



Australian Government

NATIONAL RESOURCES STATEMENT



NATIONAL RESOURCES STATEMENT

© Commonwealth of Australia 2019

Ownership of intellectual property rights

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.

The Department of Industry, Innovation and Science would like to acknowledge the Minerals Council of Australia, Australian Petroleum Production & Exploration Association and its member companies, BHP, Civil Mining Environmental Photography Services, Deep Exploration Technologies CRC, Glencore, New Hope Group, Newcrest Mining Limited, Rio Tinto for providing images included in this publication.

Unless otherwise noted, images used in this publication have been sourced from Getty Images, gettyimages.com.au.

Creative Commons licence



Attribution CC BY 3.0

All material in this publication is licensed under a Creative Commons Attribution 3.0 Australia Licence, save for content supplied by third parties, logos, any material protected by trademark or otherwise noted in this publication, and the Commonwealth Coat of Arms.

Creative Commons Attribution 3.0 Australia Licence is a standard form licence agreement that allows you to copy, distribute, transmit and adapt this publication provided you attribute the work. A summary of the licence terms is available from creativecommons.org/licenses/by/3.0/au/. The full licence terms are available from creativecommons.org/licenses/by/3.0/au/legalcode.

Content contained herein should be attributed as Commonwealth of Australia National Resources Statement.

This notice excludes the Commonwealth Coat of Arms, any logos and any material protected by trade mark or otherwise noted in the publication, from the application of the Creative Commons licence. These are all forms of property which the Commonwealth cannot or usually would not license others to use.

ISBN: 978-1-922125-56-9 (online)

ISBN: 978-1-922125-57-6 (print)

Produced by: Department of Industry, Innovation and Science

Designed by: Department of Industry, Innovation and Science

FOREWORD

Perhaps the most famous history of the Australian resources sector, written by Geoffrey Blainey, is titled “the rush that never ended”.¹ Australia’s resources sector continues to boom. Since the mid-2000s, employment, production and tax revenues in and from the resources sector have all more than doubled, and wages have increased by approximately 48 per cent or 18 per cent in real terms.^{2,3} Australia’s resources sector—encompassing mining, oil and gas development, mining services and the people and communities around them—has never been more important to our economic wealth and prosperity than it is today.

However, there is no guarantee that our resources sector will maintain this record. We have got to where we are, in large part, through consistent and progressive policy settings that have attracted investment and supported employment. The opportunity to grow our resources sector remains but so does the challenge to continue the open and supportive policy settings that have helped the sector grow.

That is why the Australian Government is publishing the first National Resources Statement for two decades. Last year, the government commissioned the Resources 2030 Taskforce, chaired by Mr Andrew Cripps, a former Queensland Minister for Natural Resources and Mines. He was supported by experts from business, academia and local government. Their report showcases Australia’s recognised strengths, the opportunities on offer, as well as the challenges we must meet if we are to stay number one. This statement builds on their recommendations informed by widespread consultation.

In particular, it responds to the need identified in the taskforce report to maintain our investment attractiveness and competitiveness against emerging competitors, replenish our Tier One resources base for future generations, and ensure local skills, community acceptance and sound regulatory frameworks exist to operationalise new projects. Getting these right will allow Australia to better capitalise on global market opportunities as they arise.

This statement sets out a vision to have the world’s most advanced, innovative and successful resources sector that delivers sustained prosperity and social development for all Australians. It is a challenging goal but an achievable one given our proud history in resources and the significant future opportunities before us.

To stay at the top of your game is challenging, and to do so we must continue to improve and adapt. We need to ensure that the sector operates in a globally competitive business environment and better promote our abilities to the world. We need to better leverage our world-class scientific and research capabilities to develop the new knowledge, processes and technologies that will lead to finding new resources and develop the new industries of tomorrow.

Of most importance, this is a sector about people and communities. The resources sector must continue to deliver secure employment and opportunities for its people and the communities it operates in, while putting safety and environmental stewardship at the heart of what it does.

To achieve these results the government will prioritise five key goals that will form the centre of all of our efforts:

1. Deliver the most globally attractive and competitive investment destination for resources projects.
2. Develop new resources, industries and markets.
3. Invest in new technologies and approaches, especially to deliver better environmental outcomes.
4. Create well paid, secure jobs.
5. Support communities to ensure they receive benefits from the development of Australian resources.

This statement provides an initial set of actions to achieve these goals. Success will only be secured if governments, business and scientists all work together. The Australian Government will work closely with state and territory governments, industry and our scientific and educational institutions to deliver results. It will endeavour to lead at the national level to drive key reforms.

Our resources sector, and the people that rely on it, have an almost boundless future if we get this right. This statement is an important first step in that direction and the government will work with all those who want success to lay the foundation for new jobs, regional and social development that will benefit all Australians for decades to come.



February 2019

Senator the Hon Matthew Canavan,
Minister for Resources and Northern Australia

¹ Geoffrey Blainey (2003) *The Rush That Never Ended – A History of Australian Mining*, Melbourne University Press, Melbourne Australia.

² Australian Bureau of Statistics (2018) *Wage Price Index, Australia—September 2018*, Table 9A: Mining wage Index private and public, ordinary hourly rates, Cat. No. 6345.0. Australian Government, Canberra.

³ Australian Bureau of Statistics (2018) *Consumer Price Index, Australia—September 2018*, Tables 1 & 2: CPI: All Groups, Index Numbers and Percentage Changes, Cat. No. 6401.0. Australian Government, Canberra.



CONTENTS

Foreword	3
The Australian resources sector significance and opportunities	7
Our globally recognised strengths provide a platform for enduring success	11
The outlook for the Australian resources sector is bright	14
We can develop new centres of wealth and job creation	14
New resources developments will help develop new industries	15
A national resources policy framework	19
Our goals	20
Our policy principles	21
An action plan to secure the world's best resources sector	24
Action 1: Delivering the most globally attractive and competitive investment destination for resources projects	26
Promoting Australia's resources sector	28
Improving business settings while strengthening environmental outcomes	29
Action 2: Open up new industries and resources regions	30
Opening up new regions	32
Developing new resources and industries	33
Action 3: Better focus the sector's innovation and R&D on long-term, sectoral growth	34
Leveraging long-term multi-disciplinary R&D to solve the big challenges	36
Better and more accessible information	37
Action 4: Develop and retain the world's best workforce	38
Maintaining a skilled workforce	40
Growing an inclusive workforce	41
Action 5: Deliver better outcomes for stronger and more engaged communities	42
Strong collaboration to drive reform	46
Working with states and territories	48
Working with industry and other stakeholders	49
Future success	50





THE AUSTRALIAN RESOURCES SECTOR SIGNIFICANCE AND OPPORTUNITIES

The resources sector delivers economic wealth, jobs, high wages, investment and tax revenues to Australians.

The sector's contribution has exploded since the most recent mining boom kicked off in the mid 2000s (Figure 1).

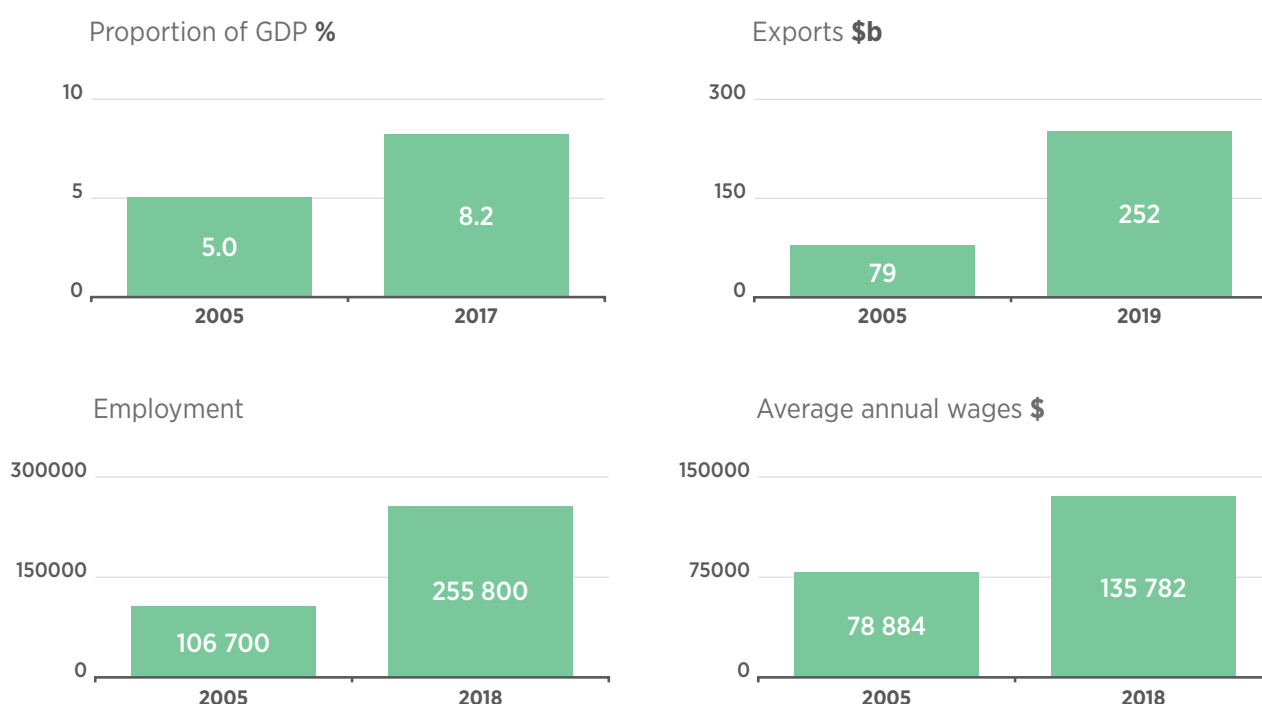
Together with mining services, the resources sector makes up over 8 per cent of Australia's economy⁴ and its economic impact is even higher on other measures:

- This financial year, the resources sector is expected to generate a record \$264 billion in exports, accounting for more than 70 per cent of Australia's goods exports.^{5,6}
- Resource commodities make up six of Australia's top ten goods: iron ore, coal, natural gas, gold, aluminium and petroleum.⁷
- Since 2005, the resources sector has invested around \$720 billion in Australia, accounting for more than 40 per cent of total investment over this period.⁸ At its investment peak in 2012–13, the sector attracted more private business investment than all other sectors combined.⁹

"In 2017, Australia broke world records for the longest run of uninterrupted growth in the developed world. The resources sector played a key role in achieving this, particularly during the general economic downturn in the global financial crisis of 2007–10."

