MINERALS COUNCIL OF AUSTRALIA

STATEMENT TO SENATE SELECT COMMITTEE ON JOB SECURITY

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31 MARCH 2021

MINING SUSTAINS HIGHLY SKILLED, HIGHLY PAID AND SECURE JOBS

The Minerals Council of Australia appreciates the opportunity to contribute to the Senate Select Committee's inquiry into job security.

While the inquiry's terms of reference focus on the economic and social effects of precarious employment, the MCA considers it important to reiterate the benefits of having a globally competitive mining industry that delivers highly skilled, highly paid and secure jobs across Australia.

Only 1 per cent of non-managerial workers in mining depend on an award for their wages and conditions.[1] The Australian minerals industry makes use of enterprise agreements and flexible work arrangements to meet the increasingly diverse requirements of the mining industry's workforce, integrate advanced technology into operations, increase productivity and competitiveness, and ultimately deliver more jobs and higher wages.

Throughout the COVID-19 pandemic, the Australian minerals industry has continued to support the national economy and regional jobs while implementing world-leading health protocols that are keeping workers, families and communities safe.

The resources sector accounted for 10.4 per cent of Australia's GDP in 2019-20, which made it the largest industry in Australia. Importantly, when Australia needed it the most, mining activity continued and the sector's economic output increased 5 per cent in 2019-20.[2]

The resources sector directly employs 243,000 people in highly paid, highly skilled jobs, mostly in regional and remote Australia.[3] In addition, Australian mining supports advanced and competitive manufacturing jobs through the mining equipment, technology and services (METS) sector.

Deloitte Access Economics estimates that the mining and METS sector generated $241.9 billion in value added to the national economy in 2019-20, representing approximately 12.4 per cent of the value of the Australian economy. The sector supported an estimated 1,131,450 full-time equivalent (FTE) jobs in Australia, representing approximately 10.8 per cent of total FTE employment.[4]

Mining and METS directly contributed $145.3 billion in value added to the Australian economy and directly supported 483,499 FTE jobs in Australia.

The sector also outlaid approximately $110 billion in intermediate expenditures, generating an indirect economic contribution to the national economy of $96.6 billion in value added. Approximately 647,950 FTE jobs outside the mining and METS sector were supported through these flow-on linkages.

The Australian mining industry has a high share of permanent and full-time employees. 84 per cent of mining workers are permanent employees, compared to 78 per cent for all industries. 96 per cent of mining workers are employed full-time, compared to 68 per cent for all industries.[5]

That said, all mining workers – whether permanent or casual – are highly renumerated. Median weekly earnings for full and part-time workers in mining (including both permanent and casual employees) were $2,325 in 2020, double the median for all industries ($1,150).[6]

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[1] Deloitte Access Economics, *Economic effects of changes to labour hire laws*, report prepared for the Minerals Council of Australia, MCA, 4 June 2019, p. 35.
[2] Australian Bureau of Statistics, *Australian System of National Accounts 2019-20 financial year*, released 30 October 2020.
[3] Australian Bureau of Statistics, *Labour Force, Australia, Detailed, January 2021*, released 25 February 2021. This employment figure is for calendar 2020.
[4] Deloitte Access Economics, *Economic Contribution of the Mining and METS sector: Australian estimates,* forthcoming.
[5] Australian Bureau of Statistics, *Labour Force, Australia, Detailed, January 2021*, released 25 February 2021; *Labour Force, Australia, February 2021*, released 18 March 2021; *Characteristics of Employment, Australia, August 2020*, released 11 December 2020.
[6] Australian Bureau of Statistics, *Characteristics of Employment, Australia, August 2020*, released 11 December 2020.

Median weekly earnings for permanent mining employees was $2,365 in 2020. Casual employees in mining had median weekly earnings of $2,109 in 2020, which was:

- More than triple the median for casual employees across all industries ($624)
- 62 per cent higher than the median for *permanent* employees across all industries ($1,300)
- 47 per cent higher than the median for *full-time* employees across all industries ($1,433)
- 42 per cent higher than the median for *full-time permanent* employees across all industries ($1,486). [7]

The gap in median weekly pay between permanent and casual employees is smaller in mining (12 per cent) than in all other industries. Across the economy overall the gap is 108 per cent.[8]

Mining provides a strong skills base in Australia's regions. The industry employs approximately 8,600 apprentices and trainees and in coming years will provide 5,000 new mining apprenticeships, mostly in regional Australia.

The economic and social benefits that the mining industry delivers for all Australians are not guaranteed. The Australian minerals industry is a price taker in highly competitive global markets characterised by strong competing sources of supply. Further, the industry requires a constant flow of investment, both to sustain existing operations and to finance exploration and the development of new mines. Mining companies are competing for a limited pool of global capital to develop new projects in Australia.

There are currently 108 minerals projects across Australia in the pre-feasibility or feasibility stage. Together, these projects are worth $47 billion and entail approximately 30,000 construction jobs and 21,000 ongoing jobs.

To maximise this opportunity, the Australian Parliament should pursue reforms that encourage firms to invest in capital and allow them to use that capital efficiently, while maintaining strong protections for workers and the environment.

A highly skilled workforce, productive workplace relations, competitive tax settings, timely environmental approvals and support for exploration are all essential to encouraging investment in large and long-life mining projects and securing the benefits they bring to workers, communities and governments.

The Australian minerals industry's plan for jobs, communities and investment is outlined in the MCA's *Advantage Australia* publication attached.

[7] Australian Bureau of Statistics, *Characteristics of Employment, Australia, August 2020*, released 11 December 2020.
[8] ibid.

COVER

AWARD WINNER

Jennifer Ward is an Open Pit Supervisor at Newmont's Boddington gold mine in WA. She was awarded the Thiess Outstanding Australian Tradeswoman, Operator or Technician Award for her strong leadership and influence on-site and in the community at the BHP Women in Resources National Awards in 2020.

Advantage Australia

JOBS COMMUNITIES INVESTMENT

Australian mining's plan for jobs, communities and investment

View PDF

Advantage Australia

Australian mining's plan for jobs, communities and investment

ISBN 978-0-9946078-9-8

Images courtesy of NExUS

COVER

FUTURE GEOLOGISTS
The National Exploration Undercover School (NExUS) was founded in 2016 to develop the next generation of geologists. The three-week summer schools are funded by industry and administered by the University of Adelaide.

There's more to Australian Mining

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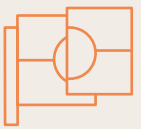
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Mining continues to sustain economic growth

Australian mining is a global leader in providing the essential elements of modern life while growing the nation's economy and sustaining regional communities. Combined with its social contribution and responsible environmental management, mining plays a critical role in the modern world.

The minerals industry takes its obligation to build trust with landowners, landholders, communities and employees seriously. This responsibility is delivered through open and respectful engagement, clear and considered planning and development, and a commitment to high standards of governance and transparency.

The Minerals Council of Australia is the leading advocate for Australia's minerals industry, a strong and effective voice at the national and international level as well as through its divisions in the Northern Territory and Victoria.

Advantage Australia outlines the issues on which the MCA will execute its dual role of advocating policy to government, partners, stakeholders and the community and promoting best practice with its member companies.

When mining is strong, all Australians win.

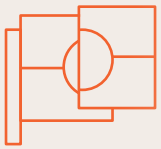
Australia's minerals industry is a major contributor to investment, exports and government revenues. It directly employs 238,000 Australians.

Australia's innovative mining, equipment, technology and services (METS) sector, which sells goods and services here and overseas, is also a major economic contributor. Across the supply chain, mining and METS supports a total of 1.1 million direct and indirect jobs – or one in every ten jobs in Australia – as well as thousands of regional businesses.

The minerals sector also employs around 8600 apprentices and trainees – a higher proportion than most other sectors – and is a major employer of Aboriginal and Torres Strait Islander peoples, particularly in remote areas. **Today more than twice as many Indigenous Australians work in the minerals industry than in 2006.**

Evidence shows that diversity creates more productive, innovative and creative teams and businesses. That is why the Australian minerals industry has made diversity and inclusion an industry priority and is moving to capture a much larger talent pool that gives the sector access to the full wealth of skills from across Australia and the globe. **The future minerals workforce building the world of tomorrow should be diverse in thought, perspective and experience.**

COVID-19 presented significant challenges globally. However through immediate and swift actions and working cooperatively with the states, the industry continued to operate. This meant that mining was Australia's largest contributor to GDP in 2019-20.



“Many mining companies have built long, steady and strong relationships with Traditional Owners. Indigenous Australians are a core partner.”

and prosperity in Australia

There's more to Australian Mining

As Australia rebuilds after the COVID-19 pandemic, the industry will continue to deliver the substantial contribution it has made over the past century, and particularly the past 20 years.

In 2019-20 mining export revenue increased to a record $283 billion and the industry made a record tax and royalties contribution of $39 billion in 2018-19 (up $8 billion from 2017-18).

Building and maintaining the reform momentum will have real benefits.

Reforms that expand trade and investment, modernise training and skills, boost productivity in the workplace, support simpler project approval processes, ensure a competitive taxation system, support the discovery of new mining regions and emerging critical minerals, target the development of Northern Australia and enable businesses to adapt and grow will all be essential to sustaining the livelihoods and living standards of Australians.

Australia has more than 100 mining projects with completed feasibility studies, and the combined $50 billion investment flowing from these projects have the potential to create more than 32,000 construction jobs and 22,000 ongoing operating jobs across Australia.

Delivering this potential requires working differently in the future.

The MCA and its members have developed new approaches across a range of important areas to meet community expectations while delivering success for the industry.

The MCA Climate Action Plan is based on the need for sustained action to cut emissions in Australia and overseas to reduce the risks of human-induced climate change and support decarbonising economies.

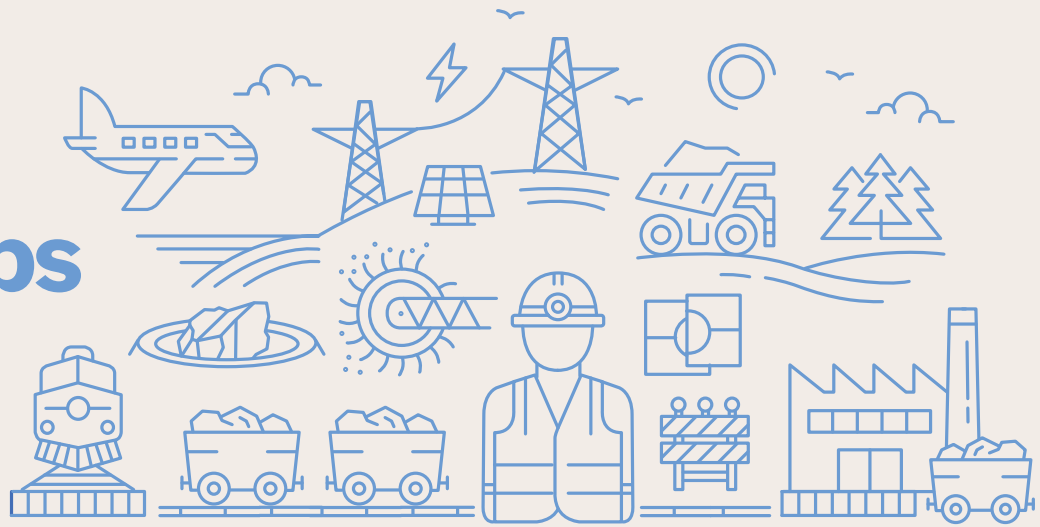
The industry's approach to Indigenous engagement is based on respecting and valuing Aboriginal and Torres Strait Islander cultures and histories and ongoing learning and improvement.

Many companies have built long, steady and strong relationships with Traditional Owners over decades. It is important to tell these stories.

Collectively the industry will take the next steps with Indigenous Australians to strengthen trust and build better relationships. **Indigenous Australians are a core partner.**

Tania Constable
Chief Executive Officer
Minerals Council of Australia

Jobs



238k
EMPLOYMENT
Direct employment in the resources industry in 2019-20.
Source: ABS cat. No. 6291

$2758
WEEKLY PAYPACKET
Average full-time adult weekly pay in 2019-20 – 58% above average.
Source: ABS cat. No. 6302

5000
APPRENTICESHIPS
and traineeships to be created, inc. through Mining Skills Organisation Pilot.
Source: MCA

$144k
AVERAGE WAGES
Average annual wages paid to mine workers in 2019-20.
Source: ABS cat. No. 6302

Investment

$2.8b
EXPLORATION
Minerals exploration expenditure in Australia in 2019-20.
Source: ABS cat. No. 8412

$253b
MINING INVESTMENT
Capital expenditure across the mining sector over the past 10 years.
Source: ABS cat. No. 5625

$915b
NET CAPITAL STOCK
Value of equipment and plant used by the mining industry in 2019-20.
Source: ABS cat. No. 5204

$1.05b
MINING R&D SPEND
The mining industry's expenditure on R&D in 2017-18.
Source: ABS cat. No. 8104

Communities

ZERO

INJURIES GOAL

Working towards zero sector fatalities, injuries and preventable diseases.

Source: MCA

6599

INDIGENOUS JOBS

Direct employment in 2016 – around 3.9% of the mining workforce.

Source: *Closing the Gap*, 2018

33%

FEWER INJURIES

Fewer injuries and mining-related illnesses between 2013-14 to 2017-18.

