

VDMA Mining – Economic Report 2023

Essen, November 16, 2023



African continent

See separate documents!

Canada

Canada is positioning itself as the origin for critical minerals value chains and is committed to building a responsible and secure supply of critical minerals.

As the world shifts to net-zero emissions, Canada is well-positioned to benefit from rising global demand for critical minerals needed to support the transition to a low-carbon and digital economy. As the only North American country with the mineral resources needed to manufacture advanced batteries for electric vehicles, there are unprecedented opportunities for the domestic and international minerals and materials sectors. Not only does the country have exceptional mineral wealth, but other capabilities such as ESG standards (e.g., TSM) and expertise in mining, metallurgy, and materials science that have the potential to position Canada as a leading responsible and reliable supplier of critical minerals, not only in North America, but globally.

As widely reported, global demand for critical minerals will increase significantly in the coming decades to meet production needs for renewable energy and clean technology applications, such as electric vehicles and grid storage batteries, permanent magnets, solar cells, wind turbines, and small nuclear reactors. In addition, critical minerals continue to be needed for advanced manufacturing applications, including defense and security technologies, consumer electronics, and semiconductors. The World Bank and the International Energy Agency (IEA) forecast that global demand for minerals used in electric vehicles and battery storage, such as lithium, cobalt, nickel, and graphite, will increase 10- to 30-fold by 2040 compared to 2020. Ultimately, the global market for critical minerals is estimated to reach USD 400 billion by 2040, according to the IEA. Governance over critical minerals and their value chains is increasingly becoming a strategically important role in the changing Green Economy.

In March 2021, Canada published its first list of critical minerals. 31 minerals are considered essential for economic security and are needed for the country's transition to a low-carbon economy. Canada already produces more than 60 minerals and metals and is a leading global producer of several critical minerals, including nickel and cobalt, and has the potential to supply even more for domestic and international markets. The country continues to have significant lithium and graphite resources and hosts a number of advanced-stage rare earth projects (Northwest Territories; REE processing facilities in Saskatchewan).

To be a leader in critical mineral value chains, however, the country needs more than rich deposits: a highly skilled workforce in geology, mining, metallurgy, and materials must work together to enable the innovations needed to transform raw materials from the ground into advanced inputs to mineral value chains and end products that are both economically and ESG competitive.

Several Canadian provinces (QC, ON) have developed or are in the process of developing plans or strategies for critical minerals (NRCan is currently developing a federal strategy). Most provinces recognize that critical minerals are key to green transformation and the foundation for sustainable prosperity. In addition, necessary investments in basic infrastructure have been made over the past two years to support these critical value chains, such as Saskatchewan's CAD 31 million investment in the construction of a rare earth processing plant.

Source

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Brazil

In the first semester of 2023 the mineral sector registered R\$120 billion in incomes, 6% higher than 2022. Tax collection (taxes and charges) also increased by almost 6%, with around R\$41 billion collected. The leading states are Minas Gerais (with R\$50,5 billion invoiced) and Pará (R\$39,8 billion), remain the most important within the mining sector, followed by Bahia, São Paulo and Goiás.

Despite the increase in tons of exports, the value added in dollars decreased by about 5.77%, due to the decrease in commodity prices compared to the previous year. Despite this downturn, the first half of 2023 showed good figures, decreasing its mineral imports by more than a third and having a 17.21% increase in its mineral balance (exports minus imports).

The expectation for the following years is that between 2023 and 2027, 50 billion dollars will be invested in projects in the mining sector in Brazil, with an even greater concentration in iron ore (34%), socio-environmental projects (13%) and projects for the exploitation of bauxite (10%) and copper (10%).

The current scenario works with good prospects for 2023 and 2024, with the tendency to resume growth after the year 2022 of significant losses. The trend is for mining companies to increasingly focus on the quality of their products rather than quantity, at least in the short term, and to achieve environmental, social and governance (ESG) goals. There are concerns about using technologies for the decarbonization of the value chain, automation of processes, autonomous vehicles and machinery to increase safety, as well as tools to increase the quality of their products and the predictability of their processes.

