Wednesday, 15 November 2023

Submission – NSW VET Review

The Clean Energy Council (CEC) and the Australian Hydrogen Council (AHC) welcome the opportunity to make a joint submission in response to the *NSW VET Review Discussion Paper* (the Paper).

The CEC is the peak body for the clean energy industry in Australia. We represent and work with more than 1,000 businesses operating in Australia across renewable energy, energy storage, and renewable hydrogen.

The AHC is the peak body for the Australian hydrogen industry. AHC connects the hydrogen industry and its stakeholders in building a secure, clean, and resilient energy future that sustainably produces and uses hydrogen within the energy mix. AHC's members are from a range of sectors, including energy, transport, consulting, banking, and technology.

A high-quality vocational education and training (VET) system is essential to enabling the clean energy transition at the pace needed to decarbonise our energy system by 2050. As documented by Jobs and Skills Australia (JSA) in The Clean Energy Generation study, the clean energy workforce has a larger proportion of VET-qualified workers than the broader labour force[1]. This is especially pronounced in the clean energy demand subsection of the workforce, with up to 50% of workers having a Certificate III or IV as their highest qualification.

Australia's clean energy transition is well underway. Australia has world-leading rates of installed rooftop solar, and renewable energy met 32% of electricity demand in 2022[2]. However, the industry is already experiencing shortages of critical VET-qualified occupations, including electricians and construction workers. The 2023 Skills Priority List (SPL) found that 73% of Electrotechnology and Telecommunications Trades and 100% of Construction and Trades Worker occupations are in

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[1] Jobs and Skills Australia. (2023a). The Clean Energy Generation: Workforce Needs For a Net Zero Economy. URL: https://www.jobsandskills.gov.au/sites/default/files/2023-10/The%20Clean%20Energy%20Generation_0.pdf

[2] Department of Climate Change, Energy, the Environment and Water. (2023). *Australian Energy Statistics, Table O*. URL: https://www.energy.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2021-22-and-2022

shortage nationally[3]. Worker shortages are contributing to high costs of renewables and delaying the completion of projects in the development pipeline.

Urgent reform of the VET sector is needed to ensure Australia has the workforce needed to mitigate the worst impacts of climate change and achieve its decarbonisation targets of 82% renewable electricity by 2030, and net zero emissions by 2050. To achieve the interim 2030 target, JSA projects 32,000 additional electricians and 450,000 construction workers are needed nationally, with many of these jobs in NSW[4]. In many cases, the business-as-usual supply of these roles will fail to keep pace with projected demand.

These reforms should be based on an analysis of the current challenges and future state of the clean energy workforce. JSA's Clean Energy Generation study provides a sound and timely evidentiary basis that could assist the Department with identifying intersectional opportunities for reform that improve student success and prepare the VET sector to meet the workforce and skill needs of the clean energy transition at the required pace. These challenges include:

- **Regional and remote location** – 75% of new clean energy jobs will be in regional and remote Australia. This is a major impediment to attracting qualified graduates who are typically attracted to metropolitan areas. Regional Australia also suffers from thin training markets, lack of training infrastructure and facilities, and a shortage of training capacity[5].
- **Training capacity and capability** – lack of training capacity is an acute challenge facing the clean energy industry. High demand for these skills ensures it is hard to encourage workers from industry to join the education and training workforce. The requirement to complete a Certificate IV in Training and Assessment is an additional barrier to entry for experienced tradespeople due to lost wages. Electrical trades also require a low supervision ratio due to safety risks[6].
- **Diversity, equity, and inclusion** – women comprise only 17% of VET STEM enrolments, and have lower participation in trade apprenticeships, accounting for just 5.6% of electrical apprenticeship commencements in 2021. The 2023 SPL notes that the occupations with strong gender imbalance are more likely to be in shortage. One of the worst-affected occupation major groups is Technicians and Trades workers with 80% of occupations having fewer than 20% women[7]. This major group includes 16 occupations that are critical to the clean energy workforce[8].

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[3] Jobs and Skills Australia. (2023b). 2023 Skills Priority List - Key Findings Report. URL: https://www.jobsandskills.gov.au/sites/default/files/2023-09/2023%20SPL%20Key%20Findings%20Report_0.pdf
[4] Jobs and Skills Australia. (2023a).
[5] Jobs and Skills Australia. (2023a).
[6] Jobs and Skills Australia. (2023a).
[7] Jobs and Skills Australia. (2023b).
[8] Jobs and Skills Australia. (2023a).

- **Long training time and low completion rates** – electrical apprenticeships take four years to complete and have a relatively low completion rate of around 50%. Using readiness assessment, apprentice mentoring, blended delivery and effective partnerships with industry, the Energy Industry Apprentice Progression Management System project saw completion rates increase to 93%[9].
- **Uncertainty regarding timing and demand for jobs in emerging industries** – there is a lack of research and data into the timing, location, and workforce requirements of emerging renewable industries such as the clean hydrogen supply chain. This has inhibited the development of new training offerings to meet the needs of these industries[10]. Australia's renewable superpower ambitions could deliver hundreds of thousands of additional jobs to the regions[11], but a vocational education system unable to anticipate and rapidly respond to growing demand could stymie these aspirations.

