



# Securing future innovation and global competitiveness in NSW – Green Paper

## NSW Minerals Council Submission – June 2022

The NSW Minerals Council (NSWMC) welcomes the opportunity to comment on the *Securing future innovation and global competitiveness in NSW – Green Paper* (Green Paper). NSWMC represents the State's \$26 billion minerals industry, with around 75 member companies ranging from small exploration companies to large international mining companies, as well as associated service providers.

### The mining industry is a major economic driver in regional NSW

Minerals are NSW's highest value export and the mining industry underpins regional economies across the state. The recent strength in commodity prices will deliver record royalty revenue to the NSW Government, forecast to be \$2.8 billion this financial year and \$8.5 billion over the forward estimates.

The latest results from NSWMC's annual economic survey demonstrate the economic significance of the mining industry in regional NSW. During 2020-21, the 28 companies surveyed directly spent \$14.6 billion on wages and payments to more than 30,000 full-time equivalent workers and 7,300 supplier business across the state. The industry supports highly paid, highly skilled jobs, with an average salary of approximately \$140,000.

This direct expenditure generates a large proportion of overall regional economic activity in NSW, with selected regions highlighted in the table below.

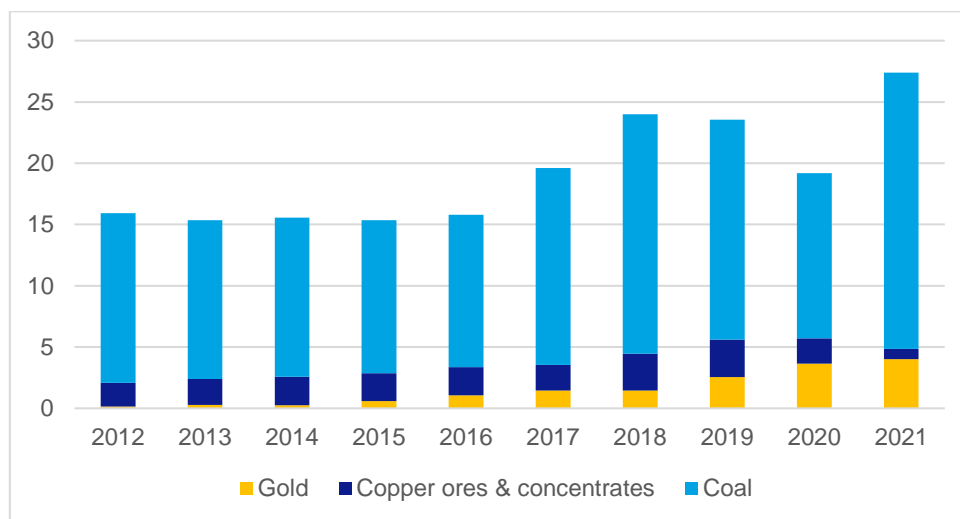
**Mining's contribution to Gross Regional Product<sup>1</sup>**

Region	Mining's contribution to Gross Regional Product (GRP)
Hunter	28.9%
Central West	19.2%
Far West	42.9%
Illawarra	7.3%
North Western	12.5%

<sup>1</sup> Lawrence Consulting, [NSW Mining Industry Expenditure Impact Survey 2020-21](#), March 2022

While coal is by far the state's highest value export, the contribution of the metals sector is growing and there is significant upside growth potential for NSW metals, rare earths and mineral sands.

**NSW coal, gold and copper exports (\$A billion)<sup>2</sup>**



NSW's mineral resource endowments, skilled residential workforce, mining support services, infrastructure, regulatory regime and access to global markets give NSW a competitive advantage in mining that could be further leveraged through strong industry policy to both grow the mining sector and capture a greater share of value in the supply chain through growth in downstream processing and manufacturing.

### Minerals are central to the transformative forces shaping the future of NSW

The Green Paper highlights some of the transformative forces that will influence the NSW economy over the coming decades. Mineral resources are central to these transformative themes, in particular:

- The rapid economic growth in Asia – population growth and increasing living standards across much of Asia is driving up demand for energy and goods. This is maintaining strong demand for NSW's high quality thermal and metallurgical coal and will contribute to increasing global demand for a range of other minerals NSW produces.
- Efforts to decarbonise economies – global agreements to achieve net zero emissions are driving massive investments in renewable energy, which in turn require massive investments in the raw materials used to produce them. NSW has a wealth of resources required to deliver this transformation including copper, silver, coking coal, cobalt, nickel, lead, zinc and rare earths. At the same time, these shifts are causing mining operations to develop strategies to reduce their emissions and there will be longer term implications for the use of unabated fossil fuels.
- Supply chain security – The global supply of energy and critical minerals, together with downstream processing capacity, is highly concentrated, creating increasing supply chain risks as a result of an evolving geopolitical environment and ongoing disruptions caused by COVID-19. Australia is a secure, stable and trusted supplier of minerals and energy to our trading partners, as well as having high ESG credentials, making us an ideal source of raw materials for governments looking to diversify their supply chains and to have confidence in ESG standards of suppliers.

