



2024 Workforce Plan

Australian Mining Industry

Presenter: Jan Norberger
Director, Research and Impact
Thursday 12 September 2024



Acknowledgement of Country

We acknowledge the Traditional Custodians of the lands on which we live and work.

We acknowledge Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We honour and respect their Elders, past and present, and extend that respect to all Aboriginal and Torres Strait Islander people.



Agenda

- Welcome and housekeeping (3 minutes)
- Introduction of panel members (4 minutes)
- Workforce plan high-level overview: focus on key themes and stats (15 minutes)
- Panel discussion and insights (20 minutes)
- Audience Q&A (15 minutes)
- Wrap-up, stay in touch, feedback and thanks (3 minutes)

Welcome and housekeeping

- We hope you have had a chance to read the plan
- This is a **60-minute session**
- This **session will be recorded** and distributed post-event via the AUSMASA website
- We have muted all microphones and turned off cameras centrally
- You can share your views and questions with AUSMASA via:
 - Teams Chat – monitored by AUSMASA staff
- We ask you to **respect other views and opinions**
- You can leave the webinar at any time
- We will reach out to participants post-webinar to explore themes and feedback in greater detail
- We will be seeking feedback from you in relation to the format of this webinar

Introduction of panel members



Dr Gavin Lind
CEO

Mining and Automotive Skills
Alliance



Jan Norberger
Director, Research and Impact

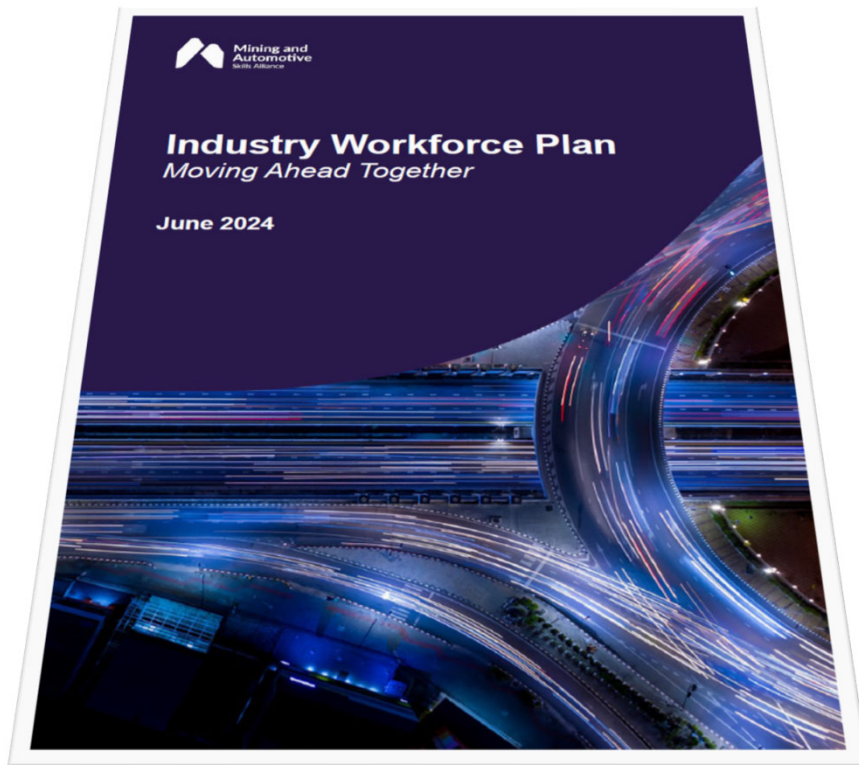
Mining and Automotive Skills
Alliance



Zane Hughes
Chair

Mining Strategic Workforce
Advisory Panel
(SWAP)