Source: ABS cat. No. 6324

17%

WOMEN IN MINING

Percentage of female workers in 2019-20 – up from 12% in 1999-00.

Source: ABS cat. No. 6291

$283b

EXPORT EARNINGS

Australia's total resources export earnings in 2019-20 – doubled since 2009-10.

Source: ABS cat. No. 5368

$26b

TOTAL WAGES

Paid to workers in the Australian resources industry in 2019-20.

Source: ABS cat. No. 5676

60%

EXPORT SHARE

Resources sector's share of Australia's export revenue in 2019-20.

Source: ABS cat. No. 5368

10.4%

GDP CONTRIBUTION

The resources sector's direct contribution to GDP in 2019-20.

Source: ABS cat. No. 5204

$281b

TAXES & ROYALTIES

Paid over 14 years. That's enough to build 11,000 schools or 390 hospitals.

Source: Deloitte Access Economics

>3500

LAND AGREEMENTS

Indigenous agreements with the mining industry over the past two decades.

Source: Dept of the Attorney-General

4.5%

WATER USE

Net water consumption by the mining industry in 2017-18.

Source: ABS cat. No. 4610

<2°deg

PARIS AGREEMENT

The MCA is committed to the Paris Agreement and its goal of net zero emissions.

Source: MCA

<0.1%

LAND DISTURBED

Australian land mass temporarily disturbed by mining activities.

Source: Dept of Agriculture, Water and the Environment

$257m

VALUE ADDED PER GL

Value added by the sector per gigalitre of water consumed.

Source: ABS cat. No. 4610

Skills & training

Flexible learning, specialist training and stronger collaboration between industry and education providers will generate more highly skilled, highly paid jobs across regional Australia.

More apprenticeships

More than 1000 apprenticeships will be created in partnership with the Australian Government through the Mining Skills Organisation Pilot. With other initiatives, this means close to 5000 new positions over the next few years, mostly in regional Australia. As the nation rebounds from the COVID-19 pandemic which has hit the job prospects of young Australians hard, the minerals industry is supporting regional economies in their time of need.

Flexible learning

From equipment operators to PhDs, careers in mining are incredibly varied. The industry recognises that a diverse workforce demands flexible training and education options and invests millions of dollars every year to equip employees with the skills they need for a fulfilling career. From graduate programs to retraining for older workers, the industry turns regularly to local training that supports education providers in the regions.

Diversity of skills

Diverse teams are more productive, innovative and creative. The Australian minerals industry has made diversity and inclusion an industry priority. This is the key to making the industry attractive to the full wealth of skills from across Australia and the globe. In building a workforce that is diverse in thought, perspective and experience, industry is committed to creating a community where people feel safe, valued and respected.

Highly skilled jobs in mining	Directly employed	Indirectly employed	Industry rank*
Geologists, geophysicists & hydrogeologists	6771	3904	1
Industrial, mechanical & production engineers	3070	7615	3
Production managers (mining)	5307	321	1
Environmental scientists	2975	6351	3
Mining engineers	2777	725	1
Chemical and material engineers	975	1586	3
Metallurgists and physicists	496	203	1
Surveyors and spatial scientists	360	647	–

Source: Department of Employment, Job Outlook 2019; MCA calculations

* rank by main employing industries

24%

UNIVERSITY EDUCATED

A further 37 per cent hold a certificate III or IV qualification; another 7 per cent a diploma.

ABS cat. No. 6227

5000

NEW APPRENTICESHIPS

Through industry initiatives and the Australian Government-funded Mining Skills Organisation Pilot.

Dept of Education, Skills & Employment

$65m

INDUSTRY INVESTMENT

More than 5000 graduates have benefited from MTEC over the past decade.

Minerals Tertiary Education Council

APPRENTICESHIPS
BHP will fund 3500 new apprenticeship and training positions as part of a major skills and technology package over five years. This will help more Australians gain new skills during the post-pandemic recovery and support its future operations.

Image courtesy of BHP

A CLOSER LOOK

TRAINING OPPORTUNITIES AT TROPICANA

Kyarah is a trainee with Macmahon, the mining alliance partner of AngloGold Ashanti Australia (AGAA) at Tropicana Gold Mine in WA. A graduate of Get Into Mining, a program run by the Carey Group with the support of AGAA, Macmahon and IGO, Kyarah operates a diesel-electric dump truck. Get into Mining gives trainees the skills and knowledge to succeed in the industry. Over the past two years, 16 Aboriginal trainees have graduated from the program with eight new trainees starting in 2021.

Skills & training

Policy priorities

- Improve participation in mining-aligned vocational and higher education programs, especially in regional areas.
- Create and sustain a contemporary mining curriculum through the Minerals Tertiary Education Council and the Mining Skills Organisation Pilot (including microcredentials).
- Work with the tertiary sector to remove impediments to student intakes for mining engineering and other areas experiencing skills shortages.
- Build stronger links between the vocational and university sectors to engage with new and emerging technologies in industry.

Future workforce

From data scientists to mechatronic engineers, a highly skilled and technologically advanced future workforce will be required for the specialist mining occupations coming online.

Employer of choice

Australian mining is a technology leader with a diverse range of career opportunities. Attracting and retaining new talent; encouraging existing workers to gain new skills and move between roles; and supporting the career development of Aboriginal and Torres Strait Islander peoples are industry priorities. In the past, workers had one career – in the future, they will have a mix of skills acquired from different workplaces throughout their lives.

Technology and innovation

Using the latest mining technology and developing innovative new processes and techniques delivers greater productivity and better health and safety performance. Technology is already augmenting and shaping future roles – shotfirers use drones, drivers operate automated vehicles – and hybrid roles will continue to emerge requiring skills and expertise from multiple fields, such as data analytics, robotics and artificial intelligence.

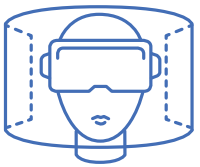
Multiple skills

Employees work together to add value along the whole integrated production and supply chain. For example, mine designers, drone pilots, drivers and equipment operators do overlapping work to deliver quality product reliably and safely from the mine to the customer. This requires strong relationships with mining, equipment and technology services companies and regional communities.

Mining jobs will largely be reshaped by technology – not automated

Value chain stage	Unique occupations	Enhanced	Redesigned	Automated
Exploration	20	45%	35%	20%
Mining operations	29	38%	45%	17%
Processing	28	43%	43%	14%
Transport	14	36%	43%	21%
Trading	13	38.5%	23%	38.5%
Total business	21	57%	24%	19%

Source: EY, *The future of work: The changing skills landscape for miners*, Canberra 2019



67,000

JOBS GROWTH

Increase in direct mining employment over last 10 years.

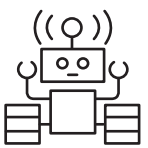
ABS cat. No. 6291

77%

MINING JOBS TO CHANGE

Technology will enhance or redesign 77 per cent of mining jobs over the next five years.

EY



1 in 10

JOBS GENERATOR

The proportion of jobs in Australia supported by the mining and METS sector.

METS Ignited

FUTURE SKILLS

Australian mining is shaping the future workforce. Rio Tinto will invest $60 million in training and development in WA in 2021 to support the development of critical skills. Rio Tinto also launched Australia's first automation qualification in 2019.

Image courtesy of Rio Tinto

A CLOSER LOOK

THE SEARCH FOR COSMIC GOLD

The biggest question in science – what is dark matter? – could soon be answered in a $10 million underground laboratory being built at Stawell Gold Mines. The first of its kind in the southern hemisphere, Stawell Underground Physics Laboratory is expected to be an economic boon for the region and drive new interest in STEM disciplines, which may also benefit a future mining workforce. Dark matter is thought to account for 85% of all matter but because it emits no light, it cannot be directly observed.

Future workforce

Policy priorities

- Implement workforce strategies (including new job classifications) focused on building capability to attract and retain a future-focused workforce.
- Promote the mining industry as an employer of choice and a source of high skilled, well paid and technologically advanced jobs.
- Enhance collaboration with the METS sector to integrate and increase workforce participation across the mining value chain.
- Fast track workforce opportunities with and in allied sectors (including agriculture and defence) by identifying areas of skills complementarity.

Health & safety

The safety, health and psychological wellbeing of the mining workforce – where everyone who goes to work returns home safe and healthy – is the industry's number one value and commitment.

Committed to improve

The industry is committed to eliminating fatalities, injuries and occupational illnesses and is focused on building respectful workplaces. The industry recognises continuous effort is needed in the areas of leadership, culture and systems and is working to achieve these objectives. This leadership was demonstrated through the industry response to COVID-19 and the ongoing development of the industry's mental health blueprint.

Respect@Work

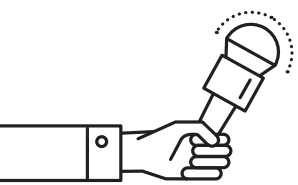
Sexual harassment occurs across society and in our workplaces, causing profound physical, emotional and psychological impacts. MCA member companies strongly value diversity and inclusion and, in the wake of the Australian Human Rights Commission's Respect@Work report, will bring renewed focus and leadership to building a respectful industry culture, code of conduct and toolkit to establish clear expectations and protocols.

A joint responsibility

Everyone in the mining industry has a personal responsibility for the safety, health and wellbeing of themselves and their workmates and to contribute to positive and respectful workplaces. Regulatory and enforcement practice should improve workforce health and safety outcomes. Laws should bring greater certainty, efficiency and clarity to industry participants.

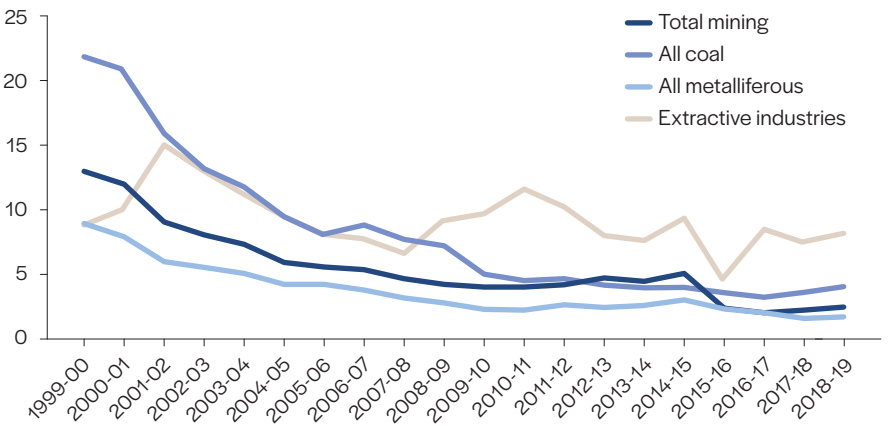
TOM PALMER
Newmont Australia

"[Australian mining COVID-19 protocols] were used around the world. We used them in Canada, through Ontario and Quebec, in Mexico, in Peru, in Argentina to work with governments as they were looking to get some industry back up and running to support their economies."



Rate of mining injuries have fallen since 2000

Lost time injury frequency rate per million hours worked



Source: Professor David Cliff, Sustainable Minerals Institute, University of Queensland
* Data from NSW, QLD and WA. VIC Data by calendar year. No data from NT, SA or TAS.

ZERO

INJURIES GOAL
Working towards zero sector fatalities, injuries and preventable diseases.

61% ▼

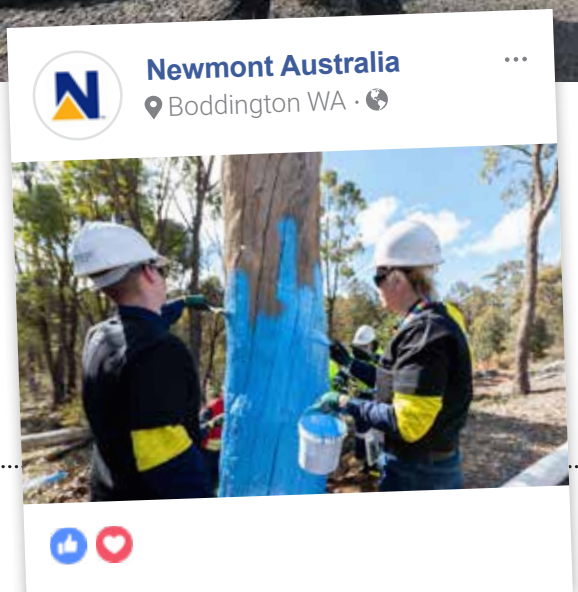
WORKERS' COMP
Reduction in workers' compensation claims in the mining industry since 2000.
Safe Work Australia

13,900

MATES IN MINING REACH
The mental health initiative reached 13,900 workers across 54 sites between 2014 and 2020.
MATES in Mining

COVID-19 RESPONSE
Australia's miners changed the way they do business to protect mine workers, families and their communities. BHP CEO Mike Henry (right) checking in on teams during the pandemic at Peak Downs mine in Queensland.

Image courtesy of BHP



A CLOSER LOOK

BLUE TREES FOR MENTAL HEALTH

Teams from Newmont Tanami (NT) and Boddington (WA) painted a tree blue for mental health awareness as part of the Blue Tree Project. The Blue Tree Project aims to spark difficult conversations and encourage people to speak up by spreading the message that 'it's OK to not be OK'. The project was coordinated by Newmont's employee-led Business Resource Group as part of the company's ongoing focus on reducing the stigma around mental health. For crisis support call 13 11 14.

