BHP

Recapturing Australia's Competitiveness

Challenges and opportunities for Australia's mining sector

November 2023

Contents

Important notice

Please refer to the Important Notice on page 27

Executive summary

1. Australia's resource sector – world leading but facing a moment of truth

The success of Australia's mining sector – now the world's leading mining exporter – is the result of decades of industry investment to scale the country's production of key commodities to meet global demand, especially in iron ore and coal. This has occurred in constructive partnership with state and federal governments and has delivered enormous benefits to Australians and the Australian economy.

Australia's mining sector in 2021–22:[1]

- generated A$218 billion in annual export revenue (equal to 37% of Australia's total goods and services export revenues)
- supported over 1.1 million full-time equivalent Australian jobs
- paid the highest average wages of any Australian sector
- had the highest rate of Aboriginal and Torres Strait Islander employment in Australia
- contributed an estimated A$63 billion in company taxes and royalties, supporting the delivery of vital public services initiatives and payments

The mining sector has helped give Australia one of the highest GDPs per capita of any major country.[2] It also underpinned the country's standout economic performance through the global financial crisis[3] and other recent downturns.

More than 17 million individual Australians own a part of the Australian mining sector directly or via their superannuation holdings and the sector has a strong forward pipeline of potential investments to further grow the sector and the benefits it brings to the country.

Globally, however, the mining sector is at a crossroads. Achieving the temperature aims of the Paris Agreement will require the rapid and widespread deployment of clean energy technologies like renewable energy, nuclear power, battery storage and electric vehicles. This transformation will only be possible through the scaling up of mineral production – with estimates suggesting up to 140 new copper mines, 60 new nickel mines, 50 new lithium mines and 17 new cobalt mines will be needed by 2030 alone.[4]

The capital investment required to unlock this production will be significant – estimated at an additional US$100 billion per year. The global competition to ensure competing and partnering jurisdictions have the right policy settings and industry actions in place to capture these opportunities is intense and growing.

Seizing an outsized share of critical mineral investment flows will be crucial to Australia's future economic prosperity – particularly given that the contribution of the country's existing powerhouses of iron ore, coal and LNG will decline significantly over the next few decades. But Australia's past success does not mean it can take future success for granted. Australia can only succeed if it is once again willing and able to compete. Government and industry need to work together to improve the competitiveness of Australia's mining sector so that the nation can also enjoy the future benefits that this new opportunity can bring.

2. The competitiveness of Australia's mining sector is under threat

The competitiveness of Australia's mining sector depends on:

- the characteristics of its resources
- its access to world-leading talent and Mining Equipment, Technology and Services (METS)
- its ability to leverage common infrastructure investments in transport, energy and water in key basins
- the stability of its regulatory and policy regime

Australia has historically performed well against these criteria, but the future looks increasingly less certain.

On Australia's resource quality – there are lots of mineral resources scattered across the world. They are not created equal. Some have higher-quality ores that are more valuable because they require less processing. Some are nearer the surface, making it easier to extract them. While Australia is well endowed with resource deposits, there are other competing nations with superior deposits. This is true for foundational commodities such as iron ore where, for example, Brazilian and West African deposits under development have higher grades and lower impurities than ores from Australia's Pilbara region. It is also true for future-facing commodities like copper where countries like Chile and the Democratic Republic of the Congo have greater reserves, ore quality and accessibility, and lower power costs (which is vital for energy intensive minerals and metals processing).

Access to talent is also becoming an increasing challenge in Australia. While wages have almost doubled over the past 20 years, labour productivity has remained flat. And despite offering the highest pay of all Australian sectors, the sector is facing record vacancy levels, reflecting declining enrolments in mining-related educational programs and bottlenecks in accessing international employees in areas unable to be filled by Australians.

1 Excludes Indigenous employment, which is based on 2021 census data.

2 According to the International Monetary Fund, Australia had a GDP per capita of US$63.5k in 2023. This is the tenth highest globally, behind Luxemburg, Ireland, Switzerland, Norway, Singapore, Qatar, United States, Iceland and Denmark. IMF (2023), GDP per capita, current prices.

3 According to a research paper published by the Reserve Bank of Australia, by 2013, the mining boom was 'estimated to have raised real per capita household disposable income by 13 per cent, raised real wages by 6 per cent and lowered the unemployment rate by about 1¼ percentage points'. Peter Tulip (2014), The Effect of the Mining Boom on the Australian Economy.

4 Minerals Council of Australia (2023), Future Critical: Meeting the minerals investment challenge.

On infrastructure, while existing regions including Western Australia's Pilbara region, Queensland's Bowen Basin and New South Wales's Hunter Valley are well developed, major additional investments in transport, energy and water will be required to unlock the more remote regions where climate critical commodities like copper and nickel are typically found. This includes South Australia's Gawler Craton in and inland parts of Western Australia.

Australia's stable and pro-investment regulatory and policy environment has historically been a strength and will be essential for future growth. But recent examples of sudden and unilateral changes in tax and royalty regimes in some Australian jurisdictions have put future Australian investment at risk. The increasing complexity of regulations at state and federal levels is also leading to longer wait-times for permitting and approvals and industrial relations changes risk creating additional cost pressures while restricting the ability of industry to improve productivity.

These investment headwinds are in stark contrast to the many areas where industry and government have worked cooperatively and collaboratively together to deliver better outcomes for Australia's competitiveness on issues like access to markets and integration, stabilisation of key trade relationships, digital and cyber, industry research, skills development, workforce diversity and infrastructure.

3. Unlocking the future potential of Australia's mining sector

Minerals like copper, nickel, lithium and cobalt will be critical to enabling the energy transition. Their extraction and processing also have the potential to be a driver of future economic prosperity. For Australia to seize this opportunity, a constructive partnership between industry and government will be needed.

The first step is to align on clear and ambitious goals for the sector spanning both economic and social outcomes – and with a clear understanding of collective responsibility and shared commitment. This sets a 'lodestar' to guide policy and industry actions.

If Australia were to increase its production on the commodities central to the energy transition (critical minerals plus copper and nickel), this could deliver up to A$20 billion in annual investment for years to come – supporting high-paying jobs in regional and remote areas and new opportunities for Indigenous participation.

Four key pillars will be required to deliver on this ambitious agenda for Australia and the growth of its mining sector:

- *Stable and globally competitive fiscal settings:* Fiscal stability alongside globally competitive policy settings remains critical for attracting and retaining investment in Australia. Fiscal policy, at all levels of government in Australia, should promote investment and innovation and be underpinned by the principle of effective and meaningful consultation. An ongoing reform agenda that ensures the overall burden of taxation and royalties is competitively benchmarked against other leading mining jurisdictions is important to Australia's long-term competitiveness – recognising that, where a potential Australian project is disadvantaged in terms of its resource quality and/or scale (compared to other projects overseas), Australia's relative fiscal settings will play a crucial role in determining whether the project is able to secure investment.
- *Robust, transparent and streamlined permitting:* Governments should continue to work towards streamlined, consistent and transparent permitting, with the goal of reducing approval timelines without lowering standards. A new risk-based approach to permitting should be considered with a focus on speed to decision (not reducing the bar). The Australian Government should ensure the drafting of its new Nature Positive Legislation is not rushed and takes all available steps to reduce duplication between federal and state processes. Government and industry should also work together to better empower Indigenous peoples to connect with heritage and economic opportunities.
- *Best-in-class enabling infrastructure:* Infrastructure is an essential unlock for opening existing mining basins and developing new basins (often in remote areas). Government and industry should scope and shortlist a prioritised set of infrastructure investments aligned to future-facing commodities, including for transport, power and water. Through appropriate coordination, governments can ensure the infrastructure buildout is as efficient as possible and minimises environmental and community impacts. Governments should also ensure policy settings are fit-for-purpose to deliver the energy system needed to support the electrification and decarbonisation goals of the mining sector.
- *A world-class METS sector and workforce of the future:* A world-class METS sector and talent with the skills and capabilities required for the systems of the future will be a defining success factor for allowing Australia to leverage the potential of its mineral resources. A joint industry-government effort could identify critical future skills shortages and develop a range of appropriate solutions, including working with universities on enrolment, supporting local vocational training and streamlining attractive visas. Unlocking value within the mining supply chain requires a modern and flexible workplace system; one that allows for businesses to work with employees in each workplace to increase productivity and provide the most competitive terms and conditions to attract and maintain workers. BHP has raised a range of concerns with recently enacted and proposed changes to Australia's workplace relations systems. Our detailed views on these matters can be found in relevant BHP submissions.[5] Bolstering attainment of STEM qualifications, particularly among women and Indigenous peoples, and addressing challenges associated with access to childcare in regional areas will also be crucial to the future competitiveness of the Australian mining sector.

5 For example, see: BHP's Pre-Budget Submission 2023/24 and BHP's submission to the Senate inquiry on the Closing Loopholes Bill.


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Chapter 1:

Australia's economic engine room facing a moment of truth

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A bedrock of Australia's economic success

Resources are at the heart of Australia's economy and have historically driven much of our nation's growth and prosperity. The mining sector's contribution to Australia's economy is immense – A$218 billion in annual export revenue[6] (or 37 per cent of Australia's total export revenue[7]) and A$63 billion in Australian company tax and royalties[8] in FY2022; 480,000 direct full-time equivalent (FTE) jobs and over 1.1 million FTE jobs supported[9]; and A$246 billion in capital investment in Australia over the 10 years to 2021–22.[10]

Australians all benefit from the strength of our nation's mining sector. Growth in resources since 2000 made each Australian household A$14,800 better off by 2020 and increased real Gross Domestic Product (GDP) per Australian by about 15 per cent.[11] Equity ownership of the resources sector is widely held with 17 million Australians having an ownership stake in BHP alone via the superannuation system. Average weekly earnings in the mining sector are the highest across all Australian sectors,[12] with 96 per cent of workers employed full time.[13] The sector also has the largest proportion of Indigenous workers at 4.6 per cent, roughly 50 per cent more than the Australian average based on the 2021 census.[14]

Looking ahead, there is ~A$170–220 billion[15] of capital investment in potential mining projects expected to come online in the five years between 2023-28, of which A$40–50 billion are for critical minerals[16] linked to the energy transition.