RESOURCES 2030 TASKFORCE REPORT, 2018

Figure 1: The resources sector's contribution before and after the mining boom



4 Office of the Chief Economist (2018) *Resources and Energy Quarterly—December 2018*. Australian Government, Canberra, p.iv.

5 Office of the Chief Economist (2018) *Resources and Energy Quarterly—December 2018*. Australian Government, Canberra, p.7.

6 Office of the Chief Economist (2018) *Resources and Energy Quarterly—December 2018*. Australian Government, Canberra, p.iv.

7 Department of Foreign Affairs and Trade (2018) *Australia's top 10 goods and services exports and imports*. Australian Government, Canberra, [https://dfat.gov.au/trade/resources/trade-at-a-glance/Pages/top-goods-services.aspx], accessed 17/01/2019.

8 Australian Bureau of Statistics (2018) *Private New Capital Expenditure and Expected Expenditure, Australia*, Sep 2018, Table 3B: Actual Expenditure, By Type of Industry - Chain Volume Measures \$m, Australian Government, Canberra.

9 Debelles G (2017) *Business Investment in Australia*. Reserve Bank of Australia, Sydney.



© BHP

The impact of the resources sector directly benefits workers. Since 2005, direct employment in the resources sector has more than doubled from 104 000 to 255 800.¹⁰ When mining services are included, the broader sector accounts for more than 1 million employees.¹¹ Thanks to strong local employment opportunities, the benefits of the resources sector are increasingly felt by all Australians, as the sector invests in the capabilities of the Australian workforce. Its use of temporary work visas has declined over the past decade, accounting for less than 2 per cent of skilled work visas in 2017–18.¹²

Wages in the resources sector are the highest of all Australian industries, more than double the average wage, and the average wage in resources sector is 40 per cent higher than the industry with the next highest wages.¹³

As the resources sector thrives so does the rest of Australia. By 2013, the last resources boom had raised real household disposable income by an average of 13 per cent, increased real wages by an average of 6 per cent and reduced the unemployment rate by 1.25 percentage points, meaning that 167 300 Australians had work who otherwise would not have.¹⁴

The resources sector also contributes above just its measured economic value.

- Through the jobs it creates and the social contributions it provides, the sector supports vibrant local communities and the provision of services outside our capital cities. More than half of the resources sectors employees live in regional Australia.¹⁵
- The resources sector has the highest proportion of Aboriginal and Torres Strait Islander people working for it than any other industry. The mining sector employed 6599 Indigenous Australians in 2016 (or 3.9 per cent of Indigenous employees), two and a half times the number employed in 2006. By comparison, non-indigenous mining employment grew by one and a half times over the same period.¹⁶
- The resources sector is a significant contributor to helping finance Australia's world class health, education and other public services. For example in 2016–17 it is estimated that, the minerals sector paid \$12.1 billion in company tax and \$11.2 billion in royalties.¹⁷ In 2016–17 the resources sector was the second-largest contributor to company tax revenue behind financial and insurance services. These taxes contribute to the construction of critical public infrastructure such as schools, hospitals and roads, benefits that are felt by the community every day.

¹⁰ Australian Bureau of Statistics (2018) *Labour Force, Australia—November 2018*, Cat. No. 6291.0.55.003. Australian Government, Canberra.

¹¹ Deloitte Access Economics (2017) *Mining and METS: engines of economic growth and prosperity for Australians*. Minerals Council of Australia, Canberra.

¹² Department of Home Affairs (2018) *Temporary Work (skilled) visa program*. Australian Government, Canberra [<https://data.gov.au/dataset/visa-temporary-work-skilled>].

¹³ Australian Bureau of Statistics (2018) *Average Weekly Earnings, Australia—May 2018*, Table 10I: Average Weekly Earnings, Industry, Australia (Dollars) - Original - Persons, Total Earnings, Cat. No. 6302.0. Australian Government, Canberra.

¹⁴ Downes P, Handlow J and Tulip, P (2014) *The effect of the mining boom on the Australian economy*. Reserve Bank of Australia, Sydney.

¹⁵ Department of Jobs and Small Business (2018) *Australian Jobs 2018*. Australian Government, Canberra, p.18.

¹⁶ Department of Prime Minister and Cabinet (2018), *Closing the Gap*, p. 78, <https://closingthegap.pmc.gov.au>.

¹⁷ Deloitte Access Economics (2018) *Estimates of royalties and company tax accrued in 2016–17*. Minerals Council of Australia, Canberra, p.4.



Our globally recognised strengths provide a platform for enduring success

Australia owes its leadership position in the global resources sector to some clear strengths.

First, Australia has the world's most diverse and plentiful mineral and energy reserves with a relatively unexplored surface and sub-surface geology (Figure 2). These reserves include bulk commodities such as thermal and metallurgical coal, natural gas, iron ore, bauxite and uranium. This is complemented with significant reserves of base and precious metals such as nickel, copper, zinc, gold, silver and lead as well as emerging critical minerals, like lithium and rare earths.

Second, the technical and project delivery leadership of Australian resources companies is recognised and highly sought after. This leadership is complemented by a skilled and motivated workforce which supports a hard-won reputation for reliable production and supply to market.

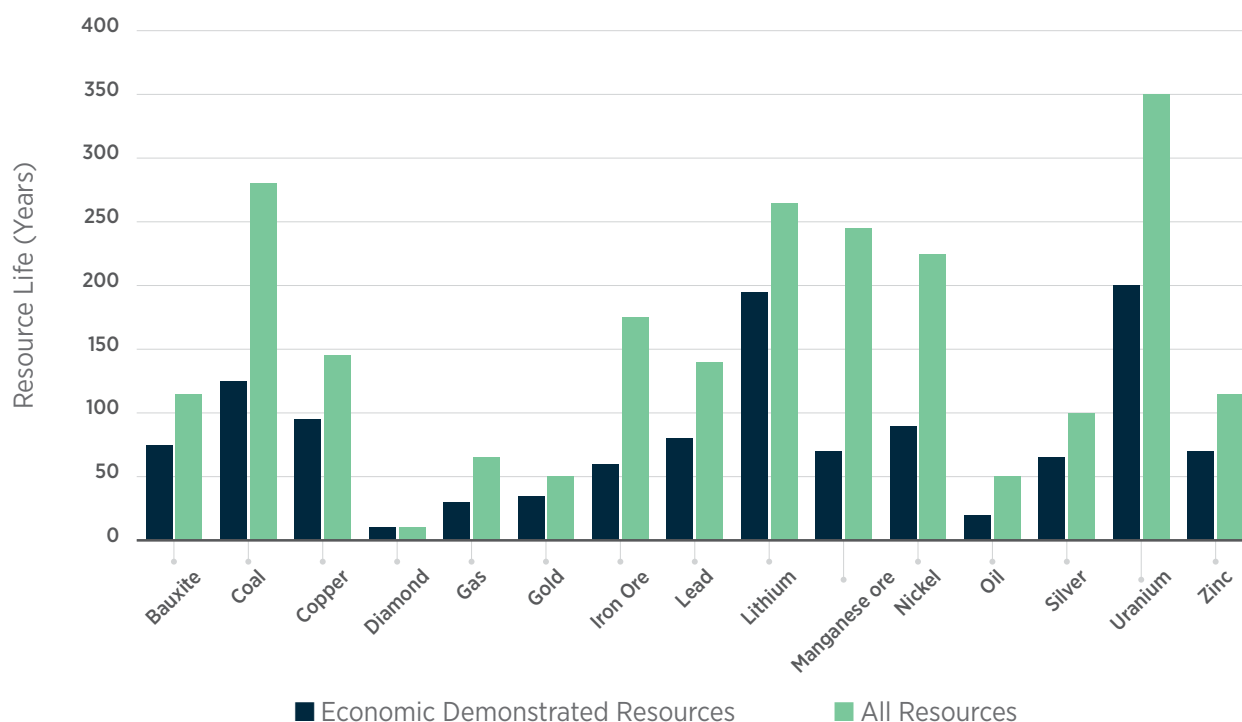
Third, Australia is well served by world-class science and engineering capacities in our leading scientific institutions, such as Geoscience Australia and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

In 2018 the University of Queensland was ranked first in the world for Mining and Mineral Engineering and other Australian universities host world ranked centres of mining and related environmental management excellence.¹⁸

Fourth, Australia's resources sector is widely recognised for its commitment to safety. As a central commitment of the sector, Australian resources companies lead the way in creating a positive culture for safety. Australia has a low rate of safety incidents in the sector, which is continuing to fall. For example, 2017 saw the oil and gas sector record the lowest number of dangerous occurrences in a decade and the lowest number of injuries since 2005.¹⁹ This occurred despite significant increases in industry activity.

While Australia has these inherent strengths, we need to ensure that we are properly leveraging them to ensure we stay at the forefront of knowledge creation and technical problem solving.

Figure 2: Average resource life (years) for major commodities as of December 2016²⁰



¹⁸ ShanghaiRanking Consultancy (2018) *ShanghaiRanking's Global Ranking of Academic Subjects 2018 - Mining & Mineral Engineering*. ShanghaiRanking Consultancy, Shanghai, China [http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/mining-mineral-engineering.html] Accessed 18/01/2019.