Health & safety

Policy priorities

- Share best practice and technological advances.
- Ensure transparent and timely access to government-held health and safety data to better understand factors resulting in fatalities, serious injuries and occupational diseases and inform operational health and safety improvement initiatives.
- Implement best practice mental health programs, training and technologies to inform and manage the risks to mental health in the workplace. These initiatives will be collated to inform an updated *MCA Blueprint for Mental Health.*
- Ensure workplace exposure standards are safe, meaningful and practical.

Workplace relations

Australia needs a modern and flexible workplace system that attracts investment, creates and preserves jobs, supports communities and contributes to national prosperity.

Job creation through reform

High wage jobs depend upon high productivity workplaces. As Australia emerges from the COVID-19 pandemic, more efficient and effective regulation will strengthen the minerals industry's ability to provide highly skilled, highly paid and secure jobs. Long-term economic recovery could be helped, for example, by broadening the suite of agreement options and improving rules for terminating expired enterprise agreements.

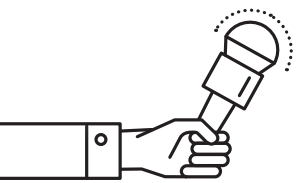
Flexibility drives productivity

Mining companies are deploying new technologies and new forms of employee engagement to make operations more safe, productive and inclusive. Managers require both functional workplace relations rules and an industry-led education and training system to enhance and redesign mining jobs. Every employee, business and industry cannot and should not be expected to flourish under the same type of workplace regulation.

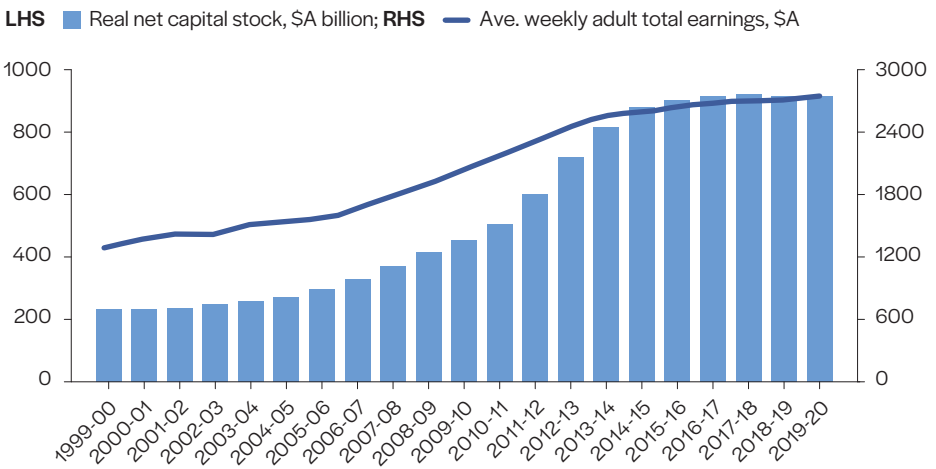
Opportunity and choice

Genuine enterprise agreements and individual arrangements allow firms to employ a diverse and adaptable workforce and link pay to productivity performance. The resources sector can only pay the highest average earnings in the country because it is a technological innovator and one of the most productive industries in the world. However the Fair Work Act has increased system-wide complexity and compliance costs.

MICHAEL BRENNAN
Chair Productivity Commission
"Overwhelmingly, it's labour productivity that drives wages."



More investment means higher wages



Source: ABS, Average Weekly Earnings, cat. No. 6302; ASNA 2019-20, cat. No. 5204.

$144k

AVERAGE EARNINGS
Average annual earnings among mining workers in Australia in 2019-20.
ABS cat. No. 6302

85%

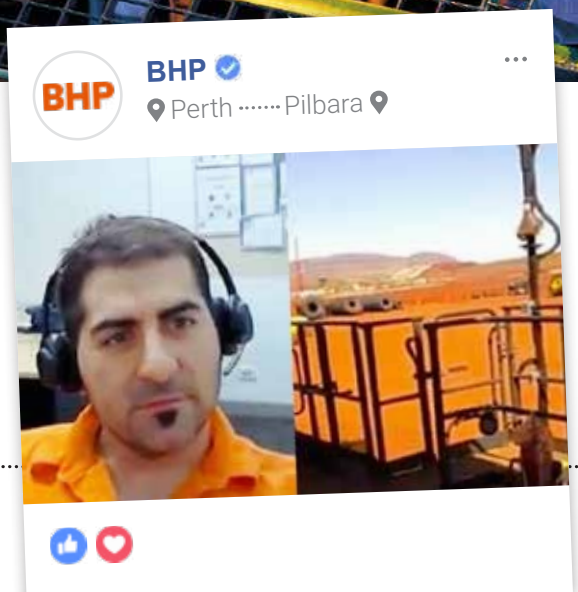
PERMANENT JOBS
17 out of 20 workers in the resources sector are permanent employees.
ABS cat. No. 6333

45%

CASUAL WAGES
Higher median wages paid to mining casuals compared to full-time workers across all industries in 2019.
ABS cat. No. 6333

DRIVER OF CHANGE
Yancoal's employee-driven program of change at Mount Thorley Warkworth Mine has helped to reduce absenteeism and employee turnover, boost employee sentiment and increase the permanent workforce from 60% to 90%.

Image courtesy of Yancoal



A CLOSER LOOK

PRODUCTIVITY GAINS WITH MIXED REALITY

BHP is bridging the distance between field operators and remote technicians with mixed reality headsets that allow onsite coaching. Engineers, operators and technical experts anywhere in the world can see a problem in real time and provide step by step guidance to an on-site operator wearing a head-mounted computer with a see-through display. BHP has been trialling Microsoft's HoloLens 2 in the Pilbara, with further trials planned for other locations.

Workplace relations

Policy priorities

- ✚ Encourage flexibility and choice in employment arrangements, including by keeping existing regulations for labour hire and service contracting.
- ✚ Extend the allowable duration of greenfields agreements to cover the life of major projects.
- ✚ Encourage highly skilled, highly paid workforces to perform at their best by broadening the suite of agreement options, improving rules for terminating expired enterprise agreements and focusing parties on matters directly related to employment.

Advantage Australia

Regional development

Every day the minerals industry supports communities from Weipa to the Tanami, from Bendigo to Port Hedland by providing high value local jobs, essential services and critical infrastructure.

Supporting local business

Mining supports regional and remote businesses through local procurement and a vibrant support network of mining equipment, services and technology firms. This is turn has led to national and international recognition for many innovative local businesses. Industry is increasingly focused on long-term business partnerships and strategic investment to support community priorities and aspirations.

Working with communities

Building on existing relationships and approaches, mines across Australia moved quickly during COVID-19 to expand local programs, help keep vulnerable people safe and support community food security, housing and social services. In many remote areas, mining companies work closely with governments to provide essential health and education services, utilities such as gas and water, as well as first responder emergency services.

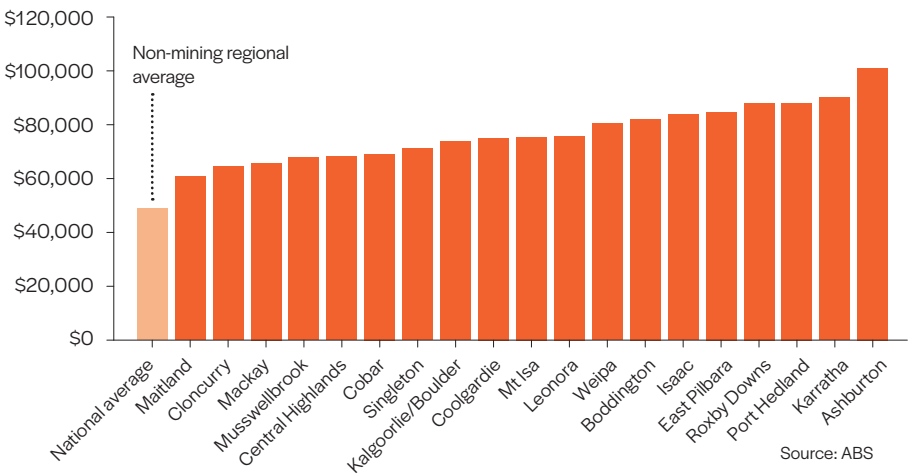
Well-paid local jobs

The mining industry generates highly skilled, highly paid jobs in regional and remote communities across Australia. The Productivity Commission found that regions with an economic base of large-scale mining generally had the highest rates of growth in employment since 2005 and that average personal income was 'generally higher in mining-intensive regions than in other parts of the country'.

LENDING A HAND
Thiess and its Community and Stakeholder Relations team supported more than 200 community initiatives, provided 800 hours of in-kind support and worked with more 150 organisations across Australia in 2019.

Incomes are higher in regional areas with mining

Average employee income in mining regions



Source: ABS

35,883

BUSINESSES
Businesses supported by the resources industry in QLD, WA and NSW in 2018-19.
CMEWA, QRC, NSWMC

3404

COMMUNITY GROUPS
Local groups that benefited from resources sector contributions in QLD, WA and NSW in 2018-19.
CMEWA, QRC, NSWMC

$93.8b

DIRECT SPENDING
Resources industry payments to suppliers, employees, community groups and governments in WA, QLD and NSW in 2018-19.
CMEWA, QRC, NSWMC

ESSENTIAL SERVICES
Australian mining provides essential services such as transport, water and energy on behalf of many remote communities. Emergency medical services – air and road – are also often part or wholly funded by mining companies.

Image courtesy of Thiess

A CLOSER LOOK

SMALL BUSINESS RECOVERY

Newcrest provided $500,000 through its Business Beyond the Curve Program to help small businesses thrive beyond COVID-19. Administered by Central NSW Business HQ and supported by the Orange Business Chamber, dozens of businesses like the Red Chilli Deli have benefited from the grants. MCA member companies committed more than $100 million to support regional and remote communities through the pandemic and beyond.

Regional development

Policy priorities

- Channel government spending to complement industry investment in projects supporting community priorities and economic resilience.
- Provide direct support to economic growth, jobs, infrastructure, education and community partnerships in mining regions.
- Make environmental data and assessment processes more accessible and transparent to enable communities to actively participate in the progress of a project's approval.

Advantage Australia

Indigenous partnerships

Mining has an abiding partnership with Indigenous Australia. Industry is committed to genuine dialogue, respect and support for the aspirations of Aboriginal and Torres Strait Islander peoples.

Respect and recognition

Indigenous Australians are a core partner and the mining industry is a significant stakeholder in the economic development of Australia's First Nations people. This partnership should have as important a profile as workplace safety. Industry will work harder with Aboriginal and Torres Strait Islander leaders to realise future benefits while respecting and preserving cultures, languages and knowledge.

Supporting local autonomy

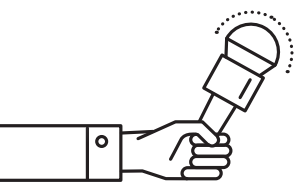
More than 60 per cent of operating mines are near Indigenous communities. Industry recognises that Aboriginal and Torres Strait Islander people have rights and interests in relation to the lands and waters to which they have a special connection, as well as the right to self-determination and autonomy in local affairs. Government funding arrangements should reflect location and local aspirations to ensure an equitable, stable native title system.

Economic opportunities

The mining workforce has the highest proportion of Indigenous employees of any industry. Indigenous mining jobs have more than doubled since 2006. Nearly 20 per cent of Indigenous mining employees are women. Entrepreneurial Indigenous businesses have established themselves as a critical part of the mining supply chain and provide opportunities broader than a single project, adding to the sustainability of remote communities.

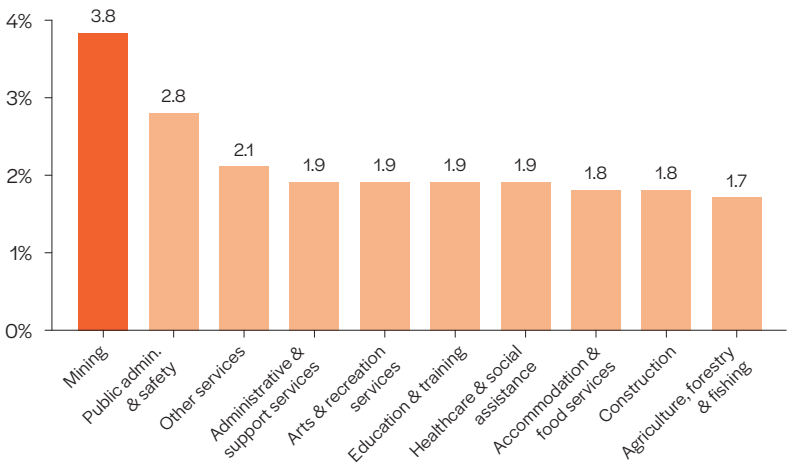
TANIA CONSTABLE
MCA CEO

"Many mining companies have built long, steady and strong relationships with Traditional Owners over decades. Indigenous Australians are a core partner."



Mining has the highest proportion of Indigenous employees

Indigenous proportion of workforce by industry



Source: ABS Census of Population & Housing 2016

9.8%

INDIGENOUS TRAINEES

Mining apprentices and trainees that are Indigenous – above the all industry average of 7.3 per cent.

National Centre for Vocational Education Research, 2019

6599

INDIGENOUS JOBS

Direct employment in 2016 – around 3.9 per cent of the mining workforce.

