



Guiding Principles

for Responsible Mining in NSW

NSW MINERALS COUNCIL PUBLICATION . 2023



Introduction

The NSW mining industry recognises that meeting the expectations of the community in relation to management of environment, social and governance (ESG) opportunities is a vital part of the industry's future success.

There is a growing global movement for businesses to identify how they are meeting the ESG challenges. Mining operations in NSW are committed to continuous improvement to meet both community and regulatory expectations.



Guiding Principles for Responsible Mining in NSW

The NSW mining industry is committed to responsible mining, meeting the expectations of the community in relation to impacts on the environment, communities and employees and society more broadly.

The mining industry in NSW is highly regulated and has a high level of compliance. Statutory requirements, and conditions of approval including planning consents and environmental licences require that risks are identified and mitigated and/or managed to an acceptable level.

These Guiding Principles seek to add to the high standards of operation already required under the laws and policies of local, NSW and Australian governments.

The Guiding Principles provide both a roadmap for strong ESG performance and examples of how these principles are applied in practice in NSW.

NSW Minerals Council members range from small privately owned NSW based companies to large public companies operating across the globe. Many of our members engage with a range of industry-based frameworks related to ESG. These Guiding Principles are consistent with the following mining industry ESG frameworks:

- The International Council on Mining and Metals Mining Principles
- The World Coal Association Responsible Coal Principles
- Minerals Council of Australia's Towards Sustainable Mining and Enduring Value.

Ethical business

Business is conducted in an ethical manner, maintaining systems of corporate governance, risk management, standards, and transparency.



The Principle in Practice

Ethical business

BHP's 'Our Code'

BHP's code of conduct is set out in the organisation's Our Code. The Our Code document provides practical guidance on how to put BHP's charter values of sustainability, integrity, respect, performance, simplicity and accountability into practice.

BHP's Our Code provides clear guidance on how it applies to employees, a summary of behaviours that have no place at BHP, hypothetical scenarios on how to apply Our Code in practice and clear information on how to speak up if an employee thinks a decision or action is not in line with Our Code or BHP's values.

BHP's Our Code guides its partnerships with the communities in which they operate and how they work with their customers worldwide. Our Code underpins a workplace where everyone, including those BHP work with, feel respected, safe to speak up and free to contribute their best.

BHP recognises that operating with integrity is everyone's responsibility. All employees and contractors undertake training in relation to BHP's Our Code on an annual basis, with certain roles undertaking additional training modules.

BHP's Our Code is supported practically by BHP's EthicsPoint, a confidential 24 hour speak-up hotline and website available to all BHP personnel, customers, suppliers and members of the public. The service can be used to report issues with conduct or to ask a question about Our Code.

Whitehaven Coal's approach to climate related disclosures

Whitehaven Coal recognised that climate change is a material risk for its business and was a leader in commencing reporting with reference to the recommendations of the Financial Stability Board's (FSB's) Task Force on Climate Change-related Financial Disclosures (TCFD) in financial year 2019.

TCFD is a voluntary framework developed by the FSB to improve and increase reporting of climate-related financial information to support investors, lenders, and insurance underwriters in appropriately assessing and pricing risks related to climate change.

Reporting with reference to the TCFD allows Whitehaven to better assess and manage climate-related risks, and provides a transparent and consistent framework to communicate those risks.

Since financial year 2019, the company has reported annually on the outcomes of stress-testing the resilience of its portfolio against World Energy Outlook scenarios published by the International Energy Agency (IEA). This scenario analysis has consistently concluded that its operating assets exhibit resilience and value generation in a range of decarbonising scenarios, including under a Paris-aligned less than 2°C scenario, and that the risk of its assets being stranded in a more carbon-constrained world is assessed as low.

Respect

Put respect, fairness,
and transparency at the centre
of our engagement with employees,
neighbours, communities
and Indigenous Australians,
throughout the life of mine.



The Principle in Practice

Respect

Peabody's decision not to mine the Rocky Hill complex

In 2017, the NSW Government approved an extension of Peabody's Wilpinjong Coal open cut mine, 48 kilometres north west of Mudgee. The approved footprint of the mine included an area of significant Aboriginal cultural heritage, the Rocky Hill complex.

The Rocky Hill complex includes rock shelters with potential archaeological deposits, evidence of ochre quarrying, water holes, artefacts, and a potentially culturally modified tree. Local Indigenous groups identify the Rocky Hill complex as holding high cultural significance.

In early 2023, Peabody made a decision not to disturb the Rocky Hill complex and instead mine around it, preserving the physical structure of the outcrop and rock shelters. This decision has come as a result of respectful engagement and relationships built with local Indigenous groups over the past 15 years. Active listening and learning during the engagement has resulted in an evolving appreciation and understanding of Indigenous cultural heritage and the importance of the site.

