



TASMANIAN MINING INDUSTRY WORKFORCE DEVELOPMENT PLAN 2019-2022

Final Report

Acknowledgements and Disclaimer

This workforce development plan has been prepared by Stenning & Associates, in conjunction with The Work Lab, for the Tasmanian mining industry on behalf of the Tasmanian Minerals, Manufacturing and Energy Council.

We would like to acknowledge the assistance of the Steering Committee and the support of the industry in helping to build this Plan.

The information contained in this workforce development plan has been sourced from desktop research and consultations with stakeholders. While all due care has been taken in compiling this document, Stenning & Associates and its subcontractors accept no responsibility for the accuracy or completeness of information gained from these sources and recommends that readers exercise their own skill and care with respect to its use. We will not be responsible for any loss, however arising, from the use of, or reliance on this information.



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Foreword

The mining and minerals industry in Tasmania accounts for approximately 50% of the state's international earnings from exports. The industry has a long history spanning over one hundred years and has been the backbone of several regional communities as well as enabling generations of Tasmanians to prosper from careers in the mining and minerals industry.

The industry places solid demands on the supply chains, infrastructure and means to freight product from mines and minerals processors to market. All of these continue to be improved to accommodate changing needs and therefore not act as a constraint on a continuation of a viable mining and minerals industry. The one critical constraint which can potentially make or break an operation is the ability to secure and retain a talented workforce.

While the industry continues to be an attractive employer, the development of new sectors and changing lifestyle expectations has created further challenges to attracting a diverse cohort of new entrants.

The Tasmanian Mining Industry Workforce Development Plan 2019-2022 has been a collaborative effort by multiple stakeholder representatives to derive a set of priorities which is essential to establishing a highly skilled and flexible workforce equipped for the technical, leadership and social process skill requirements. This Plan is set against the context of community wide challenges such as numeracy, literacy, mental health and the dire need to be seen as an attractive employer to the full range of people who live in our communities.

The Plan is not a document which tells others what they need to do, but one in which the industry itself proposes to take a lead role, in partnership with Government together with private and public enterprises to apply strategies to address the defined challenges.

I would like to express my appreciation to the Committee who have established this plan and now call on all stakeholders to participate in the positive and constructive changes we can make together to ensure a vibrant mining and minerals industry is secured in Tasmania for many years to come.

Ray Mostogl

Chief Executive Officer

Tasmanian Minerals, Manufacturing and Energy Council

Executive Summary

Tasmania’s mining industry is a vital component of the State’s growing economy, with a production value of \$1.82 billion, expenditure on operations and capital at close to \$1 billion a year, a direct workforce of approximately 4000 people and generating another 10,000 indirect jobs in Tasmania. The industry is expected to further develop with an anticipated upturn in the international minerals market providing opportunities for its expansion in Tasmania, including additional job opportunities.

Critical to the industry’s continued growth and sustainability is continued access to a highly skilled and flexible workforce. Into the future, the ability of the industry to sustain and grow its workforce is likely to be impacted by competition from the Battery of the Nation and Project Marinus projects, which are being actively investigated and expected to employ a combined estimate of 800 people.

This Workforce Development Plan is designed to assist the industry meet its future workforce needs by engaging critical industry stakeholders in a coordinated approach to workforce development, involving mining businesses, the education sector and the State Government. This Plan was made possible by funding from the Australian Government’s North-West Tasmania Job Ready Generation Package and support from the Tasmanian Government.

This Plan can be supported by:

- The North-West Tasmania Job Ready Generation Package, which has provided funds for several other projects that may assist the mining industry.
- The Cradle Coast Regional Futures Plan 2019-2022, which aims to boost regional growth and foster a resilient economy through improving education attainment, innovation and internal and external perception of Cradle Coast regarding employment opportunities.

Developing this Plan involved identifying the strategies shown in Table E1 to resolve workforce issues and the challenges they pose for the industry.