¹⁹ National Offshore Petroleum Safety and Environmental management Authority (2018) *Annual Offshore Performance Report: Safety and environmental performance of Australia's offshore petroleum industry*. Australian Government, Perth.

²⁰ Resource life are ratios of resources over production that represent a snapshot in time. They assume that (a) future production continues at the same rate and (b) do not take into account future resource upgrades and successful exploration for new deposits. Figures for oil and gas are a closest estimation of petroleum equivalent. All figures are rounded to the nearest five years.

The resources sector underpins Indigenous business

Blackrock Industries are experienced mining contractors, providing comprehensive mining services to clients across New South Wales (NSW) and in other states.

Founded in Muswellbrook, NSW, by Steve Fordham, Blackrock Industries began as a labour hire company with one truck and two workers. Now Blackrock Industries is situated in 17 locations across Australia and employs more than 100 people, including 20 rehabilitated inmates and a 75 per cent Indigenous workforce. Blackrock Industries is creating opportunities for Indigenous Australians and women. The business creates solutions that both serve society and work alongside local communities as they grow and develop.

In its first 18 months, the company grew rapidly, providing mining services to the resources sector. With a small but highly skilled team of mining professionals, engineers and other specialists, Blackrock Industries focuses on working with clients to improve Indigenous workplace and economic participation. Blackrock Industries quickly became a sustainable and profitable company, grossing \$2 million in their first 12 months, and another \$2.4 million in the following six months.

Steve Fordham strives to balance his business ambitions with his strong inclusive values and roots as a Kamilaroi man. He is committed to creating positive solutions for communities and the environment, including to create jobs and drive regional economies. As a member of the Wanaruah Local Aboriginal Land Council Board, Steve recognises that Muswellbrook has the highest Aboriginal population in the Hunter Valley and is working towards creating employment for the majority of the population.

“We aim to create solutions which serve society, and which work alongside local communities as they grow and develop. For this to be possible, our teams must adopt environmentally responsible attitudes to the work they complete, operating within strict best practices as they administer mining services across Australia.”

STEVE FORDHAM—FOUNDER, BLACKROCK INDUSTRIES



Precompetitive data: a huge return on investment

In 1996, Geoscience Australia undertook a \$3 million data acquisition and interpretation program over the Browse Basin, offshore of north-west Western Australia. That data suggested the area had the potential for gas and part of the basin was subsequently included in the Australian Government's annual offshore petroleum exploration acreage release.

INPEX Corporation, a Japanese company, acquired an exploration permit over an area in the Browse Basin in 1998 and discovered the giant Ichthys gas field in 2000. In addition to a major gas discovery, Ichthys was Australia's largest liquid petroleum discovery since the Bass Strait discoveries of the 1960s. In 2012, INPEX announced its US\$34 billion final investment decision, which included a new liquefied natural gas (LNG) plant in Darwin and some of the world's largest offshore infrastructure.

This investment represents the largest single investment made by a Japanese company in Australia and the largest overseas investment made by a Japanese company.

Aboriginal traditional owners from the Larrakia community are also set to benefit from the Ichthys LNG Project through the \$24m Ichthys LNG Foundation Trust, established by INPEX to provide education, employment and business opportunities to the Larrakia people over the next 40 years.

With first shipment of LNG having left Darwin for Japan on 23 October 2018, Ichthys will:



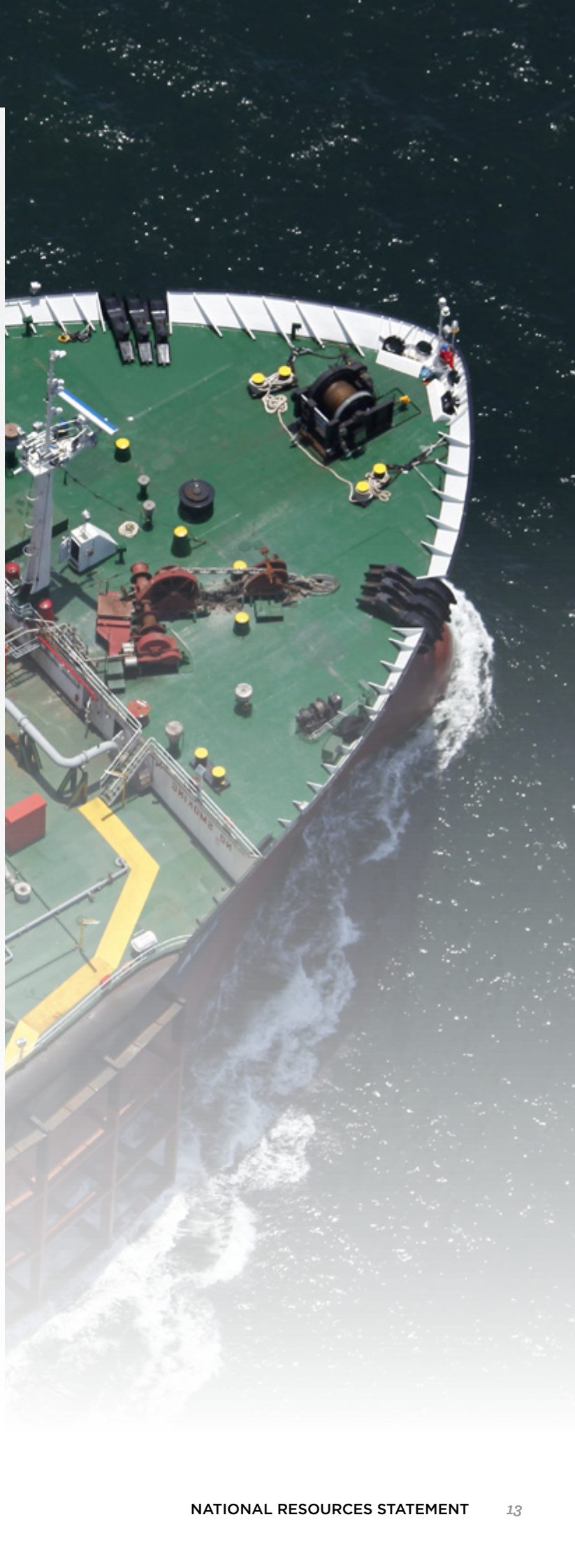
Generate **\$73 billion** worth of tax revenue and **\$195 billion** worth of exports for Australia over a project life of 40 years.



Provide **40 years of employment opportunities**—1800 full time jobs per annum on average. More than 1100 Aboriginal and Torres Strait Islander people engaged in Northern Australia through business contracts and employment.



Generate multi-generational contracting and business opportunities. It has already paid more than **\$13 billion** to Australian businesses during construction. Over **\$150 million** worth of work was awarded to Aboriginal and Torres Strait Islander businesses.



The outlook for the Australian resources sector is bright

Significant opportunities exist for new and expansion projects across most mineral and energy commodities as growing demand begins to fully absorb the supply overhangs of the last decade.

Global demand for resources is projected to grow at a steady rate over coming decades, driven by growing populations and economic development in emerging economies. Much of this growth will be in the Indo-Pacific region, with four of the five largest economies in 2030 on Australia's door step: China, India, Japan and Indonesia. The Indo-Pacific, for example, is expected to account for around two-thirds of growth in global iron ore and copper demand to 2030, and almost all of the projected increase in the seaborne coal trade.

By 2030, Asia will produce more than half of the world's economic output; consume 40 per cent of its energy; and be home to a middle class of almost 3.5 billion people.²¹

By virtue of our geographic location, abundant reserves of resources, skilled workforce and strong mining services sector, Australia is well positioned to be a key supplier for the region.

Demand will increase in both traditional commodities, such as coal, iron ore, liquefied natural gas (LNG), base metals, such as copper and nickel, and emerging minerals, like lithium and rare earths which have many applications for the digital age (Table 1). Given this expected growth, if Australia can maintain its share in these global commodities, employment in the resources sector will increase by 24 000 jobs between now and 2030, representing a 10 per cent increase in resources employment.

Table 1: Forecast growth in world demand—selected commodities (Source: AME Group, 2018)

	2018	2030	GROWTH
LNG (million tonnes)	318	530	+67%
Iron Ore (million tonnes)	2,107	2,372	+13%
Gold (thousand tonnes)	148,620	172,906	+16%
Refined copper (thousand tonnes)	24,373	30,274	+24%
Finished nickel (thousand tonnes)	2,328	2,992	+29%
Aluminium (thousand tonnes)	62,382	94,884	+52%
Zinc (thousand tonnes)	14,664	18,858	+29%
Metallurgical Coal (million tonnes)	326	458	+41%
Thermal Coal (million tonnes)	1,053	1,214	+15%

We can develop new centres of wealth and job creation

Growth in global demand for resources presents an opportunity to open new mineral and petroleum regions around Australia. There remain many untapped regions that offer significant reserves of resources that can be developed. Australia has a proud record of establishing new regions and resources when all stakeholders work together on a common goal.

The development of the east coast coal seam gas (CSG) industry is a recent example of the development of a new national wealth centre. The development of the CSG industry in Queensland led to more than \$60 billion being invested in three new LNG export projects at Gladstone over the last decade—conservatively equivalent to 20–25 per cent of the Queensland economy around the time the projects were commissioned. By mid-2018, employment in the Queensland oil and gas industry had grown to 6500—well above the levels before the development of the CSG industry.²²

There are several areas where this is again possible, including:

- The Beetaloo Sub-basin in the Northern Territory which has a world-class shale gas resources and is home to more than three quarters of Northern Territory's perspective shale gas resources.
- The Galilee Basin in Queensland which has more than 29 billion tonnes of coal reserves identified following a boom in greenfield exploration. The Galilee Basin could also contain significant reserves of gas.
- The Great Australian Bight which is one's of Australia largest frontier basins and could have enormous oil and gas potential.
- The Canning and Browse Basins which hold immense oil and gas potential.
- The Paterson Province and the Fraser Range in Western Australia, the greater MacArthur Basin in Northern Territory and Queensland, and the undercover areas of Mt Isa in Queensland are all showing high potential for a range of minerals, including gold, base metals and critical minerals.

