



MINERALS COUNCIL OF AUSTRALIA

SUBMISSION TO THE INQUIRY INTO STUDENT PATHWAYS TO IN-DEMAND INDUSTRIES

AUGUST 2025

1. EXECUTIVE SUMMARY

Education and skills are a key policy priority for the resources sector. Victoria's mining jobs are growing, including in engineering, technology, manufacturing and services. Many of these jobs are in regional Victoria.

Mining is a sophisticated and technologically advanced industry that requires a highly skilled and adaptable workforce. A flexible, high quality and responsive training and workforce development system is required to build the minerals workforce of the future.

With global demand for energy and infrastructure rising to meet an ever-growing world population, society is consuming more minerals and metals than ever before. Success relies on access to an increasingly higher-skilled workforce.

VET provides a stable source of talent for the mining industry through apprentices and trainees, who currently make up 3.88 per cent of the workforce.¹ It also provides opportunities for existing workers to upskill, re-skill and cross-skill, and supports transitions from adjacent industries.

Mining industry is one of the strongest users of the VET system to skill and train its workforce Australia wide. over the ten years 2013 - 2023, the industry had an average of 64 per cent of employers using the system to meet their workforce needs, placing it among the top five users nationally.² Mining is the third greatest user of nationally recognised training, after public administration (49.1 per cent) and education and training (42.4 per cent).³

MCA Victoria proposes the following recommendations to help build a skills pipeline for regional industries.

Recommendations

1. That government, industry and training providers work together to provide key influencers with the relevant information, resources and tools to confidently support students' decision-making about career pathways.
2. Collaborative campaigns be delivered to improve perceptions of the VET sector through increased awareness and understanding of VET offerings and the value of VET as an equally valid tertiary pathway.
3. That government policy and funding frameworks support the VET sector to deliver more accessible skills pathways, developed in collaboration with industry.
4. Increase earth sciences in the VCE senior secondary curriculum.
5. Provide pathways to mining jobs through tailored and regionally available entry level courses including expanding the Mining Pathways Course as a VDSS program offering.
6. Expand the Secondary Schools Agriculture Fund to resources and partner with MCA Victoria programs to support primary industry regional skills and careers awareness.
7. Expand TECH Schools to Mildura to provide Mallee region students with digital tech skills.
8. Introduce an apprentice mentoring role in regional Victoria to support apprentices and employers to improve the apprenticeship completion rate.

¹ National Centre for Vocational Education Research, [Apprentice and trainees 2024 December quarter](#), released 19 June 2025, MCA calculations (four quarter average).

² NCVER, Employers' use and views of the VET system: 2023: data tables, table 2, MCA calculations 10-year average: 2013-23.