Workforce Plan 2024



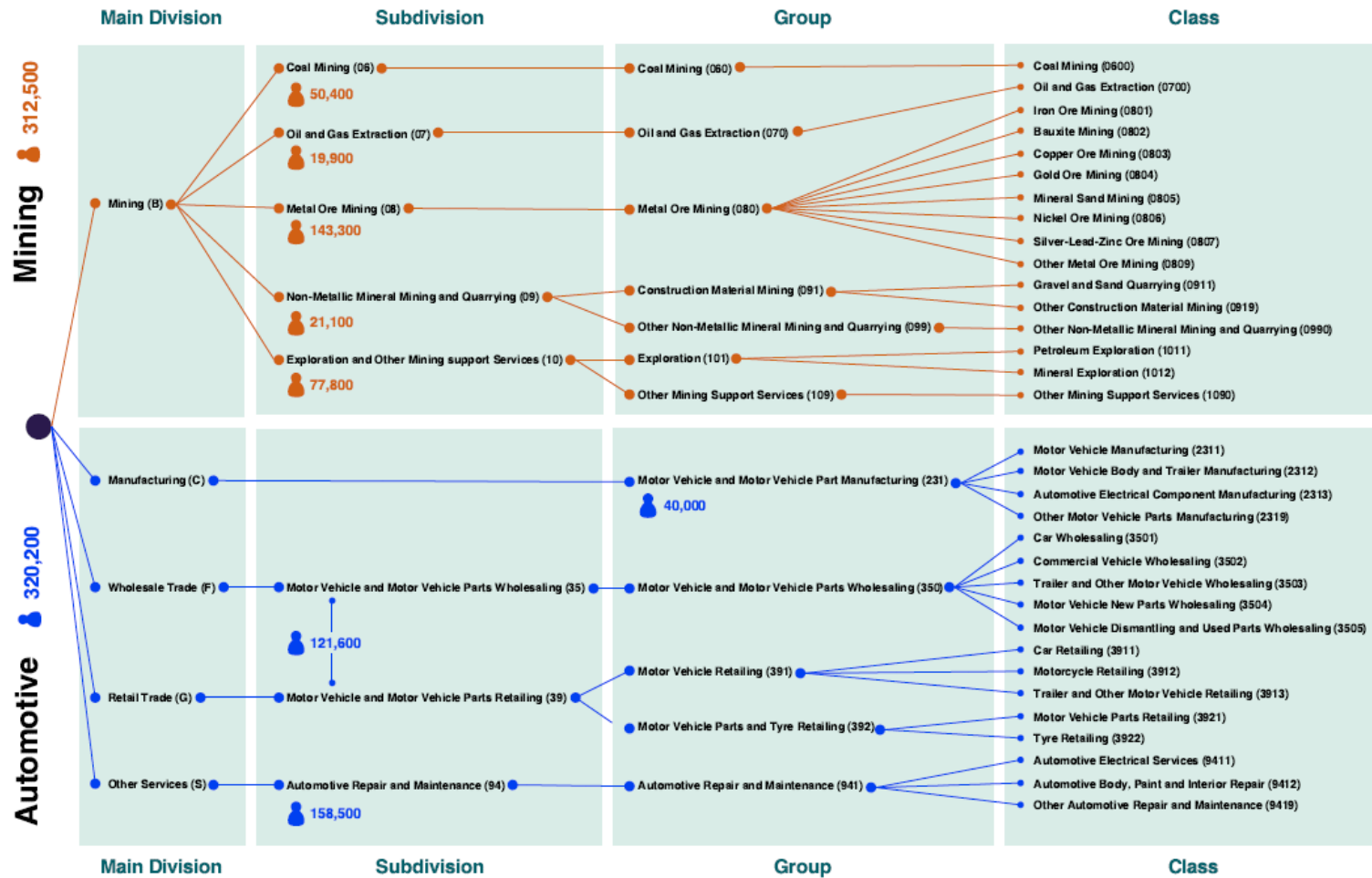
- 209 pages
- 41,000+ words

- 28 data dashboards
- 56 graphs, figures and tables
- 31 identified 'Areas of Focus' (17 mining, 14 auto)