These mining projects are estimated to create 47,000 new Australian jobs, with further Australian employment potential of up 95,000 jobs.[17] These projects present a significant economic and social opportunities for all Australians and particularly those who live in the regions.

However, as of today, only A$32 billion of this A$220 billion potential Australian projects pipeline is 'committed' where a final investment decision has been taken.[18] The future of the remaining projects depends on whether they meet the investment case requirements of their respective sponsors.

The strength of the mining sector has been a bedrock of Australia's fiscal policy environment and that strength has meant that government budgets across state and federal governments have emerged from the pandemic having outperformed other advanced economies.[19]

Protecting and nurturing one of the pillars of our economy is precisely why industry, governments and other partners and stakeholders need to secure Australia's resource sector's ongoing competitiveness. Doing this from a position of relative strength is the most effective way to secure this future opportunity for the nation.

Globally leading but at an inflection point

The mining sector has been an outstanding success story for Australia. Over the last 30 years Australia has doubled its share of global mining product export revenues from 6–7 per cent in the 1990s to 13 per cent today (Exhibit 1).

6 Value of resources exports. Department of Industry, Science and Resources (2023), Resources and Energy Quarterly March 2023.

7 Australian Bureau of Statistics (2023), International Trade in Goods and Services, Australia.

8 EY (2023), Royalty and Company Tax Payments, prepared for the Minerals Council of Australia.

9 Figures for the mining and METS sector in FY2020. Deloitte Access Economics (2022), Economic contribution of the mining and METS sector, prepared for the Minerals Council of Australia.

10 Australian Bureau of Statistics (2023), Private New Capital Expenditure and Expected Expenditure, Australia, Table 19.

11 The Centre for International Economics (2021), Estimating the economic benefits of mining expansion and further productivity reforms, prepared for the Minerals Council of Australia.

12 Australian Bureau of Statistics (2023), Average weekly earnings, Australia.

13 Represents the average share of full-time employees from November 2022 to August 2023. Australian Bureau of Statistics (2023), Labour force, Australia, detailed.

14 Australian Bureau of Statistics (2023), Census of Population and Housing 2021.

15 Includes projects classified as committed, feasibility and publicly announced. Excludes hydrogen, infrastructure and oil and gas projects. Department of Industry, Science and Resources (2022).

16 Includes critical minerals as defined by Geoscience Australia, plus copper and nickel.

17 Of the 262 projects identified by the Australian Government, only 131 have operating employment estimates. If the projects without employment estimates were assumed to have a similar workforce profile of those projects with estimates, total operating employment would be around 95,000. Department of Industry, Science and Resources (2022), Resources and Energy Major Projects: 2022.

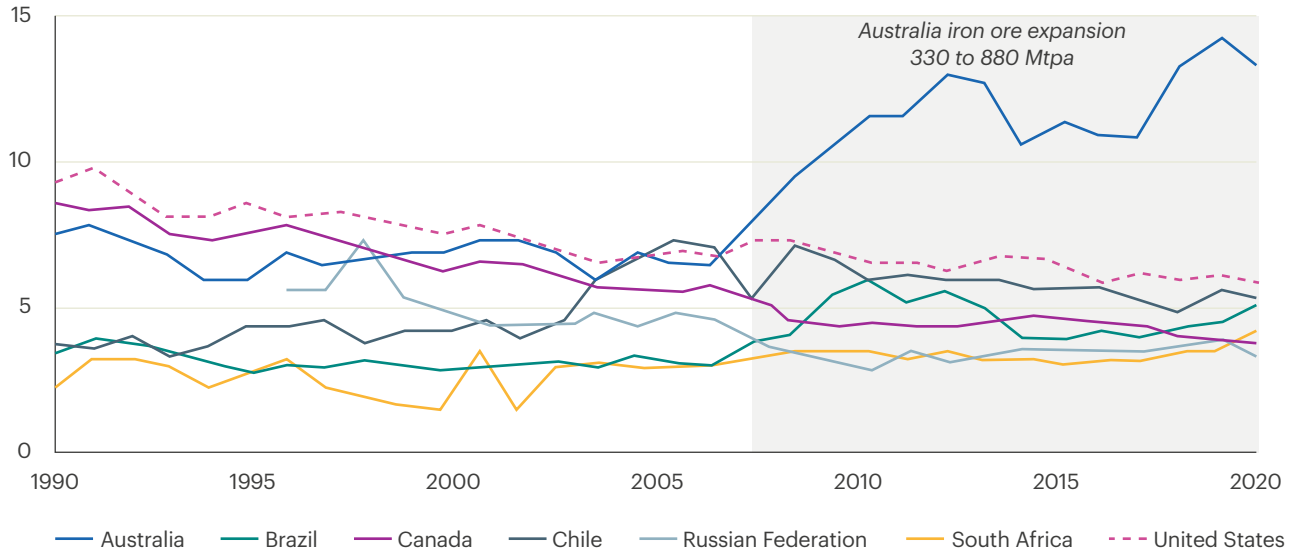
18 Department of Industry, Science and Resources (2022), Resources and Energy Major Projects: 2022.

19 Australia Trade and Investment Commission (2023), Benchmark Report 2023.

Exhibit 1

In the past 15 years, Australia has broken away from peers to clearly become the world's leading mining exporter

Share of global mining exports, by value (%)



Source: World Trade Organization (2023), WTO Stats.

Australia's success has come from its ability to rapidly scale production of foundational commodities, including iron ore and metallurgical coal, to meet demand growth spurred by the industrialisation of Asia.

Australia's mining sector is now at an inflection point as the energy transition and global decarbonisation efforts change the shape of overall demand.

Exhibit 2 shows the forward global growth rates on a subset of major commodities. The fastest growing commodities (with annual demand growth rates >5 per cent p.a.) include minerals core to electrification and batteries, such as lithium, rare earth elements (REE) and nickel, as the world increasingly transitions to electricity as a primary source of energy. In the middle group (with demand growth rates from 2–5 per cent p.a.), copper is the largest by value.

Australia has world leading but currently immaturely developed endowments across many of these faster growing commodities.

There is no question that this shift to the future in commodity demand will require huge growth in mining investment on the supply side.

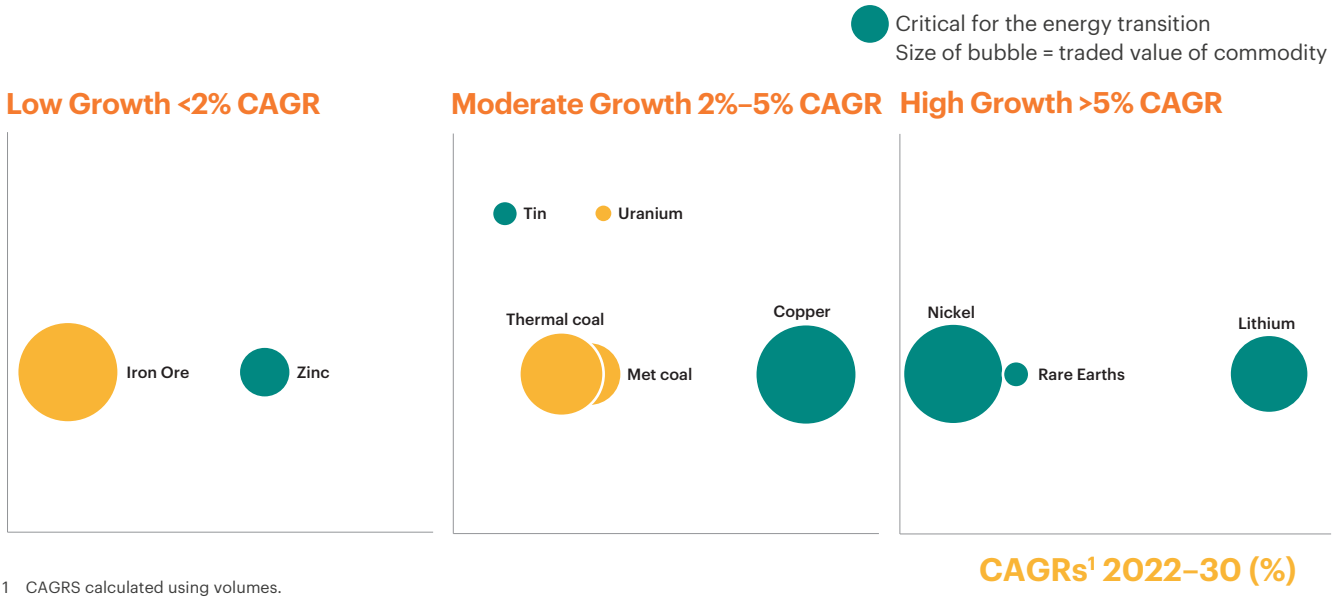
By 2030, the International Energy Agency estimates that demand for EV batteries alone will require up to 60 new nickel mines, 50 new lithium mines and 17 new cobalt mines.[20] Analysts have estimated that metal producers will need to double their capital expenditure (equal to around US$100 billion in additional annual investment) to meet demand associated with achieving net zero greenhouse gas emissions by 2050.[21] BHP, meanwhile, estimates that under a plausible 1.5 degree scenario, the copper industry alone

20 International Energy Agency (2022), Global Supply Chains of EV Batteries.

21 S&P Global Commodity Insights (2021), Metal producers will need to double capex to meet net zero by 2050: BofA.

Exhibit 2

Decarbonisation to drive strongest demand growth for lithium, rare earth elements and nickel



1 CAGRS calculated using volumes.
2 Traded value calculated using annual world commodity demand/consumption volumes and commodity spot prices in 2022.
3 Neodyminium used as proxy for REE, 2020 volumes.