Table E1: Strategies for addressing identified workforce challenges

Strategy
Immediate Priority
Establish an ongoing Tasmanian mining industry Workforce Development Group to progress the strategies and actions of this Plan and to discuss future workforce issues as they arise
Develop initiatives that will attract workers into the Tasmanian mining industry
Develop job readiness training that can be undertaken before entering mining sites to ensure that new workforce entrants are both appropriate and capable
Encourage close collaboration between industry and education providers / training organisations
Medium Term Priority
Improve the language, literacy and numeracy standards of the workforce
Longer Term Priority
Support entry to the industry at all levels by developing occupational career pathways
Support continuous mining workforce learning and improvement
Ensure that industry effectively influences national training package development to ensure its skills needs are met

This Plan sets out the agreed priorities and actions required to implement the strategies. It outlines who will do what by when and is designed to deliver the opportunities and workforce skill needs of the workforce into the future.

As the Tasmanian mining industry's first foray into industry-led workforce development, the Action Plan prioritises the agreed actions as follows:

- Immediate: 0-24 months
- Medium term: 12-36 months
- Longer term: greater than 36 months.

This staged approach will allow the industry to effectively use its resources to achieve initial successes, with subsequent actions then building on those successes.

Implementing this Plan

A Tasmanian mining industry Workforce Development Group comprising leading industry members will be established to:

- Oversee the implementation of this Plan
- Identify the resources required to support this Plan's implementation
- Engage with appropriate stakeholders who can lead or support the implementation of each action
- Maintain and update, through regular review, this Plan and the associated Workforce Profile.

The Tasmanian Minerals, Manufacturing and Energy Council (TMEC) will convene and support the Workforce Development Group.

This Plan will be a living document that is reviewed annually and updated with new challenges, strategies and actions in response to emerging workforce issues.

1 Tasmania's Mining Industry is Growing

The mining industry is a vital component to Tasmania's growing economy. Mining and metallurgical production reached a value of \$1.82 billion in 2017 and Tasmania's two biggest commodity exports in 2018 were processed metals and metal products and ores and concentrates. Expenditure on operations and capital is close to \$1 billion a year, has a workforce of approximately 4000 people and generates another 10,000 indirect jobs in Tasmania.

Continued access to a highly skilled and flexible workforce is critical for the continued growth and sustainability of the industry. This Workforce Development Plan (this Plan) aims to engage critical industry stakeholders in supporting the development and maintenance of a mining workforce that will contribute to Tasmania's ongoing economic and social prosperity. Accordingly, this Plan is designed to support a coordinated industry approach to workforce development, involving mining businesses, the education sector and the State Government.

Developing this Plan (see Figure 1) involved identifying the workforce issues facing the industry and the subsequent challenges it faces. The strategies and the consequent actions required to implement them were then agreed and prioritised by industry. This culminates in an Action Plan that sets out who will do what by when and is designed to deliver the opportunities and workforce skill needs of the workforce into the future.

Figure 1: Workforce development plan process



This Plan covers the workforce involved in mineral extraction operations (excluding quarrying operations). It does not include the workforce involved in stand-alone mineral processing operations but does include workers involved in mineral processing operations conducted on a mine site.

This Plan was been made possible by funding from the Australian Government's North-West Tasmania Job Ready Generation Package and support from the Tasmanian Government.

The Current Industry and its Workforce

There are 14 mining operations across Tasmania, with a further 3 mines currently in the planning stage. Two of the current operations are in care and maintenance as of 2019.

Critical to the industry's future growth and sustainability is continued access to a highly skilled and flexible workforce. Into the future the ability of the industry to sustain and grow its workforce is likely to be impacted by competition in the North-West of the State from the Battery of the Nation and Project Marinus projects. These projects are being actively investigated by the energy sector and are expected to employ a combined estimate of 800 people.

A coordinated approach to workforce development can improve the industry's workforce capacity and capability. This can be assisted by a range of supports such as:

- The North-West Tasmania Job Ready Generation Package, which has provided funds for several other projects that may assist the mining industry.

- The Cradle Coast Regional Futures Plan 2019-2022, which aims to boost regional growth and foster a more resilient economy through improving education attainment, enhancing innovation and improving internal and external perception of Cradle Coast regarding employment opportunities.
- The West Coast Community Plan 2025, which aims to local council policies, strategies and actions.