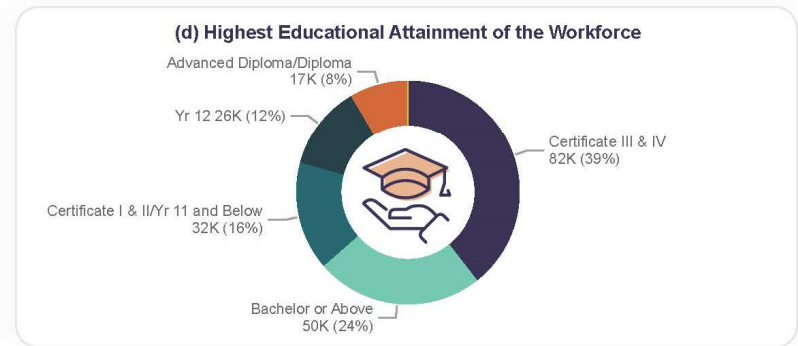
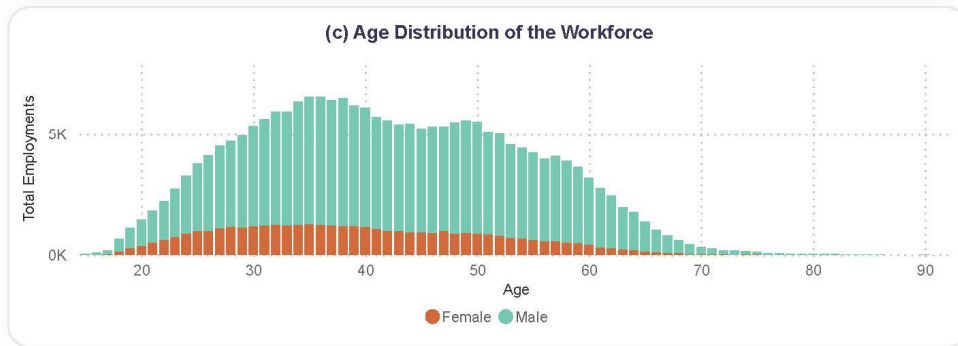
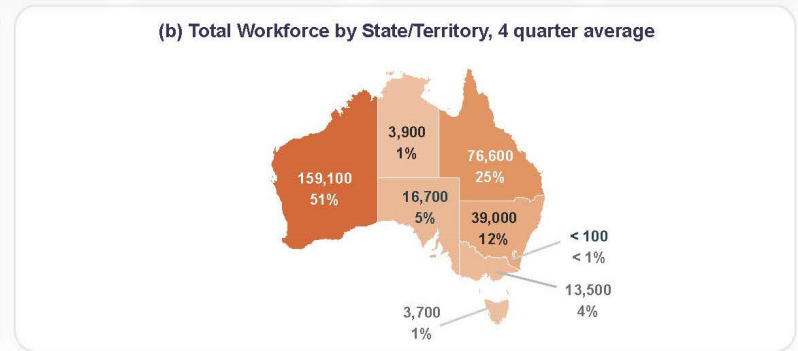
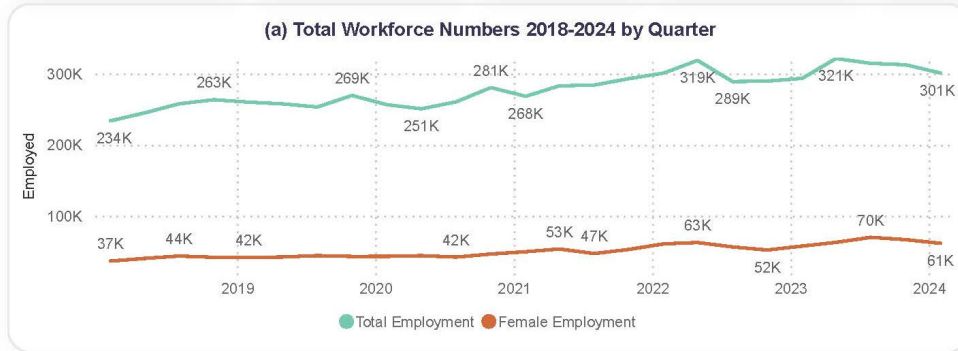
Topics covered include:

- Higher education pathways
- Skilled migration and international students
- Industry culture and workforce diversity
- First Nations engagement
- Mentoring of apprentices
- Technological advancement
- Pay, role classification and scaffolding of learning
- Digitisation and automation