The development of new basins or mineral provinces takes significant capital expenditure requiring a consequent acceptance for investors to take risk. Establishing a supportive and facilitative policy settings is crucial to deliver these new opportunities for all Australians.

²¹ Department of Foreign Affairs and Trade (2017) *Foreign Policy White Paper*. Australian Government, Canberra, p.28.

²² Australian Bureau of Statistics (2018) *Labour Force, Australia, Detailed, Quarterly, Feb 2018*, Table EQ06: Employed persons by Industry group of main job (ANZSIC), Sex, State and Territory, November 1984 onwards, cat. no. 6291.0.55.003, Australian Government, Canberra.

New resources developments will help develop new industries

The right policies will allow existing operations and commodities to take advantage of new demand growth. Rapid technological transformation is disrupting not just industries but entire economies. This growth and changing global demand for resources presents opportunities to support the development of new extractive industries, such as lithium and other critical minerals. This is an incredible opportunity for Australia to capture value from the extraction of these minerals and from the improvement and manufacturing of these minerals into higher value goods.

The importance of critical minerals has seen Australia renew its engagement with the United States Geological Survey. This engagement will share knowledge about critical minerals and ultimately ensure their secure supply. It will also allow Australia to strengthen its position as a world-leading supplier capable of delivering high-quality commodities.

Global lithium demand provides a clear, early example of the opportunities critical minerals present where Australia has timing advantage, much like that experienced by our recent LNG expansion. As the world's largest lithium producer holding nearly 17 per cent of known global reserves, Australia is well placed to capture the opportunities associated with the new lithium market.²³ Already, Australia has attracted investment including five large beneficiating plants now planned or under construction in Western Australia. This includes investments from two of the world's largest lithium producers – Tianqi from China and Albemarle from the United States – both companies are investing in downstream lithium processing at Kwinana and Kemerton in Western Australia.²⁴

Australia has been recognised, both by the International Energy Agency and the World Energy Council, as potentially the world's largest hydrogen producer.²⁵ This potential is echoed in the findings of the recent CSIRO Hydrogen Roadmap, and the Chief Scientist's *Hydrogen for Australia's Future* report. This has led to agreement by the COAG Energy Council to develop a National Hydrogen Strategy to build a hydrogen industry. Excellent solar and wind resources, and existing infrastructure and expertise in hydrogen, give Australia a natural advantage and the potential to produce, use and export low emissions hydrogen.

The resources boom this century has created new opportunities to start new businesses. Australia is now home to a world class mining services sector. In 2015, mining services contributed over \$90 billion in gross value added to the Australian economy annually.²⁶ Between 2006 and 2015, the mining services sector grew at an annual rate of 6.5 per cent, creating 150,000 new jobs.²⁷ In addition, the mining services sector exported \$15 billion of products and services, and exports represent a significant growth opportunity for the sector.²⁸

To cement the sector's world leading-position, more investment is required in research and development. More collaboration will also be required between industry, government and academia. The policy framework the government outlines on page 19 maps out a framework to foster collaboration and encourage more investment.



Transportation



Health and wellbeing



Energy supply



Technology



Resources
Delivering benefits
to Australians



Fashion and accessories



Food



Manufacturing



Construction

²³ U.S. Geological Survey (2018) *Mineral Commodity Summaries 2018*. U.S. Department of the Interior, Reston, Virginia, 2018.

²⁴ Australian Trade and Investment Commission (2018) *The Lithium-ion Battery Value Chain – New Economy Opportunities for Australia*. Australian Government, Canberra, p12.

²⁵ International Energy Agency (2018) *World Energy Outlook*, International Energy Agency, Paris, p. 411.

²⁶ Austmine (2018) About Austmine, [<http://www.austmine.com.au/About>].

²⁷ Office of the Chief Economist (2018) *Industry Insights: Globalising Australia*, Australian Government, Canberra, p.39.

²⁸ Austmine (2018) About Austmine, [<http://www.austmine.com.au/About>].

New basins for jobs and regional growth

The Beetaloo Sub-basin in the Northern Territory is a world-class shale gas resource and is home to over three-quarters of the Northern Territory's prospective shale gas resources, according to Geoscience Australia.²⁹ Recent estimates from companies exploring the area suggest that the shale gas resources could be even larger than first thought. While the scale of the gas resources in the Beetaloo Sub-basin is vast, exploration is only just getting underway. It remains uncertain what proportion of the resource will be technologically and economically viable to extract.

The Canning Basin in Western Australia has significant potential for new gas and oil discoveries. The Canning Basin is home to 90 per cent of Australia's prospective shale gas, 40 per cent of prospective tight gas and over 80 per cent of prospective shale oil. Despite an upswing in exploration since 2010, the Canning Basin is still considered under-explored. Future large-scale resources developments in the basin are likely to be centred on unconventional shale and tight gas resources. However, this basin will require infrastructure development to get resources to market.

The Browse Basin on Australia's offshore North West Shelf is one of the richest hydrocarbon bearing basins in Australia. The Ichthys LNG Project commenced production in 2018 and is expected to produce 8.9 million tonnes of LNG and 1.6 million tonnes of Liquid Petroleum Gas (LPG) per annum, along with more than 100,000 barrels of condensate per day at peak production. The Prelude floating LNG project also commenced production in 2018 and is expected to deliver 3.6 million tonnes of LNG, 1.3 million tonnes of condensate and 0.4 million tonnes of LPG per annum. Active exploration and development continues in the basin, with recent discoveries of several large gas and condensate deposits. This highly prospective basin has the potential to support multiple development options, including industry collaboration for brownfield expansion and backfill of LNG projects. With about 15 percent of Australia's 2P gas reserves and 33 percent of Australia's oil and LNG 2P reserves, the development of the Browse Basin will be critical for Australia to maintain its leading position in the LNG market and meeting its energy security needs.

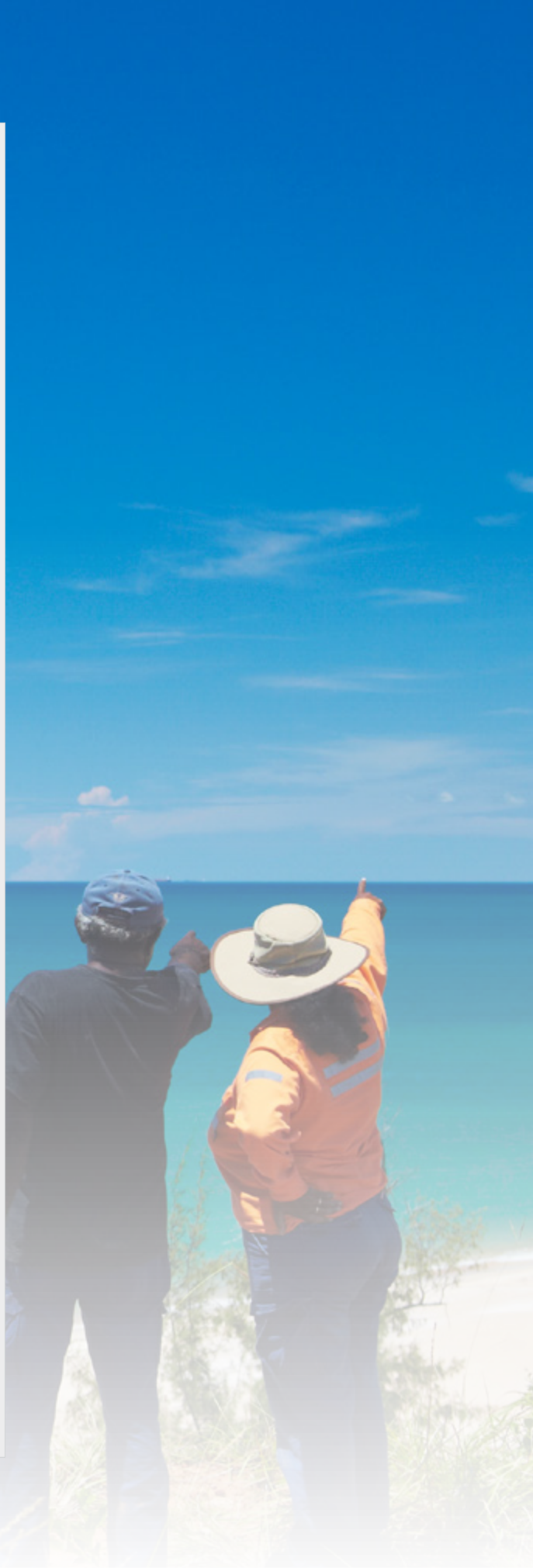
It is estimated that the Galilee Basin has around 29 billion tonnes of coal resources, and is comparable to the size of other major coal basins in Australia, such as the Sydney Basin, the Bowen Basin and the Surat Basin. However, the main barrier to the development of the significant resources in the Galilee Basin is the relative remoteness and absence of a multi-user railway line to connect to one or more coal export ports.

There are currently nine projects proposed for the Galilee Basin at various stages of development, ranging from shovel-ready to pre-approval. These projects have the potential to generate substantial increases in investment, export volumes and thousands of jobs during construction and operation.³⁰

© Rio Tinto.

²⁹ Unconventional gas occurs in deposits such as coal beds (coal seam gas), or in shales (shale gas), low quality reservoirs (tight gas), or as gas hydrates.

³⁰ Department of State Development (2018) *Manufacturing, Infrastructure and Planning (2018) Current and Completed Projects*. Queensland Government, Brisbane.





Mining Equipment, Technology and Services (METS) growth opportunities

Australian METS companies are well-placed to play a dominant role in the resources sector of the future, capturing an ever-larger share of world markets and ensuring that Australian resources operations are competitive and at the cutting edge. As a leader in the development of knowledge, technology and practices for the resources sector, Australia can export its research, development and intellectual property to the world.