We can also perceive a concern with the energy transition, impacting several Brazilian industrial sectors, mainly mining and oil. The latter is already working on new renewable energy sources, such as the implementation of offshore wind stations. The mineral sector is increasingly investing in the extraction of critical minerals, essential for the production of technologies for energy transition, being among the main producers of lithium, niobium, graphite, aluminum, vanadium, chromium and nickel.

In political terms, the debate on the demarcation of indigenous lands and the right of mining exploration is still an important topic in the mining sector, mainly due to the research of many critical minerals in these areas in the states of Amazonas and Pará. There is an intense movement to have fewer regulatory restrictions and to enable easier social licenses for operation. There is also a great enforcement of the government to substitute the upstream dams in mines, which caused the Vale disaster in Brumadinho (MG), with downstream or dry methods. To overcome these obstacles German suppliers and service providers may assist with solutions that are lacking or aren't present on the Brazilian market.

Among the main projects for the coming years in Brazil is the expansion in the „Casa da Pedra“ complex by CSN, with an investment of R\$13.8 billion between 2023 and 2027, foreseeing increased capacity of 15 million tons of iron ore (67% Fe) for the fourth quarter of 2025. The Tocantinzinho project by GMining Ventures (gold), which started in 2022, foresees investments of around US\$600 million, with commercial production expected in the third quarter of 2024. In terms of critical minerals, it is worth highlighting Horizonte Minerals' Araguaia project, with start-up scheduled for 2024 and investments of more than US\$500 million.

In this regard, the Competence Center of Mining and Mineral Resources seeks to promote the exchange between companies from both countries, strengthening their ties and facilitating their relations. This year, the 8th edition of the German-Brazilian Conference of Mining and Raw Materials, which is the main event of the Competence Centre, took place at the Museum of Mines and Metal (MM Gerdau), in Belo Horizonte in the state of Minas Gerais, on September 21st and was a great success with over 130 participants.

Source

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Chile

Political background

In August 2023, the left-wing President Gabriel Boric made his third cabinet reshuffle. Aurora Williams, a social democrat, and former mining minister under centre-left President Michelle Bachelet (2014-2018), replaced Mining Minister Marcela Hernando, who was in charge of Chile's national lithium strategy.

In a new referendum in December 2023, Chile will decide on a new draft of a constitution. The constitution-making process will therefore continue to play a major political role in the coming year. For the mining industry, this is particularly relevant regarding the topics of water and water rights, as well as environmental protection in general and the copper royalty reform.

In April Gabriel Boric presented the new national lithium strategy. This strategy, which had been announced for 2022 but had been postponed several times and was therefore highly anticipated, outlines the framework for the creation of a national lithium company and the possibility of public-private partnerships for specific projects. There will be an increased role of the two state-owned companies, Codelco (Corporación Nacional del Cobre de Chile), the world's largest copper producer, and the state mining corporation Enami (Empresa Nacional de Minería). Public-private collaboration is considered the cornerstone of the strategy.

Challenges

Possible challenges for mining projects and for the development of the sector are seen with regard to the development of the lithium industry, the need to generate a circular economy, progressing in the reprocessing of tailings; continuing to advance in the generation of specialized human capital; the integration of new technologies in small-scale mining; and the strengthening of R&D.¹

Economical and mining key indicators

The forecast indicates a contraction of 0.5% in the gross domestic product by the end of 2023, with a predicted positive growth of up to 2.25% in 2024. Additionally, the accumulated inflation rate for 2023 is expected to be 9.9%.²

The mining sector is playing a key role in reviving the economy in Chile. The country accounts for 28% of worldwide copper production and is projected to grow 3% with production of around 5.5 million metric tons of copper in 2023.³ Cochilco adjusted its copper price projection to \$3.85 per pound for 2023 due to uncertainty about China. Meanwhile, for the next year, it estimates that the average price of the metal will be \$3.75 per pound.⁴

The Chilean mining sector has a high and stable investment-portfolio for the long term and due to the expected increasing demand for raw materials such as copper and lithium, forecasts for the sector are positive. According to Cochilco the investment portfolio for the next decade (2022 to 2031) amounts to more than USD 73.7 billion and includes 53 projects.⁵ Ten initiatives are considered for this year. These