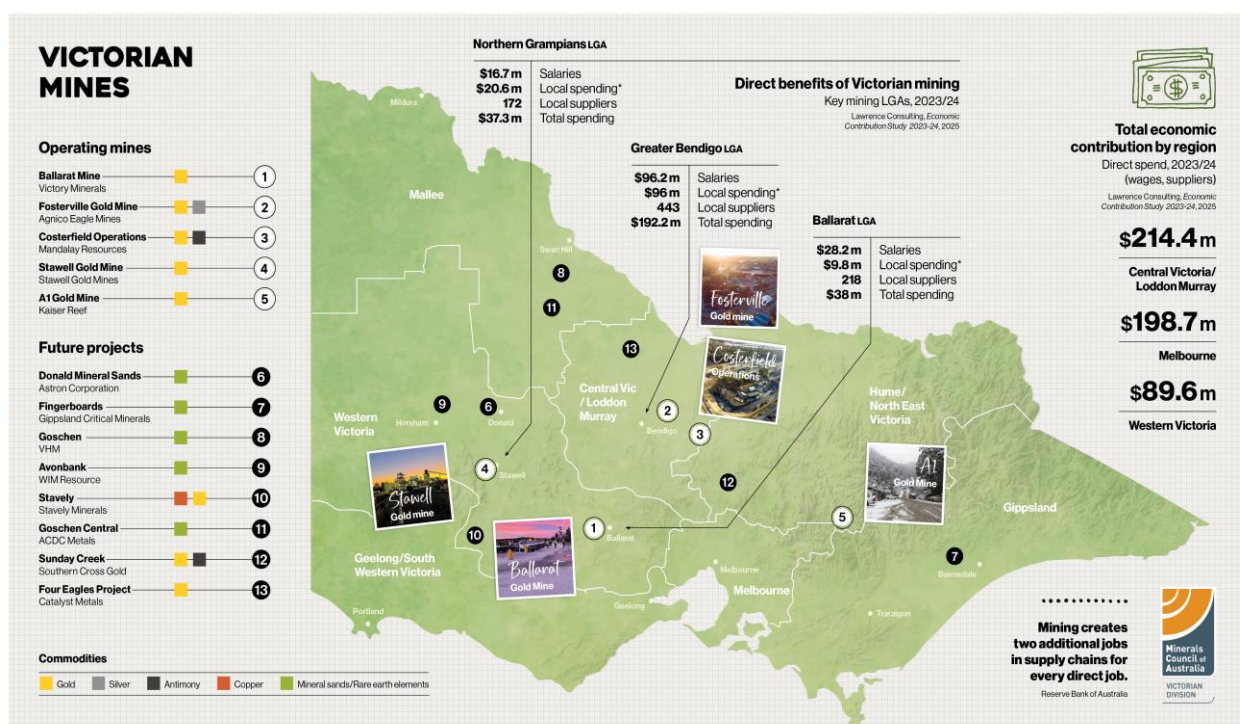
³ Ibid.

2. MINING IS A GROWING IN-DEMAND INDUSTRY

Mining and exploration plays an important role in regional Victoria. Mining creates high paying jobs and supports a supply chain of innovative small and medium sized businesses. With demand for critical minerals forecast to increase exponentially as essential inputs to modern technology, this creates big economic opportunities for regional Victoria and demand for key workforce skills.

There are six potential critical minerals projects in the pipeline in Victoria from antimony near Kilmore to rare earths in the Mallee with the potential to employ around 1000 workers in the Mallee and Wimmera. The expected development of new mineral sands mines in Northwest Victoria will require hundreds of workers from entry level to engineering and management roles from 2026.

The Victorian Skills Plan notes the projected growth in mining jobs in a number of regions including the Loddon Campaspe and Wimmera Southern Mallee regions.⁵



Victoria's aim to grow regional industries

Victoria requires a strong economic growth agenda that diversifies the economic base, particularly in regional Victoria, with mining a central component. Developing Victoria's resources projects is an integral part of the future Victorian economy spreading economic growth and opportunities to the regions and building on Melbourne's strengths in advanced manufacturing in the Mining Engineering, Technology and Services (METS) sector.

Mining and critical mineral processing is a priority growth sector in the Government's Economic Growth Statement, backed by the Critical Minerals Roadmap – both released in December last year. However, there is no shortage of resource projects across Australia and around the world. Only through competitive policy settings can Victoria attract investment in high wage, tax and value add industries such as mining to fund essential services Victorians need. Victoria therefore has the opportunity to leverage its strengths as the 'education state' to support a growing high-tech industry.

Victorian mining supports regional Victorian jobs and business

Regional communities with a mine enjoy a large positive economic impact.

Victorian mines spent \$570 million dollars in Victoria in 2023-24 comprising:

- \$181 million in wages
- \$374 million in purchases of goods and services from 1,700 local businesses
- \$39 million in state government payments.⁴

Gold mining employs around 1,000 workers in the Bendigo region. Agnico Eagle's Fosterville Gold Mine is the fourth largest employer in Bendigo. Hundreds of workers are employed in Ballarat and Stawell mines, in addition to the A1 Mine in Woods Point and processing plant in Maldon.