In 2015, Australian METS organisations exported approximately \$15 billion of products and services to more than 200 mining jurisdictions around the world.³¹ There are significant opportunities for future export growth as the Australian METS and resources sector harnesses the opportunities of automation and technology to increase productivity, improve safety and reduce the environmental footprint of our resources projects.

To cement the sector's world-leading position, industry and government must seek out opportunities to incentivise new streams of research and development, foster more collaboration between industry and academia and gain footholds in new export markets, particularly in our region.

The government's Industry Growth Centres Initiative through METS Ignited and National Energy Resources Australia (NERA) are supporting the sector to expand its global market share, enhance the sector's value proposition and create new collaborative links across the METS, resources and research sectors.

A revolutionary new drill rig
- The RoXplorer® coiled
tubing (CT) rig developed by
the Deep Exploration
Technologies CRC (DET CRC)
has been licenced to one of
the world's leading global
METS companies, IMDEX.

© Deep Exploration Technologies CRC

³¹ Austmine (2018) About Austmine, <http://www.austmine.com.au/About>.





A **NATIONAL RESOURCES** POLICY FRAMEWORK

The government recognises the importance of a clear resources policy framework that provides a vision, goals and principles to guide action.

We recognise that successful resources developments take a shared commitment from all governments. Very few projects operate under a sole jurisdiction or set of regulations.

This framework and the associated actions will position Australia well for the coming decades.

Our goals

The government will pursue five policy goals to meet its vision. These goals are deliberately ambitious and of equal importance - none have priority, or are subordinate, to the others.

Meeting these goals will require commitment and collaboration from all governments and the broader resources sector. With strong actions to back them, each goal will ensure the sector is competitive and sustainable for the long term.



Our policy principles

Today's policy environment in some respects makes it more challenging to deliver on these goals. Technological change is rapidly disrupting the way business is done in the resources sector, and the rise of social media has put business practices into a harsher spotlight.

Accordingly, it is important the government maps out core principles that it will seek to remain true to, while pursuing the above goals towards the vision of becoming the world's best resources nation.

1. Australia's national resources wealth belongs to the Australian people and should be developed for their benefit. In particular, the development of resources should contribute to public revenues and provide business and employment opportunities to remote Australia and to Aboriginal and Torres Strait Islander people.
2. New policies and regulations should be based on robust science and account for the needs and interests of the broader community, especially the communities where the resources sector operates.
3. Foreign investment remains an important vehicle to develop Australia's resources.
4. We must embrace technological change to remain competitive, responsive and improve environmental outcomes.



The future success of Australia's resources sector relies on working smarter, safer, cleaner and more efficiently than our competitors. We must identify new resources, enhance workforce skills, manage environmental impacts more effectively and gain support across the broad spectrum of communities.

Delivering this success will not be achieved by government acting alone. However, the government recognises that its approach can have a major bearing on the success of the resources sector. The rest of this statement maps out some specific actions the government intends to take to help position Australia's resources sector to be the best in the world.

“Governments and industry should better promote Australia's resource export capabilities, with a focus on its strengths in the environmental management and restoration economy, the resources equipment, technology and services sector and higher education.”

RESOURCES 2030 TASKFORCE REPORT, 2018

This framework recognises technological disruption will be at the heart of traditional business models where:

- Future growth is expected to come from the increased use of data and analytics, artificial intelligence coupled with automation and robotics, the deployment of advanced extraction techniques and the commercialisation of specialist technologies.
- The ability to harness new innovations and technologies, which Australia is well placed to lead, will have the potential to improve the safety, productivity and competitiveness of the sector over the coming decades and to provide a range of exportable products and services.
- Innovative and collaborative approaches will be central to addressing sector-wide challenges and opportunities. This will be enabled by planning and prioritising strategic, long-term research and development to identify and commercialise new solutions.
- The rise of social media, evolving community expectations and rapid digital information dissemination platforms will require the sector to work differently to earn the trust of citizens and communities. Only a sector that has the support of the community to operate will prosper.





© BHP

This framework also recognises business and policy frameworks, and regulatory settings fundamentally affect the cost of doing business in Australia and our commercial attractiveness, and ultimately the sector's ability to grow and succeed.

- The regulatory framework for mining and petroleum activities in Australia is presently complex, with a large variety of state and federal legislation, standards and processes including a plethora of statutes and agencies regulating the industry.
- To capture new capital and investment for growth in all areas of the economy, Australia needs competitive business settings that are continually benchmarked, updated and improved to enhance regulatory consistency and reduce unnecessary compliance costs and regulatory duplication.

Business elements of particular importance for the sector are taxation, infrastructure, energy and effective, efficient and transparent regulatory frameworks that facilitate timely and predictable project approvals. Other important elements include exploration, skills, communities, safety and the environment.

Environmental stewardship and reducing the environmental footprint of resources projects will also be an important focus of the framework if Australia is to remain the world's premier resources nation. New technologies, techniques and processes will be key to improving the environmental performance of the sector, including reducing industry emissions.





AN **ACTION PLAN** TO SECURE THE WORLD'S BEST RESOURCES SECTOR

Australia's resources sector is already supported by long standing and consistent policy frameworks at state and federal levels. The Resources 2030 Taskforce outlined some areas for focus.

Many of the actions outlined here draw on the recommendations and other consultation by the government.

The government, working in partnership with stakeholders, will therefore develop and implement a suite of actions in addition to current measures to secure our vision for the Australian resources sector.



Courtesy APPEA and its member companies



ACTION 1:

Delivering the most globally attractive and competitive investment destination for resources projects

Promoting Australia's resources sector

The government will promote the resources sector by:

- Collaborating with industry to better compete in global markets by promoting our world-class strengths through a national resources brand which highlights our strengths, including our abundance of natural resources, world-class industries, environmental standards, skilled workforce and our strong mining services sector.
- Promoting Australia's capability in offshore resources development through a Global Offshore Resources Strategy. This strategy will promote Australia's offshore resources and seek to unlock new export markets through key partnerships with international destinations.

Australia has a hard-won reputation as a leading country for resources investment, yet, we have typically not invested in the specific promotion of our nation as a destination for resources investment. In contrast, Australia has marketed its strengths as a land of agricultural opportunity and as a tourist destination.

The Australian Government will invest in promoting a national resources brand for the Australian resources sector. This campaign will leverage our existing strengths as a leading supplier of high quality coal, iron ore, gas, gold copper and other minerals. To do so, we will showcase our sector-wide strengths especially to overseas audiences, building on the nation's highly prospective geology. Many competitor nations are already more actively promoting their abilities on the world stage. The government will continue to work with the states and territories, including through the National Investment Advisory Board, to deliver a nationally coordinated approach to investment promotion, attraction and facilitation.

One advantage that marks Australia out is the robust environmental regulations that apply to our resources sector, and the sector's world leading environmental practices. This advantage is becoming more valued with the rise of critical minerals, such as rare earths. In addition, the Australian industry's rehabilitation and other land management practices are skills that represent an export opportunity in and of themselves, especially as environmental objectives grow in importance in developing countries.

If effectively promoted, these environmental protections allow Australia to differentiate itself in the eyes of resource commodity buyers and investors and, in doing so, fuel demand for Australian resources. The stringent, high standards of Australia's environmental protection regulations presents an additional opportunity for mining services. Because of the strong environmental protection, the Australian resources sector has developed world-class strengths in ecological restoration, remedial actions and biodiversity offsets. This has led to the development of an innovative environmental management and restoration economy. Properly promoted, the techniques and practices developed for Australian environmental management can be exported globally to create a new export market.

Further, since the resources boom Australia's mining services sector has grown considerably. Many Australian mining services companies are already exporting their expertise to overseas resources sectors. There is great potential to expand such investments through better promoting Australia's expertise in these areas.

Australia has a consistent and stable framework for the release of its offshore oil and gas acreage. Large foreign oil and gas companies have already made frequent investments in Australian waters. Nonetheless, there is potential to better market Australia's opportunities especially in frontier areas such as the Great Australian Bight.

Promoting our strengths will also be aimed at the broader community so that the public values and understands the resources sector's contribution towards today's high standard of living. In many cases there is a limited understanding of the sector's positive work with Aboriginal and Torres Strait Islander people, promoting sustainability and positive environmental outcomes, and the significant regional benefits it creates as an employer. These promotional steps will go a long way to building and sustaining community acceptance of the sector.

Improving business settings while strengthening environmental outcomes

The government will improve business settings by:

- Working through the COAG Energy Council to establish a framework for the regular benchmarking of policies and regulation which will assess current settings and highlight best-practice across Australia and internationally. Jurisdictions will work together to decide the best way to approach the framework's development, including the coordination of state, territory and federal regulation of the development of resources. This will support continuous improvement in our national competitiveness.
- Ensuring that the upcoming review of the *Environment Protection and Biodiversity Conservation Act 1999* considers opportunities for how federal environmental assessments can influence resources development and properly reflect the positive environmental actions of the resources sector.

We need to ensure that Australia has, and is seen to have, competitive business settings and regulatory frameworks to maintain Australia's position as a leading investment destination. We will work with states and territories to continue to identify and streamline business settings that are inefficient, particularly where they cut across more than one level of government. There is a role for all governments to examine regulations to ensure they are fit for purpose.

Australia's strength in environmental management and restoration has been developed in response to our environmental protections frameworks at both state and federal levels. Improving the efficiency of governments' collective oversight of environmental approvals can reduce regulatory burden and, if properly managed, drive improvements in environmental outcomes. This will ensure that resources projects are efficiently assessed while upholding robust, positive environmental outcomes.

It is necessary to continue to explore the greater use of holistic approaches, such as large scale strategic assessments, and to commit to continue working with industry and others on future opportunities. Strategic assessments allow consideration of more flexible, responsive and risk-based approaches to environmental management, particularly when considering complex, cross-tenure landscape scale issues.

The government is funding regional-scale assessments to better understand the impacts of coal seam gas and large coal mining development on water resources. Bioregional assessments were undertaken in 13 areas across Queensland, New South Wales, Victoria and South Australia.