¹ Portal Minero (2023): Cuáles son los principales desafíos de la industria minera nacional para este 2023?:

<https://www.portalminero.com/wp/cuales-son-los-principales-desafios-para-la-industria-minera-para-este-2023/>, retrieved 10.10.2023

² Bloomberg (2023): Banco Central de Chile recorta proyección de crecimiento para este 2023:

<https://www.bloomberglinea.com/latinoamerica/chile/banco-central-de-chile-recorta-proyeccion-de-crecimiento-para-este-2023/>, retrieved 10.10.2023

³ BioBio Chile (2023): Sonami estima un 3% de crecimiento para la actividad minera en 2023: "irá de menos a más";

<https://www.biobiochile.cl/noticias/economia/actualidad-economica/2023/05/02/sonami-estima-un-3-de-crecimiento-para-la-actividad-minera-en-2023-ira-de-menos-a-mas.shtml>, retrieved 10.10.2023

⁴ Diario Financiero (2023): Cochilco ajusta a la baja sus proyecciones de precio del cobre para 2023 y 2024 por

incertidumbre sobre China; <https://www.df.cl/empresas/mineria/cochilco-ajusta-a-la-baja-sus-proyecciones-de-precio-del-cobre-para-2023>, retrieved 10.10.2023

⁵ COCHILCO (2023): Inversión en la minería chilena - Cartera de proyectos 2022 -2031;

<https://www.cochilco.cl/Listado%20Temtico/2022%2011%2007%20Inversi%C3%B3n%20en%20la%20miner%C3%A1%20chilena%20-%20cartera%20de%20proyectos%202022%20-%202031.pdf>, retrieved 10.10.2023

initiatives are valued at a total of USD 12,070 million. Teck's Quebrada Blanca Phase II is the project with the highest investment for 2023, estimated at USD 6,160 million. It is followed by Minera Los Pelambres' Expansion Marginal Los Pelambres Phase I with a projected investment of USD 2,200. In third place is Codelco's Rajo Inca initiative, valued at USD 1,371.⁶

A major event with big importance in the Chilean mining sector and German participation will be the 2024 version of EXPONOR exhibition in Antofagasta in June. There will be a corporate German pavilion, organized by AHK Chile.

Lithium, green hydrogen, digitalization, and mining 4.0 will remain future relevant topics, leading to huge opportunities for German technologies and strategic partnerships.

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Peru

Peru is one of the world's biggest producers of base and precious metals and is considered one of the top ten richest mineral countries in the world. Currently, the country is in a tight race with DR Congo for the title of 2nd largest copper producer in the world. Peru is also a major producer of gold, silver and zinc, among other minerals.⁷ Peru has 9.1% of the world's copper reserves and therefore has the potential to move to the world's biggest producer on medium and long term. Peru has 5.6% of the world's gold reserves, 17.8% of its silver, 8.0% of zinc, 6.2% of lead and 2.8% of tin reserves, according to the most recent data published by the US Geological Survey.⁸ The mining sector is one of the most important sectors of the Peruvian economy. In 2022, the mining sector registered a participation of 8.5% of the national GDP, while mineral export revenues reached USD 39 billion, representing 58.9 % of the country's total exports.⁹

⁶ Minería Chilena (2023): Proyectos mineros: Cartera 2023 y mirada sectorial;
<https://www.mch.cl/2023/01/24/proyectos-mineros-cartera-2023-y-mirada-sectorial/>, retrieved 10.10.2023

⁷ Ministry of Energy and Mines (2022), Anuario Minero 2022
<https://cdn.www.gob.pe/uploads/document/file/4700376/2022.pdf?v=1689975935>, retrieved 06.10.2023

⁸ EY (2023), Ernst & Young, https://www.ey.com/es_pe/mining-metals/mining-metals-investment-guide, retrieved 06.10.2023.

⁹ Ministry of Energy and Mines (2022), Anuario Minero 2022
<https://cdn.www.gob.pe/uploads/document/file/4700376/2022.pdf?v=1689975935>, retrieved 06.10.2023

Additionally the mining sector generates notable contributions to GDP in other sectors like services and manufacturing.