<sup>2</sup> Commonwealth Department of Foreign Affairs and Trade

The NSW Government's existing *NSW Minerals Strategy*, *NSW Critical Minerals and High Tech Metals Strategy* and *Strategic Statement on Coal Exploration and Mining in NSW* largely recognise these transformative forces and the opportunities they present for the development of NSW's mineral resources.

The mining industry itself is acutely aware of these forces and is responding through increasing levels of investment in mineral exploration; shifting focus towards 'future facing' minerals associated with battery storage, renewable energy infrastructure and advanced materials; and significant investments in technology to reduce greenhouse gas emissions both at mining operations and with customers.

## Industry policy should improve competitiveness of NSW's investment environment

The sections below summarise the primary industry policy measures needed to fully harness the economic growth opportunities in the minerals sector.

### Investment attraction

As the Green Paper indicates, NSW is competing with other Australian and international jurisdictions for investment. This is very much the case in the minerals industry, where companies will often have multiple investment options across multiple jurisdictions, and investors have a wide choice of options when deciding where to invest.

Furthermore, minerals exploration is a commercially risky investment, with very few exploration programs leading to mine proposals. Those that do can take more than a decade from discovery to development. A supportive policy environment is crucial to de-risk these investments and encourage the exploration activity required to discover new resources to both increase production capacity and replace depleting resources at existing mines.

While the NSW Government has taken strong steps to improve the policy framework in recent years, the latest results of the annual Fraser Institute Survey of Mining Companies, released in April 2022, show that NSW is still behind most other Australian jurisdictions on the Policy Perception Index – an index that measures the effects of government policy on investor perceptions – and remains below its target score of 75 that it set in the *NSW Minerals Strategy*.

### Ranking of Australian Mining Jurisdictions in the Fraser Institute Survey 2021

Rank in Australia	Global Rank	State/Territory	Policy Perception Index Score
1	4	Western Australia	92.83
2	16	South Australia	83.09
3	21	Queensland	80.33
4	27	Northern Territory	75.87
<b>5</b>	<b>33</b>	<b>New South Wales</b>	<b>71.75</b>
6	36	Tasmania	70.14
7	43	Victoria	66.57

NSWMC supports the policy measures identified in the existing Government policy documents: the *NSW Minerals Strategy*, *NSW Critical Minerals and High Tech Metals Strategy* and the *Strategic Statement on Coal Exploration and Mining in NSW*. The steps being taken by the NSW Government are starting to improve the administration of the regulatory framework and provide a clearer policy framework.

However, there is the potential for more to be done to attract investment given the commercial risks involved in mineral exploration, and the large investments and greater uncertainty involved in developing some critical minerals deposits given their relatively immature market structures and much more complex processing requirements.

Some measures NSWMC recommends for consideration include:

- Fast tracking planning approvals, including outstanding applications currently under assessment, and providing additional powers for the Mining Concierge to ensure issues are resolved quickly and assessments progress.
- Dramatically expanding the funding available under the Cooperative Drilling Program to \$6 million each year or more, to make the program more competitive with programs in other Australian jurisdictions and to deliver greater investment in exploration, which will lead to more discoveries.
- Providing a royalty holiday during the initial stages of greenfield minerals projects to help reduce costs and bring forward investment.

### **Enabling infrastructure**

NSW is renowned for having world class infrastructure to support industry. Access to the National Electricity Market, water infrastructure, transport networks, mining support services and regional centres that provide a high quality lifestyle for residential workforces are all factors that contribute to NSW's ability to attract mining investment.

The Hunter Valley coal chain is a prime example of infrastructure that provides the NSW coal industry with a competitive advantage, coordinating approximately 20,000 train trips from more than 30 mine loading points to the three coal export terminals at the world's single largest coal export port in Newcastle.

However, future growth in the mining sector will largely occur in areas where there hasn't previously been a high concentration of industrial development, placing increasing pressure on the more limited infrastructure. While mining is not new in areas such as the Central West, there are ongoing expansions of existing mines, several investment-ready greenfield projects, a pipeline of projects in the planning system and several recent promising exploration discoveries that together could deliver a step change in mining activity over the coming decade.

