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Commissioner  
The Productivity Commission  
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### **Submission for the Review of the National Skills and Workforce Development Agreement**

Dear Mr. Coppel

Rio Tinto welcomes the opportunity to make this submission to the Productivity Commission review of the National Skills and Workforce Development Agreement, to ensure Australians have the right skills to succeed in a changing labour market, and businesses have access to the skills they need to sustain and grow.

This Productivity Commission review into how well federal and state and territory governments are achieving their goals in the delivery of vocational education and training (VET) across Australia is timely, given the rapidly changing nature of the workforce. It is important that Australia's VET system continues to provide the best outcomes for Australia's mining industry and the broader community.

A study by EY, commissioned by the Minerals Council of Australia (MCA), concluded that 77 per cent of jobs in Australian mining will be enhanced or redesigned due to technology within the next five years.<sup>1</sup> Rio Tinto prides itself on supporting the learning and development of its employees to ensure that they are provided with the training to work safely and confidently with the latest technology.

As a globally recognised leader in innovative thinking and practice, we are committed to developing the new skills and capabilities essential for our current and future workforce. However, we cannot do it alone: it is equally important that Australian governments, both at the state and federal level, support a VET system that maintains the competitiveness of Australia's industry. Industry, educators and government recognise just how rapidly our workforce skills needs are changing and the vitally important role an effective education system plays in preparing the workforce of today and tomorrow for our exciting, technology enabled future. The Resources 2030 Taskforce also confirmed this challenge to the industry, and recommended that governments develop a more coordinated national curriculum focusing on subjects and qualifications directly related to the mining industry.<sup>2</sup>

The decline in Australia's 2018 Programme for International Student Assessment rankings for high school students' mathematics, reading and scientific literacy is a further cause for concern to the industry, particularly as they are essential pathways to tertiary science, technology, engineering and

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<sup>1</sup> EY, Future of work: economic analysis of the implications of technology on mining, paper commissioned by the MCA, February 2019

<sup>2</sup> Department of Industry, Innovation and Science, Resources 2030 Taskforce Australian resources – providing prosperity for future generations, Canberra, September 2018



mathematics (STEM) courses needed for a workforce of the future.<sup>3</sup>

We have entered into a number of partnerships with industry, educators, government and communities to make STEM accessible to everyone, at any academic level, recognising the vital roles all parts of the education sector plays in creating diverse talent pipelines. For example, Rio Tinto launched its *FutureSkills* program on 25 November, investing A\$10 million in a four-year national programme, targeted at school-age learners, that aims to fast-track the development of skills needed for the digital future, including critical thinking, problem-solving, automation, systems design, and data analytics.<sup>4</sup>

### **Reskilling and upskilling our workforce and future workforce**

Australia's resources sector employs around 240,000 people, many of whom are contributing in regional and rural Australia.<sup>5</sup> To realise our future aspirations as an industry, we need a vocational and university educational system that can equip future employees the skills needed for a future industry.

To be competitive, Australian mining must continue to invest in innovation and technology. This investment continues to drive demand for key skill sets such as data science, analytics, predictive modelling, digital competency and mechatronic skills which require specialised training.

Information and communications technology, robotics and artificial intelligence will be increasingly in demand as technological innovation is further integrated into mining and exploration. Key mining roles such as exploration, surveying, health and safety and maintenance continue to be enhanced by technology, including through the use of drones, robotics and artificial intelligence.

Soft skills such as communication, emotional intelligence, collaboration, creativity, enquiry and problem solving are also critical.

Australia's VET system must therefore be geared towards developing these skills sets, and access must be open to all students seeking access to vocational education and training, particularly regional or rural areas, who either currently participate in the sector, or will likely participate in the future.

In its report, *Shifting the Dial: 5 Year Productivity Review*, the Productivity Commission concluded that the current skills system, particularly the training delivered in the VET system, is currently not sufficiently 'delivering in providing relevant competency-based qualifications sought by industry'.<sup>6</sup>

Rio Tinto has been delivering in-house enterprise training to upskill and reskill our workforce for new skills in automation and technology for the past decade. This training has not been mapped to formal VET qualifications as no qualifications have been available. The benefits to Rio Tinto have been that in-house training has kept up with the skills required and kept pace with the changes to skills needs driven by emerging automation and technology. We have benefitted from the ability to build a highly skilled, experienced training and assessment team that enables flexibility in our delivery and agility in scaling for the variable demands for our operations at any point in time.

Nonetheless, Rio Tinto's in-house enterprise training is not formally recognised or accredited by state or federal skills and education accreditation bodies – including in relation to an employees' skills, competency and employability which have been developed through this training. This lack of formal recognition leads to inefficiency in the labour market with organisations re-investing in similar

<sup>3</sup> See The Australian, [PISA global educational rankings: Schools fail on maths, science](#), 3 December 2019

<sup>4</sup> See Rio Tinto, Media Release, [Rio Tinto and EdTech sector to invest in developing the skills of young Australians for the future](#), 25 November 2019

<sup>5</sup> Australian Bureau of Statistics, Average Weekly Earnings, Australia, May 2018, ABS cat. no. 6302.0, released 16 August 2018.