In October 2022, the flagship project Quellaveco project by Anglo American which is Peru's first "digital mine" started production and has reached already 100% of production capacity. In Quellaveco, numerous top technologies from German manufacturers are used, e.g. in the areas of Industry 4.0, hydraulics, digital twins, machine learning, remote operation etc. These topics and CO2 footprint reduction have become a trend in Peru's mining sector and will be adopted by other mines. MMG Las Bambas already announced their goal to become an intelligent mine by 2030. In this context, open innovation and innovation challenges offer new access routes to the Peruvian mining sector for innovative solutions and technologies. This development was also visible at the mining show PERUMIN 36, at the end of September 2023 in Arequipa. Next PERUMIN edition will be in September 2025.

According to the Peruvian Ministry of Energy and Mines's (MINEM) annual report, there are currently 47 main projects worth USD 53.7 billion, in various stages of development. About USD 38.5 billion (71.7%) is to be invested in 27 copper projects, in 6 gold projects USD 7 billion (13%) and in 3 iron ore projects USD 5 billion (10%). In MINEM's recent update to the portfolio of mining projects ready for construction, the Reposición Antamina project will start in late 2023. The Romina y Corani projects (USD 603 million) were scheduled for 2023 but have been postponed to 2024, and the Magistral and Yanacocha Sulfuros projects have their start dates set as "to be defined." The Zafranal project (USD 1.3 billion) has also been postponed to 2025.¹⁰ Nexa announced a USD 200 million investment in the Pasco region. The latest published edition of the Mining Exploration Portfolio reports 74 exploration projects in 17 regions of the country, with a global investment of USD 596 million. This portfolio consists of greenfield, as well of brownfield projects.¹¹

Social conflicts have been a challenge in the Peruvian mining sector for years. Often, they are connected to environmental concerns, territorial disputes, human rights violations, as well as a lack of compliance with CSR Policies. Especially the lack of water has become a reality that is exacerbating the tension. Another factor is the absence of the government's ability to mediate social conflicts. This leads to growth in illegal mining activities in Amazonian areas with disastrous consequences for the Amazon rain forest's environment. The Peruvian government is also facing the challenge of formalizing informal artisanal gold miners. So far Peru's government did not manage sufficient progress in ensuring that the citizens in regions near mining projects benefit from the taxes and royalties paid by the mining companies e.g. by infrastructure, healthcare or education projects.

Source

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¹⁰ Ministry of Energy and Mines (2022), Portfolio of Mining Investment, Update July 2023

<https://cdn.www.gob.pe/uploads/document/file/4909250/Actualizaci%C3%B3n%20Julio%202023.pdf?v=1692043979>

¹¹ Ministry of Energy and Mines (2022), Anuario Minero 2022

<https://cdn.www.gob.pe/uploads/document/file/4700376/2022.pdf?v=1689975935> , retrieved 06.10.2023

India

By the close of the fiscal year 2022, the mining industry in India experienced a notable uptick in production, boasting a growth of approximately 12 percent. However, early indications for the fiscal year 2023 suggest a moderation in the pace of production growth compared to the preceding year. A shift in the landscape is anticipated for India's metals and mining sector in the coming years, attributed to transformative initiatives like the Make in India Campaign, development projects such as Smart Cities and Rural Electrification, and a dedicated focus on constructing renewable energy ventures in line with the National Electricity Policy.

In a strategic move to tap into the nation's untapped mineral potential, India has amended its Mining Law. The Mines and Minerals Amendment Bill of 2023 reflects a departure towards involving the private sector in critical mineral exploration. Signifying a deliberate effort to leverage private sector expertise for unlocking the country's mineral wealth.

Under PLI Scheme for Specialty Steel, 67 applications from 30 companies have been selected that will attract committed investment of Rs. 42,500 crore (EUR 481.6 mn) with a downstream capacity addition of 26 million tonne and employment generation potential of 70,000.

Main issues in the mining industry in India

The Indian mining sector grapples with outdated technology, environmental issues, safety concerns, and infrastructure limitations. The use of obsolete equipment leads to inefficiencies and higher costs. Environmental challenges necessitate sustainable practices and regulatory compliance. Safety is a top priority, and inadequate infrastructure impedes material transport. A shortage of skilled labour underscores the importance of robust education and training. Regulatory complexities and financing constraints further complicate industry dynamics. Adapting to global technological advances, such as automation and data analytics, is an ongoing challenge.