More than half of Victorian mine supplier spend is in regional Victoria. Central Victoria/Loddon Murray enjoyed the biggest injection from the minerals sector (\$214 million) and Western Victoria (\$90 million) benefited from hosting mines in Bendigo, Stawell and Ballarat.⁵

Victoria's opportunity to be a global mining engineering and services hub

Victoria is a hub for the Mining Engineering, Technology and Services (METS) sector with Victorian manufacturing and service businesses supplying mining operations across Australia and globally. These include a range of jobs including equipment manufacturing in Melbourne, Bendigo, and Ballarat.

It is core business for mining to adopt new technologies in the pursuit of more productive, safe and environmentally sustainable operations. A growing mining sector in Victoria gives the state the best chance of sharing in the METS industry providing services globally.

A growing mining industry will improve socio economic measures in the regions

Many prospective areas of regional Victoria for mining experience higher levels of economic disadvantage in terms of household income, disengagement with school and employment, gross regional product and population growth compared to state averages. For example, 17 per cent of youth in regional Victoria are not in education, employment or training compared to 9 per cent in major capital cities, and regional Victoria's youth tertiary completion rate is the second lowest in Australia at 14 per cent which compares to the regional Australian average of 22 per cent.⁶

Future mineral sands and rare earths projects in the Wimmera, Mallee and Loddon Murray regions are in areas with declining populations and ageing demographics. A number of Local Government areas in Northwestern Victoria areas have recorded declines in population.

The development of Victoria's resources is an important way to build a fairer state with more economic opportunities for regional Victorians to support regional growth.

Skills are critical to mining

Encouraging critical STEM skills and connecting emerging talent in schools, universities and TAFE with what a career in the Australian mining sector looks like is important to the future minerals workforce.

Anecdotal evidence suggests that there is a lack of understanding about the connection between studying STEM related subject and career pathways, particularly across learners in VET.

The industry has developed and supported a number of initiatives to increase awareness of an interest in careers in the industry. The industry supports established programs including peer-to-peer outreach programs, online resources for teachers and teacher professional development. Companies also make individual investments in STEM.

⁴ Lawrence Consulting report for MCA Victoria, [Victorian Minerals Sector Economic Contribution Study 2023/24](#), February 2025.

⁵ Ibid.

⁶ Australian Government, Jobs and Skills Australia, [Jobs and Skills Roadmap for Regional Australia, Phase 1 Report Factsheet](#).

3. CAREER PATHWAY INFORMATION AND SUPPORT FOR REGIONAL STUDENTS

Industry and government need to better partner to support career information for students and schools. Parents, teachers and friends are the key influencers of their decision-making, particularly as it relates to study transition and career choices.⁷ This influence is based on trust in the information received and relevance of those people knowing the student best.⁸

It is critical that key influencers are equipped with the relevant information, resources and tools to confidently support students' decision-making about career pathways, in particular teachers and careers advisers.

Along with the provision of suitable information, these services need to target the entire diverse market of learners to lead them into the VET sector, to build their understanding of the value that VET pathways provide to meaningful and long-term skills development and career options.

Both the Commonwealth and State governments provide investment into variety of platforms that offer information, resources, tools and support on career pathways.

MCA career support for schools and students

The MCA has a range of mining career information resources and tools to support students, schools and careers advisers including a new careers guide "[Prospect](#)" to provide information on various career paths within the industry, including engineering, geology, trades, and environmental science, along with practical advice and case studies. MCA mining careers materials have been provided to secondary schools in Victoria and is available digitally to support science teachers and careers advisers as part of the State Government's initiative to ensure all high schools have access to careers advice.

MCA Victoria is developing pathways into the sector for secondary students which build on MCA work to promote careers awareness. In Victoria these include school-based activities, and MCA support for earth sciences programs aligned to the science curriculum to support secondary school teachers.

MCA Victoria's mining career immersion program which involves field trips to mines for regional schools has been a success and is a very large industry led program. Since commencing in 2022, the MCA school field trip program has facilitated over 1500 students from over 35 schools to Victoria's operating gold mines.