Source: Minerals Council of Australia (2022), Commodity Demand Outlook 2030; Department of Industry, Science and Resources (2023), Resources and Energy Quarterly, March 2023; Wood Mackenzie (2021), Tin – the forgotten foot soldier of the energy transition.

could require around US$250 billion in growth capital over the next seven years to 2030.

The question is what share of this global demand will Australia put itself in the position to competitively supply?

With its strong endowments, Australia has a once in a generation opportunity to capture an outsized share of this investment flow, which would unlock huge economic and societal benefits for Australia and Australians.

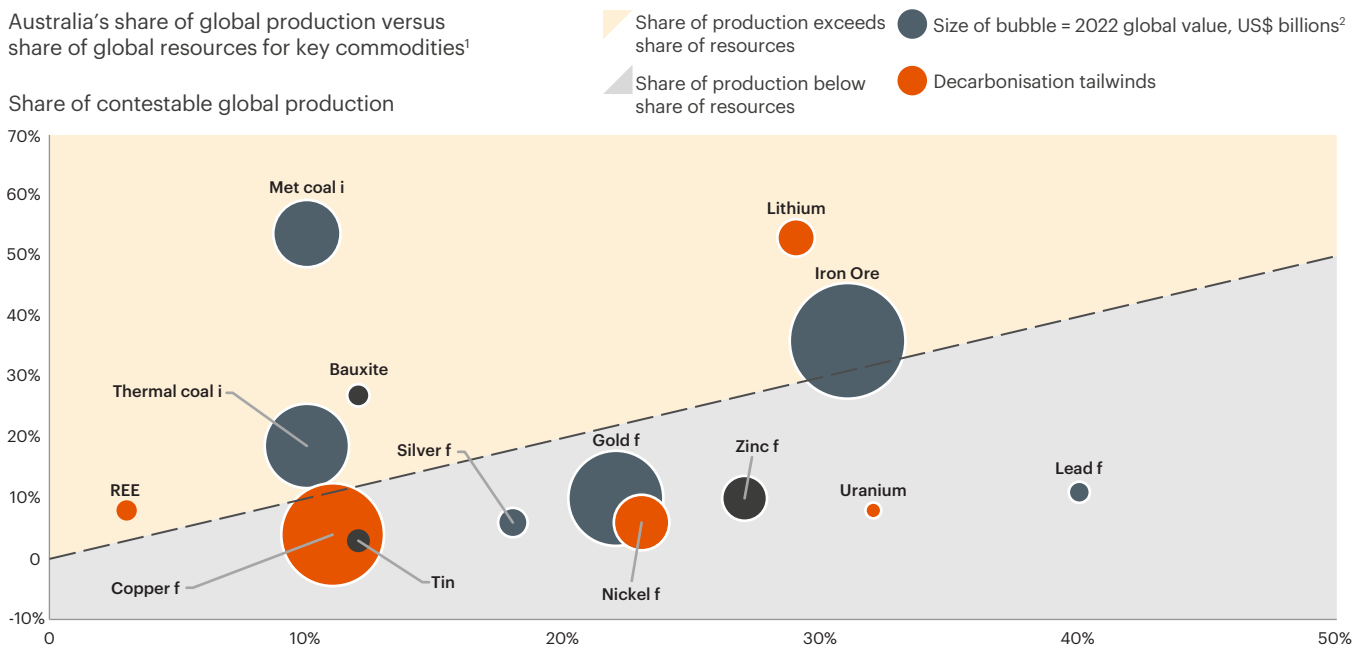
Success is not assured. It cannot be taken for granted and the costs of failure will be high and long lasting.

Australia's current share of global production is lower than its share of global resources in many future facing commodities, including in the key commodities of copper and nickel (Exhibit 3). This will need to change in order to win today's resources race and the resources race of the future.

Exhibit 3

Australia currently underperforms in commodities with strong tailwinds from decarbonisation, including copper, nickel and uranium

Australia's share of global production versus share of global resources for key commodities[1]



1 Metallurgical and thermal coal are seaborne export volumes, and shares are of seaborne exports.
2 Global value calculated using annual world commodity production volumes and commodity spot prices in 2022. REE global value referenced from IMARC Group.

Source: Department of Industry, Science and Resources (2023), Resources and Energy Quarterly, March 2023; Geoscience Australia (2021), World Rankings; Minerals Council of Australia (2022), Commodity Demand Outlook 2030; US Geological Survey (2023), Mineral Commodity Summaries 2023; IMARC (2022), Rare Early Elements Market Report by Application and Region 2023-2028.

Speed and bold action from Australia are required to win as other countries are using wide-ranging policy measures that will impact decisions on where new mines and processing facilities are located. For instance:

- In the United States, the Inflation Reduction Act creates generous tax credits for electric vehicle and battery production but makes them contingent on meeting critical minerals sourcing requirements that favour production in the US or in countries with active US Free Trade Agreements. Other provisions incentivise investments in the US in mid- and downstream processing of critical minerals.
- In Europe, a key goal of the Critical Raw Materials Act is to support the development of domestic capacities, with the EU setting clear benchmarks for the proportion of strategic raw materials that will be extracted (at least 10 per cent) and processed (at least 40 per cent) within the EU by 2030.
- In Canada, the Federal Government has published its Critical Minerals Strategy, which provides a whole-of-government approach to critical mineral development, including C$15 billion for direct support to new projects.

Chapter 2:

Australia's resource sector competitiveness

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With its privileged natural endowment and supported by strategic policy settings and decades of investment, Australia has historically been regarded as an attractive investment destination.

Looking forward, Australia's traditional strengths can no longer guarantee future success. As the global competitive landscape widens, as challenges with Australia's high-cost environment become more acute, and its reputation as a jurisdiction with stable fiscal and regulatory settings has taken some recent hits, work needs to be done to keep the country in a position to leverage its natural advantages. To remain competitive and continue to lead in the sector, Australia must proactively recapture its competitiveness and reset its current trajectory.

A framework for competitiveness

Relative competitiveness in the mining sector depends on the interplay between four major elements:

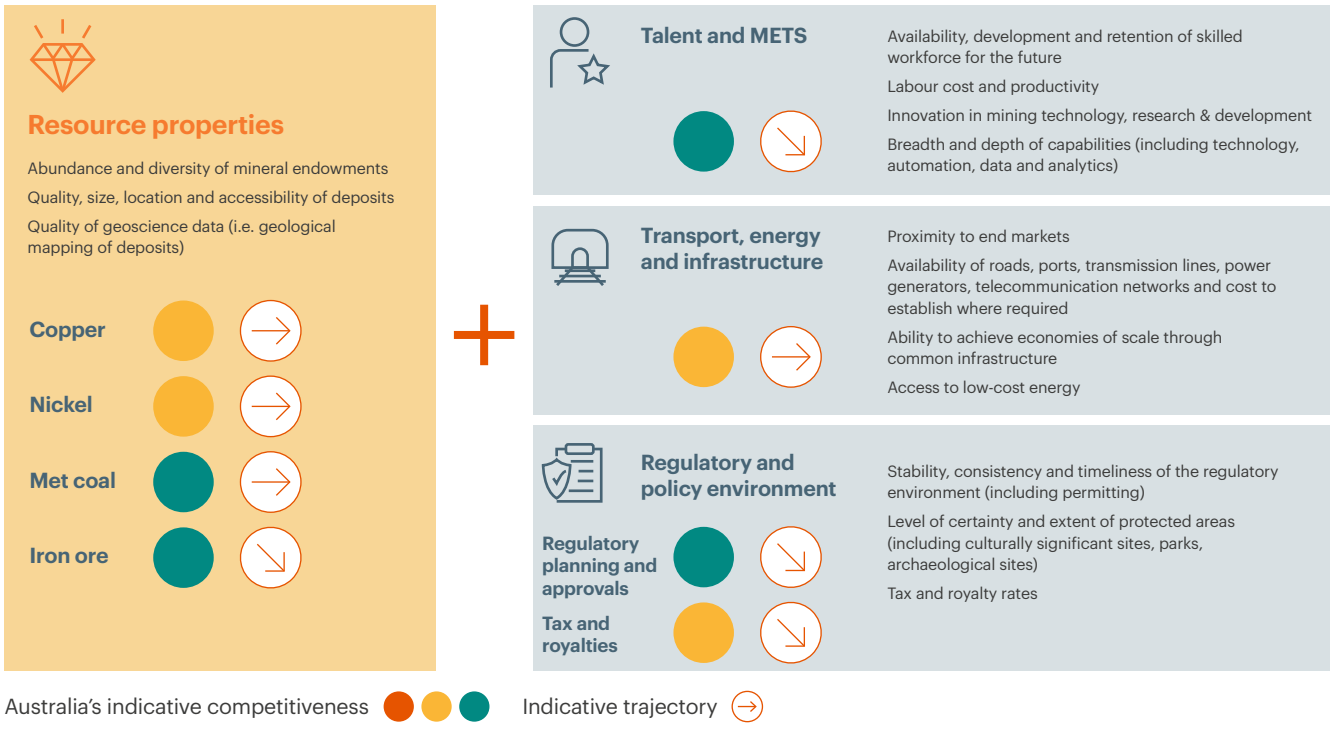
- resource properties
- talent and mining equipment, technology, and services (METS)
- transport, energy, and infrastructure
- regulation and policy environment

Over the last 30 years, Australia has enjoyed strong performance against these dimensions, entrenching its position as the leading producer of the world's most industrially important commodities and the nation has benefited from this.

The forward outlook against these dimensions is less clear (Exhibit 4).

Exhibit 4

Four elements that determine competitiveness



Resource properties

Over the last 50 years, Australia has benefited from the development of large-scale, open-pit, high-grade mineral assets. Looking ahead, the resource equation will become more challenging as mining moves to underground, lower-grade, more complex geologies.

A simple way of measuring this is to consider the ore grade and strip ratios of major commodities. A higher ore grade improves mining and processing economics, while a lower strip ratio requires less material to be moved for the same output.