It would be a huge opportunity cost if this forecast growth was hampered by a lack of supporting infrastructure. NSW's industry policy should focus on ensuring there is sufficient infrastructure capacity ahead of these expected developments, including:

- Water infrastructure – water scarcity during the last drought presented real risks to continuing operations for some mines. While mines have undertaken extensive work to improve efficiency and build supply security, and some projects have positive plans to install pipelines to use waste water and reduce demand on freshwater supplies, ongoing work will be required to monitor water security in the face of increasing demand and to identify options to improve water security.
- Electricity – metals processing can be energy intensive, demonstrated by the fact that one mine is the second largest user of electricity in NSW. Many of the proposed new mines and exploration activity is occurring at the margins of the existing electricity transmission network where issues regarding network congestion and stability are likely to become more prominent as large loads are added to the network. The Government should provide itself with confidence that the capacity of the transmission network and security of supply will be sufficient to accommodate the expected growth in mining and other industrial activities as and when it is planned to be constructed.
- Rail transport – while the Hunter Valley Coal Chain is world class infrastructure that provides the coal industry with a competitive advantage, rail linkages to the west of the Great Divide are more

tenuous. This is evidenced by the extended shutdowns of the Blue Mountains line in March this year following extreme weather events. The costs to a range of industries from this event is significant, as well the risks to the state's energy security due to the inability to transport coal from the Western Coalfield to power stations in the East. Strategies to provide greater confidence about infrastructure capacity with the expected growth in demand, and the ability to deal with unexpected outages quickly, are needed.

- Ports – there are only two ports in NSW and, practically speaking, mining operations will generally only have one viable option to export from. These ports are privately owned monopoly infrastructure and it is essential they are effectively regulated to ensure there are appropriate checks and balances on terms and conditions for accessing services, including price increases. This is not currently the case. For example, immediately after privatisation the Port of Newcastle significantly increased costs for coal producers accessing the services. Without appropriate regulatory oversight, the coal producers are exposed to changes to terms and conditions, including price increases without any right of recourse or ability to negotiate or have the matter arbitrated. The Government should ensure that all exporters have access to competitive port services that have appropriate regulatory oversight.

### **Greenhouse gas emissions abatement**

NSWMC supports the NSW Government's goal of net zero emissions by 2050. Mining companies are playing a constructive role in achieving the Government's objectives by establishing their own emission reduction targets and identifying and delivering projects to achieve these commitments. Examples of some projects in the NSW mining industry include:

- Newcrest's Cadia Valley Operations entering into a renewable power purchase agreement to meet more than 40% of Cadia's expected energy demand from 2024 – one of the largest underground gold mines in the world and the state's second largest electricity user.
- The construction of solar farms on mine-owned land, such as Centennial's Airly Mine Solar Farm and Maxwell's proposed 25MW solar farm on rehabilitated mine land.
- The testing of alternative technologies to replace diesel powered mining equipment, such as CSA Glencore's testing of a 14 tonne battery electric loader at its underground metalliferous operations in Cobar.
- Delivering improved fuel efficiency and emissions reductions, such as Yancoal's replacement of 80 diesel engines which could reduce emissions by 11,500 tCO<sub>2</sub>-e p.a. and Whitehaven's updated fuel calibrations to reduce fuel consumption by 6.6%.
- Capturing fugitive emissions from underground coal mines for power generation, such as South32's Appin Tower Power Project, Centennial's Mandalong mine and Glencore's Bulga and Glennies Creek mines.
- Studies into the re-purposing of mine sites to host renewable energy infrastructure, such as Idemitsu's investigations into a 250MW pumped hydro project in Muswellbrook in partnership with AGL.

The mining industry, like others, is energy intensive and there are aspects of mining-related emissions that are both technically challenging and costly to abate. NSWMC supports the policy measures in place by the NSW Government to supplement the industry's own work with additional funding for the research, development and deployment of low emissions technology. This includes:

- Net Zero Industry and Innovation Program: High Emitting Industries – NSWMC fully supports this \$380 million program, designed to target emission reduction opportunities from major plant and equipment upgrades in the mining and manufacturing industries. NSWMC looks forward to the detailed application arrangements for the program being released, noting that it is essential that all

potential emission reduction opportunities across the mining and manufacturing sectors are open for consideration.