From a workforce perspective, the average Tasmanian mining worker is male, lives in North-West Tasmania, works on the West Coast, is employed full-time and works in an underground mine. They are older and earn less than the broader Australian mining workforce.

The following table presents the key findings regarding the industry workforce.¹

Table 1: Mining industry workforce dashboard

Demographics	Key Findings
Workforce Size	<ul style="list-style-type: none"> • The current Tasmanian mining workforce is approximately 3790 persons • The size of the Tasmanian mining workforce is now approximately the same as it was in 1984, having expanded and contracted multiple times over this time • Several mining companies indicate that they expect their workforce to grow over the next three years
Location	<ul style="list-style-type: none"> • Nearly all of Tasmania’s mining workforce live in North-West Tasmania • Nearly half of the mining workforce were employed on the West Coast, though only a one-quarter of the workforce live there
Age	<ul style="list-style-type: none"> • Most of the workforce (52%) is aged between 35 and 54 years old • The Tasmanian mining workforce is older than the broader Australian mining workforce, with the mode average in Tasmania being 45 to 54 years versus 35 to 44 years Australia-wide
Gender	<ul style="list-style-type: none"> • The workforce is predominately male – less than 10% of the workforce are women
Occupation	<ul style="list-style-type: none"> • Machinery operators and drivers together with technicians and trades workers make up 74% of the total mining workforce
Employment	<ul style="list-style-type: none"> • The majority (90%) of the workforce were employed full time
Income	<ul style="list-style-type: none"> • The mining workforce in other states have a higher average wage compared to the Tasmanian mining workforce average wage
Education and Training	<ul style="list-style-type: none"> • While the percentage of the mining workforce that hold a qualification increased between 2011 and 2016 (from 37% to 42%), this still accounts for less than half the workforce • The qualifications held by the workforce are principally vocational, with 75% of the qualifications held being Certificate III and IV level • The predominant field of qualification (tertiary and vocational combined) in 2016 was in Engineering and Related Technologies

¹ *Tasmanian Mining Industry Workforce Profile and Emerging Challenges*, TMEC, 2019

2 Building Tasmania's Mining Workforce

A range of workforce issues and corresponding challenges were identified, which fall under three strategic workforce goals:

- Building industry collaboration
- Building workforce capacity
- Building workforce capability.

These issues were identified through consultation with industry and supported by the current workforce's characteristics.

Table 2: Tasmanian mining industry workforce issues and corresponding challenges

Workforce Issue	Corresponding Challenge(s)
Building Industry Collaboration	
No collaborative industry approach to resolve workforce issues	1. Ensuring the Tasmanian mining industry collaborates to identify and address workforce development issues
Building Workforce Capacity	
Insufficient new workforce entrants	2. Attracting professionals into the workforce 3. Attracting entry-level technical and trade workers into the workforce
Attracting workers from outside the region	4. Building the attractiveness of the region as a place to live 5. Providing clear career pathways
Building Workforce Capability	
An ageing workforce	6. Building the skills and knowledge of new workforce entrants
Low workforce language, literacy and numeracy skills	7. Ensuring that the existing and future workforce has appropriate language, literacy and numeracy skills
Accessing training that fits business requirements	8. Ensuring available training fits business requirements 9. Ensuring that the workforce can continuously improve both hard skills (those needed to undertake the job role) and soft skills (such as leadership)
Education providers / training organisations awareness of industry skill needs	10. Ensuring sustainable and efficient communication between industry and education providers / training organisations
Digital disruption of business processes by new technology	11. Managing risks associated with digital technology

A range of other workforce issues were identified, but it was agreed that meeting these issues was best handled at the business level, rather than with an industry-wide approach. These other workforce issues included:

- Filling vacancies with workers from another Tasmanian mine site
- Retaining workers (both new workforce entrants and experienced workers)
- Retaining corporate knowledge
- Maintaining workforce wellness (e.g. issues relating to mental health, alcohol and other drugs).

Meeting the Challenges

To address the identified workforce challenges, industry stakeholders agreed upon several strategies and the associated actions required to implement them. The strategies and the challenges they address are in Table 3 and the Action Plan is set out in [Attachment A](#).