Assessed against these resource fundamentals, Australia faces strong competition from other jurisdictions:

- On iron ore, Brazil has higher-quality, lower-impurity ore.
- On copper, Chile and Peru have abundant and extensive porphyry copper deposits, which are generally more suited to large-scale, open-pit mining operations. Most of the world's remaining high-grade copper deposits are in the Democratic Republic of Congo and Zambia.
- On nickel, capital and operating costs in Australia are a lot higher compared to Indonesia and New Caledonia.
- On metallurgical coal, Australia continues to have a strong position with high-quality coal. However, recent government moves to increase coal royalties as well as inflationary pressures compromise potential future developments.

Australia's talent and METS sector

Industry and governments with educational institutions and local communities have worked collaboratively and diligently over many years to build highly skilled and talented workforces. This has been a backbone of Australia's prosperous mining sector and has delivered benefits to regional and Indigenous Australians given the geographic and demographic profile of the industry's workforce.

In an increasingly automated and decarbonised world, Australia's mining sector will need new skillsets and capabilities to prosper and significant investments in re-skilling and up-skilling. This future is happening now. The pressures facing the sector globally are being felt acutely in Australia with critical workforce shortages and declining productivity. Without positive intervention, this will increase as the world decarbonises (e.g. AREEA forecasts an additional ~20,000 new mining production roles will be required by 2027, with ~20 per cent of these mining engineers[22]).

Australian talent is key to maintaining the leadership of Australian corporations in the global mining sector. Our sector's advanced operational capability, know-how, technology and workforce has been leveraged to create opportunities for Australian mining beyond our shores ever since the Californian gold rush, but today our position is slipping.

Availability of talent

There is an urgent need for talent in Australia's mining sector, with critical vacancies and a workforce that's ageing (Exhibit 5). Nearly 50 per cent of the applicable skilled engineering workforce globally will be reaching retirement age in the next decade.[23] The sector faces challenges at the top of the talent pipeline as enrolments in educational courses drop[24] and sentiment towards careers in mining continues to decline.[25]

That is why industry has been leading initiatives to attract young people in regional centres into the sector, such as the BHP FutureFit Apprentice and Trainee Program. The program allows individuals to earn a full trade qualification and gain skills in critical roles and is delivered through the BHP FutureFit Academy in conjunction with respected Registered Training Organisations, CQUniversity Australia and North Metropolitan TAFE (Perth).

The model has proved successful, producing a pipeline of highly skilled, diverse and job-ready talent who move on to permanent, well-paid jobs at the completion of their training. In 2022, 80 per cent of FutureFit students were female, 20 per cent Indigenous and retention was more than 83 per cent. BHP has committed A$300 million to fund 2,500 FutureFit places over five years, but the ability to expand further through government co-investment is limited by complex vocational education funding arrangements at state and federal level.

It is also why industry and government collaboration on innovative measures to drive greater engagement with work in key regions is important. As part of the Australian Government's Future of Work program, BHP has funded the Regional Education and Skills Program to support skills development in regional Australia. The program provides eligible students with a financial contribution towards their tuition fees for a course of their choosing.

Decarbonisation efforts in Australia will radically increase the demand for electrical and trade skills and implementing more technology in the continued shift towards automation and digitisation will require higher order capabilities across technology fields, control systems, analytics and data science.

22 Australian Resources and Energy Employer Association (2022), Resources and Energy Workforce Forecast 2022–2027.

23 Deloitte (2023), Tracking the trends 2023: The indispensable role of mining and metals.

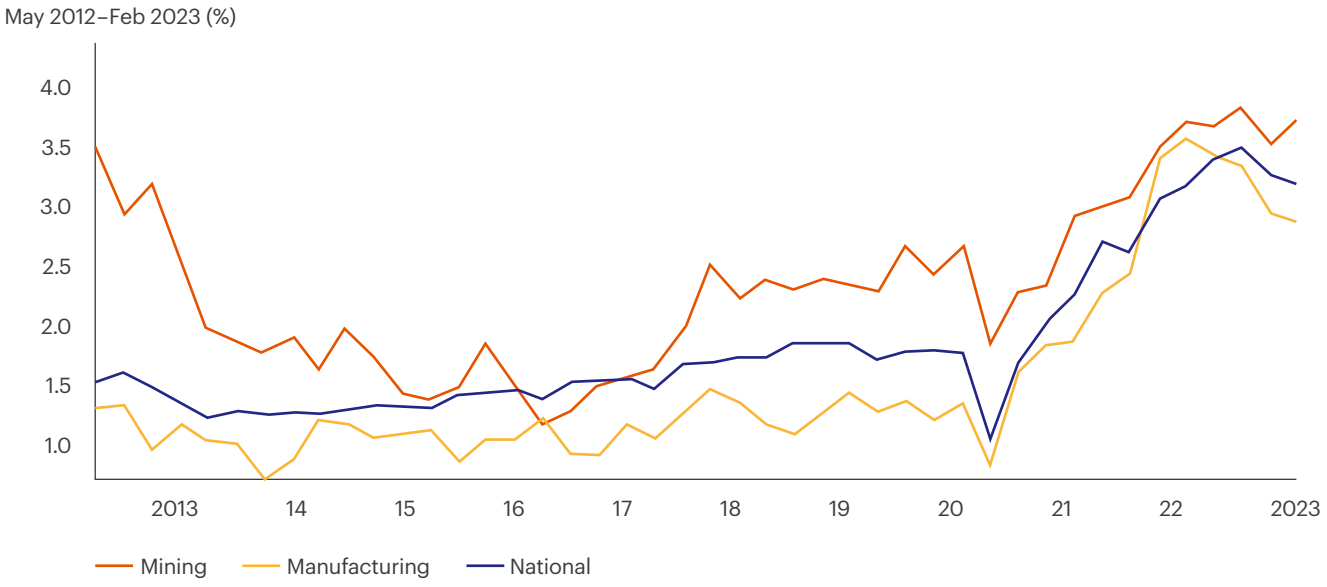
24 For example, Professor Peter Knights has estimated that the number of Australian mining engineer graduates has declined from its peak of 333 in 2015 to 87 in 2021 – a drop of nearly 75 per cent. Minerals Council of Australia (2022), The Digital Mine: A review of Australia's mining innovation ecosystem.

25 For example, a recent survey conducted over Australia, Canada, Latin America, South Africa and the United Kingdom found that just 15 per cent of students said they would be 'very interested' in pursuing a career in mining, and only 54 per cent of students indicated they saw mining as an essential part of the global climate solution. BDO (2022), Attracting the Next Generation: Turning sceptics into changemakers.

Exhibit 5

Job vacancies in the mining sector are at a record high and climbing

Vacancies of employment in mining, manufacturing and total employed persons



Source: Australian Bureau of Statistics (2023), Job Vacancies, Australia, February; Australian Bureau of Statistics (2023), Labour Force, Australia, March.

One of the reasons Australia struggles to access the mining talent it needs to support the sector is because it does not recognise certain licenses and qualifications obtained overseas, and in some cases, requires trade candidates to undergo additional validation. Australia's Permanent Residency (PR) regime is also a major challenge when competing with countries like Chile, which do not have limitations on who can apply for PR as Australia does. For employers, the required labour marketing testing can often be complex and challenging to navigate in a way that is not experienced by Australia's competitors. Singapore, Canada and New Zealand allow for roles to be advertised for less than half the time that Australia does.

While the Australian Government's proposed migration reforms[26] are welcome progress, further reform will be necessary to improve Australia's ability to compete with countries like Canada and New Zealand for superior talent.

26 Department of Home Affairs (2023), The Migration Strategy.

Women in STEM

Capability in science, technology, engineering and mathematics (STEM) builds new industries, makes Australia internationally competitive and supports high living standards.

While the demand for STEM professionals is strong, there are not enough people with STEM skills and qualifications. Australia's talent pool is limited, in part, by the underrepresentation of half of Australia's population, girls and women, in STEM education and careers. The causes of poor attraction and retention of girls and women in STEM begin from an early age and compound as progression to more senior careers are made. At the tertiary level, both at universities and in vocational education and training (VET), underrepresentation in information technology (IT) and engineering education is significant.[27]

The benefits Australia stands to gain from increasing female participation in STEM are extensive. At a workplace level, research 'has shown that gender diverse businesses are more productive and prosperous, and industries with access to more employees with STEM skills are more adaptive and innovative'.[28] At an economy level, increasing the share of women in the STEM workforce is an important step that countries can take to address talent gaps and unleash the innovation and growth potential of STEM-dependent industries.[29]

The Australian Government is currently exploring how best to support greater diversity of STEM-skilled Australians across all levels of the country's STEM sector.[30] We look forward to the outcomes of this review.

To support a national effort to address underrepresentation the BHP Foundation, a charitable organisation funded by BHP, developed innovative partnerships to improve STEM outcomes for key target groups. Over A$55 million has been committed by the Foundation to Australian programs to increase interest and academic achievement in STEM subjects and related professions.

More broadly, BHP is committed to providing a safe, inclusive and diverse workplace. In 2016, we announced our aspirational goal to achieve gender balance by CY2025. Since then, we have increased the representation of women working at BHP from 17.6 per cent to 35.2 per cent. There are over 10,000 more women now working at BHP than when we first set our aspirational goal.

Access to childcare

The provision of high-quality and affordable childcare will be critical to Australia's future success. It will help strengthen learning and development outcomes for children, especially those from disadvantaged backgrounds. It will also underpin the country's economic prosperity by enabling greater workforce participation.

BHP supports the objective of the Australian Government to build a world-class early childhood education and care system, particularly one that encourages women from across the country to re-enter the workforce.

While BHP supports the Government's recent reforms to increase and extend the childcare subsidy, we believe supply-side measures are also required – particularly in regional Australia where access to childcare is a daily challenge for local families, including our workforce.

Families can wait up to two years for a childcare place in Newman and Port Hedland, in Western Australia and in Roxby Downs in South Australia. In Queensland, an assessment commissioned by BHP identified significant childcare shortages in Moranbah, Dysart, Blackwater and Emerald.