Closing the Gap, 2018

22%

WA APPRENTICES

Trainees and apprentices in Western Australia's resources industry that are Aboriginal.

CMEWA, 2019

NEW PATHWAYS

Glencore's McArthur River Mine team kicked off its Youth Mentoring Network with Borroloola School secondary students and mentors from across the business in engineering, environment, safety, and metallurgy.

Image courtesy of Glencore

A CLOSER LOOK

WORKING IN PARTNERSHIP

Whitehaven Coal has built enduring partnerships with Indigenous communities connected to the land it operates on in North West NSW and Queensland's Bowen Basin. Committed to addressing disadvantage, Whitehaven supports education and employment initiatives for Indigenous people. In 2015, Whitehaven set a target for 10% of its Maules Creek workforce identifying as Indigenous and has exceeded that every year since. Around 20% of its Maules Creek workforce identifies as Indigenous today.

Indigenous partnerships

Policy priorities

- Co-develop principles with Indigenous peoples to guide relationships built on trust and respect.
- Support the modernisation and better administration of Commonwealth and state heritage Acts.
- Support a practical, stable and equitable native title system, including government funding and assistance for Traditional Owner organisations.
- Review understanding and application of free, prior and informed consent.
- Support broadening the range of asset management options available to Traditional Owners to further enable community-led development.

Social performance

Mining must earn and maintain the trust of regional communities to operate. This requires respectful and ongoing engagement, enduring community benefits and fair, transparent practices.

Towards Sustainable Mining

MCA member companies will adopt the Towards Sustainable Mining sustainability system that demonstrates operations are meeting performance standards and community expectations. By evaluating performance against a set of indicators each year, companies are able to consistently assess performance across their operations and identify how to improve management and enhance internal capacity.

Respecting human rights

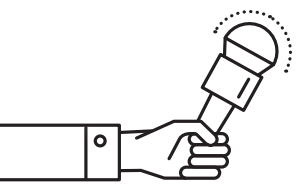
The UN Guiding Principles on Business and Human Rights framework assists mining businesses to avoid, mitigate and remedy human rights risks. The MCA, in partnership with Pillar Two, has developed tailored guidance for industry on modern slavery risks associated with the COVID-19 pandemic. This guidance outlines practical steps mining companies can take to identify, address and monitor risks in operations and supply chains.

Localising the global goals

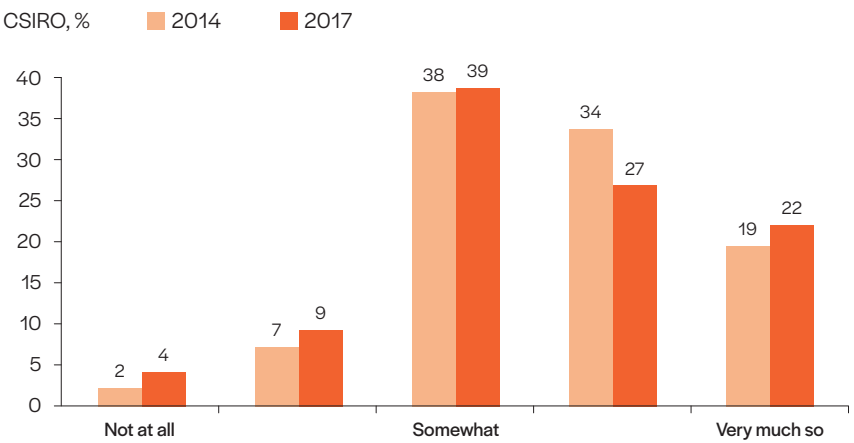
Australia's minerals industry uses the 17 Sustainable Development Goals to collaborate, support and measure social, economic and environmental outcomes important to communities. Described as the 'blueprint to achieve a better and more sustainable future for all', the goals describe specific outcomes across the three dimensions of sustainable development: economic prosperity, social inclusion and environmental conservation.

PIERRE GRATTON
Mining Association of Canada

"Towards Sustainable Mining allows mining companies to turn high level environmental and social commitments into action on the ground."



Community acceptance of mining



Source: CSIRO, *Australian attitudes towards mining: Citizen Survey – 2017 Results*, Canberra

100%

PAID PARENTAL LEAVE
Proportion of St Barbara's female employees returning from paid parental leave between 2009 and 2018.
St Barbara Limited

500

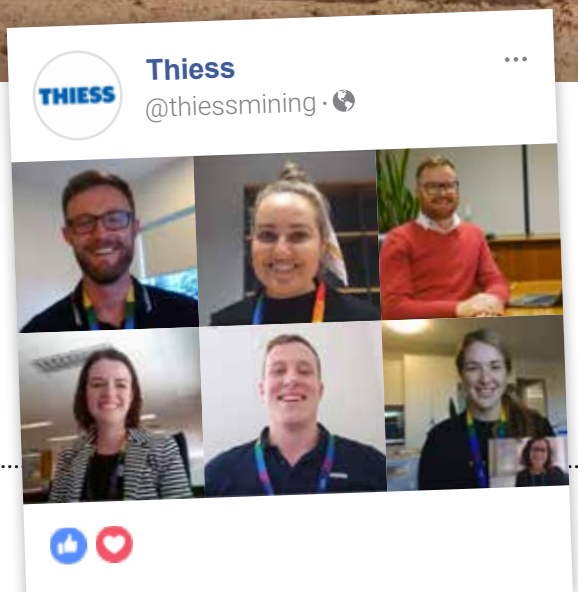
INDIGENOUS JOBS
More than 500 Martu men and women employed at Newcrest's Telfer mine over 15 years.
Newcrest Mining

1.7m ha

WATER CONSERVATION
Area covered under Newmont's Peel-Harvey water conservation project in Western Australia.
Newmont Australia

IN PARTNERSHIP
Peabody and the Barada Barna people developed a special 'Keeping Place' at the entrance to Coppabella mine near Moranbah. The 'Keeping Place' will house scar trees and serve as an important sign of respect and reminder to all that the company is working on Barada Barna country.

Image courtesy of Peabody



A CLOSER LOOK

BUILDING AN INCLUSIVE CULTURE

Thiess' Allies Committee connects employees who identify as part of the LGBTIQA+ community in line with the company's commitment to an inclusive workplace. The Allies moved online during the pandemic to deliver key initiatives. Thiess is one of many Australian mining companies that are active allies of the LGBTIQA+ community. As well as respecting individuals, inclusion boosts business performance by encouraging diversity in thinking.

Social performance

Policy priorities

- Use the Towards Sustainable Mining framework to deliver, demonstrate and enhance social performance, especially in regional areas.
- Continue to develop and promote voluntary guides to support respectful interactions between communities, governments and mining during exploration, development, operation, closure and post mining.
- Drive multi-sector cooperation to raise awareness of risks and combat modern slavery and other human rights risks.

Sustainable development

The minerals industry is committed to land use co-existence, progressive rehabilitation and supporting alternative post-mining uses, including agriculture and conservation.

Rehabilitation and biodiversity

Australian mining looks after land and wildlife where it operates and outside the mine gate. The industry works with local community groups and farmers to rehabilitate mining land for the best possible outcome. Land rehabilitation and the preservation of biodiversity is part of the planning, operation and closure of every mining project. Voluntary industry conservation initiatives also contribute to biological diversity targets.

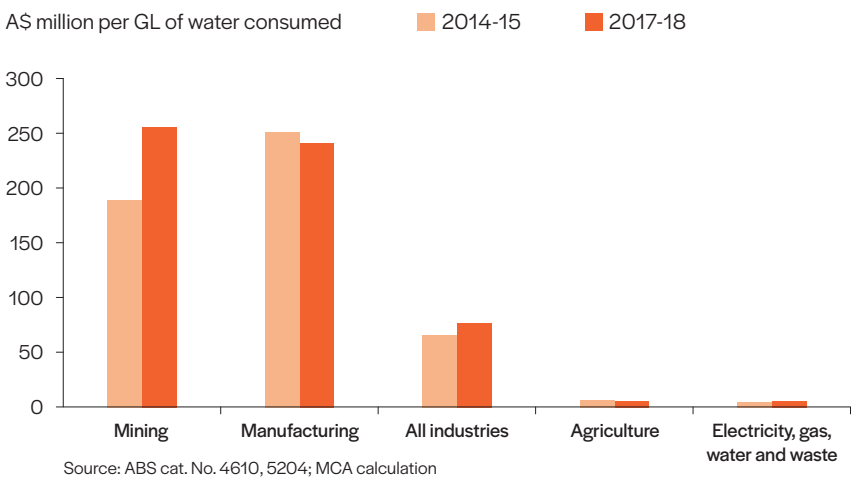
Innovation and leading practice

The Australian minerals industry is a globally recognised innovator in tailings management, mining rehabilitation, water accounting and stewardship practices. The industry developed a water accounting framework that is used around the globe. Sustained industry investment and partnerships with universities and researchers have supported continuous improvement in safety, environmental and social performance.

Contributing to global targets

The United Nation's Sustainable Development Goals increasingly guide the industry's social and environmental activities and investment. The UN SDGs provide a starting point for company action and meet the sector's commitment to continuous improvement. They also assist companies to focus on social investment activities that both meet the goals and align with their operations.

Mining has achieved the greatest rise in value for water use



Source: ABS cat. No. 4610, 5204; MCA calculation

4.5%

WATER USE
Mining industry water consumption in 2017-18.
ABS cat. No. 4610

36%

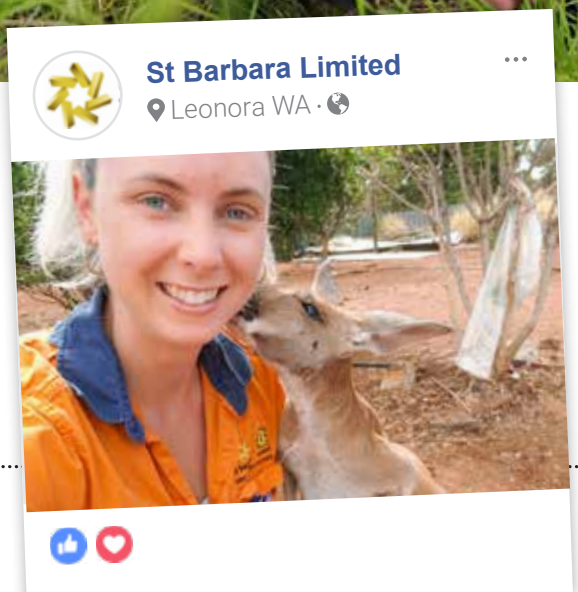
DISTURBED LAND
Proportion of disturbed land under rehabilitation in the Upper Hunter Valley.
Upper Hunter Mining Dialogue

$257m

WATER USE VALUE ADD
Gross added value per gigalitre of water used by the minerals industry.
ABS cat. No. 4160

REHABILITATION
New Hope Group has progressively rehabilitated 664 ha of mined land at its New Acland operations on the Darling Downs since 2002. Around 400 ha of the rehabilitated land is now used for grazing ~75-100 cattle.

Image courtesy of New Hope Group



A CLOSER LOOK

PRESERVING BIODIVERSITY

Preserving biodiversity and protecting native wildlife are an important part of every mining project. Many companies undertake voluntary conservation initiatives, such as Rio Tinto's Amrun project protecting endangered marine turtles from feral pigs in Northern Australia. In the Upper Hunter, Glencore and Aussie Ark are preventing the extinction of native mammals, including the Tasmanian devil. St Barbara's Jane Graham is pictured during a feed donation visit to a wildlife carer near Leonora, a program that demonstrates their commitment to respecting the environment.

Learn more at **moretomining.com.au**

Sustainable development

Policy priorities

- Drive improved biodiversity, water and land management practices through the use of Towards Sustainable Mining system.
- Provide tools to support industry's commitment to continual improvement in sustainability performance.
- Encourage government to promote Australian mining overseas as a responsible and reliable supplier of mineral products.

Economic contribution

The resources sector pays the highest wages, generates substantial economic activity, pays significant tax and delivers more export revenue than all other sectors combined.

Economic contribution

Mining contributes more to the Australian economy than any other industry. The mining and mining equipment, technology and services sectors account for approximately 15 per cent of Australia's gross domestic product and directly and indirectly support 1.1 million jobs – or one in 10 Australian jobs. The mining and METS sector also delivers benefits to other parts of the economy through its demand for intermediate inputs.

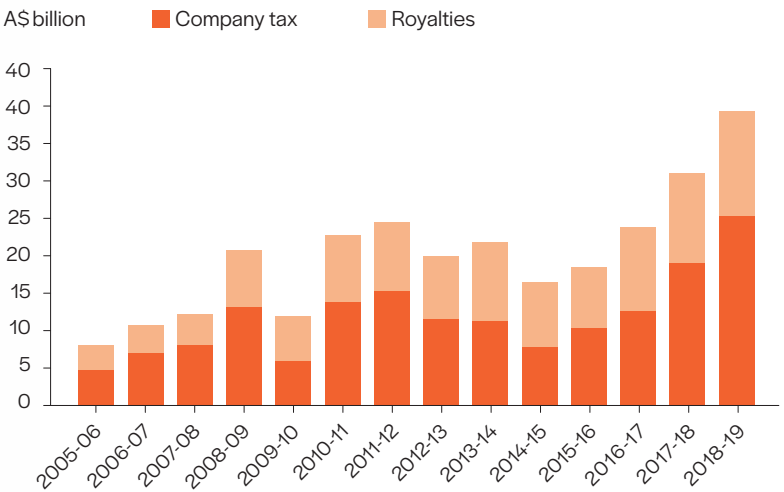
Mining pays its share

The minerals industry paid $25.2 billion in company tax and $14.1 billion in royalties to the Commonwealth and state and territory governments in 2018-19, benefiting all Australians through better services and infrastructure. Since 2006, the industry has paid $281 billion in taxes and royalties – that's enough to build 11,000 schools or 390 hospitals. Mining companies also voluntarily provide millions of dollars every year to support community groups.

