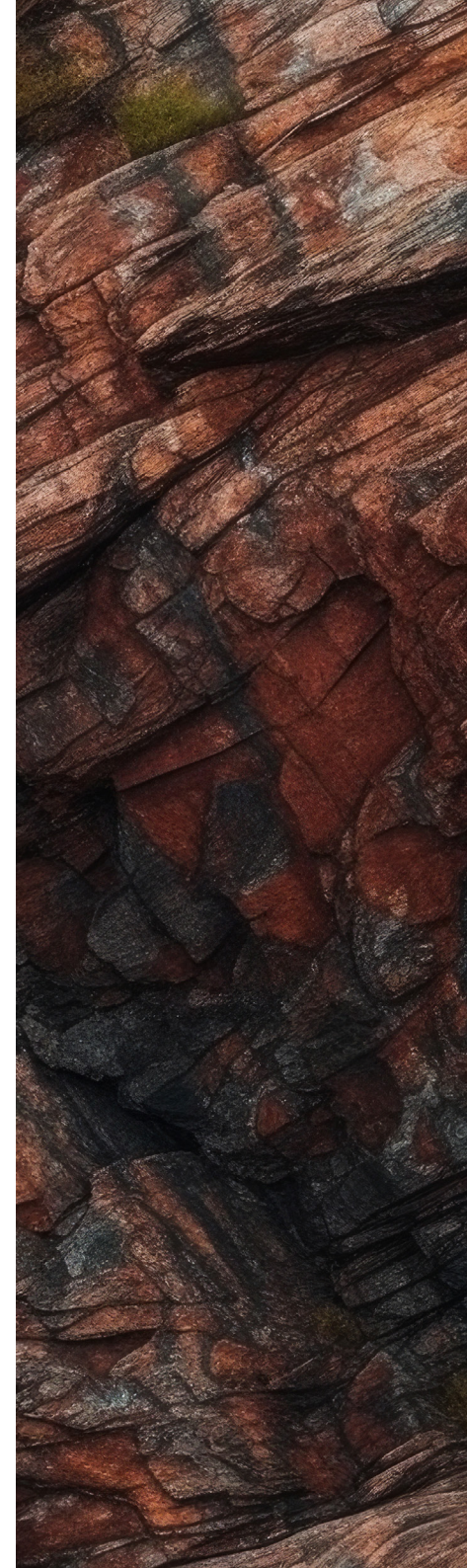
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