AUSMASA's ANZSIC-based Workforce Plan Backbone

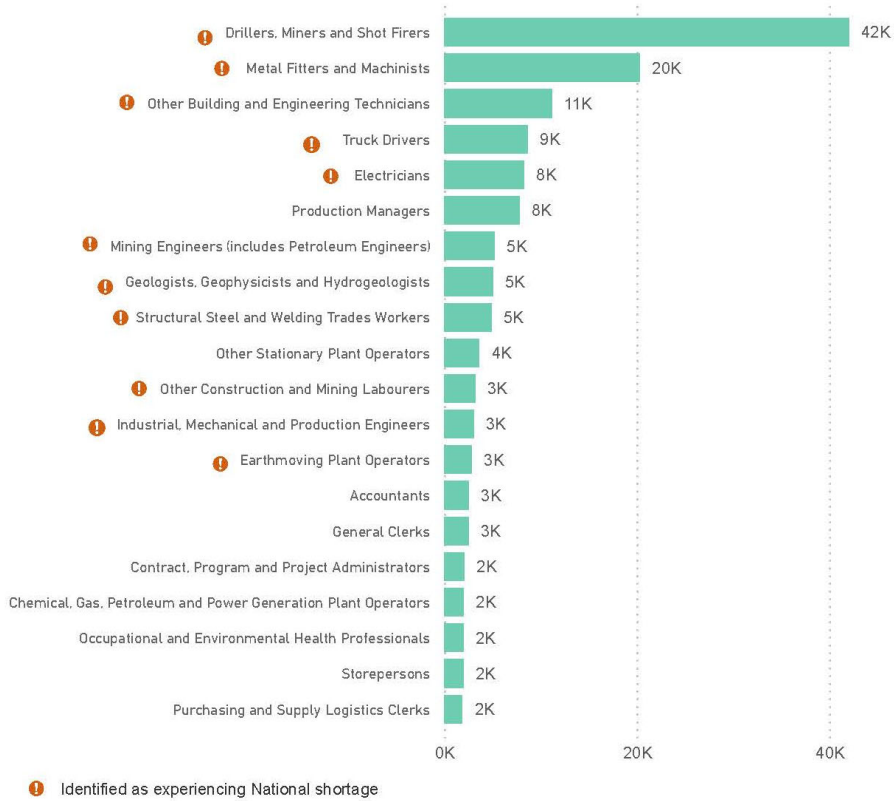


Mining Industry – Workforce Overview

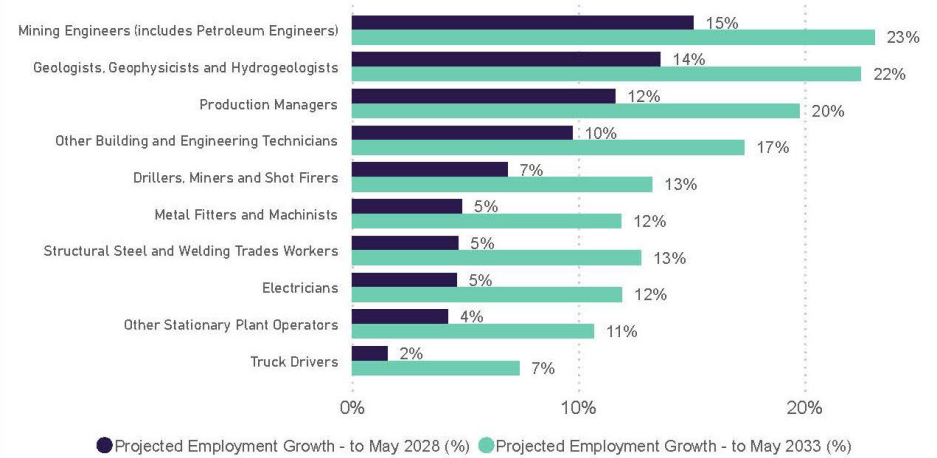


Mining Industry – Workforce Overview

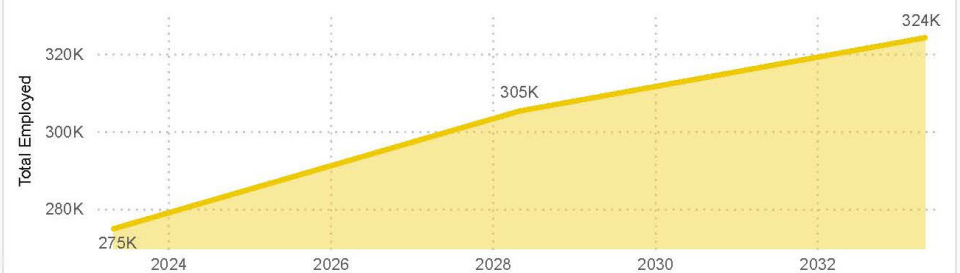
(e) Top 20 ANZSCO Occupations by Workforce Numbers