At the same time the Indian mining sector grapples with pronounced social and political challenges. Land acquisition frequently displaces communities, sparking ethical concerns. Heightened environmental awareness triggers activism and legal disputes. Regulatory complexities impact project timelines and costs, while political instability and policy shifts create uncertainties. Growing resource nationalism calls for higher royalties and local beneficiation. Balancing economic development with tribal and indigenous rights is crucial, and global economic factors impact profitability and investment decisions.

Some of the ongoing projects in the Indian mining industry currently include the production of 300,000 tonnes of iron ore from Devadari mines in Karnataka by KIOCL Ltd. Additionally, NMDC Ltd. is investing INR 900 crores (EUR 10.224 mn) to increase iron ore production from mines in Karnataka. JSW Infrastructure has also begun commercial operations at the Paradip East Quay coal terminal in Odisha. These projects reflect the focus on coal and iron ore mining in India. The Indian Ministry of Mines counted 6374 cumulative ongoing projects with a volume of EUR 5.184 mn until august 2023.

Prospects for 2024

Coal India aims to reach 1 billion tonnes by 2023-24, a move pivotal for reducing India's import dependency. This ambitious goal necessitates a technological transformation, with a focus on adopting

new technologies and building digital infrastructure. With significant economic potential, by 2025, the industry has the capacity to generate 6 million additional jobs, covering 12 percent of the emerging non-farm job gap. Additionally, the industry could contribute EUR 118.75 bn to India's output and EUR 44.65 bn to its GDP. The convergence of Coal India's targets and the broader economic impact highlights the transformative role of the mining sector in India's growth.

Source

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Mongolia

Development of the mining industry in the current year

The mining sector dominates the economic sector, making up 23.6 percent of Mongolia's Gross Domestic Product, 24.8 percent of budget revenue, 93.7 percent of total exports, and 82.5 percent of foreign direct investment (FDI) alone. Metallic ores are the mainstay of mining sales. In 2022, they accounted for more than two thirds of total mining output, coal for a good fifth. The main metals actively mined are copper, iron, gold, silver, uranium, molybdenum, tungsten and fluorspar.

The figures given for 2022 and for 2023 are as follows:

		2022	2023 (1-7)
Export, total amount	Million USD	12,540	13,070
Coal	Millions of tons	32	29,5183
Copper concentrate	Thousands of tons	1,453	764.3
Iron concentrate	Thousands of tons	4,728	2,681.0
Oil	Thousands of barrels	2,626	2,356.0
Gold	tons	22,5	7.3

Delays in the construction of transport infrastructure cause a bottleneck for export of minerals. Railroad Tavantolgoi-Zuunbayan is under construction, Tavan Tolgoi-Gashuunsukhait (239 Km), and Zuunbayan-Khangai (226 Km) opened recently. Two railways are in planning: Artssuuri-Nariinsukhait-Shiveekhuren (1,255 Km) and Choibalsan-Khuut-Bichigt (384 Km). Road construction is also ongoing, and the capacity of ports and border checkpoints is to be increased.

From the social perspective demonstrations in the context of the "coal scandal" began in 2022, and the process of coming to terms with it is ongoing.

Ongoing projects

Oyu Tolgoi consists of a series of deposits containing copper, gold, and silver. Underground deposits are key to Oyu Tolgoi's profitability. Oyu Tolgoi is expected to become the fourth-largest copper mine in the

world by 2030, producing around 500,000 t/y of copper on average from 2028. Rio Tinto now has a 66% interest in Oyu Tolgoi LLC, the mine operating company.

German activities

The German-Mongolian Institute for Resources and Technology celebrated its 10th anniversary in June 2023. The German-Mongolian Economic Committee also met in June 2023, discussing mining, renewable energy, and education projects. Results of the committee meeting have been pointed out at the 9th annual intergovernmental meeting with German Parliamentary State Secretary at the Federal Ministry for Economic Affairs and Climate Action Dr Franziska Brantner and Mr Khurelbaatar, Deputy Prime Minister and Minister for Economy and Development of Mongolia. Currently, six mining licenses are held by two German license holders, and three licenses are held by two German-Mongolian consortia.