- Coal Innovation NSW – Coal Innovation NSW undertakes research into low emission coal technologies, however its benefits extend beyond the coal sector. It currently has two main areas of focus:
  - Identifying a potential geological carbon storage site in NSW – Governments around the world recognise Carbon Capture, Utilisation and Storage (CCUS) as a crucial tool to reach net zero emissions for a range of industrial and energy related emissions, such as steel, cement and chemicals manufacturing, and gas and coal fired power stations, and have strategies in place to deploy it. NSW Coal Innovation is undertaking studies to identify a suitable geological storage site for CO<sub>2</sub> to ensure NSW is 'storage ready'.
  - Reducing fugitive emissions from coal mines – The recent announcement of Coal Innovation Funding for a Ventilation Air Methane abatement demonstration plant at South32's operations in the Illawarra is an example of how the government can be the deciding factor in the delivery of leading initiatives that have the potential to deliver substantial emissions abatement and to be adopted more broadly across the sector.

The Government's policies should recognise that the scale and complexity of reaching net-zero emissions will require a diverse range of technologies across all industries including renewables, energy storage, alternative fuels, nuclear power, advanced coal technology, CCUS (carbon capture, utilisation and storage) and access to a wide range of credible offsets.

## **Skills**

The mining industry provides a wide range of career opportunities in rural and regional NSW including equipment operators, trades, engineers, surveyors, environmental scientists, health and safety professionals, geologists, and corporate services.

Mining employees are highly skilled and highly paid, with NSWMC's latest economic survey showing an average wage of \$140,000.

While the closure of domestic coal fired power stations may have some impacts on coal mining employment, NSW's coal exports are expected to remain steady in the medium term given our high-quality coal and proximity to the rapidly developing economies in Asia that will continue to rely on coal fired power for some time. Over the longer term, potential declines in coal mining employment could be offset by growth in metalliferous employment, given the strong outlook for metals and the highly transferable skills.

Nationally, the mining industry faces critical shortages in a wide range of occupations, across all skill levels and in both coal and metalliferous sectors. This will be exacerbated as the industry grows and will affect productivity if measures are not taken to address these shortages. Already, access to a future pipeline of graduate mining engineers is severely constrained, and NSWMC is working closely with higher education providers to promote opportunities in the mining engineering discipline, and promote mining as an industry of choice, as it competes against a resurgence in construction and infrastructure employment.

Similarly, a shortage of existing mining employees who are qualified and/or willing to undertake roles requiring statutory certification is impacting operational capacity across the board. In a recent survey conducted by NSWMC, difficulties in filling statutory roles were reported widely in both coal and metalliferous sectors, open cut and underground operations and quarrying. A shortage of Mechanical Engineers and Mechanical Engineering Managers was noted.

The Minerals Council of Australia (MCA) is engaging in continued advocacy to improve skilled migration pathways for the mining industry by adding additional occupations to the skilled migration lists. Additionally, further consultation is underway across the MCA membership to define new mining



occupations arising from a growth in digitisation and automation of work; and advocate for these to be added to the *Australian and New Zealand Standard Classification of Occupations (ANZSCO)*. In order that skilled and semi-skilled migration can be targeted to areas of greatest need in the mining industry it is important that the NSW Skills List remains consistent with national updates as they are made.

The recent announcement of a further 70,000 Smart & Skilled fee-free apprenticeship places is welcomed. To effectively 'grow the pool' of skilled workers in regionally-based industries which are disadvantaged by distance in the competition for talent, consideration should be given to the geographical distribution of those apprenticeship places. Further, a focus on completion as well as commencement will require a restoration of appropriate industry aligned teaching resources in TAFE Institutes across NSW.

### **Creating domestic demand and downstream linkages**

The close relationship between the high quality metallurgical coal mines and the BlueScope steelworks in the Illawarra is an example of an existing downstream linkage between the mining and manufacturing industries that delivers major economic benefits for the region, retains important manufacturing capabilities within NSW and provides a strong domestic customer for the local mining industry to supplement exports through Port Kembla.

The opportunities to capture this value within the metalliferous supply chain in NSW have not yet been realised to a large extent. However, the *NSW Critical Minerals and High Tech Metals Strategy* is largely focused on capturing a greater proportion of value across the critical minerals supply chain, in particular through the proposed Critical Minerals Hub to be anchored around the Parkes Special Activation Precinct.

Policies to stimulate domestic demand for critical minerals or higher value processing of metal ores and concentrates will help capture this value. In this regard, the *NSW Critical Minerals and High Tech Metals Strategy* proposes several measures, including investigations into the opportunities for copper processing, high-tech metallisation and battery manufacturing.

NSWMC fully supports these measures and encourages the Government to provide the funding required to deliver on these commitments.

### **Conclusion**

Mining has built a strong economic foundation for regions across NSW. The opportunities it presents for NSW's future are even greater. The transformative forces shaping our economy are intrinsically linked to the raw materials produced by the state's minerals industry

The responsible development of the state's mineral resources should therefore be a focus of the NSW's Government's industry policy.

**NSW Minerals Council**

**June 2022**