Peabody will undertake actions to preserve the area, including baseline assessments, routine inspections and monitoring of vibration and dust. Working together with local Indigenous groups, this important site will be preserved for future generations.

Responding to community concerns at MACH Energy's Mount Pleasant Operation

MACH Energy's Mount Pleasant Operation is located four kilometres from the town of Muswellbrook in the Upper Hunter. Working with local stakeholders to understand and minimise impacts on neighbours and the town was a crucial part of planning the mine and has continued throughout operations.

MACH Energy undertook a range of consultations with local stakeholders, including neighbours, local Indigenous groups, the local council and community and business groups. Feedback from stakeholders resulted in several changes to the mine's design and operation.

One key area of concern was the proposed closure of Wybong Road. Community, local council and businesses were concerned about closure of the road which is used by neighbours, travellers, businesses and others. Using Wybong road significantly reduces driving time from the west to the town of Muswellbrook and destinations north and south.

MACH Energy had approval to close Wybong Road to enable extraction of coal reserves, subject to building a new access road.

To address community concerns, MACH reopened the mine design and came up with a solution to design a rail line within the current mining lease and running parallel to Wybong Road. While forgoing some coal reserves, this alleviated the need to close Wybong Road providing a satisfactory solution to the community's concern, while delivering the most effective and lowest impact long term rail solution for the operation.

Environment

Continually improve environmental performance of our operations, including our stewardship of water, mitigation of noise and dust emissions, management of tailings, reduction of energy use and waste, and to contribute to the conservation of biodiversity and nature.



The Principle in Practice

Environment

BHP's Mt Arthur Coal mine's air quality monitoring and response system

BHP's Mt Arthur Coal Dust Control System provides a holistic approach to air quality management and better manages dust emissions from BHP's Mt Arthur Coal mine. The system allows Mt Arthur Coal to continually track dust levels through a network of 11 real-time dust and weather monitors that feed into an intelligent real-time data platform.

The system triggers alerts when dust starts to rise in a specific area, measures wind direction and includes an array of high-resolution live cameras to assist in locating the cause of the dust increase. The operation can then respond quickly and appropriate actions can then be taken including mobilising water carts and making machinery or process changes.

The Dust Control System allows mine activity to be managed efficiently while preventing dust levels from exceeding regulatory requirements. The team at Mt Arthur Coal use the system to determine the optimum time for blasting to ensure dust, fume and noise impacts on the community are minimised.

The use of the system has proven highly effective with a significant reduction in dust alerts at the Mt Arthur Coal mine and zero incremental dust increases. The Dust Control System's effectiveness won the industry Excellence Award from the Clear Air Society of Australia and New Zealand.

Restoring native woodland at Glencore's Mt Owen Mine

Glencore's Mt Owen Mine near Singleton is committed to protecting and improving over 2000 hectares of woodland in the heart of the Hunter Valley, providing habitat for threatened flora and fauna and vital regional connectivity.

The central location of the Mt Owen Mine and the adjoining offsets increases its importance due to its functionality as a fauna refuge and 'steppingstone' in an otherwise highly fragmented and primarily agricultural landscape.

The Biodiversity Offsets Strategy for the Mt Owen Mine includes conservation of existing vegetation (approximately 15-25 years old), active planting of existing pasture areas to return them to their original woodland state and managing remaining pasture to enhance natural regeneration.

The strategy has already proven successful, with the re-establishment of the Central Hunter Ironbark-Spotted Grey Box Forest in the locality. Assisting fauna is also included in the strategy, including constructing nest boxes and installing spotted-tail quoll denning sites.

In addition to conserving and restoring offsets, Mt Owen Mine is rehabilitating adjoining mined areas returning the land to local ecological communities.

At the end of the mine's life, it is expected that rehabilitation of mined areas, active plantings and management of vegetation across Mt Owen's offsets will result in an area of native woodland approximately five times larger than the woodland community that existed prior to mining. This total area of woodland (over 2000 hectares) will be comparable with the largest areas of existing remnant vegetation on the Hunter Valley floor.



Safe & Inclusive

Continually improve our health and safety performance with the goal of zero harm, and foster an inclusive environment within our operations, where our people are respected, engaged, recognised and developed.



The Principle in Practice

Safe & Inclusive

Glencore's Operator Awareness System

Fatigue is a significant factor in incidents involving heavy vehicles at open cut mining operations. After a rigorous trial Glencore has implemented an operator awareness system that provides an immediate response to avoid incidents and addresses the underlying causes of fatigue through identification and management.

The operator awareness system includes a camera which detects eye closure and triggers alarms, both audible and through seat vibration. Operators experiencing microsleeps are awakened by the alarms. The system alerts a control room and a trigger action response plan is activated. Depending on the severity of the incident immediate responses from contacting the operator, through to parking up the equipment are implemented.