As the Tasmanian mining industry's first foray into industry-led workforce development, this Plan prioritises the agreed actions as follows:

- Immediate: 0-24 months
- Medium term: 12-36 months
- Longer term: greater than 36 months.

This will allow the industry to focus its efforts on achieving initial successes, with subsequent actions then building on those successes.

Table 3: Strategies for addressing identified workforce challenges

Strategy	Challenge(s) Addressed
Immediate Priority	
Establish an ongoing Tasmanian mining industry Workforce Development Group to progress the strategies and actions of this Plan and to discuss future workforce issues as they arise	Challenge 1
Develop initiatives that will attract workers into the Tasmanian mining industry	Challenges 2, 3, 4 and 5
Develop job readiness training that can be undertaken before entering mining sites to ensure that new workforce entrants are both appropriate and capable	Challenges 3, 6 and 7
Encourage close collaboration between industry and education providers / training organisations	Challenges 8, 9 and 10
Medium Term Priority	
Improve the language, literacy and numeracy standards of the workforce	Challenges 6 and 7
Longer Term Priority	
Support entry to the industry at all levels by developing occupational career pathways	Challenges 2, 3 and 5
Support continuous mining workforce learning and improvement	Challenges 7, 9 and 11
Ensure that industry effectively influences national training package development to ensure its skills needs are met	Challenge 8 and 9

Implementing this Plan

The effective implementation of this Plan requires sustainable governance that supports ongoing collaboration within the industry. The first strategy to be implemented is to establish a Tasmanian mining industry Workforce Development Group to:

- Oversee the implementation of this Plan
- Identify the resources required to support this Plan's implementation
- Engage with appropriate stakeholders who can lead or support the implementation of each action
- Maintain and update, through regular review, this Plan and the associated Workforce Profile.

It is critical that the Workforce Development Group should be industry-driven to maintain a focus on strategic industry priorities. For this reason, membership of this group will be confined to leading industry members. The involvement of service organisations, such as education and training providers, or the State Government (Actions 4, 8, 9, 10, 15 and 16), should be overseen by this group but involve a separate committee or working group.

The Tasmanian Minerals, Manufacturing and Energy Council (TMEC) is responsible for convening and supporting the Workforce Development Group. TMEC has estimated that supporting the Group will require 1 full time equivalent (a Strategic Coordinator (0.6FTE) and secretariat support (0.4FTE)).

This Plan should be considered a living document that is updated with new challenges, strategies and actions in response to emerging workforce issues. Consequently, over its three-year lifespan, the strategies and actions contained in this Plan should be reviewed annually by the Workforce Development Group. This will ensure that this Plan can build on the success and lessons of current action, as well as remaining focused on the key workforce issues and challenges.

Attachment A – Action Plan

Table 4: Tasmanian Mining Industry Workforce Development Action Plan

Strategy	Action	Responsibility	Priority	Measure of Success
Building industry collaboration				
a) Establish an ongoing Tasmanian mining industry Workforce Development Group to progress the strategies and actions of the workforce development plan and to discuss future workforce issues as they arise	1	Convene a Workforce Development Group, ensuring that its membership includes representatives from the core mining companies	Lead – TMEC Support – Tasmanian mining companies	Immediate The implementation of this Plan is overseen and owned by the Tasmanian mining industry, calling on the expertise of other stakeholders to tackle specific workforce development actions
	2	Seek funding to effectively support the Workforce Development Group	Lead – TMEC Support – Tasmanian mining companies	Immediate Support roles for the Workforce Development Group are funded and filled
Building workforce capacity				
b) Develop initiatives that will attract workers into the Tasmanian mining industry	3	<p>Develop a career marketing toolkit that can be used to promote a career in the Tasmanian mining industry to all students.</p> <p>A review of existing career marketing tools already developed could determine if they could be used or updated to the Tasmanian context. Examples of existing marketing include:</p> <ul style="list-style-type: none"> • More to Mining Careers Guide • Oresome Resources • Get A Mine Job 	Lead – TMEC Support – Workforce Development Group	Immediate All Tasmanian mining companies and industry stakeholders have access to a career marketing toolkit