The clean energy transition presents a unique nexus of intersectional factors that can be addressed through reform of VET in NSW. Ideally, any recommendations made in the Review would align with Commonwealth actions undertaken in response to recommendations made in The Clean Energy Generation. This would ensure reforms are aligned with federal ambitions and harness the momentum of change occurring across the country. Relevant recommendations for state consideration include:

No.	Recommendation
4.4	Develop new courses, both accredited and unaccredited as required to bridge skills gaps for emerging roles and workers with existing qualifications looking to transition to jobs in clean energy.
7.6	Explore mechanisms for identifying and servicing thin markets in higher education and VET to ensure training provision in areas critical to the clean energy transition, including hub and spoke models of delivery.
7.7	Explore the merits of fostering group training schemes as a means of employing apprentices in clean energy roles. This may help apprentices access shorter-term energy projects and gain broad experience with different technologies
7.8	Continue to make dedicated capital funding available, along the lines of the Revitalising TAFE Campuses Across Australia agreement, and similar programs in higher education,

[9] Energy Skills Australia. (2016). Energy Industry Apprenticeships Progression Management System. URL: http://e-oz.com.au/wp-content/uploads/2016/08/E-Oz_IndustryAppReport_WEB.pdf

[10] Victorian Hydrogen Hub. (2022). *Hydrogen Skills Roadmap.* Swinburne University. URL: https://commons.swinburne.edu.au/file/80f8414f-5646-4d6b-ac77-b2038857ea7a/1/swinburne_hydrogen_report.pdf

[11] McCoy, J., Davis, D., Mayfield, E., Brear, M. (2023). *Downscaling – Employment impacts.* Net Zero Australia. URL: https://www.netzeroaustralia.net.au/wp-content/uploads/2023/04/Downscaling-Employment-impacts.pdf

	to ensure training facilities have access to current equipment. Ideally this will include ways to incentivise industry financial and in-kind support.
7.9	Consider establishing a pilot program that, along similar lines to the group training model, allows employers to access higher education students for paid placements without needing to assume the responsibilities of an employer. The program would need to consider rights, responsibilities and protections.
7.11	Supercharge efforts to increase the uptake and availability of STEM education and training as a coordinated, whole of government priority. This includes supporting programs that inspire young people towards STEM careers and break down barriers to make career paths more accessible. It is important that VET, particularly trade qualifications, is supported and communicated as a critical STEM pathway.
7.12	Work in partnership with industry and education and training providers to deliver upskilling opportunities for the teaching workforce to maintain their skills currency as new technologies emerge.
7.13	Governments should explore opportunities to support and incentivise experienced electricians and other tradespersons and technicians in critical occupations to become VET teachers and trainers.
7.14	Investigate initiatives to promote workplace trainers and assessors embedded in industry, working collaboratively with trainers and teachers based in TAFEs and other RTOs. Any initiatives would need to consider how to appropriately reward participating trainers and their employers.
7.15	Ensure financial supports and incentives for women in trades are genuinely at the scale required to generate transformational change in the workforce's composition and culture.
7.16	Explore opportunities to directly support employers to attract, employ, mentor, train and cluster female trade apprentices to increase retention outcomes.
7.17	Explore opportunities to provide more support for bridging courses, group learning and study-to-employment pathways for First Nations, CALD, and female students.

Recommendation: NSW Clean Energy Required Training (NSW-CERT)

The CEC has recently initiated a project in Victoria that seeks to harmonise the required training across employers in each renewable energy technology, including wind, solar and batteries. Queensland have committed to delivering a similar project as part of their Clean Energy Workforce Roadmap[12]. A NSW-CERT project – short for New South Wales Clean Energy Required Training – would see clean energy developers in NSW coming together to agree on a harmonised training matrix. This matrix would underpin a digital platform to track worker training and competencies – a clean energy skills passport. This project would deliver the following outcomes:

- **Improved training participation**, by clarifying demand to the VET sector and aligning delivery with industry requirements. It would also provide the Department with the evidence-base needed to make data-driven decisions regarding training investment.
- **Improved worker safety**, by clarifying, harmonising, and tracking worker competencies and training.
- **Improved regional community employment outcomes**, by clarifying renewable career pathways, enabling communities to mobilise more effectively and respond to employment opportunities as projects are announced. This would also assist workers from marginalised labour groups (e.g., First Peoples, the long-term unemployed, migrants, women). It would assist workers in regional communities to seamlessly move between renewable projects across Renewable Energy Zones.
- **Improved productivity**, by increasing efficiency for project owners and contractors in attracting and employing workers with the right skills from the outset, reducing time-to-competency.

This program could be developed in partnership with the Department of Education or TAFE NSW, the design informed through consultation with key stakeholders including industry, education and training providers, government, and unions.

We thank the Department for the opportunity to provide this feedback and inform discussion regarding the best ways to reform the VET sector in NSW to meet the of the clean energy transition.

Yours sincerely,

Anita Talberg
Director, Workforce Development
atalberg@cleanenergycouncil.org.au

Julian McCoy
Senior Policy Officer, Workforce Development
jmccoy@cleanenergycouncil.org.au

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[12] Queensland Government. (2023). Queensland's Clean Energy Workforce Roadmap. URL: https://www.publications.qld.gov.au/ckan-publications-attachments-prod/resources/62a2ef56-8100-4171-9117-964afabd65ec/queenslands-clean-energy-workforce-roadmap.pdf?ETag=f1465fcc9ec26b9f5452a7d7cef68487