(f) Employment Projections by ANZSCO Occupations



(g) Employment Projection of Mining Industry



Workforce Plan Key Themes



Mining Industry - Trends

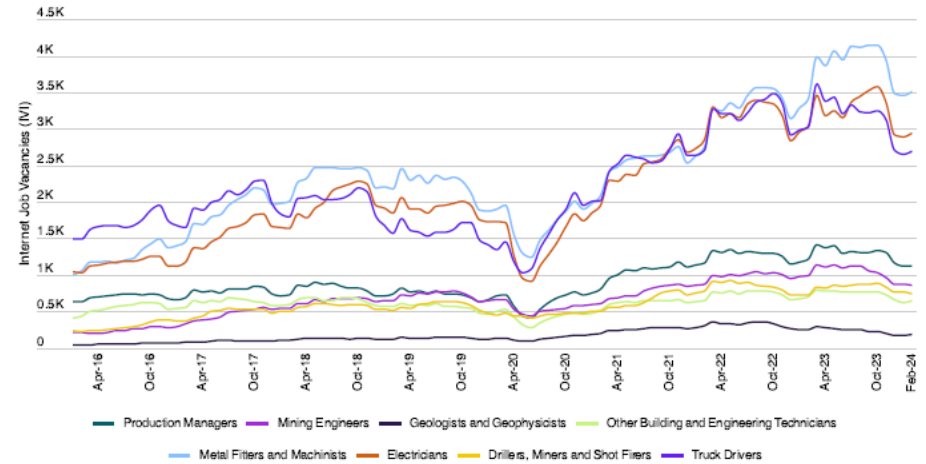
Skills Shortages

Figure 15: Job vacancies – Mining compared with all Industries



Source: Australian Bureau of Statistics, November 2023 - Job Vacancies, Australia (Seasonally adjusted).

Figure 16: Internet Vacancy Index (Top 8 Mining Occupations)



Source: Jobs and Skills Australia. Internet Vacancy Index, ANZSCO4 Occupations, States and Territories – Feb 2024(4-quarter average) 2024.

Mining Industry - Trends

Education Challenges

- Degree enrolments in Earth Sciences and Engineering continue to decline
- Apprenticeship completion rates see almost one in 2 trainees/apprentices drop out:
 - National average completion rate = 55.8%
 - Automotive trades = 58%
 - Mobile Plant traineeships = 58%
 - Fixed Plant traineeships = 61%
- Trainer shortages

AREA OF FOCUS

Reversing the trend of declining enrolments in engineering (especially mining-related) and Earth Sciences degrees is key. Initiatives such as Degree Apprenticeships may assist the higher education sector, and industry, to attract, support and retain students into such specialised fields. Industry would be well placed to work closely with the higher education sector in exploring how Degree Apprenticeships could be adopted.

AREA OF FOCUS

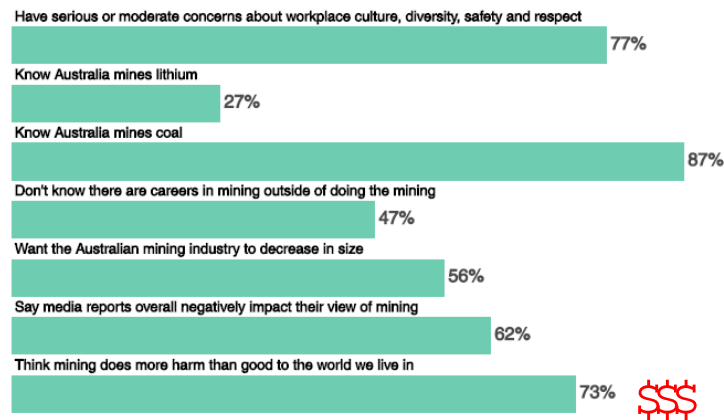
AUSMASA will investigate initiatives such as higher apprenticeships. This work, coupled with ongoing work to identify the skills needs and career progression pathways for critical roles within the mining and automotive industries, will aim to offer innovative solutions for industry.