Strategy	Action	Responsibility	Priority	Measure of Success
	<p>4 Investigate opportunities for mining industry to engage with children in schools. This will require determining the barriers to attracting interest in the industry, such as the impact of key influencers such as parents, teachers and student perception.</p> <p>Connections between industry and education providers / training organisations could be facilitated through a third party, such as the Beacon Foundation.</p>	<p>Lead – TMEC</p> <p>Support – Department of Education / Private schools</p>	Immediate	School children are exposed to the mining industry, by either mining site visits or industry representatives visiting schools
	<p>5 Support existing and develop new initiatives that focus on attracting more women to the mining workforce. This should include:</p> <ul style="list-style-type: none"> Engaging with existing initiatives, such as AusIMM Women in Mining (WIMnet) Tasmania and Women in Resources Awards 2019 Investigation of barriers for recruiting and retaining women in the mining industry as a first step to developing an industry plan for increasing the percentage of women in the workforce 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Immediate	Improved engagement of women in the mining workforce
	<p>6 Investigate options to get involved with regional marketing campaigns for building the attractiveness of the North-West / West Coast as a place to live. This should:</p> <ul style="list-style-type: none"> Seek opportunities to collaborate with other impacted organisations, for example, local councils, Cradle Coast Authority, Brand Tasmania, other industries facing similar challenges (e.g. civil construction, tourism) Identify opportunities to support and increase availability of services (e.g. medical, educational, retail etc...) in towns near mining sites to improve the suitability of these locations for the families / partners of mining workers Investigate participation in and / or support for existing regional marketing programs such as <ul style="list-style-type: none"> Discover Tasmania Western Wilds Make it Tasmania 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Immediate	The North-West and West Coast regions are promoted as desirable areas to live

Strategy	Action	Responsibility	Priority	Measure of Success
	7 Investigate opportunities for partners of mine workers to become a part of the mining workforce and the barriers that need to be overcome. This includes opportunities and barriers for partners of the current mining workforce.	Lead – Workforce Development Group Support – TMEC	Immediate	Opportunities and barriers for partner engagement in the mining workforce are identified
c) Support entry to the industry at all levels by developing occupational career pathways	8 Develop a Tasmanian mining industry career pathways map as a follow-up to the outcomes of the above strategies and actions. It should identify: <ul style="list-style-type: none"> Level of occupational demand in order to determine the priority job roles for this project Entry points into the industry Required skills and qualifications Career and job role progression Existing career pathway information could be utilised, such as mining company internal documents and other sources such as: <ul style="list-style-type: none"> The Australasian Institute of Mining and Metallurgy Hume Coal 	Lead – Workforce Development Group Support – TMEC / Skills Tasmania	Longer Term	Show new and future workforce entrants potential Tasmanian mining career pathways
	9 Develop a mining industry partnership model which will involve seeking agreement from a range of stakeholders to collaborate with the mining industry to establish develop a framework to support career pathways for new workforce entrants. Stakeholders will include but is not limited to: <ul style="list-style-type: none"> Education providers / training organisations (e.g. University of Tasmania and TasTAFE) Local councils Supply chain organisations (e.g. contractor workforce providers) 	Lead – Workforce Development Group Support – TMEC / identified stakeholders	Longer Term	An agreed partnership model is implemented that will support new workers into a career in mining