The Geological and Bioregional Assessment Program will assess the potential impacts of shale and tight gas development on water and the environment in three regions: the Cooper Basin in south west Queensland/north-east South Australia, the Isa Super-basin in north Queensland and the Beetaloo Sub-basin in the Northern Territory.

The program is a partnership between the Department of the Environment and Energy, the Bureau of Meteorology, the CSIRO and Geoscience Australia, with input from state and territory governments, natural resource management bodies and industry. These programs support holistic approaches to basin and landscape planning, allowing analysis of the cumulative impacts of resources development.





ACTION 2:

Open up new industries and
resources regions

Opening up new regions

The government will promote resources exploration and basin development by:

- Investigating expanding the scope of Geoscience Australia's Exploring for the Future program and extending it for four years. This would extend its benefits into the southern half of the Australian continent and include targeted offshore areas to access new, deeper resources.
- Working with industry, through the Australian Bureau of Statistics (ABS), to examine the feasibility of expanding the Survey of Mineral Exploration. Expanding this survey aims to improve the information collected about greenfield exploration to greater reflect current industry exploration activities.
- Working with industry, state and territory governments and local communities to promote priority new greenfield basins and provinces. We will seek to align policies, provide information and investment services, and develop a shared vision for infrastructure.
- Working cooperatively with the Northern Territory to bring forward the development of the Beetaloo Sub-basin as a potentially world-class new gas province and to assist in maximising the downstream value of the petroleum industry for the Northern Territory and the broader Australian economy.
- Exploring longer-term options to enhance the offshore petroleum titles management framework in consultation with industry. Enhancements will aim to provide greater transparency on offshore gas reserves, accelerate offshore resources development and streamline administrative processes.
- Examining the policy settings for when a company fails to meet its offshore work program commitments. This will ensure a transparent, impartial and consistent approach to encourage titleholders to complete their exploration commitments and, where the company defaults, make provision for expenditure to be reinvested into other activities which support the exploration and development of offshore resources.

Taking advantage of increased demand for commodities will require the development of new energy and minerals basins. The opening up of new basins is always challenging given the up-front costs of developing infrastructure and the need for coordination between producers, investors and customers. Governments can help facilitate and plan for such developments, especially to ensure that local communities maximise the benefits of such new investments.

The government is already acting to encourage the discovery and development of new basins. The government has invested \$100 million in the Exploring for the Future program which is using the latest exploration techniques to search for new mineral finds in Australia's underexplored areas. The Australian Government and the Northern Territory Government have also signed a Memorandum of Understanding to guide the development of the Beetaloo Sub-basin in the Northern Territory.

While Australia has a well-earned reputation for world class data about our resources and this has helped attract investment, more can be done. This is why the government will investigate the feasibility of expanding current efforts by Geoscience Australia to investigate more widely onshore and offshore opportunities, as well as making resources data more accessible. This will also include examining improvements in exploration investment data collections with the Australian Bureau of Statistics to better understand greenfield exploration investment trends that will help to inform government policy action and investors on market opportunities.

The government will further build on these efforts by working closely with the states and territories to develop a best practice approach towards the development of new basins. This model will focus, in particular, on the development of new mineral

opportunities to increase Australia's production of minerals critical to a modern economy, such as lithium, rare earths, nickel, cobalt and other commodities.

Such plans should also align policy, information and investment services when identifying and promoting resources development opportunities. This is primarily to counteract inconsistencies in policy and regulatory frameworks. For example, offshore development is jointly provided by the federal and respective state or territory governments. Onshore development is administered by the states and territories.

This will give investors, businesses and the community longer-term confidence and help them make planning decisions with more certainty. This planning would encompass government-industry approaches to infrastructure, land use, policy and industry development.

The Australian Government has principal authority over the development of offshore areas. In recent years, the government has increased the transparency of regulatory approval processes (through requiring the publication of environment plans) and has increased the flexibility of the release of offshore acreage. The government will review Good Standing policy to ensure that there is a transparent, impartial and consistent approach to holding offshore petroleum titleholders accountable for failure to meet their guaranteed work program commitments. The government will also be introducing a public comment period for all offshore exploratory drilling and seismic activities, to ensure the community is better informed about proposed oil and gas activities.

Developing new resources and industries

The government will harness demand for new resources by:

- Developing a national strategy through the COAG Energy Council to harness the emerging opportunities the critical minerals sector offers including opportunities to develop and grow downstream industries.
- As part of this strategy, the government will:
 - Ensure the development of new critical minerals is one of the most important considerations of the Roads of Strategic Importance program and the Northern Australia Infrastructure Facility.
 - Prioritise critical minerals in the seventh Cooperative Research Centres Projects (CRC-P) round, to be held in the first half of 2019.
 - Finalise a memorandum of understanding between Geoscience Australia and the United States Geological Survey on the development of critical minerals.
 - Promote the opportunities for investment in Australia's critical minerals sector through Austrade and other related avenues.

“Applying the same solution to a different and more challenging problem is not going to produce the same outcome. There should be a more strategic and coordinated approach to promoting the development of new resources regions.”

RESOURCES 2030 TASKFORCE REPORT, 2018

The development of Australia's mineral and energy basins has often helped spur the development of downstream industries in metals manufacturing, power generation or petrochemical industries. For example, the development of bauxite in Cape York led directly to the development of Gladstone and its alumina and aluminium industries. More recently, the mining boom helped spur the development of an extensive mining services sector.

There will be new opportunities to develop further industries on the back of the development of newer minerals industries like lithium. Five large beneficiating plants are now planned or under construction in Western Australia.³² Processing lithium ore (known as spodumene) to lithium hydroxide takes a product worth under \$1000 per tonne to one worth close to \$20,000 per tonne.


The government will seek to spur the development of these industries through a coordinated plan for the lithium and related critical minerals sectors. This will include support for infrastructure development, research and development and investment promotion.

As part of the seventh round of the CRC-P grants program, up to \$20 million will be made available for Australian critical minerals industry and research collaborations to commercialise new technologies, products and services. CRC-P funding is available for grants of up to \$3 million, over a maximum period of three years.

The government will build on the existing efforts to develop these industries. The Northern Australia Infrastructure Facility has already provided over \$115 million in support for infrastructure that can unlock lithium and mineral sands opportunities. And, in early 2018 Australia signed an agreement with the United States to work together on the supply and development of critical minerals.

³² Office of the Chief Economist (2018) Resources and Energy Quarterly—September 2018. Australian Government, Canberra, p.106.





ACTION 3:

Better focus the sector's
innovation and R&D on
long-term, sectoral growth

Leveraging long-term multi-disciplinary R&D to solve the big challenges

The government will leverage research and development by:

- Working through the COAG Energy Council to engage with industry and the research community to identify options to better leverage long-term cross-sectoral research and development to drive whole-of-sector benefits and meet the future economic challenges faced by the sector. This would focus on addressing long-term and cross-sectoral gaps in R&D efforts, rather than duplicate or replace current R&D funding efforts.

The resources sector is already at the forefront of innovation, constantly striving to develop ground-breaking technological solutions, perform better than before and find new ways to do business.

Our success has been supported by decades of public and private investment in leading-edge scientific and technical infrastructure in key universities, research organisations and government bodies. As a result, Australia has world-class mining and engineering schools and institutions such as the CSIRO and Geoscience Australia.

Much of the current research effort is understandably directed to addressing nearer-term issues. However, additional and sustained effort is also needed to make sure we are addressing the long-term sectoral challenges that will create new industries and ensure the sector's competitiveness and social and environmental sustainability in the decades ahead.

This action will seek to bring a more strategic and longer-term capacity and focus to the sector's research and development (R&D) needs by working with the states and territories, industry and the research community to identify options to develop the capacity to drive a whole-of-industry approach to R&D efforts on long-term and cross-sectoral issues that are key to economic and environmental sustainability.

Some areas where a long-term dedicated research effort could produce significant gains include water and tailings management, rehabilitation and closure practices and developing new knowledge, technologies and processes to find and exploit deeper undercover resources.

Solutions to these challenges have the potential to create new exportable businesses for Australia and to position the sector to meet rising community standards relating to the sector's environmental and social performance.

This is not about creating new institutions or altering the existing R&D architecture, but rather it is about better leveraging the capacities we have through a clearer long-term focus. This could involve finding ways to better coordinate research efforts and to stimulate or incentivise greater collaboration and risk sharing.

There are a range of possible options from better industry and institutional collaboration and priority setting, through to models that create a limited pool of leveraging funds to support long term priority research.

© Newcrest Mining Limited



Better and more accessible information

The government will better use and manage information by:

- Engaging with states, territories and academia through the COAG Energy Council to develop a Resources Data Strategy. This strategy will provide a new approach to how data can be collected, integrated and used, particularly for environmental, heritage and geoscience datasets. This will enable governments, industry, research organisations and communities to make better informed decisions on resources development.

Australia has world class mineral resources data that has helped attract investment. However, through the consultation that fed into the Resources 2030 taskforce, it became apparent that some data sets including geoscience, environmental, heritage and greenfield exploration investment could be further improved to realise their significant untapped additional value.

More generally, data is central to de-risking exploration and development of new basins. Greater access to data will help align government and industry with the longer-term national interests needed for sustainable greenfield exploration programs. This will help to overcome short-term investment horizons often associated with private sector development.