Fuel tax credits

Fuel tax credits are critical to regional industries that depend on diesel, including mining, agriculture and tourism. Fuel tax credits ensure that fuel, as a critical business input, is not taxed and that the competitiveness of key industries is not undermined. Importantly, fuel tax credits are not considered a tax expenditure by Treasury, nor as assistance by the Productivity Commission.

Mining industry taxes and royalties



Source: Deloitte Access Economics

$39.3b

TAX & ROYALTIES

Company tax and royalties paid by mining companies in Australia in 2018-19.

Deloitte Access Economics

26%

SHARE OF COMPANY TAX

Paid by the Australian mining industry in 2018-19.

Deloitte Access Economics; ABS cat. No. 5506

3rd ▲

COMPANY TAX RATE

Australian companies paid the third highest company tax rate in the OECD in 2018.

KPMG

GLENCORE AT WORK
In 2019, Glencore provided 18,720 direct jobs for Australians, paid $1.9 billion in wages and salaries, spent $9.5 billion on goods and services, worked with 8660 suppliers and paid $3.4 billion in taxes and royalties to state and federal governments.

Image courtesy of Glencore

A CLOSER LOOK

LITHIUM: A JOBS GENERATOR

Albemarle's MARBL Lithium Joint Venture's Kemerton Lithium Plant near Bunbury in Western Australia has so far generated more than 500 construction jobs with a further 300 operational roles forecast in 2021. The Kemerton Lithium Plant will process spodumene ore to produce lithium hydroxide, making it well placed to meet global growth in the lithium market driven by greater electric vehicle production. According to GlobalData, annual EV output will reach 12.7 million units in 2024 up from 3.4 million units in 2020.

Economic contribution

Policy priorities

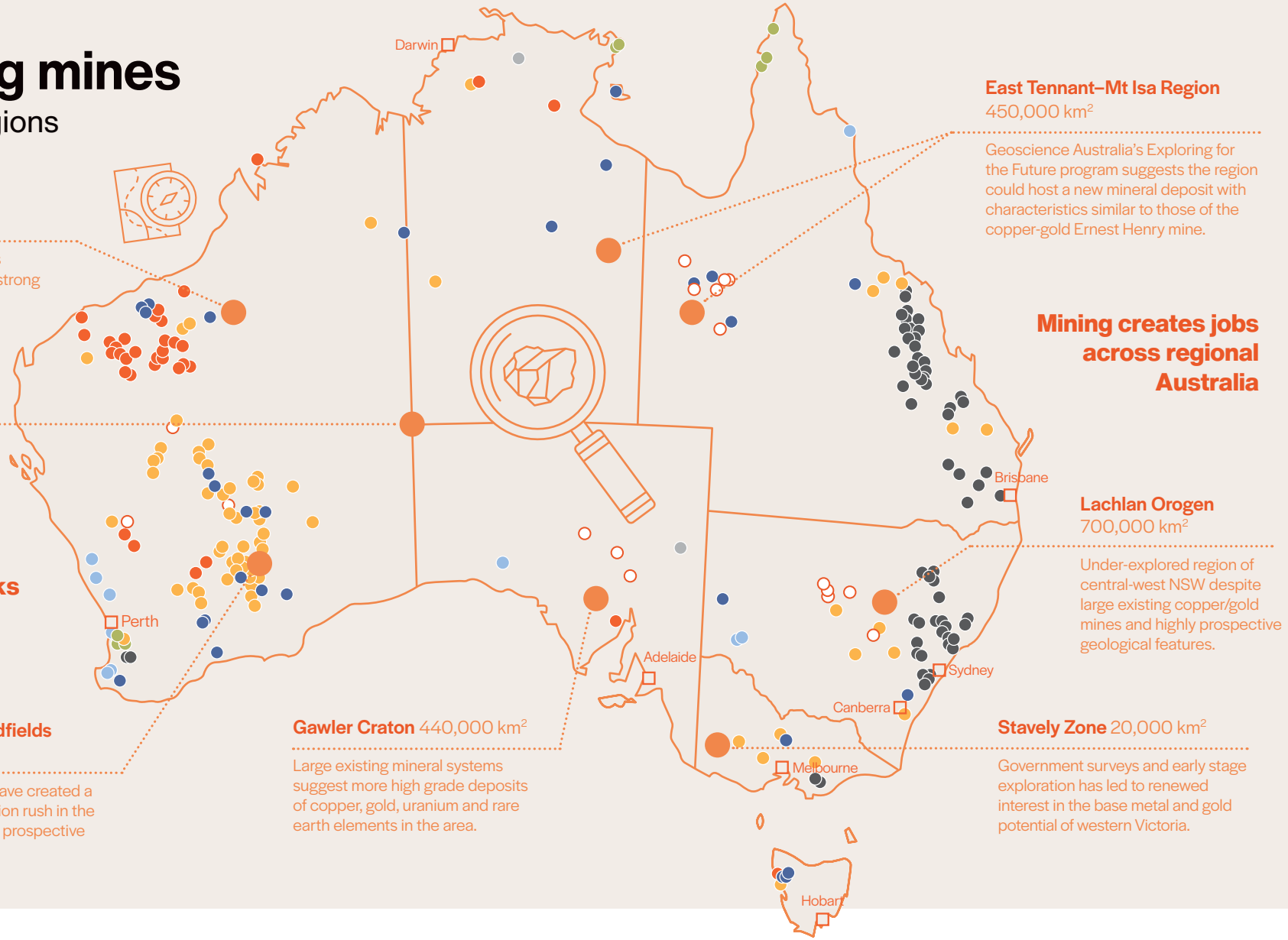
- ✚ Set company taxes at internationally competitive levels to encourage investment.
- ✚ Maintain Australia's longstanding, equitable approach to off-road fuel excise and fringe benefit tax for remote and regional workforces.
- ✚ Maintain tax rules that are consistent with international standards which recognise capital investment needs.
- ✚ Advocate for permanent business investment incentives to encourage a continual pipeline of greenfields development and expansions.

Advantage Australia

RESOURCES UPDATE

Operating mines

& emerging regions



Paterson Province
30,000 km²

Initial work at Newcrest's Havieron project shows strong copper/gold prospects.

Musgrave Province
120,000 km²

An under-explored region with preliminary surveys showing prospects for nickel, copper and gold resources.

Exploration unlocks opportunities for the regions

Kalgoorlie Goldfields
500,000 km²

High gold prices have created a new gold exploration rush in the area, which is also prospective for nickel.

Gawler Craton 440,000 km²

Large existing mineral systems suggest more high grade deposits of copper, gold, uranium and rare earth elements in the area.

East Tennant–Mt Isa Region
450,000 km²

Geoscience Australia's Exploring for the Future program suggests the region could host a new mineral deposit with characteristics similar to those of the copper-gold Ernest Henry mine.

Mining creates jobs across regional Australia

Lachlan Orogen
700,000 km²

Under-explored region of central-west NSW despite large existing copper/gold mines and highly prospective geological features.

Stavely Zone 20,000 km²

Government surveys and early stage exploration has led to renewed interest in the base metal and gold potential of western Victoria.

Operating mines

Source: Geoscience Australia

- Iron ore
- Coal
- Gold
- Bauxite
- Copper
- Uranium
- Tech metals†
- Mineral sands

† Tech metals refers to minerals critical for electronics and batteries (i.e. lithium, rare earths, nickel, cobalt, zinc, manganese, tin and silver).

Western Australia	
Resources jobs	112,885
Economic value	$113.2 b
Share of economy	38.7%
Royalties	$8.5 b
Exploration	$1.69 m

Queensland	
Resources jobs	64,798
Economic value	$50.3 b
Share of economy	13.8%
Royalties	$4.1 b
Exploration	$403 m

South Australia	
Resources jobs	11,698
Economic value	$3.9 b
Share of economy	3.6%
Royalties	$192 m
Exploration	$85 m

Metals essential to the future

Australia's resources will help meet global demand for the minerals required for a low emissions future.

Aluminium

Australia is a key supplier of the aluminium that is used to make vehicles, aeroplanes and food packaging. Continued income growth in emerging economies will underpin greater aluminium demand in the future.

Rare Earth Elements

High-powered magnets made from rare earth elements are critical in electronics, health care and electric vehicles. Australia is a reliable supplier of rare earth elements, with more projects planned to meet world demand.

Copper

Future energy systems will be more dependent on copper to generate and distribute electricity. Australia is already a reliable supplier of copper and is discovering new deposits across the country to meet future demand.

Gold

Gold has provided superior investment returns over the past 20 years. Its role in financial systems is growing with central banks and exchange traded funds increasing their holdings.

Steel

Australia's world-leading iron, metallurgical coal, nickel, manganese and zinc deposits are essential for building the housing and infrastructure that support modern economies. Metallurgical coal is used in 72 per cent of all steel produced globally.

Cobalt

Electric vehicles and grid batteries rely on cobalt and nickel for their energy density. Australia has the world's second largest cobalt reserves and produces cobalt using sustainable mining practices.

Lithium

Lithium is critical to energy storage as the world transitions to a low carbon future. Australia is the world's largest lithium supplier and is ready to meet growing world demand.

Uranium

Nuclear power can supply low cost and zero emissions energy. Australia has the world's largest uranium reserves and can play a key role in helping the world meet the Paris Agreement targets.

New South Wales

Resources jobs	35,033
Economic value	$20.4 b
Share of economy	3.3%
Royalties	$1.7 b
Exploration	$319 m

Northern Territory

Resources jobs	2212
Economic value	$7.5 b
Share of economy	28.8%
Royalties	$382 m
Exploration	$123 m

Victoria

Resources jobs	9355
Economic value	$5.9 b
Share of economy	1.3%
Royalties	$121 m
Exploration	$137 m

Tasmania

Resources jobs	2357
Economic value	$1.2 b
Share of economy	3.9%
Royalties	$32 m
Exploration	$11 m

There's more to
Australian Mining

Australia's mineral wealth

The lucky country

Antimony

Resources	142.7 kt
World rank	4
Production	3.57 kt

Uses

BATTERIES · FLAME RETARDANT · FIREWORKS

Aluminium (Bauxite)

Resources	5118 Mt
Production	107 Mt
Export value	$12.8 b

Uses

WIND TURBINES · FOOD PACKAGING · AIRCRAFT

Ilmenite

Resources	276 Mt
World rank	2
Production	1.4 Mt

Uses

MEDICAL IMPLANTS · SPORTING GOODS · CAR PAINT

Iron ore

Resources	49,604 Mt
Production	918 Mt
Export value	$102 b

Uses

TRANSPORTATION · BUILDINGS · APPLIANCES

Lead

Resources	35.8 Mt
Production	501 kt
Export value	$1.7 b

Uses

ROOFING · CAR BATTERIES · RADIATION SHIELD

Rutile

Resources	35.4 Mt
World rank	1
Production	0.2 Mt

Uses

CAR PAINT · MEDICAL IMPLANTS · SPORTING GOODS

Silver

Resources	88.4 kt
Production	1356 t
Export value	$201 m

Uses

SOLAR PANELS · MEDICINE · WATER PURIFICATION

Tantalum

Resources	99.3 kt
World rank	1
Production	0.06 kt

Uses

AIRCRAFT · CAPACITOR · NUCLEAR ENERGY

Coal (Black)

Resources	73,719 Mt
Production	451 Mt
Export value	$55 b

Uses

CARBON FIBRE · ELECTRICITY · STEEL

Cobalt

Resources	1353 kt
Production	4.9 kt
World rank	2

Uses

ELECTRIC CARS · BATTERIES · CERAMICS

Copper

Resources	88.2 Mt
Production	891 kt
Export value	$9.9 b

Uses

TELEVISION · ELECTRICITY GRIDS · INSTRUMENTS

Diamond

Resources	25.5 Mc
Production	10.6 Mc
Export value	$539 m

Uses

DRILL BITS · CEMENT CUTTING · JEWELLERY

Gold

Resources	10,165 t
Production	328 t
Export value	$25.7 b

Uses

INVESTMENT · MEDICAL DEVICES · JEWELLERY

Graphite

Resources	7.25 Mt
World rank	8
Production	n/a

Uses

ELECTRIC CARS · SPORTING GOODS · NUCLEAR POWER

Lithium

Resources	4718 kt
World rank	2
Production	57 kt

Uses

ELECTRIC CARS · SMART PHONES · MEDICATIONS

Manganese

Resources (ore)	232 Mt
World rank	5
Production (ore)	7 Mt

Uses

BRIDGES · RAILWAY TRACK · ELECTRIC CARS

Molybdenum

Resources	171 kt
World rank	8
Production	n/a

Uses

ARMOUR · BUILDINGS · PETROL REFINING

Nickel

Resources	19.7 Mt
Production	162 kt
Export value	$3.7 b

Uses

STEEL · FOOD PROCESSING · ELECTRONICS

Potassium (Potash)