The system provides an immediate response to fatigue incidents, but its most important role is in prevention. The system allows for identification of fatigue as a significant issue and for health intervention where required. Underlying health issues for operators, including previously undiagnosed sleep apnea have been identified and resolved. It has driven a greater understanding of the causes and prevention of fatigue across the workforce.

The system has been rolled out across Glencore's eleven Australian operations, and has developed a safer working environment through reduction and near elimination of fatigue incidents for heavy equipment in open cut environments.

The Bloomfield Group: Identifying and managing psychosocial hazards

In response to the Respect@Work National Inquiry Report and changes to the NSW workplace health and safety legislation on psycho-social hazards, The Bloomfield Group has developed and is rolling out a program to educate supervisors to identify and respond to these hazards.

Bloomfield's approach acknowledges that psychosocial hazards, such as bullying, sexual harassment, and inadequately rewarding or recognising individuals, cause harm and need to be managed and prevented in the same way as other health and safety risks.

The package includes an e-learning module, aimed at leaders, but to be viewed by all workers. Developed with legal and psychological expert input the package aims to provide education in identifying psychosocial harms, understanding why these behaviours are harmful and designing and implementing controls to prevent and manage these risks.

The program includes workshops which teach supervisors how to identify risk, provide feedback and have courageous conversations. In addition, each supervisor receives one-on-one sessions with a psychologist as part of the package.

Climate

Support decarbonisation policies and programs that are consistent with agreed international frameworks, and with achieving the NSW and Australian Government target of net zero emissions by 2050.



The Principle in Practice

Climate

South32's decarbonisation at Illawarra Metallurgical Coal

South32 Illawarra Metallurgical Coal (IMC) has a long history in the southern coalfields of New South Wales. South32 IMC is actively implementing decarbonisation plans by increasing the efficiency of gas drainage and capture, and assessing cutting edge technologies for reducing ventilation air methane.

At the Appin Mine, part of the IMC complex, South32 captures gas from the coal seam before and after mining activity to generate electricity or convert from methane into carbon dioxide, reducing its environmental impact. The gas captured is used to generate electricity, equivalent to the power used by 60,000 homes annually. South32 is targeting an increase in post-drainage capture efficiency in its Appin underground mine from 61 percent in 2021 to 67 percent by 2023.

The Appin Mine gas drainage program can capture gas from the coal seams pre and post-mining, however some residual gases, including ventilation air methane (VAM) still enter the underground mine ventilation system. VAM occurs at low concentrations which existing gas drainage technologies are unable to capture. While the concentration is low, the volume of air that moves through the ventilation system is high, so VAM is still a significant source of greenhouse gas emissions.

South32 IMC have been working in partnership with Australia's national science agency, CSIRO, since 2013 to develop new VAM abatement technologies that can be deployed at scale. A project to design, construct and test a commercial scale demonstration plant using CSIRO's VAM mitigator (VAMMIT) commenced in 2022.

VAMMIT oxidises methane to produce water and carbon dioxide. The commercial-scale unit being trialled at the Appin Mine aims to reduce greenhouse gas emissions by an estimated 30,000 CO₂-e per year. Over time, and on successful completion of the trial and relevant feasibility studies, CO₂-e reduction per year could be increased by adding units.

Newcrest Cadia Valley Operations Power Purchase Agreement

Newcrest's Cadia Valley Operations in Orange NSW is home to Australia's largest underground gold mine. The mine is one of the State's most significant users of electricity.

Newcrest's Net Zero Emissions Roadmap identifies key steps and decarbonisation options for Newcrest to deliver its goal of net zero carbon emissions by 2050. Newcrest has invested in a dedicated net zero emissions team with a diverse background from across the business, responsible for preparing and implementing the decarbonisation roadmap and assessing potential future opportunities.

With a target of 30 percent reduction in carbon emissions (Scope 1 and Scope 2) by 2030, Newcrest has contracted over half of the output of Rye Park Wind Farm, located north of Yass and east of Boorowa in New South Wales to service Cadia Valley Operations.

The 15-year renewable Power Purchase Agreement will deliver more than 40 percent of Cadia mine's projected energy demand from 2024, representing a large load reduction on the NSW electricity grid.



VISITOR

Contribution

Make a positive economic
and social contribution to the
communities where we operate.



Guiding Principles for Responsible Mining in NSW

The Principle in Practice Contribution

Whitehaven Coal's Indigenous employment and procurement programs

Whitehaven Coal has an objective to partner with the Aboriginal and Torres Strait Islander community to leave a lasting positive legacy. This includes actively seeking out and creating economic opportunities for Aboriginal and/or Torres Strait Islander peoples.

Through the company's targeted procurement program, it spent \$8.73 million with 14 Aboriginal and/or Torres Strait Islander businesses in full year 2022, up 70 percent on \$5.15 million in full year 2021. This increase reflects Whitehaven's targeted engagement with local businesses through procurement workshops and one-to-one engagement.