The Secondary Schools Agriculture Fund should be expanded to include resources to increase the number of young people pursuing training and work in primary industries including both agriculture and mineral resources which operate in the same areas and have similar skills needs.

Mining Pathways Course – a Victorian initiative

MCA Victoria has worked with The Victorian Skills Authority to develop a unique Course in Mining Pathways. The pathway course for regional Victorians to enter the industry, especially in Victorian mining operations including underground gold and mineral sands mines. New VET courses tailored to future Victorian mining job demand should be developed and delivered in regional areas such as the Wimmera to address skills shortages and skill local workers to take advantage of job opportunities in regional Victoria.

The Course in Mining Pathways should be incorporated as a VET in school students (VDSS) program as part of the Cert II in Certificate II in Resources and Infrastructure Work Preparation. This would make Victoria the first state to offer a major in a mining course at school level leveraging on Victoria's comprehensive VDSS program and increasing access to mining training pathways for young Victorians.

⁷ S. Choy, D. Dymock, L. Le and S. Billett, [Understanding student decision-making about VET as a pathway: an Australian study](#), p. 2; J Hargreaves and K Osborne, [National Centre for Vocational Education Research](#), p. 5.

⁸ Student Edge, *Student perceptions of a career in mining*, 2019, presentation at the MCA Minerals Industry Education Summit, Melbourne, 17 May 2018.

Skilling local workers to fill the expected future demand will help reduce impacts on other industries in mining regions. Such a tailored course would broadly need to cover safety, environmental and cultural training, and various practical trades such as basic metallurgy and pipe welding.

There is a lack of mining specific courses in regional Victoria for young Victorians, and for locals prepared to re-skill into mining and exploration roles. Australia also faces poor uptake of mining engineering, geology and metallurgy courses at university in line with border challenges to Science, Technology, Engineering and Mathematics courses.

An expanded program to cover all primary industries would include funding to develop a Vocational Major in Mining program, grants to training providers to support the delivery of the Mining Pathways Course and other training that meets the needs of the mining and METS sector to ensure Victoria has the skilled workforce for future developments in critical minerals mines to support renewable and other modern technologies.

STEM skills shortages must be addressed

The minerals industry is concerned about the marked decline in participation in STEM subjects in schools over the past decade. Participation in the future minerals workforce will require the development of new capabilities and skills from primary and secondary education through to tertiary and higher education.

This includes STEM skills which are increasingly important with an estimated 70 per cent of all future jobs projected to be STEM-related. The World Economic Forum counts STEM literacy as a measure of the future readiness of countries, enabling students to thrive in the 'known unknown' of future careers.

Introduce a geoscience elective into the VCE curriculum

Victoria's VCE curriculum provides minimal opportunity for students interested in earth science. A government pilot geology course would help create a pipeline to Victorian university geoscience courses and mining engineering courses as part of Victoria's aim to be 'the education state'.

An expanded VCE curriculum to offer secondary students the opportunity to pursue careers in mining and earth sciences would help address the lack of enrolments in Victoria's earth science university courses. A priority must be to create a pipeline of interested students from secondary school level.

The VET sector should facilitate the diversity of options needed to deliver these skills, for example developing a matrix of these skills through short courses, skill sets or micro-credentials and contextualising them to core content of specific qualifications.

Two Victorian universities offer mining/resources engineering, three offer geology/geoscience, and four offer metallurgy. Environmental science and other engineering courses are offered in Victoria; however, declining enrolments risk the pipeline of skilled workers in mining despite growing demand for minerals products in technology used every day.

Expand TECH School access to rural Victoria

Expanding access for rural schools outside the limited footprint of the regional TECH Schools in Bendigo, Ballarat and LaTrobe Valley would also help open students' eyes to digital tech skills in modern industry. Victoria's successful TECH School model supports digital tech and links to industry, but funding is limited for more rural schools to visit TECH Schools or for outreach programs to visit regions such as the Mallee.