Resources	72 Mt
World rank	11
Production	n/a

Uses

DETERGENTS · FERTILIZER · MATCH HEADS

Rare earth elements

Resources (oxide)	4.12 Mt
World rank	6
Production (oxide)	19 kt

Uses

WIND TURBINES · SPEAKERS · MEDICAL IMAGING

Tin

Resources	430 kt
Production	7.5 kt
Export value	$167 m

Uses

TIN CANS · TOUCHSCREENS · MAGNETS

Tungsten

Resources	394 kt
World rank	2
Production	<1 kt

Uses

MICROWAVE OVENS · DRILL BITS · TELEVISION

Uranium

Resources	1325 kt
Export volume	7195 t
Export value	$688 m

Uses

SHIPS · ELECTRICITY · MEDICINE

Vanadium

Resources	4646 kt
World rank	3
Production	n/a

Uses

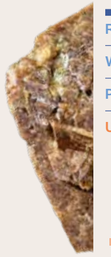
GRID BATTERIES · JET ENGINES · CAR SUSPENSION

Zinc

Resources	66.9 Mt
Production	1.4 Mt
Export value	$3.6 b

Uses

VEHICLES · FARM MACHINERY · WATER PIPES



Zirconium (Zircon)

Resources	79.9 Mt
World rank	1
Production	0.5 Mt

Uses

SURGICAL INSTRUMENTS · CAMERA FLASH · CATALYTIC CONVERTERS

Australia's minerals are helping to build a sustainable future

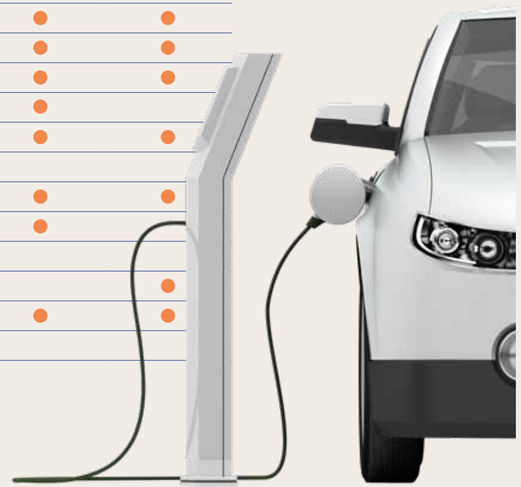
	Wind	Solar (PV)	CCS	Nuclear	Electric vehicles	Battery storage
Aluminium	●	●	●	●	●	●
Coal	●	●	●	●	●	
Cobalt	●		●	●	●	●
Copper	●	●	●	●	●	●
Graphite				●	●	●
Iron ore	●	●	●	●	●	●
Lithium					●	●
Manganese	●	●	●	●	●	●
Mineral sands	●	●		●	●	
Rare earth elements	●	●	●	●	●	●
Silver		●				
Nickel	●	●	●	●	●	●
Silicon	●	●	●	●	●	
Uranium				●		
Vanadium	●		●	●		●
Zinc	●	●	●	●	●	●
Zirconium				●		

OPINION

In post-pandemic renewables boom, Australia is once again the lucky country

Sydney Morning Herald, 22/5/2020

"Australia is probably the best placed country in the world to tap into the switch to renewable energy in coming decades."



There's more to Australian Mining

CLIMATE ACTION PLAN

SPECIAL REPORT

The Australian minerals industry is committed to climate action

The **MCA Climate Action Plan** demonstrates the ongoing commitment by the Australian minerals industry to decarbonising the economy and addressing climate change.

Launched in 2020, the plan outlines how the MCA and its members are taking action on climate change as part of the minerals sector's collective commitment to the Paris Agreement and its goal of net zero emissions globally and in Australia.

Sustained climate action across all nations is required to reduce the risks of human-induced climate change and to support world-wide decarbonisation as we transform to a lower emissions future.

The scale of the technology-led transformation required will not occur without the minerals and raw materials provided by the Australian mining sector.

The MCA Climate Action Plan is made up of 10 actions (see next page) to support three core objectives:

1. Enabling the potential of technology to decarbonise the minerals sector
2. Increasing transparency in reporting
3. Sharing of practical knowledge on climate responses.

Read more and download the plan at **minerals.org.au**

ACTION 1

Enhance national and global discussions on low emissions technologies and report on the potential of innovative mitigation and adaptation technologies.

ACTION 2

Define a greater role for the minerals sector in the global and national transformation to lower emissions.

ACTION 3

Support the development of policies and technologies to achieve least-cost abatement in order to help meet the net zero emissions goal of the Paris Agreement and maintain the competitiveness of energy-intensive and trade-exposed sectors.

ACTION 4

Understand the opportunities and risks of net zero emissions for the Australian minerals sector having regard to the Australian Government's commitments under the Paris Agreement and the aspirations set by the states and territories.

ACTION 5

Build the capacity of Australia's minerals sector relating to climate-related financial disclosures (including from the Taskforce on Climate-related Financial Disclosure).

ACTION 6

Share member company approaches to scenario analysis and how it is being strategically used within the sector to address climate-related opportunities and risks.

ACTION 7

Engage in the ongoing development of current policies including the Safeguard Mechanism.

ACTION 8

Showcase commitments and practices in mining operations.

ACTION 9

Lead discussions on the opportunities of commodity stewardship.

ACTION 10

Positively engage in relevant climate agendas and public consultation processes including UNFCCC, Sustainable Development Goals (SDGs), Intergovernmental Panel on Climate Change (IPCC), as well as collaboration with relevant organisations.

CLIMATE ACTION PLAN

Climate action

To achieve net zero emissions, Australia requires a stable policy framework that enables all low emissions technologies to be developed, compete and contribute to decarbonising the economy.

The MCA Climate Action Plan

The MCA and its member companies support the Paris Agreement's goal of global net zero emissions. The industry is also taking rapid climate action and a strong pro-active approach on research and deployment of technologies. More opportunities exist in pursuing decarbonisation. The MCA Climate Action Plan focuses on practical actions, technology development, knowledge sharing and increasing transparency.

Materials for the future

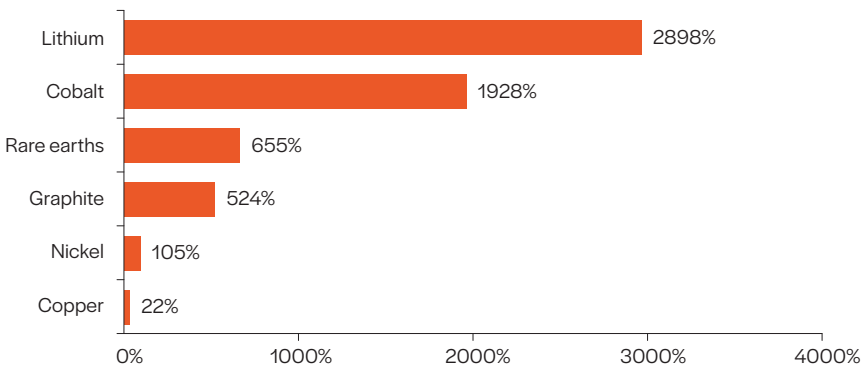
A low emissions future will require the accelerated development of the minerals required for the manufacture of low emissions technologies including aluminium, copper, nickel, zinc, iron, base metals, lithium, mineral sands and rare earth elements. Global partnerships with governments, customers, technology developers, universities and NGOs will drive the new cost-effective technologies using these materials.

Competitive, reliable energy

A technology-neutral approach to energy and climate policy will ensure Australia develops an internationally competitive, reliable, low emissions energy system – essential for Australia's continued development and prosperity, and crucial to maximising value-adding minerals processing opportunities. Technologies could include renewables, hydrogen, carbon capture utilisation and storage and advanced nuclear solutions.

The take up of EVs will drive demand for Australia's minerals

Impact on world mineral demand of only producing electric vehicles



Source: Visual Capitalist

$300 m

INDUSTRY FUND

Committed to LET Australia to support low emissions technologies including CCS.

Low Emissions Technology Australia

90%

CO_2 REDUCTION

Carbon emissions reduction achievable with deployment of carbon capture and storage.

Low Emissions Technology Australia

600 kL

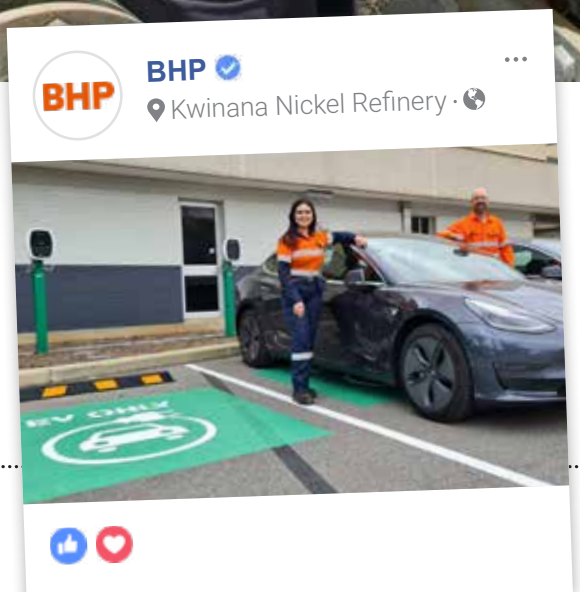
DIESEL SAVINGS

Annual saving through the installation of 18,000 solar panels at Rio Tinto's Weipa mine.

Rio Tinto

CARBON NEUTRAL
Anglo American aims to achieve carbon neutrality across its operations (Scope 1 & 2) by 2040 in line with its sustainability strategy FutureSmart Mining™. Anglo American has also partnered with ENGIE to develop the world's largest hydrogen-powered haul truck.

Image courtesy of Anglo American



A CLOSER LOOK

AN ELECTRIC FUTURE

Electric vehicles are being trialled and used on mine sites as companies drive operations towards carbon neutrality. BHP has expanded its pilot program for electrified Land Cruisers after successful testing at Olympic Dam in South Australia. It has also installed an EV charging station at its Kwinana Nickel Refinery for use by team members. Haul trucks are the next frontier with a hybrid haul truck that uses a lithium-ion battery and hydrogen fuel cell under development by Anglo American.

Climate action

Policy priorities

- Engage the community and work with governments to meet international emissions reduction goals.
- Ensure Australia's policy focus remains on facilitating least cost abatement including access to international abatement outcomes.
- Ensure the evolving frameworks of the Emissions Reduction Fund and the Safeguard Mechanism continue as the mainstay of Australia's future climate policy settings while ensuring energy-intensive and trade-exposed industries remain competitive.
- Remove barriers that slow the deployment of scalable, cost-effective low emissions tools, including nuclear and fossil energy technologies such as CCUS.

Advantage Australia

Future prospects

Australia's world-leading capabilities in geoscience research, drilling technologies and data analytics will drive the next wave of mining investment, jobs and government revenue.

Entrepreneurial spirit

Minerals exploration represents the best of Australia's entrepreneurial spirit, using advanced geoscience including artificial intelligence to search for opportunities across regional Australia. For mining companies, exploration is like R&D expenditure – an investment to develop a business opportunity without any guarantee of success. It can often take more than a decade to convert exploration success into an operating mine.

Exploration investment

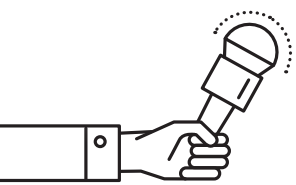
Australia is one of the world's premier destinations for minerals exploration investment. Despite decades of exploration activity across the country, there remains significant potential to discover mineral deposits in new greenfield regions and explore deeper undercover in existing regions – unlocking mineral wealth to create new jobs in regional areas and deliver substantial economic benefits for all Australians.

Precompetitive geoscience

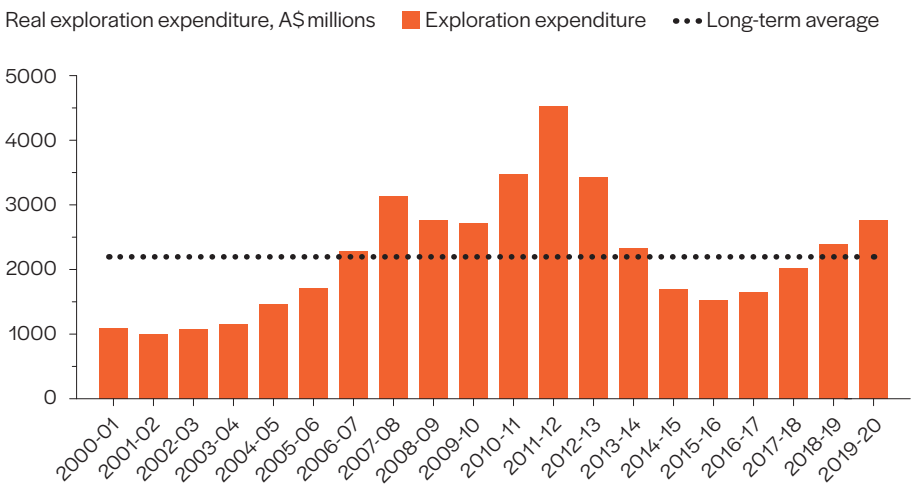
Australia is endowed with vast mineral wealth, but there is strong competition from emerging mining regions around the world for a limited pool of capital. Government support via precompetitive geoscience and drilling programs are essential to attract new investment which targets greenfield areas in Australia. These programs are proven to yield significant national economic returns through greater investment in mine development.