AREA OF FOCUS

AUSMASA will monitor the changes to trainer qualification requirements in addressing trainer shortages and accessibility of vocational education and training, while also working closely with other JSCs to explore broader strategies required to encourage more people to consider engaging with the VET sector as a trainer and assessor.

Community Perception and Diversity

Figure 17: What Generation Z think of mining



Source: AUSMASA Gen Z Perceptions of Mining, developed in partnership with Year13

In 2020, the industry's female workforce was 17% of the total, which has grown to 21% by 2024, or an additional 20,000 women. It is still well below the national percentage of 48%

AREA OF FOCUS

AUSMASA will continue to work closely with industry and the National Careers Institute (NCI) to explore ways of better promoting the full breadth of career opportunities within the mining industry.

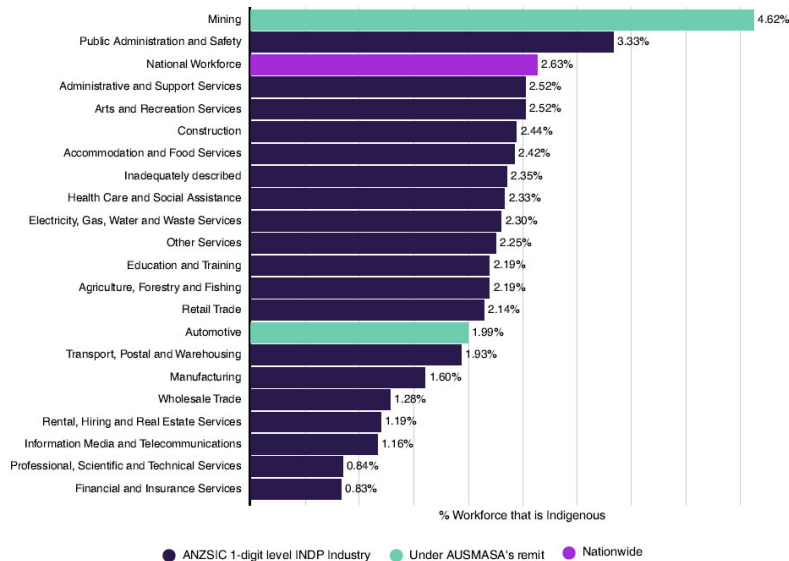
AREA OF FOCUS

The industry should continue to encourage and support female employment opportunities across all occupations within the mining industry, with the aim of addressing the existing gender pay gap and ensuring comprehensive workforce diversification.

Mining Industry - Trends

First Nations

Figure 18: Proportion of Indigenous workforce by industry



Note: the proportion of the Automotive Industry has been calculated by averaging the 3-digit ANZSIC groups covering the industry. For the detail of the groups please refer to AUSMASA's Workforce Plan Backbone

Source: ABS Table Builder 2021 Census - employment, income and education

First Nations Australians accounted for 4.6% of the mining workforce, which was above the average of 2.6% for all industries

As of March 2023, First Nations Australians represented 12.3% of all mining apprentices and trainees, which was higher than the all-industries average of 6.1%.⁹⁴ While such strong participation by First Nations peoples in the apprenticeship system is encouraging, it should be noted that First Nations completion rates within trade apprenticeship qualifications are significantly lower than non-Indigenous students, suggesting that additional mentoring and support ought to be implemented in order to boost completion rates.⁹⁵

AREA OF FOCUS

AUSMASA will continue to monitor First Nations training, apprenticeships, and job outcomes to identify best practices and assist in addressing the challenges faced by First Nations individuals in securing and thriving in mining careers. By analysing these outcomes, the industry will have the data it needs to implement targeted strategies and improve support.