Work with industry on career education and school to industry links

MCA Victoria seeks to work with government on industry-led career awareness and education programs. With skill development opportunities in regional Victoria, the state can be a regional hub for jobs training, and innovation. It will further alleviate skills shortage issues and ensure young Victorians can benefit from jobs and training in the sector.

Victoria's Local Learning & Employment Network (LLEN) has been of immense value in connecting industry to schools and pathways to jobs. Funding for this place-based model must be retained to facilitate industry and school partnerships in regional Victoria.

Recommendations

- That government, industry and training providers work together to provide key influencers with the relevant information, resources and tools to confidently support students' decision-making about career pathways.
- Increase earth sciences in the VCE senior secondary curriculum.
- Provide pathways to mining jobs through tailored and regionally available entry level courses including expanding the Mining Pathways Course as a VDSS program offering.
- Expand the Secondary Schools Agriculture Fund to resources and partner with MCA Victoria programs to support primary industry regional skills and careers awareness.
- Expand TECH Schools to Mildura to provide Mallee region students with digital tech skills.

4. VET SECTOR PERCEPTIONS AND PATHWAYS

The VET sector is more important than ever. Technology is transforming mining skills, with traditional mining trades increasingly incorporating elements of computing, and new career paths such as mechatronics and virtual reality.

This will require a VET system that is accessible, responsive and functional – including a mix of modern, accessible pathways, accelerated options for training, support for transitions, and a workforce supported to deliver quality training. The future minerals workforce will also be more diverse, geographically distributed and digitally connected which will require broad ranging skills and competencies utilising training.

The critical role vocational qualifications will play as a job requirement means it is important that relevant skills are taught, and training is of a high standard.

While there is clear awareness of VET, and use by the mining industry, a lack of targeted communication to the broader community on the value of opportunities associated with VET has created a disconnect between perception and opportunity.

To adjust these perceptions, attention needs to be given to improving knowledge, awareness and understanding about career pathways and opportunities created through VET with a particular focus on learners and their key influencers. Young people obtain industry knowledge through television or online, school classes and via family and friends which remain the key influencers of career decisions and perceptions of different industries. This influence is based on trust in the information received and relevance of a parent knowing the student best.

Quality assurance across training providers and improving sector integrity and stability is an important foundation for improving perceptions and increasing participation.

An industry-led education and training system is vital to aligning needs with outcomes. Misalignment of offerings and lack of quality directly affects perceptions, participation and status.

Partnering with industry is the most effective way for public and private training providers to identify skills shortages, reconfigure roles and careers, and anticipate future workforce requirements. To this end, MCA Victoria has worked closely with the Victorian Skills Authority to provide input to skills needs for the sector and in the development between 2020 and 2023 of the Mining Pathways course.

It remains an issue, however, for vocational education providers, particularly TAFEs, to put new courses industry needs on scope. Barriers to this need to be investigated if Victoria's TAFE system is to be responsive to providing locally based relevant industry training.

There is also a need to encourage completion of apprenticeships. In 2019 the completion rate for apprenticeships and traineeships was 55 per cent and many are cancelled in the first year⁹. An apprentice mentor or 'buddy' role should be investigated as a place-based model to support employers and apprentices in mentoring and keeping young apprentices engaged in training. This could build on Victoria's Apprenticeship Support Officers (ASOs) service which aims to help apprentices and their employers.

Recommendations

- That government, industry and training providers deliver collaborative campaigns to improve perceptions of the VET and establish a stronger narrative on the value of VET.
- That government policy and funding frameworks support the VET sector to deliver a mix of modern, accessible skills pathways, developed in collaboration with industry.
- Introduce an apprentice mentoring role in regional Victoria to support apprentices and employers to improve the apprenticeship completion rate.

⁹ National Centre for Vocational Education Research, [Overall apprentice and trainee completion rates down in 2023](#).