<sup>6</sup> Productivity Commission, *Shifting the Dial: 5 Year Productivity Review*, Report No. 84, Canberra, 3 August 2017, p. 83f.



training as individuals move from company to company. In that regard, the *Noonan Review's* recommendations that micro-credentialing should be recognised and accredited – which have been supported by the Federal Government – is welcomed, as it aims to provide faster and more efficient pathways for students to receive the qualifications they need for faster entry into the workforce.<sup>7</sup>

Opportunities to strengthen the VET sector through reform will help enable agile and flexible qualifications including short course intensives that not only meet the changing skills needs of industry but also bring accessibility to learning for existing and future workforces who may be anywhere in Australia.

A more integrated education system, that links relevant TAFE and university courses as well as short-burst, micro credentialing can provide a more balanced and relevant system of learning that is of greater relevance to the mining industry. Furthermore, taking advantage of technology can enhance learning.

Australia's VET sector has a vital opportunity to be re-oriented to build the workforces of the future, recognising that skill sets to equip people to work alongside technology are becoming important to a large segment of future jobs. STEM capabilities need to be built into all levels of formal education for the workforce and no longer only the domain of jobs that require a university degree.

Beyond responsiveness to the changing workforce landscape, VET sector reforms are central to unlocking Australia's competitive advantage, and ensuring labour markets are mobile and adaptive. For individuals, improved learning outcomes through VET reform that brings stronger focus on the range of skills that automation and technology require contributes to improved employability and portability across a broader range of industry sectors.

The Government's implementation of the recommendations outlined in the *Joyce Review*, including the establishment of the National Skills Commission, the National Careers Institute and Skills Organisations and the co-design approach are also welcomed steps to assist in VET and tertiary training to adapt to technology and the changing nature of work.

Given the broad education landscape in Australia, with split allocation of roles and responsibilities across Commonwealth and state and territory governments, it is important that governments maintain a formal overarching structure to reinforce the importance of skills and workforce development.

### **Rio Tinto partnerships with governments and education institutions**

Rio Tinto welcomes opportunities to continue to work closely with state and federal governments to ensure that VET training remains relevant and continues to evolve with technological developments and innovation. Rio Tinto has led the establishment of the Resource Industry Collaboration in Western Australia, with senior member representation from South Metropolitan and North Regional TAFE in WA, the University of Western Australia, Department of Education and Training WA, the Chamber of Minerals and Energy and industry partners; BHP, FMG, Roy Hill, Komatsu, Yara, Santos and South 32. The collaboration seeks to recognise that these needs are common across many employers and that a partnership approach, led by industry, is the most effective approach.

For example, in October 2017, Rio Tinto announced a commitment of up to \$2 million, as well as in-kind contributions, to work in partnership with the Western Australian Government to develop the first nationally recognised VET qualifications in Automation.<sup>8</sup> Working with South Metropolitan TAFE, we

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<sup>7</sup> D Tehan (Minister for Education) and M Cash (Minister for Employment, Skills, Small and Family Business), Media Release, [A new future for VET and higher education](#), 9 December 2019.

<sup>8</sup> See Rio Tinto, Media Release, [Rio Tinto partners with TAFE to deliver Australia's first automation qualifications](#), 8 April 2018.



have now successfully developed and accredited three certificates in Automation.<sup>9</sup>

The Certificate IV in Autonomous Control and Remote Operations qualification will commence as a pilot course in 2020. Approximately 30 Rio Tinto Iron Ore employees will be involved in the pilot, and pending successful completion of the pilot, the first public course will start in 2021. This follows the introduction of Certificate II in Autonomous Workplace Operations and a micro-credential course for apprentices and technicians, developed under the same partnership. The state accredited and nationally recognised courses is a dual framework that Western Australia benefits from and broader the industry needs from the Australian VET system. It is an example of what currently works well.

This is a demonstration of both our commitment to reskilling and upskilling our current and future workforces and our commitment to the VET system. Sufficient skill levels can only be achieved if government, industry, schools, TAFE and universities work together. Through industry leadership, we ensure we are equipping Australians with the skills needed to work in the roles of the future and this initiative will help build a much needed bridge between STEM in education and the workplace.

### **Mining industry collaboration on skills and training**

Rio Tinto recognises that the mining industry needs to continue to work together to progress the workforce and innovation agenda across the industry, and to ensure that training and skills development benefits the sector as a whole. The MCA established its Workforce and Innovation Committee in late 2018, which I currently chair.

The Committee is working to deliver a suite of connected initiatives for our industry that help to increase and promote diversity and inclusion in mining, secure existing and future talent pools and pathways, deliver inclusive leadership and showcase mining as an industry of choice. Since its inception, the Committee has developed and delivered strategic education partnerships and pathways to the modern mining sector, facilitating access to and inspiring a wider talent pool through a new mining engineering curricula pilot and a micro credential pilot.