Despite labour shortages experienced economy-wide, Whitehaven has continued to grow the proportion of its workforce who identify as Aboriginal and/or Torres Strait Islander to just under 12 percent in full year 2022, up from 9 percent in full year 2021. This achievement was a result of strong teamwork between its Recruitment and Aboriginal Community Relations teams, as well as key contractor partners.

The company continues to run initiatives to promote roles to local Aboriginal and Torres Strait Islander people and deliver mentoring opportunities to help existing employees develop their careers.

In 2015, Whitehaven set an ambitious target of 10 percent of its workforce at Maules Creek, its newest and largest mine, identifying as Aboriginal and/or Torres Strait Islander. It has far exceeded that target with around 20 percent of the Maules Creek workforce identifying as Indigenous.

Newcrest Cadia Valley's support for flood hit Central West communities

On Sunday 13 November 2022 and into the early hours of Monday morning, there were widespread falls of over 90 millimetres of rain across the Central West of NSW, causing major flooding displacing more than 1,000 people, leaving local communities with an overwhelming recovery ahead.

Local communities mobilised quickly, but there was a need for long term, coordinated volunteer effort to continue the clean-up and rebuild.

More than 60 people from Cadia's workforce contributed an estimated 772 volunteer hours to assist with post-flood recovery efforts that included rewiring the local supermarket in Eugowra, which enabled it to reopen sooner and was a key milestone for the town's recovery.

In addition, the Cadia operations donated \$20,000 in materials to assist in the rebuild, with a further \$150,000 in funding provided through the Newcrest Sustainability Fund to support Rural Aid to provide primary producers with funds for basics, such as fodder for stock and another \$150,000 to the Foundation for Rural and Regional Renewal to help support not-for-profit organisations such as men's sheds, neighbourhood centres, hall committees and school P&Cs.



Future opportunities

Engage with and support communities and government to take advantage of the opportunities for the use of mine owned land, infrastructure, and workforces in the future.





The Principle in Practice

Future opportunities

Glencore's grazing land rehabilitation at the Liddell mine

Liddell open-cut mine has demonstrated over a six-year trial period that mined land can successfully be returned to productive agricultural land. Multiple trials have indicated that beef production on strategically rehabilitated land resulted in a 32 percent higher yield when compared with natural pasture.

The mine's rehabilitation strategy aims to emulate the pre-mining grazing areas, ensure the landscape is compatible with adjoining lands, enhance local and regional ecological linkages, and provide for a sustainable land use option.

Glencore commenced the first of four grazing trials at Liddell mine in late 2012. The aim of the trials, which continued through to 2018, was to demonstrate that previously mined land can be successfully returned to sustainable and productive grazing land, at least equivalent to its pre-mining capacity.

At the completion of each of the four trials, beef production on rehabilitated pasture was higher by an average of 32 percent than natural pasture. Heavier weights at the end of the trial translated to a higher return per head for cattle grazing rehabilitated pastures. Trace element levels were satisfactory in both rehabilitated and undisturbed soils and blood tests of the cattle showed no contamination with heavy metals or excess minerals.



Guiding Principles for Responsible Mining in NSW

Future opportunities

Muswellbrook Coal's Clean Industry Precinct

Idemitsu's Muswellbrook Coal, which has been operating since 1907, mined its last bucket of coal in 2022 and final coal was hauled from the site in March 2023.

Plans are now well underway to take advantage of the huge natural potential of the site to continue to contribute to the Muswellbrook and Hunter Valley economy, and the energy needs of NSW.

The Muswellbrook Coal site has abundant natural attributes which make it attractive for redevelopment as a Clean Industry Precinct, including 2,390 hectares of rehabilitated and buffer land, and close proximity to transmission lines and the town of Muswellbrook. In addition the Muswellbrook Bypass and the Santos Gas pipeline, when developed, will both run through the property.

Idemitsu is working with leading industry partners, the local community, state and local government, to take advantage of the attributes of the site to develop renewable energy generation and storage on the site.

This includes the development of a pumped hydro project, in partnership with AGL, which would generate 250 megawatts per 8 hours (a total of 2000 megawatt hours of electricity), and in partnership with ESCO Pacific, the development of a solar farm which would produce an estimated 160 megawatts on 352 hectares of land which is not within previously mined areas. Both of these projects are advancing through feasibility and approvals before a final investment decision is made.

Other clean industries that are being explored for the site include a facility for the production of green hydrogen and a training and industrial precinct.

A key element of the overall strategy is to attract new industry to Muswellbrook, particularly those who are looking to take advantage of the significant benefits of the green energy which will be available on the site.

These energy development and industrial area projects will complement the existing rehabilitation requirements of the site to provide a biodiversity corridor and return other land to pasture.



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