GEOSCIENCE AUSTRALIA
2017-2022 National Mineral Exploration Strategy

"Most of the long-life profitable mines have been found in 20% of the Australian continent... The remaining 80% of the continent represents a largely unexplored or under-explored opportunity..."



Exploration investment has not kept up with commodity demand

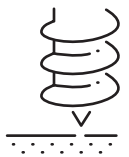


Source: ABS Mineral and Petroleum Exploration, cat. No. 8412, June 2020

$2.8b

EXPLORATION SPEND
Mining company exploration investment in 2019-20.
ABS cat. No. 8412

39%



BELOW PEAK
Exploration is 39 per cent lower than the 2011-12 peak.
ABS cat. No. 8412

42%

GOLD EXPLORATION
Exploration for gold accounted for 42 per cent of exploration investment in 2019-20.
ABS cat. No. 8412

URANIUM PROJECTS

Vimy Resources' Mulga Rock is Australia's largest advanced uranium project and could be WA's first uranium mine. Other prospective uranium projects are Boss Resources' Honeymoon (SA), Cameco's Yeelirrie (WA) and Toro Energy's Wiluna (WA).

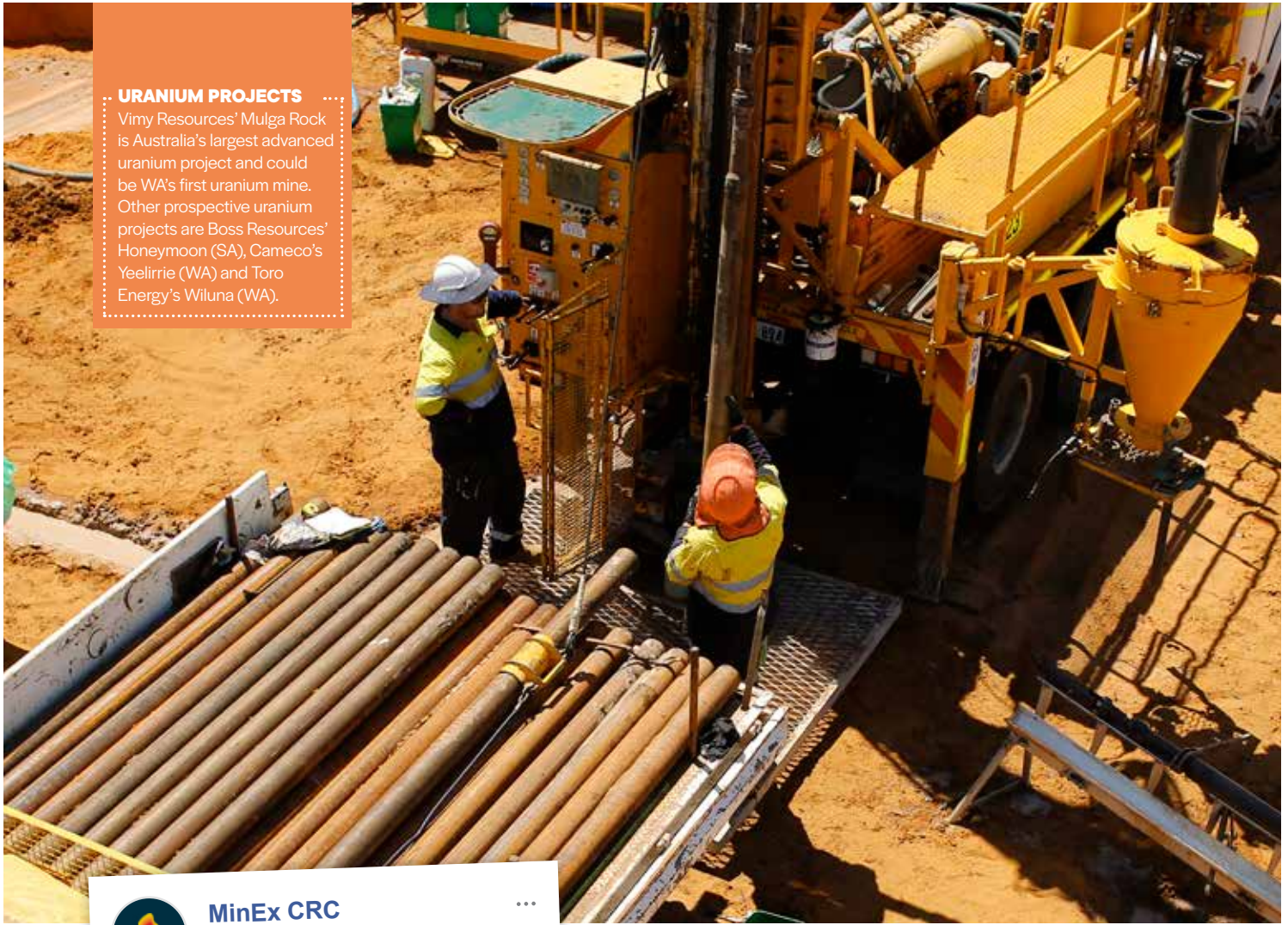


Image courtesy of Vimy Resources

A CLOSER LOOK

TECH DRIVES MINERAL EXPLORATION

MinEx CRC has launched a world-first National Drilling Initiative to support the search for new mineral deposits in Australia. Innovative technologies still under development are being deployed to reduce the environmental footprint of drill programs, improve safety and deliver more detailed information. In collaboration with Geoscience Australia and state and territory geological survey organisations, holes are being drilled in regions to better understand the geology in three dimensions.

Future prospects

Policy priorities

- Increase national funding for shared precompetitive data collection, improved geological databases and greenfield exploration incentive schemes.
- Invest in collaborative industry research programs that develop new exploration technologies.
- Continue immediate deductibility of exploration expenses and extend the Junior Minerals Exploration Incentive Scheme.
- Focus government's $125 million Exploring for the Future program on identifying prospective mineral systems in central Australia.

Advantage Australia

Trade & investment

Trade, investment and economic co-operation maximise opportunities for Australia's minerals industry to boost national income, generate government revenue and create high value jobs.

Emerging opportunities

Global consumption of mineral and energy commodities will continue to grow in the 21st century as incomes rise in emerging economies. Demand for steel and energy in Asia has already driven record iron ore and coal exports from Australia. As new energy, transport and health care technologies emerge, there will be even greater opportunities for Australia to export the range of minerals and metals used in high tech manufacturing.

Attracting new investment

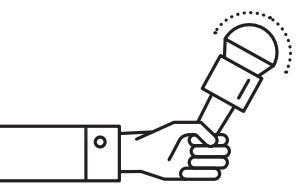
International investment has helped mining become the nation's most successful global industry, bringing with it new technologies, skills and capabilities. Continuing current production levels relies on sustaining capital investment of approximately $20 billion per annum. Future projects will come from small and medium sized gold, base metal and rare earth projects using innovation, technology and creating new export opportunities.

More jobs for Australians

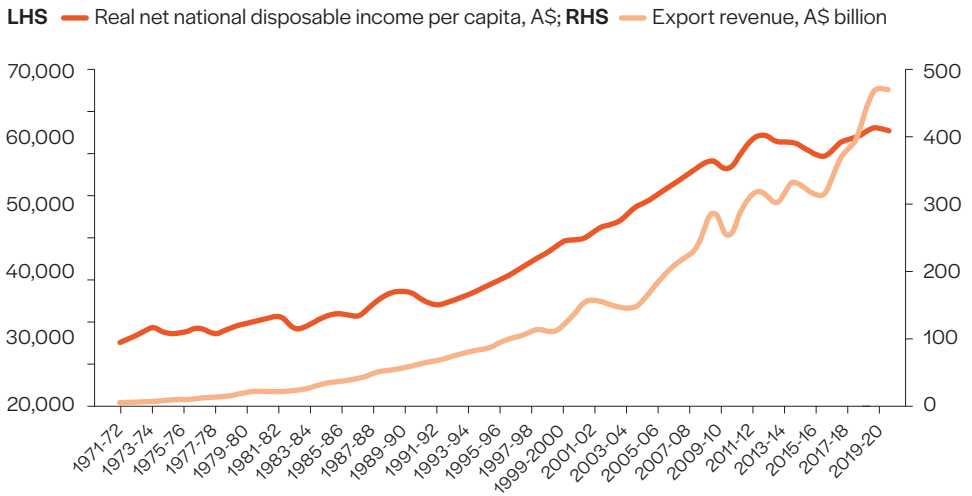
Australia's openness to trade and investment drives innovation and job creation. One in five Australian jobs are trade-related. Exporting companies on average have workforces 24 per cent larger than non-exporting companies and pay 11.5 per cent higher wages, according to the Department of Industry, Science, Energy and Resources. Trade and investment boost economic growth, support jobs and improve living standards.

PETRI & PLUMMER
Economists

"Deeper integration through regional agreements will generate additional trade and output gains in Australia's sectors of comparative advantage."



Trade drives higher disposable income



Source: ABS cat. No. 5204; ABS cat. No. 5368

$283b

EXPORT VALUE
The value of Australia's resources exports in 2019-20.
ABS cat. No. 5368

60%

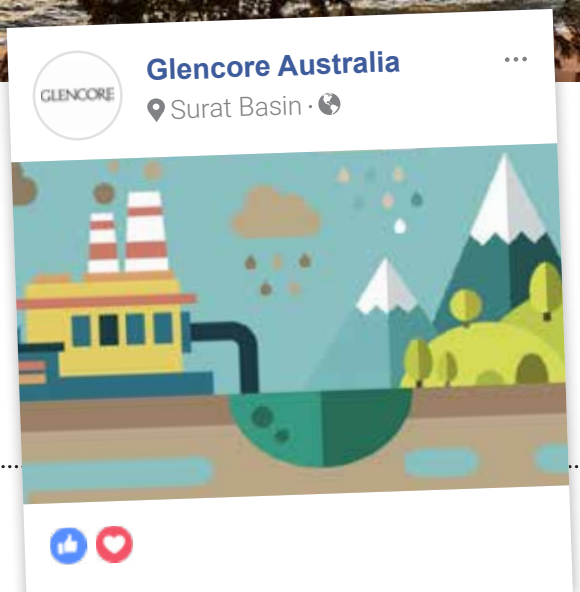
SHARE OF EXPORTS
Resources share of total export revenue in 2019-20.
ABS cat. No. 5368

$20b

INVESTMENT PER YEAR
Capital required to maintain existing production capacity. New jobs would require more.
MCA analysis of ABS cat. No. 5625

SHIPPING NEWS
Rio Tinto's Chith Export Facility supports its Amrun bauxite mine in Far North Queensland. Chith is one of more than 40 ports around the country that underpin the vast mining industry.

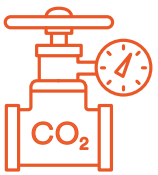
Image courtesy of Rio Tinto



A CLOSER LOOK

FDI DRIVES CCUS IN AUSTRALIA

One of Australia's most advanced onshore carbon capture use and storage (CCUS) projects is the beneficiary of the innovation and knowledge sharing that comes through foreign direct investment. Glencore's Carbon Transport and Storage Company (CTSCo) project in the Surat Basin involves collaboration with Intergen and the Huaneng Clean Energy Research Institute. CTSCo, with support from Low Emission Technology Australia (LETA) aims to capture CO_2 from the Millmerran coal-fired power station and store it safely underground, with the potential to become a large scale CCUS hub in Queensland.



Trade & investment

Policy priorities

- Promote strategies to maintain all existing trade relationships as well as looking for new markets.
- Ensure Australia's foreign investment and domestic policy and regulatory settings make Australia a competitive destination for investment.
- Work with all nations to promote multilateral trade arrangements, support economic integration, counter protectionism and maintain a global rules-based order through the World Trade Organisation.
- Pursue more free trade agreements expanding export markets and strengthening investment relationships with South East Asia, India, the United Kingdom and Europe.

Advantage Australia

Approvals & regulation

Reducing delays in approvals and removing or changing unnecessary regulation increases confidence and boosts investment, productivity and employment in the Australian minerals industry.

A heavy regulatory burden

The minerals industry is highly regulated across all stages of industry activity: grant of tenure, exploration, extraction, processing, transport and mine closure through to relinquishment of tenure. While regulation helps society to achieve its objectives, it is not free. Delays in approvals and poor and unnecessary regulation detract from productive activity and ultimately negatively affect national living standards.

Efficient regulation is key

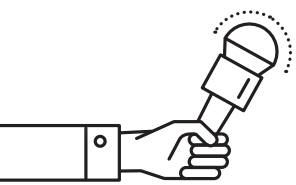
Australia's duplicative project assessment and approval processes generate delays and uncertainty. As a price-taker in global markets, the minerals industry has a vital interest in efficient, stable and risk-based regulatory systems. A risk-based approach is more efficient than prescription and well-designed environmental regulation helps ensure business and community confidence in Commonwealth and state and territory governance processes.

Environmental regulation

The independent review of the *Environment Protection and Biodiversity Conservation Act 1999* found ongoing overlap between federal and state and territory approvals and inefficient, process driven regulation. Many reforms proposed by the review will support a more efficient and effective environmental approval and protection regime. Complex and duplicative project assessments are a barrier to attracting investment.