Mining and Net Zero

The ongoing *transition* of mobile plant and light vehicles *away* from *diesel* and onto *battery-electric* systems is driven by the mining industry's commitment to a *decarbonised* operational future

AREA OF FOCUS

While capturing the transition to electrification using ANZSCO presents some difficulties, AUSMASA welcomes the release of JSA's Clean Energy Capacity Study and looks forward to providing key insights into this workforce transformation challenge.

Mine Closure

CSIRO estimates suggest that *240* existing Australian mines will close by *2040*, generating up to *\$4 billion* in expenditure on mine *rehabilitation and closure activities*

AREA OF FOCUS

AUSMASA will continue to work closely with industry and CRC TiME to define what VET programs could be developed to support this important workforce need.

Culture and Wellbeing

Sexual harassment continues to be an unacceptably common feature of Australian workplaces, with one in 3 workers experiencing workplace sexual harassment in the last 5 years.

Most sexual harassment in Australian workplaces is carried out by men.

Half of incidents are repeated and of those, half are ongoing for more than one year.

Reporting remains low with only 18% of sexual harassment incidents reported.

Only a third of Australian workers think their organisation is doing enough.

AREA OF FOCUS

AUSMASA proposes to collaborate with other JSCs to develop an accredited training program, with supporting resources, for developing safe and respectful workplaces. This program would be made available across multiple training packages.

AREA OF FOCUS

Research is required to quantify the effects of mental health issues on productivity and compensation claims within the mining industry.

AREA OF FOCUS

AUSMASA proposes to collaborate with other JSCs, especially HumanAbility, to investigate the appropriateness of current mental health training programs and packages for remote workers such as those in the mining industry.

Mining Industry - Trends

Critical Minerals

more than **260** new lithium, cobalt, nickel, and copper mines will be required globally by **2030** if the world is to meet global demand for mineral-intensive EVs and energy storage batteries

AREA OF FOCUS

Given the significant implications critical minerals will have on Australia's mining and economic future, AUSMASA proposes that the ABS consider creating a new ANZSIC code. This initiative will facilitate and allow accurate workforce planning data to be produced quarterly through the ABS's Labour Force survey.

AREA OF FOCUS

A key priority for AUSMASA will be to work closely with industry and relevant government bodies in identifying any skills gaps within the current workforce and emerging skills required to assist in making these critical mineral strategies a reality. A particular focus will be on determining if current processing-related qualifications will be fit for purpose in relation to onshore refining and processing of critical minerals.



The Chamber of Minerals and Energy of Western Australia (CME) predicts that up to 10,000 workers are at risk due to the current challenges faced by the industry

This surge in supply has seen nickel prices drop by 51% since early 2022.¹³⁰ Equally, the increased global supply of lithium has seen the price for lithium hydroxide drop by similar amounts since its peak in December 2022.¹³¹ Such pricing volatility speaks to the turbulent trading conditions that often underpin the reality of Australia's mining industry.

Advanced Technologies

- **Modern mining is very high-tech (contrary to some perceptions in the community)**

- **Artificial Intelligence**
- **Autonomous operations**
- **Internet of Things (IoT)**
- **Robotics and drones**

- **New jobs created as a result:**

- **Autonomous Operations Controllers**
- **Cybersecurity**
- **Drone operation**
- **Systems Design**

A key priority for the industry and government will be to help impacted workers retrain for other job roles that are in demand. Given the current workforce shortage, every engaged and willing worker is a welcome part of the mining industry.

AREA OF FOCUS

AUSMASA, in partnership with industry and employee representatives, will ensure digitisation and automation training programs and support mechanisms are in place to harness each worker's existing skills and impart new skills.

AREA OF FOCUS

Given that digital skills and digital literacy is a core aspect of technological advancement, AUSMASA will continue to work closely and collaboratively with the JSC responsible for digital skills – the Future Skills Organisation – while conducting its own work around skills mapping.

Topics for discussion

- Skills shortages in the mining industry, specifically attracting new talent.
- The transition to net zero and technological advancements.
- The need to upskill the industry with the right education and training support.

Q & A

Provide Feedback



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Workforce Plan 2024

[Download a copy](#)



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Workforce Plan 2024

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Thank you

The Mining and Automotive Skills Alliance (AUSMASA) is a Jobs and Skills Council funded by the Australian Government Department of Employment and Workplace Relations.