We welcome the recent announcement of the MCA being awarded the Skills Organisations Pilot for the mining industry and the key role the MCA will play in shaping the national training system.<sup>10</sup> With the Commonwealth Government confirming it will provide \$9.7 million (over three years from 2019-20), the pilot will trial new ways of working across the national training system to ensure trainees and apprentices have access to skills and training relevant to the mining industry.<sup>11</sup>

Initiatives like the Skills Organisation Pilot, where industry takes a leading role in supporting the VET system, we believe, will better meet the needs of employers, the economy and learners. Aiming for greater national-level consistency, recognition and access to courses across the VET system is an important objective of the pilot, particularly for students in regional and remote Australia, in the communities in which we operate.

### **Policy priorities to deliver a more responsive VET sector:**

1. Build a closer partnership between government and industry to identify skills and jobs and strengthen the VET sector as valued pathway to meaningful employment.

Better and more accessible information is required to enable people to make informed

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<sup>9</sup> These accredited courses are: Certificate II for entry level Operators and also available to Years 11 and 12 VET Pathway Students, delivered as a VET in School programme, Micro Credential Skills Sets Certificate III level, for Apprentice and Trade Qualified and most recently the Certificate IV in Autonomous Control and Remote Operations for Controllers who are employed in Remote Operations Centres.

<sup>10</sup> S Morrison (Prime Minister), M Cash (Minister for Employment, Skills, Small and Family Business), M Canavan (Minister for Resources and Northern Australia), Media Release, [Mining Industry to Receive Skills Boost](#), 1 November 2019.

<sup>11</sup> Minerals Council of Australia, Media Release, [Mining sets stronger path to surplus](#), 16 December 2019

decisions on what to study to facilitate lifelong learning and upskilling. This will help align skills with industry needs and drive demand to the right courses to improve post training job outcomes.

Along with the right information available, we need to target the entire diverse market of learners to lead them into the VET Sector. We need to build understanding of the value VET pathways provide to meaningful and long term skills development and career options as VET pathways are instrumental in creating the diverse and skilled pipeline that industry needs.

2. Transition the VET sector to a system of funding competencies and skills as well as qualifications

The future workforce will require people to change specialisations and careers a number of times over their working lives. The VET system needs to be designed less around qualifications and more around competencies, skills sets and learning outcomes to allow workers to develop skill sets that meet their needs and industry needs. To achieve this, funding of VET should be tied to skill sets and competencies and there should be formal recognition of skill set training/micro credentialing. Subsidies for VET should be tied to skills development/competencies to allow adults to build on existing qualifications and gain new skills and knowledge throughout their career, to create the mechanism needed in a system that supports lifelong learning and the faster application of skill sets.

3. Funding for enterprise training

Creative co-funding models should be developed to support upskilling and reskilling programs (enterprise training) for companies formally training existing workforces. The Skilling Australians Fund and other funds use co-funding models between governments and industry but are narrow in their focus. Co-funding models should be extended to enterprise programs to retrain workers to address the gap in government support for retraining existing workforces through the TAFE system.

A co-share payment would attach to priority courses that attract a government subsidy with the remainder of the cost covered by the employer so that it is free to the employee. It would cover traineeships, qualifications and skill sets/competencies, upskilling and reskilling, in addition to apprenticeships.

4. Tertiary Education in Regional Australia

More than 60 per cent of mining jobs are located in regional areas. The mining industry needs higher skilled individuals in local communities. A key equality objective needs to be removing barriers for people in regional communities to pursue training opportunities.

The decline in enrolments in mining and related engineering – which are at their lowest level since 2000 – is a significant challenge for Rio Tinto and the mining industry more broadly. It is estimated there will be less than 50 students graduating with university level mining engineering qualifications in 2020.<sup>12</sup> This is a significant reduction from the highs of 2012 and 2013 (267 and 265 respectively).<sup>13</sup>

It is essential that we have an education system that provides accessible, efficient, high quality and flexible education and training that is supporting the needs of industry and of the learner in all communities across Australia – metropolitan, regional and remote. It is equally important to enable access to university and TAFE learning in the regions to broaden the

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<sup>12</sup> Minerals Council of Australia, MTEC Key Performance Measures Report 2018, Canberra, October, 2018, p.4

<sup>13</sup> Ibid

opportunities for education to employment pathways and lifelong learning.

Reviews of the VET education sector should specifically include indigenous access to training and education consistent with the Resource 2030 Taskforce report which identified 'ensuring Aboriginal and Torres Strait Islander communities have access to education, training and employment strategies tailored to their needs' as a key priority. This should form part of a focus on barriers to access to education for disadvantaged and regional communities.

Rio Tinto recognises the vital role VET plays in building on the skills essential for Australia's competitiveness, now and into the future and supports the review of the National Skills and Workforce Development Agreement.

If you wish to follow up on any matters raised in this submission, please do not hesitate to contact Mr. Scott Browne, Vice President Human Resources

Yours sincerely,

**Chris Salisbury**  
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**Rio Tinto Australia**