Strategy	Action	Responsibility	Priority	Measure of Success	
Building workforce capability					
d) Develop job readiness training that can be undertaken before entering mining sites to ensure that new workforce entrants are both appropriate and capable	10	<p>Investigate the potential for a pre-employment course that can provide training to address key identified workforce issues. The course could include LLN assessment, basic safety information and / or generic entry level mining skills.</p> <p>A pre-employment course could update or draw on existing courses such as:</p> <ul style="list-style-type: none"> • The Industry & Mining Induction (TasTAFE delivered) • Standard 11 Mining Induction courses (QLD required) 	<p>Lead – TMEC</p> <p>Support – TasTAFE</p>	Immediate	The industry will determine whether a pre-employment course would help potential employees meet job readiness requirements
	11	<p>Develop a business case to building Tasmania as a centre of excellence in simulator training for technical mining skills, with the purpose of providing training to the Tasmania mining industry workforce and attracting interstate mining trainees.</p> <p>There are several training simulators already being used in Tasmania (i.e. TMEC has a welding simulator and Grange Resources has a truck driver simulator). This action will require collaborative industry governance to be effective.</p>	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Immediate	The industry will determine the risks and benefits associated with training simulators in Tasmania
e) Support continuous mining workforce learning through mentoring programs	12	<p>Promote funding and support options for mentoring programs to the industry. The funding and / or support can be aimed at either helping mentors or those receiving mentorship.</p> <p>This should involve the following funding options:</p> <ul style="list-style-type: none"> • Skills Fund Grant • Regional Employment Trials • Adult Learning Fund 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Longer Term	Promotion of mentoring funding and support that can be utilised by Tasmanian mining companies

Strategy	Action	Responsibility	Priority	Measure of Success
f) Improve the language, literacy and numeracy standards of the workforce	<p>13 Form partnerships with other Tasmanian industries to articulate the language, literacy and numeracy requirements of industry. These requirements will be articulated to both government and education providers / training organisations.</p> <p>This would include discussions with industry associations such as:</p> <ul style="list-style-type: none"> • Tasmanian Chamber of Commerce and Industry • Civil Contractors Federation • Tasmanian Farmers & Graziers Association • Tasmanian Seafood Industry Council • Tasmanian Hospitality Association 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Medium Term	Publicly available mining industry language, literacy and numeracy requirements
	<p>14 Assist mining companies to engage with services that can help existing workers improve their language, literacy and numeracy.</p> <p>A range of programs and training exist that can help mining companies and their workers improve the language, literacy and numeracy of their workforce. These include:</p> <ul style="list-style-type: none"> • 26TEN Grants • TasTAFE Literacy and Numeracy for Work and Training courses • Libraries Tasmania 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC</p>	Medium Term	Industry accesses available language, literacy and numeracy programs as required
g) Ensure that industry effectively influences national training package development to ensure its skills needs are met	<p>15 Engage with the Metalliferous Mining Industry Reference Committee and the Coal Mining Industry Reference Committee regarding the industry skills requirements that need to be reflected in the Resources and Infrastructure Training Package.</p> <p>An example of the changes the industry could seek in the national training package is the inclusion of emerging skills arising from Industry 4.0 and the digital disruption of the Industry.</p> <ul style="list-style-type: none"> • It should be noted that the Australian Government is piloting a new Skills Organisation that is responsible for skills standards and other matters in the mining industry. This will impact how the industry can engage with the national training system. 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC / Skills Tasmania / PwC Skills for Australia</p>	Longer Term	Industry influences the development of the national training package

Strategy	Action	Responsibility	Priority	Measure of Success
<p>h) Encourage close collaboration between industry and education providers / training organisations</p>	<p>16 Engage with Tasmanian education providers / training organisations with the purpose of ensuring training meets industry skill requirements. The skill requirements include both:</p> <ul style="list-style-type: none"> • Hard skills (e.g. utilisation of emerging digital technologies) • Soft skills (e.g. workplace leadership) <p>The Workforce Development Group and education providers / training organisations should seek to:</p> <ul style="list-style-type: none"> • Improve training outcomes to ensure the job readiness of graduates <ul style="list-style-type: none"> - Investigate opportunities to involve skilled and experience mining workers in the teaching and training process • Improve the availability and accessibility of training <ul style="list-style-type: none"> - Review ways to reduce cost of training to both industry and training providers through standardisation • Minimise the skill gaps of the current workforce <ul style="list-style-type: none"> - Review options of a regional pilot program to develop a course to meet common skill gaps, which would start with an audit of industry requirements • Ensure training will effectively meet emerging skill requirements <ul style="list-style-type: none"> - For example, examining the impact of Industry 4.0 and digital disruption 	<p>Lead – Workforce Development Group</p> <p>Support – TMEC / Training providers</p>	<p>Immediate</p>	<p>Training programs and their delivery reflect industry skill needs</p>