Outlook for 2024

In addition to the expansion of the extraction of the above-mentioned mineral raw materials and the establishment of processing, the focus is on the development of the extraction of lithium and rare earths. For example, two lithium deposits for which a Canadian company holds the licenses are currently approaching production maturity. In the case of rare earth metals, the Khotgor deposit in particular is the focus of Mongolian, Australian and British companies. Its targeted industrial use is estimated to promise a combined output of more than 2 million tons of various rare earth metals, with on-site processing also envisaged.

The World Bank has lowered the GDP growth forecast for Mongolia, down 0.1% from April's projections. The World Bank also lowered the forecast for economic growth in 2024 to 6.1%. Mongolia is particularly dependent on China as a destination for exports of raw materials and construction materials.

Source

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China

After a quick rebound of the Chinese mining sector from the COVID-19 pandemic in 2022, numbers for 2023 show a medium decrease. During the first eight months of the year 2023, an income of RMB 3952.81 billion (minus 10.5% year-on-year) and a profit of RMB 890.63 billion (minus 20.5% year-on-year) has been realized. The coal mining and preparation industry generated an income of RMB 2293.73 billion (minus 13.9% year-on-year), the income from ferrous metal ores mining amounted to RMB 301.07 billion (minus 4.4% year-on-year), the income of non-ferrous metal ores mining reached RMB 218.09

billion (plus 0.3% year-on-year), and the income from mining and processing of non-metal ores amounted to RMB 224.47 billion (minus 5.7% year-on-year).

Aspects such as smart and digital as well as green mining continue to gain importance, leading to further demand for related technologies and solutions: The “Guidelines and Administrative Measures for Intelligent Construction of Coal Mines” of 2021 as well as the industrial standard “Specifications for Smart Mine Construction” by the Chinese Government provide a roadmap and further instructions on how to build a digital mining sector in China – integrating cloud computing, big data, 5G networks, and artificial intelligence. As far as ecological development is concerned, there are currently more than 1,100 national-level green mines in China. Since the end of 2021, numerous new plans and guidelines for climate protection and energy reduction have been published, affecting for example the non-ferrous metals as well as the steel and iron sector (e.g., “Guidelines for Implementation of Energy-saving and Carbon Reduction Transformation and Upgrading in Key Areas of High Energy Consumption Industries”). In addition, Technical Specifications for Ecological Rehabilitation of Mines as well as Measures for the Prevention and Control of Environmental Pollution from Tailings were published last year. The new targets and measures are increasing the need for low-emission, energy-efficient, and automated solutions in the mining sector.

At the beginning of 2021, the “Competence Centre for Mining & Resources in China” of German Industry & Commerce Greater China (AHK Greater China) was founded, based in Beijing. It serves as the first and central point of contact for German companies and institutions for an engagement in the Chinese mining and mineral resources industry. The Competence Centre, which is funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), supports the Raw Materials Strategy adopted by the German Government and, among other things, provides support work with regard to securing mineral resources, market transparency, cooperation initiation, and advice. In 2023, the Competence Centre organized for example three information events and joined a series of external events and meetings. On the 25th of October, a hybrid Sino-German Conference on Battery Raw Materials will be held in Beijing and from 27. November to 05. December, a digital business delegation trip for German companies and institutions will be organized.

Outlook

China's interest in the critical battery metals cobalt, lithium, and nickel will likely continue to rise in the coming years, while gold and copper will remain important targets. Already in 2023, Chinese enterprises tapped into additional countries in South America for lithium and Southeast Asia for nickel. China will likely continue to develop and acquire new mining projects for battery metals globally and domestically in the coming years. Coal mining in China remains an important pillar to strengthen domestic energy security. At the same time, further projects and investments for smart and digital as well as green mining are expected.