BHP has funded a range of initiatives to improve access to childcare in these communities, recognising both the importance of early years' education as well as the barrier its absence creates in attracting and retaining a regional workforce. Our initiatives include social investments to help with educator recruitment, training and retention, as well as more direct interventions that will see BHP housing stock converted into family day care centres.

Productivity

The cost of mining operations in Australia has increased acutely in the past two decades. Labour productivity has remained flat compared to a 34 per cent increase across all sectors, while labour costs have doubled, outpacing growth in other industries (Exhibit 6).

Australian mining provides highly skilled, highly paid and secure jobs for workers who make a significant contribution to Australia's economy. Their compensation reflects these facts and is a source of pride for the sector. It has also led to one of the highest average salaries in the sector globally. For example, average monthly earnings in Australian mining are 16 per cent higher than in the United States and 21 per cent higher than Canada.[31]

Australia's decline in productivity is not unique relative to our peers, but with one of the highest labour costs in the world, the productivity of the workforce is a critical driver of competitiveness. Unlocking value within the resources supply chain requires a workplace system that allows for businesses to work with employees in each workplace to increase productivity, while also providing the most competitive wages and conditions to attract and retain talent.

27 For example, in 2021, women comprised only 18 per cent of university course completions in 'engineering and related technologies' and 23 per cent in 'information technology'. Department of Industry, Science and Resources (2023), Stem Equity Monitor.

28 Australian Government (2019), Advancing Women in STEM Strategy.

29 For instance, recent analysis estimated that if Europe could double the share of women on the technology workforce to about 45 per cent, it could benefit from a GDP increase of as much as €260–600 billion (or roughly 2–4 per cent of the EU's 2022 GDP). Sven Blumberg, Melanie Krawina, Elina Mäkelä and Henning Soller (2023), Women in tech: The best bet to solve Europe's talent shortage.

30 Department of Industry, Science and Resources (2023), Pathway to Diversity in STEM Review.

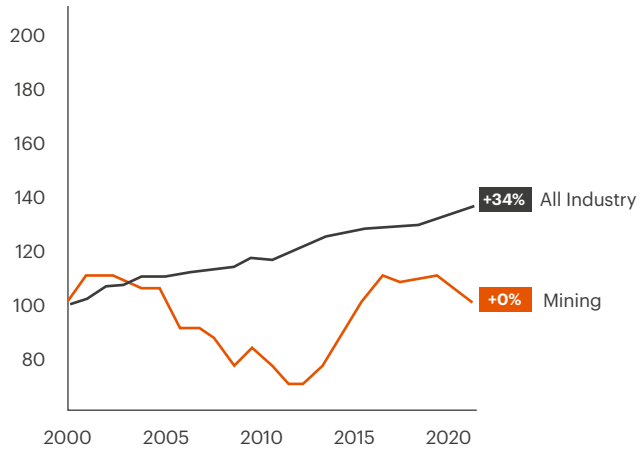
31 For 'mining and quarrying' across all persons in 2020. International Labour Organization (2023), Average monthly earnings of employees by sex and economic activity – Annual, Wages and Working Time Statistics Database.

Exhibit 6

Wages have doubled in mining since 2000 despite flat productivity

Australian Labour Productivity Indexes

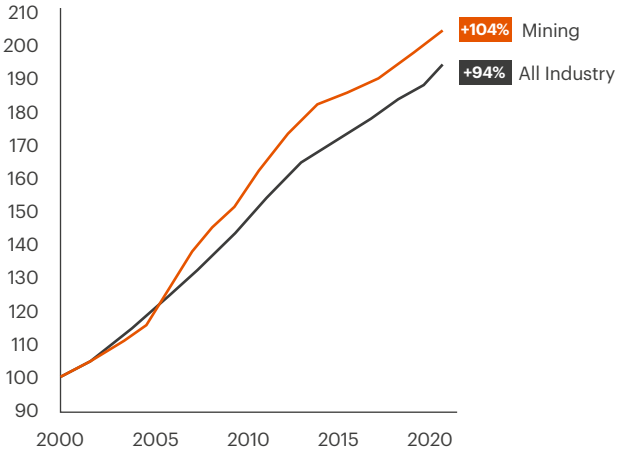
Mining, All industry sectors
GVA per hour worked, Indexed to 1999–00



Australian Wage Indexes

Mining, All industry sectors
Indexed to 1999–00

XX Change 2000–22



Source: Australian Bureau of Statistics (2022), Labour Productivity, Australia, October; Australian Bureau of Statistics (2023), Wage Price Index, Australia, February.

METS

Australia's METS sector is widely regarded as one of the most successful in the world and is estimated to contribute approximately A$90 billion annually to the Australian economy.[32] Australian METS companies have a competitive edge in areas of increasing global importance, including sustainable environmental management and safety experience (mine closures, mine site rehabilitation, groundwater conservation, mine safety).

Australian METS companies are well placed to meet growing demand for technology and services that improve productivity, efficiency and safety, and have scope to expand internationally, including helping build the downstream nickel processing sector in Indonesia.

The pace of technology development and adoption continues to accelerate. Australia is well positioned to lead potential technology-driven disruption, which could shift our position on the cost curve, modify or displace cost curves and affect the attractiveness of certain commodities. A strong Australian METS sector has a central role to play in enhancing Australia's mining sector competitiveness. Innovation from Australian METS companies to develop new sensor and imaging technologies for identification and analysis of deposits under cover could disrupt exploration and potentially unlock new deposits of future-facing commodities.

Environmental sustainability requires innovation in new methods to assist in decarbonising the mining industry. Advanced extraction methods will be critical for Australia to extract more from its mineral assets with a reduced environmental impact and to mitigate declining ore grades across deposits. Automation, robotics and analytics presents an opportunity to apply data at scale.

Continued investment into the METS sector will be critical to rebuilding Australia's competitive edge. Other countries are taking steps to boost their innovation rate. Canada is deploying close to $C200 million via its Critical Mineral Strategy for critical mineral research and development, and the deployment of technologies and materials to support critical mineral development for upstream and midstream segments of their value chains (including via Canada's research labs).[33]

32 METS Ignited (2023), METS in Australia.
33 Canadian Government (2022), The Canadian Critical Minerals Strategy.

Infrastructure

To build new mines to supply the world's growing demand for minerals, Australia will need large-scale investment in supporting infrastructure, including transport, power, water and social infrastructure in key basins where resources are located. Given the remote locations of many of these projects, government and industry must coordinate their long-term strategic planning and de-risk infrastructure development through shared financing, including through public-private partnerships.

Mining basin development in Australia

Meeting the increasing demand for minerals can be achieved by expanding existing geological basins or developing new ones, which may require new connecting infrastructure in remote or arid regions.

Australia has been incredibly successful in opening up existing basins in the last 20 years, such as the Pilbara basin expansion. Approximately 10 mining basins have been the focus of Australian mining to date, with a focus on iron ore, metallurgical coal and copper but some high potential Australian basins remain less developed.

Challenges to expansion

A focus on further infrastructure build-out, particularly where large clusters of minerals are co-located, could make a significant contribution to the competitiveness of Australia's mining sector and its ability to contribute to Australia's prosperity.

New infrastructure will create optionality for new mining developments in the future, particularly for critical minerals, with the potential to open up entire new basins in formerly non-economic areas. However, there are challenges in adding new infrastructure, such as environmental, biodiversity and heritage considerations, distances to ports and the ready supply of energy and water.

For existing basins, there is often a case for private sector incremental infrastructure build-out, while more ambitious developments in new basins may require public-private collaboration to share costs and risks. To ensure efficient infrastructure development, Australia needs long-term strategic planning by both government and industry, such as a national resources development strategy that includes data, resources and future demand, land use, infrastructure, policy and sector development.

The Gawler Craton is a remote mineral region northwest of the Eyre Peninsula in South Australia. The region, which extends into the Woomera Prohibited Area, contains extensive copper, gold, silver and iron ore deposits, including Olympic Dam, one of the world's largest copper and uranium deposits.

Geological surveys indicate that potential deposits in the Woomera Prohibited Area and its surrounds are valued at up to A$24 billion,[34] and infrastructure development plays a key role in unlocking this value. Potential infrastructure development includes:

- Additional water supply, since mines in northern South Australia rely on saline groundwater from the Great Artesian Basin and other small local aquifers. The availability and security of the water supply constrains the expansion of mining activity in the region; and potential options to address the proposal include new sustainable water sources, such as coastal desalination with associated pipeline and distribution infrastructure.
- Additional baseload electricity generation capacity, necessitating the construction of an electricity transmission line from existing infrastructure at Port Augusta or generation on mine sites via power stations.
- Additional transport infrastructure, such as a rail line, to connect to the national rail network and move product and supplies to nearby ports by rail rather than road.

The public and private sectors have come together on the South Australian Government-led Northern Water Supply Project (NWSP) that, if completed, will deliver a new sustainable water source all the way to the state's north, through a desalination plant near Whyalla and a supporting pipeline network. This economically significant project will underpin South Australia's development of a global minerals province and unlock the potential for valuable new clean industries, such as hydrogen and green steel. The NWSP also facilitates significant community investment while protecting cultural values and delivering environmental benefits to the River Murray and the Great Artesian Basin.

BHP is proud to work with the South Australian Government and other private and public sector partners on this nation building project.

Internationally, the Canadian Critical Minerals Strategy recognises the importance of infrastructure development and includes C$1.5 billion allocated over seven years for energy and transportation projects to unlock priority mineral deposits for critical minerals projects in remote areas, such as the Ring of Fire in northern Ontario.[35]

34 This comprises an estimated net value of A$5.9 billion for present known resources and between A$6.4 billion and A$19 billion for future possible mines. Department of Industry, Science and Resources (2019), Economic assessment of mineral resources within the Woomera Prohibited Area.