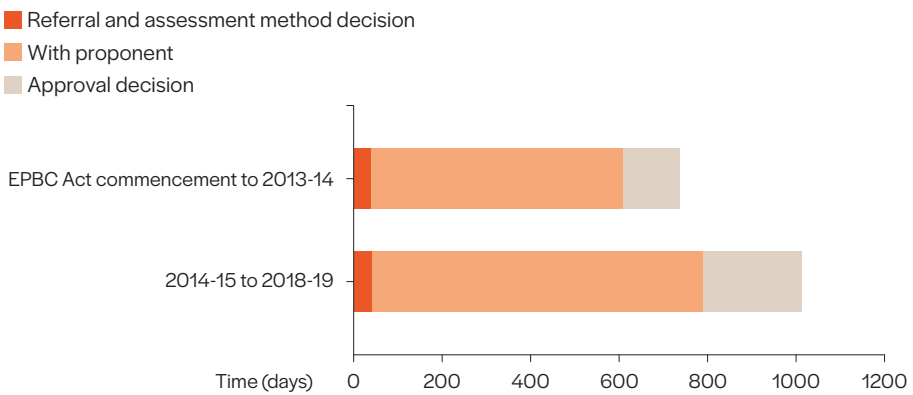
DR PHILIP LOWE
Governor of Reserve Bank

"We stop the downside through regulation, but the culture that's coming together with that regulation is limiting the upside and the dynamism in the economy."



Environmental approvals can take years to secure

Average time for environmental approval decisions under the EPBC Act



Source: Productivity Commission

$240m

REGULATORY COSTS
Cost of unnecessary regulations on major projects.
Productivity Commission

3 years

FEDERAL APPROVAL
Average time taken for EPBC Act assessments and approvals.
Productivity Commission

$47m

COST TO BUSINESS
Annual cost to business imposed by the EPBC Act water trigger.
Commonwealth of Australia

SOLAR POWER
Bravus' 65 MW Rugby Run Solar Farm boasts more than 247,000 solar panels across 600 hectares near Moranbah, Queensland. The project produces enough energy to power 23,000 homes and businesses.

Image courtesy of Bravus

A CLOSER LOOK

GRAZING TRIALS ON FORMER COAL PIT

Rehabilitation of Peabody's Wilkie Creek site in Queensland's Surat Basin is now over 60% complete. Works have included backfilling of open cut voids and re-shaping of dumps since coal mining ceased in 2013. Paddocks and cattle watering systems will support the end land use of grazing. Consultation continues to inform post-mine planning with grazing trials, including more than 50 cattle on a rehabilitated backfilled pit, delivering positive results for neighbouring graziers.

Approvals & regulation

Policy priorities

- Implement key regulatory reforms identified by the Productivity Commission inquiry into resources sector regulation.
- Implement key operational and administrative reforms to improve the efficiency of the EPBC Act.
- Progress major structural reforms to fully integrate state and Commonwealth environmental approvals.

Minerals processing

The refining, smelting and processing of raw materials into manufactures will need access to expertise, technology and competitive costs on business inputs.

Critical opportunities

Downstream processing requires productive workplaces, internationally competitive and reliable energy supplies, access to capital, technology and know-how, and sufficient long term demand to help underwrite the finance required. Growing demand for rare earth minerals and high performance metals provides an opportunity for Australia to rethink and renew its downstream processing.

Technology leader

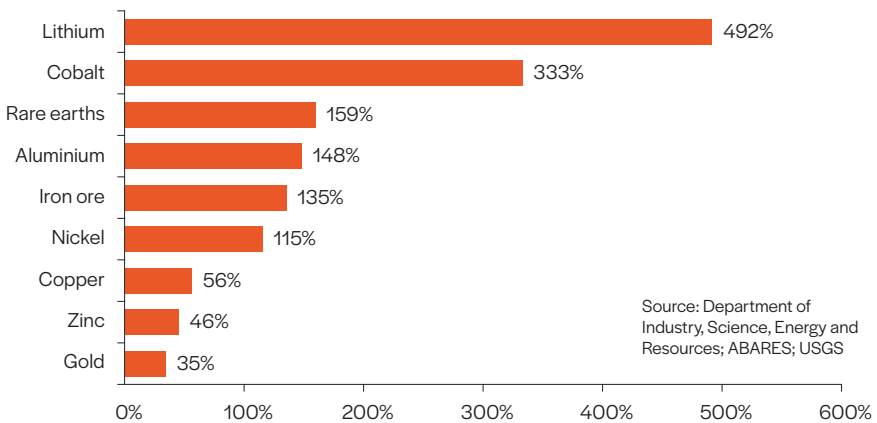
The mining industry is a world leader in developing and adapting transformative technologies, from automated drills to trucks to shovels to conveyors to trains. Opportunities to accelerate technological innovation in mining and mining equipment, technology and services and low emissions energy should be fast-tracked by encouraging investment and ensuring that the METS sector is fully integrated into manufacturing policy.

Pump-prime investment

The Australian mining sector is built on private investment. Governments can help leverage that investment into new opportunities. Proposed changes to the Northern Australia Infrastructure Facility and Clean Energy Finance Corporation to expand the reach of concessional loans should be legislated. The minerals industry shares the policy commitment that these proposals always retain the obligation that ventures make a commercial return.

Global demand for minerals presents opportunities for Australia

Growth in world mine production 2000-2019



Source: Department of Industry, Science, Energy and Resources; ABARES; USGS

2997

MINING PATENTS

Australian mining patents filed between 1997 and 2015.

IP Australia

$1b

RESEARCH & DEVELOPMENT

Mining expenditure on research and development in 2017-18.

ABS cat. No. 8104

$8.9b

CAPITAL EXPENDITURE

Capital expenditure for metal and non-metallic manufacturing from June 2015 to June 2020.

ABS cat. No. 5625

RARE EARTHS

Lynas is the world's second largest supplier of rare earth materials with plans to build a processing plant at Kalgoorlie to support its Mt Weld operations. Other rare earth projects are under development in Australia, such as Arafura's Nolans project in the NT.

Image courtesy of Lynas Corporation

A CLOSER LOOK

FOSTERVILLE RIDING A WINNER

The 2020 Melbourne Cup was made from gold mined at Kirkland Lake Gold's Fosterville mine in Victoria. Production of the 18-carat Cup, which contains 1.65 kg of gold, required the collective efforts of gold miners, chemists, refiners, spinners and goldsmiths. Fosterville's recent successes – it mined a record 619,366 ounces in 2019 – are credited with a resurgence in gold exploration in Victoria. Experts predict there are around 80 million gold ounces yet to be unearthed.

Minerals processing

Policy priorities

- Support bodies that enhance collaboration between the mining and METS sector and research organisations.
- Support public-private research in low emissions resources technology projects such as the Carbon Transport and Storage Company project in Queensland.
- Implement policies to support the development of downstream manufacturing.
- Develop a nationally coordinated approach to support infrastructure, transport networks and other costs.
- Participate in government's modern manufacturing strategy to progress minerals development and processing, in parallel with broader reforms to promote investment and productivity.

Advantage Australia

Reliable global supplier

Australia exports resources which improve the lives of billions of people around the world – raising living standards, fuelling growth and creating prosperity.

Iron ore and coal exports

Steel making and affordable energy production ensure robust demand for Australia's high quality iron ore and coal. Australia's mineral and energy commodities have helped improve the lives of billions of people, particularly across Asia. Increased use of low emission technologies such as carbon capture and storage alongside high quality coal means Australia will continue to provide the resources to reduce poverty and drive growth.

Zero emissions nuclear energy

Australia has one-third of the world's uranium resources which will be increasingly important in a decarbonising world. Nuclear energy provides around 10 per cent of the world's electricity with zero emissions. With more than 450 nuclear plants in 31 countries, nuclear energy is safe, reliable and affordable. Small modular reactors are the next generation of nuclear tech and importantly for Australia can be integrated with existing power grids.

Responsible stewardship

Australia's resources sector is at the forefront of effectively managing the life-cycle use of resources through a focus on product stewardship. This is achieved by working with international customers to deliver more efficient and cleaner ways of producing end products using new technologies. The good news is that all metals have an infinite lifecycle. A washing machine or refrigerator purchased today, for example, will contain recycled steel.

No.1

IRON ORE

Australia has the world's largest reserves of iron ore.

Geoscience Australia

No.2

TECH METALS

Australia has the world's 2nd largest reserves of lithium, nickel, cobalt, bauxite and copper.

Geoscience Australia

72%

METALLURGICAL COAL

Coal is used in 72 per cent of all steel produced globally.

World Steel Association

x2 ▲

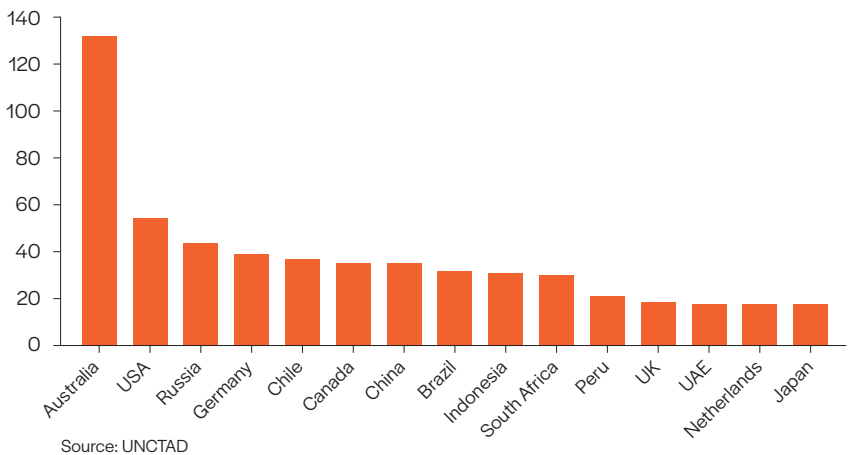
COPPER DEMAND

Between today and 2050 the world economy will consume more copper than in the previous 5000 years.

USGS

Australia's minerals and metals exports underpin global prosperity

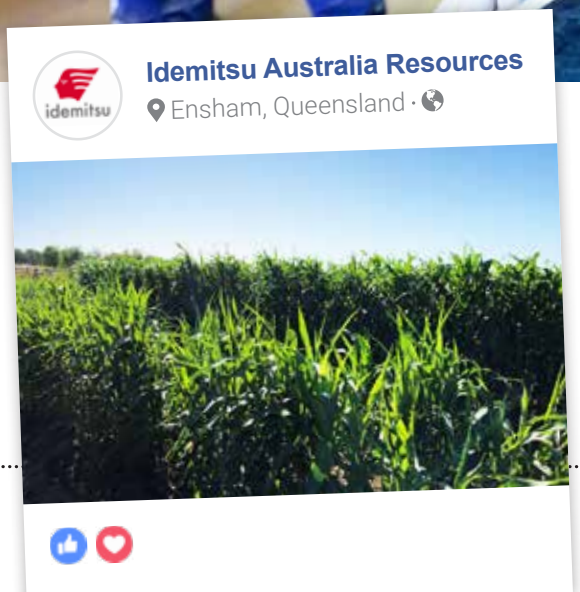
Export value of minerals and metals, US$ billion, 2019



Source: UNCTAD

GOLDEN CENTURY
Ore samples are tested at St Barbara's Leonora operations in Western Australia. The laboratory also carries out analysis that supports the treatment of tailings in line with their stringent environmental standards.

Image courtesy of St Barbara



A CLOSER LOOK

BIOMASS TRIAL HOLDS GLOBAL PROMISE

Idemitsu Australia Resources has launched a biomass trial at its Ensham coal mine near Emerald in Central Queensland. The project is trialling different fast-growing crops, such as sorghum, for commercial pelletisation which will be used to fuel Japanese power stations. Pellets from organic substances can be used as an alternative to fossil fuels and create fewer emissions when burned. Depending on the outcome of trials, Idemitsu may develop a large-scale cropping and pelletisation plant at Ensham.

Reliable global supplier

Policy priorities

- Maintain Australia's international reputation as a responsible and reliable supplier of quality resources that underpin economic development, particularly in Asia.
- Develop industries to meet emerging demand for minerals that build renewable energy and low emissions technology.
- Work with end users on developing and applying new technologies that deliver cleaner and more efficient production processes.

Advantage Australia

SUSTAINABLE DEVELOPMENT GOALS

Australian mining
& the UN SDGs

Australia's mining industry improves the lives of millions of people here and overseas through the responsible mining of minerals that are essential for everyday life.

Communities

From protecting mine workers and communities during COVID-19 to providing emergency medical services, funding childcare, supporting grassroots sporting organisations to building enduring partnerships, the mining sector demonstrates its commitment to the wellbeing of Australian communities.

Jobs

Australia's mining industry is contributing to the national task of a jobs-led economic recovery. The sector is doing this through its continued focus on skills and apprenticeships, opportunities for Indigenous people and greater workforce diversity, and delivering broader value through taxes and royalties that support infrastructure and services across Australia.

Investment

Mining companies are driving change by investing in clean energy, deploying electric vehicles on mine sites and streamlining operations to improve efficiencies and reduce waste. Mining investment is also developing the new technologies and unearthing the critical minerals the world needs for a low emissions future while sustaining communities across Australia.

There's more to

Australian Mining

minerals.org.au

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JANUARY 2021

Advantage Australia

Advantage Australia

Minerals Council of Australia

minerals.org.au