Source

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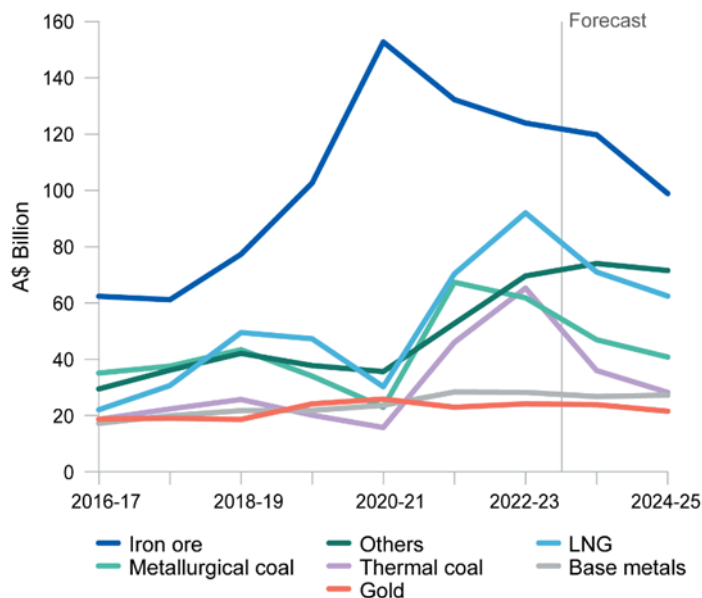
Australia

General development of the Australian mining industry in 2023

The export-focused Australian mining & resources industry is heavily influenced by world politics and economic factors:

- The risks of high inflation for the worldwide economic recovery are significant.
- Current geo-politic challenges (Russia's attack on Ukraine, war in the Middle East etc.) pose threats to the global economy and put downward pressure on raw material consumption and prices.
- Similarly, concerns about China's economic growth are increasing. Structural and cyclical factors are causing China's growth to remain relatively weak with implications for world commodity markets and Australia as a major supplier of commodities and services to China.
- On the other hand, developments related to the global energy transition – the expansion of renewable energy capacities and strong (but weakening) growth in EV sales – drive the need for resources. Critical Minerals like Lithium or Nickel will benefit from this development long-term. On a short-term basis though, concerns about Chinese demand for EVs contributes to low Critical Minerals prices.

After an all-time high in the Australian financial year 2022-23 with AUD 467 billion worth of raw materials exports, Resource and energy commodity prices keep falling and therefore lower Australia's overall exports despite stable or (in most cases) growing export volumes.



Source: Department of Industry - Resources and Energy Quarterly September 2023

A closer view on iron ore and coal

Iron ore is still by far the most important commodity for the Australian mining industry. Despite significantly lower prices, Australia is set to export iron ore worth AUD 120 billion in the 2023-2024 financial year.

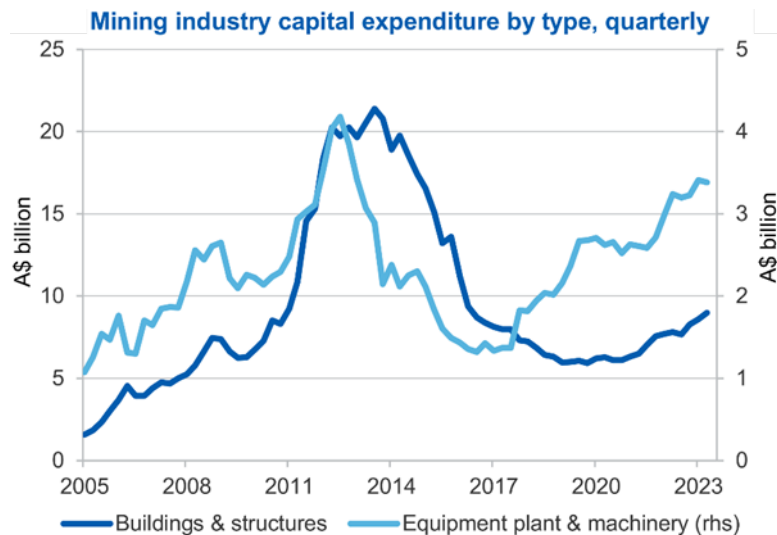
Australian iron ore miners closely follow the discussions around “green steel”. While the current standard procedure to convert iron ore to iron and subsequently to steel requires metallurgical coal (aka coking coal), hydrogen is used for green steel.