35 Canadian Government (2022), The Canadian Critical Minerals Strategy.

Policy and regulatory environment

It's important that the regulatory and policy environment for the mining sector reflects the reality of Australia's declining relative resource position in traditional commodities, such as iron ore, and its challenging starting position in future-facing commodities, including critical minerals.

Pro-competitive policy and regulatory actions Australia has taken at both the federal and state levels over the last 30 years should be applauded – it's led to Australia being one of the most attractive countries in the world for mining investment (Exhibit 7). Australia has historically distinguished itself on stable rule of law, low sovereign risk, clear process for granting mining tenure, high security of tenures (subject to compliance) and transparent taxes, royalties and duties.

However, recent royalty changes in Queensland have challenged global sentiment on Australia's stable fiscal policy settings, at a time when Australia's overperformance on this dimension of competitiveness is critical.[36]

Tax and royalties

BHP believes tax systems should be effective, efficient and competitive, in order to support economic growth, job creation and viable long-term tax contributions.

BHP recognises taxes are important sources of government revenue and are central to the fiscal policy and macroeconomic stability of countries. Paying the right amount of taxes and royalties enables governments to finance and deliver on national development plans for the benefit of the broader community to promote sustainable economic growth, full and productive employment, and reduce poverty and inequality within and among countries.

BHP also believes it is important that a country's tax policy settings remain stable to provide businesses with the certainty needed to invest and continue to operate and support the communities in the countries where they operate.

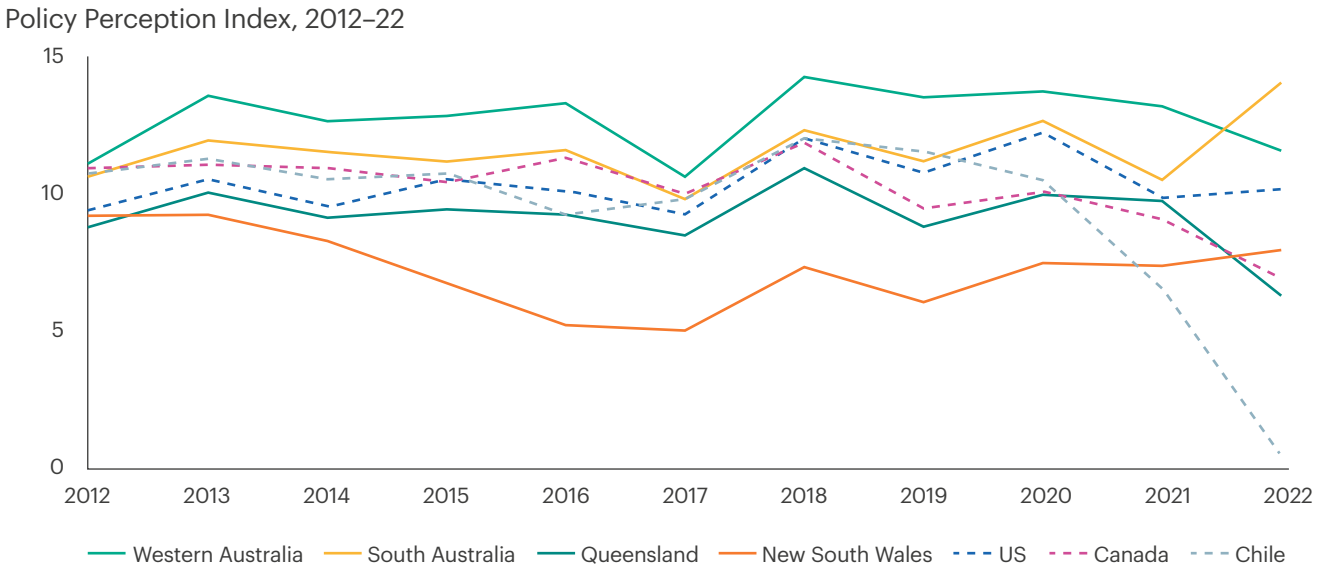
One of the key factors influencing the international competitiveness of a country's tax regime is the total effective tax and royalty rate on profits. After returning excess cash to our shareholders in the form of dividends or share buy-backs and ensuring our balance sheet is strong, BHP invests back into our business and community. We have global competition for limited capital across our many investment opportunities around the world. When we assess which projects we will invest our capital in, tax competitiveness is an important consideration.

We make long-term investment decisions. Therefore, economic, political and fiscal factors impact investment decisions and long-term operational strategies that span multiple years. Stable and competitive tax systems are critical factors in determining whether the long-term returns associated with an investment are commensurate with the various risks associated with that investment.

Our assessment of the stability of tax regimes is a critical factor in assessing the risks associated with particular projects.

Exhibit 7

Despite historically strong performance, Policy Perception Index has trended downwards in Queensland in recent years



Source: Fraser Institute (2023), Annual Survey of Mining Companies, 2022.

36 For example, the Japanese Ambassador to Australia has noted that the Queensland Government's royalty increase could have 'widespread effects on Japanese investment beyond the coal industry' in Queensland. Andrew Tillett (2022), 'Japan warns Queensland over rise in coal royalties', Australian Financial Review, 6 July.

Capital investment is an important factor in determining economic growth and reflects a competitive economy. Australia had one of the strongest investment performances around, but has declined since 2015. The country also has one of the poorer investment records among OECD countries.[37] This has translated into weaker private sector investment nationally and a flattening of capital stock in the mining sector (Exhibit 8).

There are numerous factors in determining levels of investment, one of which is our tax mix. Australia needs to consider the right mix of taxes and the overall tax burden levied in order to make our country more competitive, while delivering the broader societal objectives as outlined above.

We maintain that the objective of future tax reform in Australia should be focussed on moving from less efficient taxes to more efficient ones, so the average economic burden of raising each dollar of revenue falls. Ultimately, this will require a tax mix that overall reduces the tax burden on investment, working and other highly valuable and productive activities. It is important while increasing Australia's competitiveness should be the primary goal of tax reform, the tax system must remain equitable, stable and as simple to administrate as possible.

Permitting and approval processes

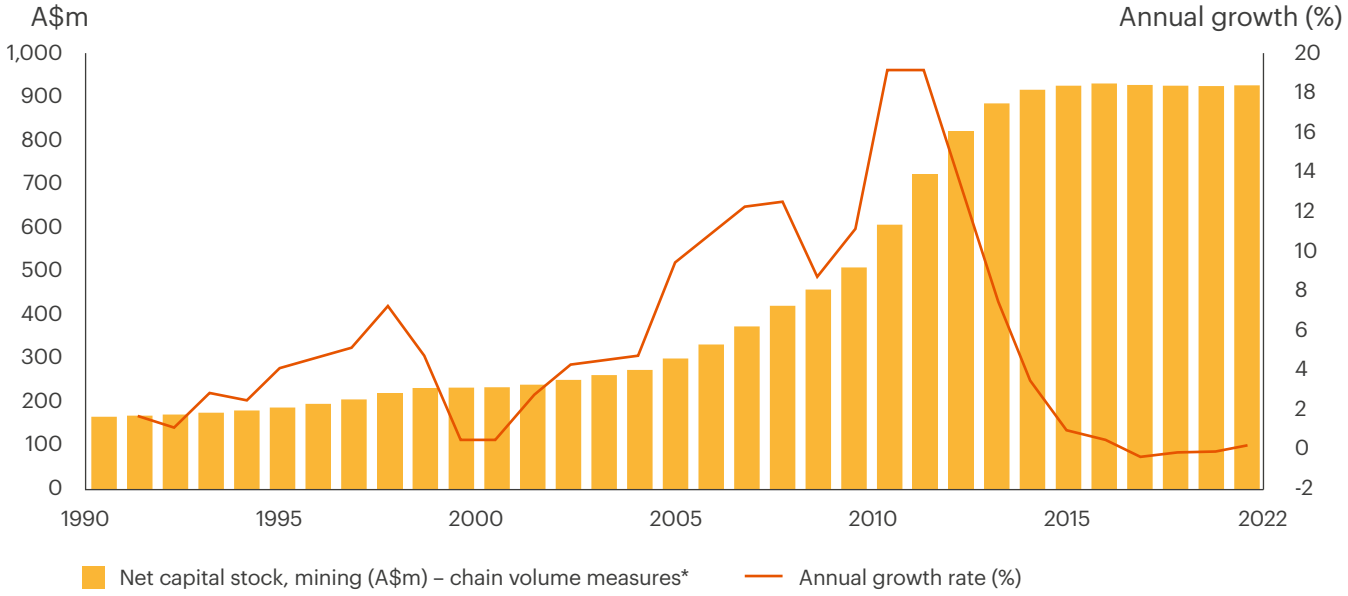
Environmental protection regulation is increasing in Australia following a major review of environmental laws (the Samuel review[38]), the proposed replacement of the Environmental Protection and Biodiversity Conservation (EPBC) Act with the Nature Positive Act, and a commitment to a new Commonwealth Environmental Protection Agency. There is also greater recognition of the rights and interests of Indigenous peoples as enshrined in the United Nations Declaration on the Rights of Indigenous Peoples; many states are also considering, or have implemented, enhanced Indigenous heritage protection laws.

High standards in environmental and social permitting are welcome and essential. However, it is important that these aims are achieved without increasing complexity and leading to significant permitting delays. Australia's recent approach falls short on these measures.

Exhibit 8

Net capital stock in mining has been flat over the last five years

Net capital stock based on chain volume measures (effects of price changes removed)



Source: Australian Bureau of Statistics (2023), Australian System of National Accounts, Table 63

37 Philip Bazel and Jack Mintz (2021), '2020 Tax Competitiveness Report: Canada's Investment Challenge', SPP Research Paper, Vol 14 (21), September.

38 Graeme Samuel (2020), Independent Review of the EPBC Act – Final Report.

As the Samuel Review and previous reviews by the Productivity Commission[39] have noted, current permitting processes are 'complex and cumbersome'; adding costs to business 'often with little benefit to the environment'.[40] Key drivers of burden for the mining sector include duplication between federal and state requirements, new obligations and increasing data requirements, slow decision-making and public appeals and legal challenges being used as a tool to delay projects and drive up costs.