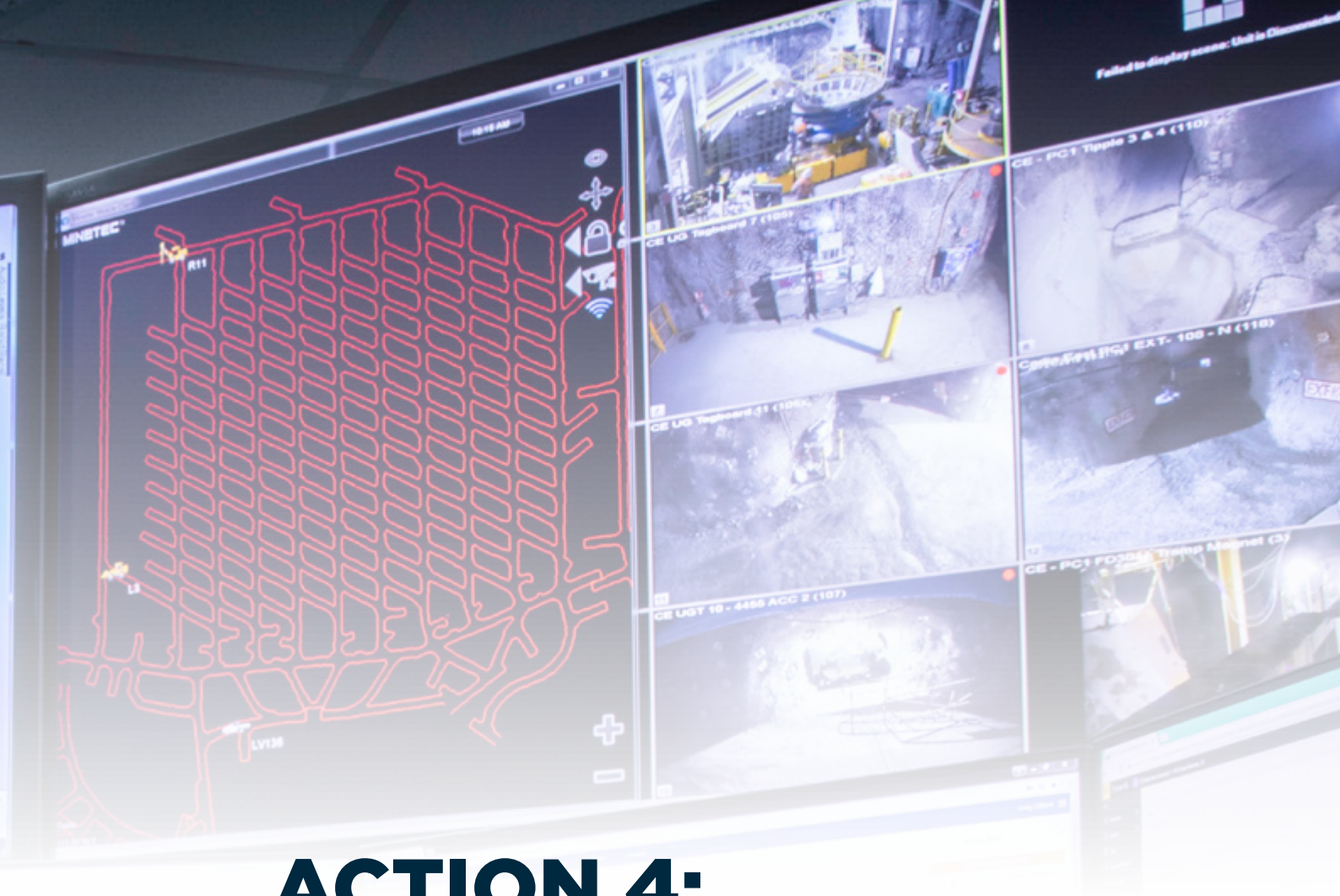
Advances in technology, including high-performance computing, modelling, and big data analytics make the collection and integration of data more effective and efficient. These tools will allow pre-competitive geoscience data to reveal a region's geological properties and potential. More effective use of this data therefore allows industry to target and evaluate potential resources, reducing the risk associated with exploration and improving environmental outcomes.

The government sees benefit in a holistic long-term Resources Data Strategy for the sector. A clear strategy will improve the scope and curation of key data sets, such as geoscience, environment, biodiversity and heritage. This would not only reduce the risk of exploration investment but would also help governments make more informed decisions and better coordinate and prioritise research efforts. It would also enhance environmental management practices and outcomes, and improve information transparency to build community trust.

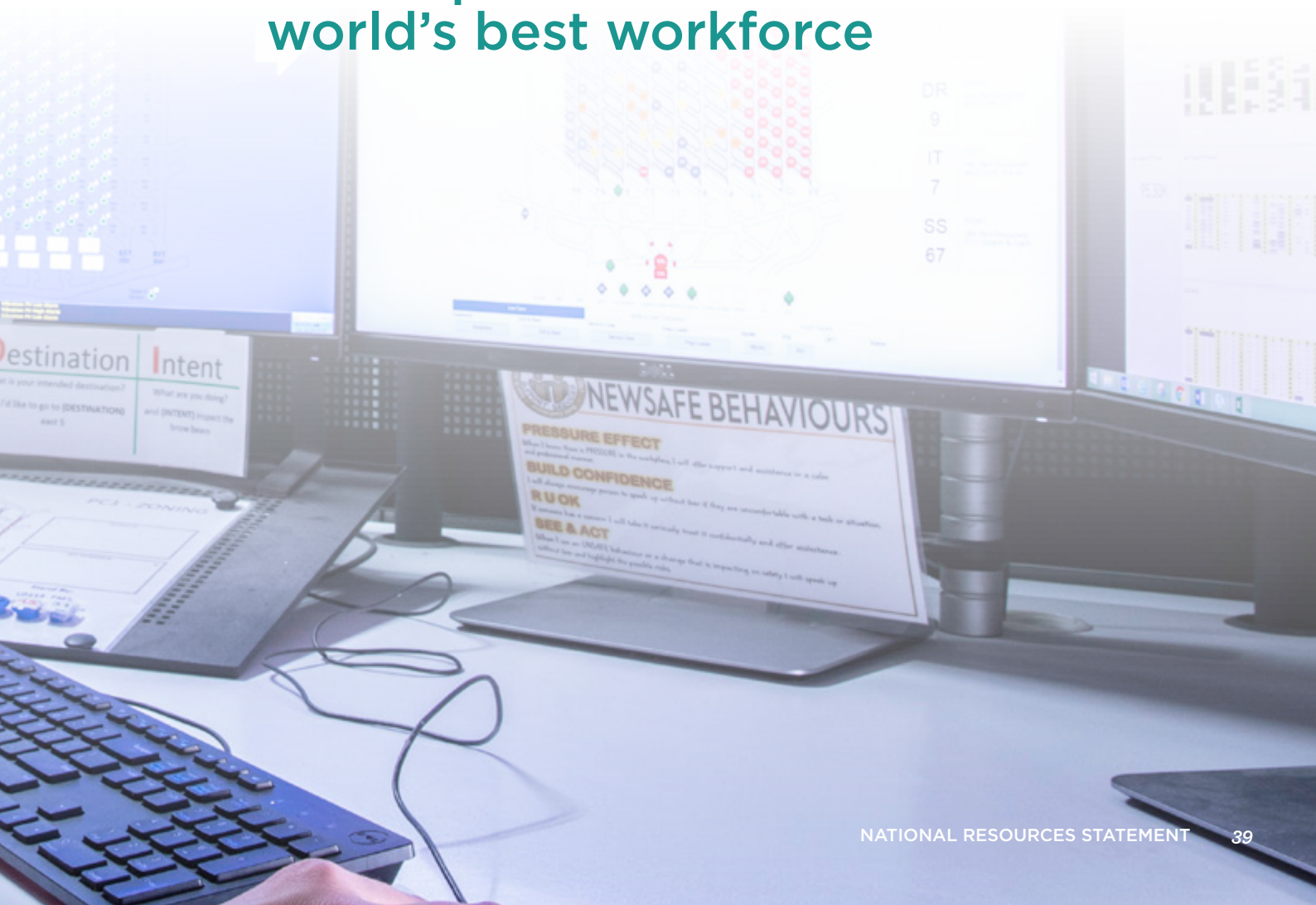
“Future growth is expected to come from increased use of data and analytics, artificial intelligence coupled with automation, the deployment of advanced extraction techniques and the commercialisation of specialist technologies. These innovations and technologies have significant potential to improve the safety, productivity and competitiveness of the sector over the coming decades and to provide a range of exportable products and services.”

RESOURCES 2030 TASKFORCE REPORT, 2018





ACTION 4: Develop and retain the world's best workforce



Maintaining a skilled workforce

The government will support a skilled workforce by:

- Working with industry, which is undertaking a skills mapping exercise to determine the sector's future workforce needs with a view to driving strategies so that curricula delivered by universities and VET providers adapt to meet the longer-term needs of the sector.
- Convening a roundtable with industry and academia to identify opportunities to boost tertiary and VET outcomes for the sector. The COAG Energy Council will work closely with COAG Skills Ministers to take forward actions identified through this process.

It is vital that Australia develops and retains the world's best resources workforce with well-paid, secure jobs.

The sector would not be where it is today without its experienced, diverse and highly trained workforce, but its workforce needs are changing. Identifying the skills required for the sector in the future will be important to ensure our educational institutions can continue to support the resources sector's needs.

It will be important to draw on skills mapping already underway by industry to understand the needs of the entire resources sector supply chain. A more coordinated approach is needed. Governments and industry need to determine the sector's future skills requirements and how best to meet the needs of a changing sector. The findings will be used to better develop curricula that meet the needs of the sector. This process should be informed by knowledge of the commodities that will form the foundation of Australia's future resources economy, such as battery and critical minerals.

It will also be important for industry to play its part in this action. To retain skilled workers in the sector, industry needs to commit to continuous training and development of an inclusive workforce, ensuring they are well placed to deliver a world-class resources sector of the future.

The advance towards automation, robotics and artificial intelligence in the sector is highlighting and anticipating a change in future skills needs.³³ As the sector innovates and develops newer technologies to increase productivity and sustainability, it will offer even greater opportunities for Australians to work in the jobs of the future. Greater use of these technologies will require specific, highly technical skills in Science, Technology, Engineering and Mathematics (STEM). Furthermore, the skills being taught at universities and by Vocational Education and Training (VET) providers, need to match those required by industry. Targeted training and education, especially in STEM, will allow employers to secure the skilled workforce essential to the resources sector of the future.³⁴

“How the resources sector skills, re-skills and upskills its workforce through continuous learning is key to its future success and global competitiveness.”