The majority of currently operating iron ore mines in (Western) Australia is producing hematite, a product well suited for conversion with coking coal. Betting on the growing interest in green steel, one of Australia’s biggest iron ore miners, Fortescue Metals Group, has recently opened their Iron Bridge magnetite mine – with magnetite being much better suited for hydrogen conversion than hematite. While green steel is still struggling to get traction, Australian operators of coal mines keep producing high-quality coal both for power plants (thermal coal) and for steel making. Volumes are rising, but since prices have come down from their highs in 2022-2023, overall export values are sinking as well. Also, coal miners are finding it more and more difficult to develop new mines – backlash from environmentalist groups, tightening environmental policies as well as growing problems with project financing are some of the issues coal mining companies are facing. Since coal has little space in a decarbonized world, many major miners are divesting their coal exposure which leads to further pressure.

Current situation for mining suppliers in Australia

Mining suppliers in Australia had a good run-in recent years. Solid price levels for resources as well as rising capital expenditures for new mines, decarbonisation of existing mines as well as building processing facilities especially for critical minerals provided a comfortable position for miners and mining suppliers. In recent months mining suppliers have become a bit more careful though, most likely resulting from increased doubts about the worldwide economic situation and subsequent budget cuts by mining companies.

German mining suppliers – with more than 150 companies already very active in the Australian mining market – are still benefitting from a high reputation regarding quality, performance and innovation. The German-Australian Chamber of Industry & Commerce has seen increased interest from potential new German entrants in the Australian mining industry – considering the loss of other markets like Russia, Australia – despite it being on the other side of the planet – is seen as a market with high potential.

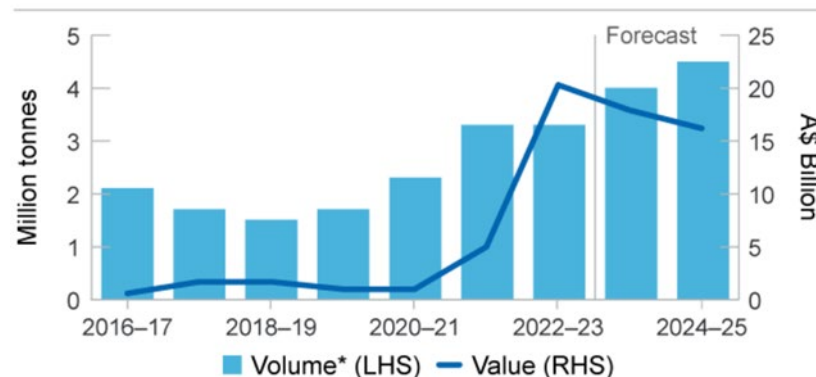


Source: Department of Industry - Resources and Energy Quarterly September 2023

Development of the Australian Critical Minerals industry

Already being the world's largest producer of Lithium (ore), Australia is pushing to become a world leader in Critical Minerals mining and processing. A multitude of junior miners is developing Critical Minerals projects all across Australia – Lithium, Nickel, Cobalt, Rare Earths and many others.

Australian lithium exports



Source: Department of Industry - Resources and Energy Quarterly September 2023

The Australian Government and the state Governments are driving agendas to establish a Critical Minerals value chain that goes beyond mining and towards producing intermediary products for example for the battery industry through mineral processing facilities. Currently, low commodity prices and financial incentives in the US through the Inflation Reduction Act (IRA) are threatening to stall the progress on Australian Critical Minerals projects. Nevertheless, Australia is still a highly attractive (future) source of Critical Minerals for many reasons:

- Australia is a low-risk jurisdiction compared with other countries producing Critical Minerals.
- Australia has a giant potential for renewable energy – a crucial locational advantage given the importance of a low or zero-carbon mineral production.
- Australia has high environmental standards and is enforcing them.

- Australian miners have built strong relationships with indigenous groups on whose land mines are built.
- Australia's mining supplier industry is one of the most advanced worldwide.
- With decades of Critical Minerals mining under the belt, Australian miners have the knowledge needed to progress the industry.
- Strong political support for a prosperous domestic Critical Minerals industry.

Source:

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