It was estimated in 2020 that, on average, complex resource-sector projects can take nearly three years, or 1,009 days to assess and approve.[41] In jurisdictions like Western Australia, we have seen approval timelines push out by a further 12–18 months in recent years, due largely to the introduction of new requirements relating to greenhouse gases and stakeholder consultation, particularly for social surrounds requiring further engagement and involvement of Traditional Owners in review of proposals.

Lengthy assessment and approval processes are not all the result of a slow regulator. On average, the process is under the management of the proponent for 70 per cent of the total assessment time. This is indicative of the time taken to navigate current requirements and collect the necessary information for assessment documentation. This is compounded by loss of experienced personnel within environmental regulators and an increasingly conservative approach being applied to assessments requiring more detail to enable decisions.

Delays, regardless of when and why they occur, can cause significant damage to the Net Present Value of individual projects and damage Australia's competitiveness as an investment destination.

The Australian Government is about to embark on a significant change to its environmental legislation. The proposed transition from the current process-based EPBC Act to the new standards-based Nature Positive Act, if not managed appropriately, has the potential to make permitting processes even more complex, increasing regulatory burden, approval timelines and litigation risk as well as increasing the cost associated with offsetting impacts. Because of this we strongly encourage the Government to ensure the reform process is not rushed and that all stakeholders are continued to be offered the opportunity for meaningful consultation to enable workable outcomes.

ESG disclosure regulation

Australia can realise additional future value from its resources by ensuring consistently high adherence to ESG standards and transparency around ESG reporting across all companies operating in Australia, differentiating Australia as a high-quality producer.

Industry is committed to supporting better ESG outcomes and capturing associated value, with robust disclosures providing an important foundation. Indeed, many of Australia's major miners are already reporting against international standards in the absence of binding legislation in Australia. More should be done to incentivise all companies operating in Australia to adhere to consistently high disclosure and reporting standards to improve transparency for investors, stakeholders and communities.

The Federal Treasurer has flagged significant reform in this area and there is considerable work underway to lift Australia to the global benchmark that is critical to ensure there is not only adherence to emerging global ESG disclosure standards but also continued access to capital and markets.[42]

Investors are increasingly looking to the disclosures made by companies under international voluntary ESG reporting frameworks to make investment decisions. Regulators are responding to this globally by introducing mandatory reporting requirements, including mandatory reporting under the Task Force on Climate-related Financial Disclosures (TCFD) framework (including in the UK, Singapore, Switzerland and New Zealand), the EU's Sustainable Finance Disclosure Regulation (SFDR) and Corporate Sustainability Reporting Directive (CSRD) and the US Securities and Exchange Commission (SEC) proposed ESG disclosure requirements for companies. In Australia the Federal Government confirmed its intention to introduce a mandatory climate-related financial disclosure regime to be aligned with the standards developed by the International Sustainability Standards Board (ISSB).

The ISSB aims to develop a global comprehensive baseline for sustainability and ESG reporting standards. In June 2023, the ISSB released its inaugural standards: IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1) and IFRS S2 Climate-related Disclosures (IFRS S2). The new IFRS S1 and S2 standards aim to improve coherence between sustainability disclosures and financial reporting. Australia has indicated that its mandatory reporting regime would seek to align with IFRS2 and commence from FY2025 for certain companies (Group 1).

In terms of development of further voluntary standards, the Taskforce on Nature-related Financial Disclosures (TNFD) released its standard in September 2023 amid lots of investor interest. Many large corporations are working towards

39 For example, Productivity Commission (2020), Resources Sector Regulation.

40 Graeme Samuel (2020), Independent Review of the EPBC Act – Final Report.

41 Ibid.

42 Jim Chalmers (2023), Address to the Australian Financial Review Business Summit, Sydney.

disclosure against this standard from FY2025, and it is possible that similar regulatory moves may be made in the future to make reporting against TNFD criteria mandatory.

In the mining industry, the sector-specific Extractive Industries Transparency Initiative (EITI) is a global anti-corruption standard for the good governance of oil, gas and mineral resources, including management of government revenues.

Similarly, the Minerals Council of Australia adopted the Towards Sustainable Mining standard developed by the Canadian Mining Association in March 2021, to lift the ESG performance of the mining industry in Australia.

To date, Australia has not legislated mandatory compliance to these emerging global ESG standards, with potential consequences for future capital and market access. For example, Australia is yet to implement EITI domestically, a position at odds with industry[43] and many other jurisdictions. The introduction of mandatory climate-related financial reporting in Australia will assist in ensuring Australia remains aligned with international capital markets provided the regime aligns with the global baseline set by the ISSB to create a common set of requirements rather than ad hoc requirements that may differ across jurisdictions.

Decarbonisation regulation

Australia has legislated the target of reducing greenhouse gas emissions by 43 per cent below the 2005 baseline by 2030 and net zero emissions by 2050. To put Australia on this pathway and help deliver on this target, the Australian Government has reformed the Safeguard Mechanism so that large industrial facilities now face gradually tightening requirements to reduce their Scope 1 greenhouse gas emissions.

The changes to the Safeguard Mechanism are welcome, particularly as they embed a market-based approach to incentivise emission reductions, with built-in flexibility to help covered facilities manage their compliance obligations.

The reforms, however, do have a key limitation: they only apply to large industrial facilities – facilities that typically have few cost-effective abatement options in the short term. As the Productivity Commission and others have noted,[44] if more sectors of the economy were covered by a market-based requirement to reduce their emissions like the Safeguard Mechanism, it would improve the efficiency of Australia's overall abatement task.

Enterprise bargaining regulation

Enterprise bargaining should not stifle the innovation and business transformation that is needed to ensure a stronger economy as Australia navigates an increasingly complex geopolitical environment. Our system should allow businesses to evolve and continuously improve.

Enterprise bargaining should not undermine full employment or job creation but should be aimed at increasing productivity, while ensuring fairness. An adversarial system with entrenched workplace conflict needs to be avoided. Reforms to the system should be based on mutual trust and goodwill.

The Australian Government is currently pursuing far-reaching change to Australia's system of workplace relations through its Fair Work Legislation Amendment (Closing Loopholes) Bill 2023 (Bill). *We* are strongly opposed to the 'regulated labour hire arrangement' (or Same Job Same Pay (SJSP)) provisions of the Bill.

At an economy-wide level, SJSP will compound existing productivity challenges, particularly in the mining sector where wage growth has consistently outstripped productivity growth. Productivity happens when employers have the capacity to invest and innovate, train workers, upgrade machinery and adopt new technology. It enables our economy to produce more and ultimately drive higher living standards. By fixing labour costs in any particular location to the highest rates of pay – without corresponding productivity gains – SJSP will create unsustainable cost pressures that will further erode Australia's competitiveness as an investment destination.

At an enterprise level, SJSP threatens the ability of businesses to compete by removing the link between wages and productivity while also taking away the ability to reward employees' experience, high performance, innovation and success. It will disincentivise the creation of permanent jobs by locking in workforce costs at highest common denominator rates set in peak market periods.

At the workplace level, SJSP fails to recognise the wide range of other factors that help determine a person's pay, including skills, experience, reward for hard work as well as the positive role of performance-based pay or incentive arrangements or consider the wide range of other factors that help determine a person's pay. With the potential for ongoing disputes about relative rates of pay between colleagues, SJSP is likely to promote disharmony in workplaces alongside the increased risk of industrial disputes.

We urge the Government to focus its reform agenda on measures to address the circumstances of exploitation of vulnerable workers in low-paid sectors of the labour hire workforce, consistent with the original stated intent of its policy.

43 Christopher Knaus (2021), 'Australia's failure to act on tax transparency is at odd with miners and minerals lobby', The Guardian, 14 September.

44 Productivity Commission (2023), 5-year Productivity Inquiry: Advancing Prosperity.

Chapter 3:

Unlocking the potential of Australia's mining sector

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Australians prosper when the mining sector prospers. To guarantee the future success of Australian resources and the future prosperity of the Australian people, the mining sector and governments must work together to improve our competitiveness and unlock our full potential.

If Australia could increase its production of critical minerals (including nickel and copper) to equal its share of global reserves, this could require approximately A$20 billion in annual investment, roughly double the size of the current pipeline (Exhibit 9). This would be in addition to the tens of billions of dollars of investment, Australia is already posed to attract for projects relating to its more established commodities, like iron ore and gold.

This scale of investment generates a large amount of high-wage, largely full-time employment, particularly in regional and remote areas. Ninety per cent of the project pipeline will create jobs in outer-regional, remote or very remote Australia. It creates pathways for Australians, including Indigenous Australians, living in those areas that would otherwise not exist. It creates a supporting ecosystem of construction, transport, accommodation and other sectors. It underpins tax revenue that pay for services accessed by all Australians. And it unlocks prosperity for all via the equity ownership that Australians have in the mining sector.

A unique and Australian vision for the sector combined with shared economic and social objectives and responsibility should be set in the context of the changing world. This should contain a unifying strategy and 'umbrella' targets that define a growth aspiration (spanning economic and social value). In so doing, it will provide industry with more certainty for planning and investment, help to guide federal and state policymaking and shape the roles the public sector can play, and give communities greater confidence in Australia's economic future.

Coordinated action will not only benefit the economics of mining projects, but also signal to global markets Australia's intent to enhance its position as the premier mining investment destination. This would have a flow on effect to improve the viability of further downstream activities, such as beneficiation and processing, which could enable Australians to capture additional economic benefit from the country's endowments.