RESOURCES 2030 TASKFORCE REPORT, 2018.

³³ Resources 2030 Taskforce (2018) *Resources 2030 Taskforce Australian resources—Australian resources providing for future generations*. Australian Government, Canberra, p.65.

³⁴ Resources 2030 Taskforce (2018) *Resources 2030 Taskforce Australian resources—Australian resources providing for future generations*. Australian Government, Canberra, p.65.

Growing an inclusive workforce

The government will promote an inclusive workforce by:

- Working with industry and the states and territories to attract and retain women in the resources workforce, particularly in STEM fields.

Increasing women's workforce participation is an economic priority for the government. The female share of employment in the resources sector has not changed in over 10 years, and makes up around 16 per cent of the total workforce.³⁵ The resources sector has a clear opportunity to maximise the untapped potential of its human resources through increased female workforce participation. By working with industry to boost women's participation in the sector, it will drive economic growth, increased living standards and improve the bottom line for businesses in rural regions.

The resources sector is already a leading employer of Aboriginal and Torres Strait Islander people. It has the highest proportion of Aboriginal and Torres Strait Islander people working for it than any other industry and the sector's strong influence in regional and remote Australia best positions it to continue to be a major employer. Ensuring long-term, sustainable economic participation for Aboriginal and Torres Strait Islander people remains a national priority. For sustained economic participation, however, it is critical to have appropriate skills development strategies and meaningful education programs that address cultural needs.³⁶ It will be important to use better targeted training and workforce strategies to improve participation and retention of Aboriginal and Torres Strait Islander people in the resources sector.

There are already many programs across governments directed at delivering better employment outcomes for Aboriginal and Torres Strait Islander communities through training, an area in which industry is also active. An initial focus for the COAG Energy Council revitalised resources agenda will be evaluation of community engagement and workforce skills. This will cover engagement with traditional land owners, Aboriginal and Torres Strait Islander employment and business development. A stocktake of Aboriginal and Torres Strait Islander training programs could also be undertaken to determine whether further action is warranted to drive better outcomes for the sector and its Aboriginal and Torres Strait Islander communities.

³⁵ Australian Bureau of Statistics (2017), Labour Force Data, cat. no. 2602.0.

³⁶ Resources 2030 Taskforce (2018) *Australian resources providing for future generations*, Australian Government, Canberra.



A background image showing a soccer game in progress during sunset. The sun is low on the horizon, creating a warm, golden glow over the scene. Several players are visible on a green field, with one player in the foreground wearing a red jersey and black shorts. The sky is filled with soft, white clouds.

ACTION 5:

Deliver better outcomes for
stronger and more engaged
communities

The government will promote strengthening communities by:

- Working to improve community trust in the sector starting with a comprehensive evaluation of current community engagement and benefit sharing practices by industry, governments and other bodies to identify best-practice and information gaps. This will inform and guide future actions to secure stronger Australian communities, and we will do this through the COAG Energy Council and with industry.
- Trialling regional deals for Australia, initially focusing on the Barkly region in the Northern Territory. Early consultations about the deal include ways to maximise the local economic opportunities and benefits from any developments that gain community consent, which align with the goals of this statement.
- The Minister for Resources and Northern Australia will work closely with the Minister for Regional Services, Sport, Local Government and Decentralisation to support the pilot Barkly Regional Deal, and ensure that lessons from the Barkly are applied to help build supportive communities receiving the benefits of a strong sector in other resource-rich regions.





© Rio Tinto.

Industry engagement with the community is essential for the sector's long-term future. The government will work with states and territories to develop a strategy that builds stronger and more engaged communities. One element would explore the development of credible best-practice guidelines for better community engagement, including with Aboriginal and Torres Strait Islander communities.

Australia is at the forefront of community engagement in the resources sector, but there is often disparity between the quality of community engagement, including agreements with Aboriginal and Torres Strait Islander communities. This is caused by the varying knowledge, experience and needs of each community, and individuals' skills and capabilities. Progress will be made towards addressing these issues by developing a credible common standard for community engagement and Indigenous agreements.

The Native Title framework has successfully provided opportunities for industry to beneficially engage Aboriginal and Torres Strait Islander people. Despite this, there are communities in resources-rich regions that remain marginalised.

The government will work with states and territories and industry to promote economic development in Aboriginal and Torres Strait Islander communities through resources development. This includes utilising employment opportunities, industry training programs, increased

procurement from Aboriginal and Torres Strait Islander small businesses, and broader health and education benefits. These outcomes will help close the gap.

Efforts will be made to help regional communities to better prepare for and adapt to changing economic conditions where they are underpinned by large resources projects. These economies should be helped to develop holistic, long-term sustainability plans that build resilience, including through diversifying their economies. These plans should anticipate changing workforce and infrastructure requirements for new resources projects or existing projects that reach the end of their operational lives.

Resources have opened up economic opportunities for communities around the country, particularly regional and Aboriginal and Torres Strait Islander communities. This good work must be continued through building stronger resources regions. This will allow regional communities to harness their natural advantages and build sustained economic resilience.

“Companies across the sector are not held accountable to a common standard on community engagement and Indigenous agreements.”

RESOURCES 2030 TASKFORCE REPORT 2018





STRONG COLLABORATION TO DRIVE REFORM

Collaboration is essential for the future success of the resources sector. It is clear that industry, governments and academia need to work together to ensure the sector's future success.

A fragmented approach to our strongest sector could undermine its future competitiveness and see competitors with more cohesive approaches erode our natural competitive advantages.

Working with states and territories

Many of the actions that will drive the sector's competitiveness over coming decades will need to be implemented in cooperation with states and territories. The government will work with states and territories through the COAG Energy Council for a revitalised resources agenda with a longer-term strategic focus and a renewed emphasis on collaboration to deliver better outcomes.

The COAG Energy Council resources ministers have agreed to pursue a strategic reform agenda based on five key strategic priorities that were also informed by the Resources 2030 Taskforce report's reform agenda.

Those strategic priorities are:

- Competitiveness
- Exploration and new developments
- Innovation
- Communities
- Workforce

To give effect to those priorities, the council will work together on six key actions, consistent with recommendations made by the Resources 2030 Taskforce and included in the action plan of this statement:

- Establish a framework for the regular benchmarking of policies and regulation which will assess current settings and highlight best-practice across Australia and internationally. Jurisdictions will work together to decide the best way to approach the framework's development, including the coordination of state, territory and federal regulation of the development of resources. This will support continuous improvement in our national competitiveness.
- Put in place a collaborative new critical minerals work program to boost exploration and open up new basins and downstream value adding activities.
- Develop a data strategy to improve the discoverability and utilisation of key geological, environmental and heritage data sets. This will de-risk investment decisions and help governments, industry and communities make more informed decisions, better prioritise research efforts and build trust.
- Identify options to better leverage long-term cross-sectoral R&D to drive whole-of-sector benefits and meet the future economic challenges faced by the sector.
- Work to improve community trust in the sector starting with a comprehensive evaluation of current community engagement and benefit sharing practices by industry, governments and other bodies to identify best-practice and information gaps. This will inform and guide future actions to secure stronger Australian communities.
- The council will convene a roundtable with industry and academia to identify opportunities to boost tertiary and VET outcomes for the sector. This has been identified as a priority and if left unaddressed, will significantly constrain the sector's potential. The council will work closely with COAG Skills Ministers to take forward proposed actions.

Working with industry and other stakeholders

The Government will work through the COAG Energy Council to establish a Strategic Resources Advisory Group with the expertise and authority across mining, oil and gas and mining services to provide strategic advice on opportunities and challenges to drive reform and promote the long-term national interests of the resources sector.

The group will consist of leaders from the resources sector and will work collaboratively across the sector and governments to drive a long-term strategic agenda.

The COAG Energy Council will develop an implementation framework for a Strategic Resources Advisory Group in 2019, which will be informed by the Resources 2030 Taskforce recommendation on the purpose of this group.

Without limiting what the group may look at, it will be asked to focus on:

- Opportunities and longer-term challenges to meet our vision
- Driving deeper collaboration between mining, oil and gas and mining services
- Examining and helping to prioritise the sector's long term R&D efforts including in environmental management, geoscience, exploration, innovation, technology and critical minerals
- The future workforce needs of the sector.







FUTURE SUCCESS

This statement sets out a blueprint for a more collaborative and long-term reform agenda to create an Australian resources sector for the 21st Century. This will be an era where economic reforms must accommodate digital disruption, social, safety and environmental issues and above all have community engagement and acceptance.

Australia has a technologically advanced, forward-looking resources sector. It is well placed to meet the challenges of the future. The vision and actions of this statement are key to attracting and cultivating the best and brightest people, capturing more investment and delivering prosperity to Australians, particularly those in regional communities.

This statement cannot deliver outcomes without partnerships between governments, industry and communities. It is recognised that the states and territories carry most of the regulatory burden for the resources sector. However, the government will endeavour to lead at the national level to drive key reforms.

The government will continue to lead and promote international engagement with Australia's resources sector, geoscience and exploration through to research and development, METS, and community engagement.

The government will work through new and existing forums to implement the actions in this statement and deliver outcomes. A key aspect is the reinvigorated resources agenda for the COAG Energy Council.

The government will also regularly track progress of the actions to identify success and whether new efforts are required to achieve the reform agenda put forward in this statement.

Future success will be measured by whether the goals in this statement are achieved to increase exploration investment and success for new Tier One resources, develop new resources regions and industries to market, develop a long term R&D strategic agenda and data capability across the sector, develop a knowledge and environmental management economy, and that the reputation of the sector is one of being inclusive, diverse and accepted by communities as socially responsible and safe.



© Newcrest Mining Limited