Exhibit 9

Australia could capture A$19 billion of annual investment to support growth in future-facing commodities

13%

Australia's **value share of critical minerals**

Global reserve value of critical minerals,[1] including copper and nickel

A$19bn

Australia's potential **share of annual** critical mineral **investment**

Estimated value of critical minerals investment based on Australia's share of reserves[2]

A$10bn

Australia's annual **current** critical mineral **investment pipeline**

Estimated value of critical minerals investment per annum through to 2028[3]

1. 2022 price values referenced from USGS for all commodities, except copper, nickel, lithium where DISER source is used. Australian and global reserve data not available for the following critical minerals: high-purity alumina, beryllium, bismuth, gallium, germanium, hafnium, helium, indium, rhenium, scandium, silicon. Prices not available for magnesium. Australian reserves data not available for: graphite, niobium, PGM, tungsten. Bauxite included in share value and used as a proxy for high-purity alumina due to its ability to be further refined to high-purity alumina.
2. Based on A$150 billion (US$100 billion) in annual mining investment required to meet future global demand for minerals to achieve net zero by 2050 and Australia's 13 per cent value share of global critical mineral reserves.
3. Bauxite and high-purity alumina assumed to be included in critical mineral investment pipeline. Excludes completed projects, and oil and gas, hydrogen, infrastructure projects.

Source: Geoscience Australia (2023), Critical Minerals List; Department of Industry, Science and Resources (2022), Resources and Energy Major Projects: 2022; US Geological Survey (2023), Mineral Commodity Summaries.

Four critical pillars

The following four outcomes (and associated potential actions) are critical to putting Australia's mining sector on a path to greater competitiveness and greater prosperity. Each outcome requires agreement and coordinated work between government and industry, underpinned by collective responsibility, clear expectations and shared contributions.

Fiscal stability and competitive taxation

Fiscal and regulatory stability, including competitive taxation settings, is a critical prerequisite in attracting maximum levels of investment into Australia.

Sudden and unexpected increases in taxation and royalties damage investor confidence in Australia as an investment home. Considered consultation with industry should take place. Taxes and royalties should also be benchmarked against other leading mining jurisdictions to ensure Australia remains in sync or does not exceed OECD averages.

Industry can also elevate and articulate the case and opportunity with government to ensure the investment signals that exist in our fiscal framework support capital flows that align with national priorities, such as critical minerals, electrification, infrastructure development and innovation.

Robust, transparent and streamlined permitting

There should be no trade-off between high permitting standards and approval times. Federal and state governments should work together to ensure roles and accountabilities are clear and approval processes are optimised to achieve shared outcomes that support community building and ESG requirements with shorter elapsed approval times.

Developing a risk-based approach to permitting, for example providing expedited processes for operators with strong track records of operation in a given region, could have dual benefits: improving environmental, heritage and community outcomes and allow for more nuanced consideration of site-specific circumstances and expediting processing time in lower-risk areas.

The Australian Government should ensure the drafting of its new Nature Positive legislation is not rushed, is informed by meaningful consultation with all stakeholders to gain confidence that the proposed changes are workable from an end user perspective and will achieve intended outcomes. Further, it is important the Government takes all available steps to reduce duplication between federal and state processes and provides proponents with more predictable and efficient timeframes.

For example, the proposed introduction of a national EPA presents risk of duplication with state agency processes. While the Act defines the scope of the EPA, differences may hinder opportunity for application of bilateral agreements with states. The industry has also made clear to the Government that having the Minister step back from decision-making and only step in under an optional call-in power will run the risk of national EPA decisions not effectively accommodating social and economic factors in decisions, which are fundamental for matters of national interest.

In addition, it is crucial to provide adequate support and resources to Indigenous stakeholders and ensure coordination between Indigenous heritage protection laws and the overall permitting process. More can be done in partnership between government and industry to better empower Indigenous people to connect with heritage and economic opportunities, including supporting capacity building for Aboriginal corporations to assist in execution of their important functions.

Best-in-class infrastructure unlocking basins of the future

Government-led or shared public-private initiatives could help address the coordination and other challenges the private sector faces in timely delivery of supporting project infrastructure.

A new Australian national resources development strategy could prioritise basins for development based on factors such as global demand, value for money and sustainability, and include both greenfield and brownfield infrastructure initiatives. There could be distinct elements for greenfield sites' support for data collection, exploration and discovery, and brownfield sites focusing on tactical interventions to open up existing basins. These initiatives should encompass sustainable power, transport, water and social infrastructure, and be aligned with critical minerals mining.

Additionally, government has a role to play in ensuring policy settings are fit-for-purpose in delivering the electrification and decarbonisation goals of the mining sector. These could include:

- applying a market-based emissions reduction requirement on the electricity sector (one that is fungible with the Safeguard Mechanism)
- introducing staged and technology neutral policies to ensure firming capacity is available for system reliability and flexible sources of generation do not prematurely exit the market
- agreeing a federal-state strategy for transmission and empowering a single agency to coordinate the delivery of essential projects[45]
- re-doubling efforts to improve national consistency in federal and state approaches to climate and energy policy, to provide greater certainty, reduce transaction costs and address potential areas of duplication

45 Tony Wood (2023), The great transmission challenge.

A world-class METS sector and workforce of the future

Australia is currently suffering from skills shortages. This will worsen as trends like automation, digitisation and greater downstream processing will increase our need for new technical capabilities.

To set Australia up for the long term there is a need for a joint industry-government effort to identify critical future skills shortages and research and development needs, developing a range of appropriate solutions, including working with universities on enrolment and course quality, supporting local vocational training and streamlining attractive visas. It is imperative this extends across sectors disrupted by the energy transition and decarbonisation.

Short-term skills shortages could be eased by targeted migration strategy, streamlining of the skilled visa process and industrial relations policies that promote productivity.

Unlocking value within the resources supply chain requires a modern workplace system that allows for businesses to work with employees in each workplace to increase productivity and provide the most competitive terms and conditions to attract and maintain talent.

Involvement in STEM builds new industries, makes Australia internationally competitive and supports high living standards. While the demand for STEM professionals is strong, there are not enough people with STEM skills and qualifications, particularly among women and Indigenous peoples. Addressing this talent gap would help lift the innovation and growth potential of Australia's STEM-dependent industries and, in turn, boost the competitiveness of the Australian economy. Governments can play an important role in achieving greater diversity in STEM, including through setting priorities, collecting and sharing data, and working with education providers to address barriers to access for people form underrepresented cohorts.

Early childhood education and care plays an integral role in supporting learning and development, and enabling greater workforce participation. However, not all working families have access to affordable and quality childcare, particularly in regional Australia. We encourage the Australian Government and Productivity Commission to investigate the unique barriers facing regional childcare and consider options for increasing the attraction and retention of childcare workers, and addressing the shortage of suitable facilities in regional areas.

Supporting Australia's METS sector should continue to be a powerhouse contributor to Australia's competitiveness in mining but also as a capability export. Australia has an imperative to develop new and advanced technologies to improve efficiency, safety and environmental performance in the mining sector domestically and internationally. Contributing to technology development that enables the identification of new reserves deeper under cover and to extract more from our resources with a reduced environmental impact are critically important to Australia. Government support in this space, including research and development support in priority areas, will help drive focus and accelerate outcomes.

Supporting actions

Alongside the four primary pillars, industry and government should work on eight supporting actions:

- *Inclusion of copper and nickel as critical minerals:* Copper and nickel are essential for the energy transition due to their critical roles in renewable energy technologies and electric mobility. Copper is used extensively in electrical wiring, transmission lines and renewable energy systems, while nickel is a key component in lithium-ion batteries, which power electric vehicles and energy storage systems, driving the transition towards a more sustainable and low-carbon future.
- *Improving capital and labour productivity:* systematically identifying priority levers for improving productivity, such as supporting training programs, promoting the role of critical minerals in the energy transition, working to develop new pilot projects and providing support to reduce the cost of borrowing.
- *Ensuring international market access for critical minerals:* strengthening international partnerships, including shaping, and ensuring alignment with incoming international standards and regulations such as the US Inflation Reduction Act, EU Critical Raw Materials Act and maximising Australia's access to key markets.
- *Supporting mining technology innovation:* conducting a sector-wide innovation needs assessment and making funding available for high priority research and development. Displacing diesel and addressing methane emissions are likely to be among the key innovation challenges facing the Australian mining sector.
- *Supporting next generation geological mapping:* increasing support for geological mapping, including for deep (post-cover) critical minerals deposits.
- *Supporting downstream activities:* such as beneficiation and processing, enabling Australians to capture additional economic benefit from our geological endowments.
- *Legislating for improved sector-wide ESG performance and transparency:* adopting global best practice ESG reporting frameworks to ensure an internationally aligned, sector-wide baseline for ESG in Australia, ensuring maximum investment and market access, and longer-term differentiation and new value creation.

Conclusion

Conclusion

Australian resources are at an inflection point. The extent of the sector's past success and its enormous contribution to Australia's economic growth and living standards is no guarantee of future success.

The global transition to net zero emissions by 2050 requires significant deployment of clean energy technologies and increased material production and infrastructure. Australia has a substantial economic opportunity in the mining sector to capture its fair share of US$100 billion in global investment.

But the game has changed. The mining sector has become intensely competitive at a global level and Australia can no longer simply rely on its geography and geology to stay in the lead.

To secure our future prosperity, both industry and government must urgently and actively contribute to improving Australia's mining sector competitiveness.

Policy stability and consistency across all levels of government are paramount to attract the potentially multi-billion-dollar investments in mining and downstream processing projects the world is looking to deploy. To attract capital and technology, it is crucial to review and align domestic policies and regulations, enhance fiscal stability and improve infrastructure efficiency. This involves addressing high business costs, such as energy, transport, skilled labour and regulatory processes.

Collaboration between industry and government is essential for a coordinated approach to infrastructure planning and investment, harnessing economies of scale and scope in energy, transport and other input industries to reduce the cost differential for critical minerals needed in the net zero transition.

Australia's mining sector is central to enabling the energy transition and positioning Australia as the global destination for resources investment requires collaboration between industry and government. By working together, we can improve the global competitiveness of Australia's mining sector, position Australia as a critical minerals leader and make an even greater contribution to Australia's future prosperity.

Important notice

Important notice

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Forward looking statements

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