



Monday, 8 April 2024

Submission – Victoria Energy Jobs Plan

The Clean Energy Council (CEC) and the Australian Hydrogen Council (AHC) welcome the opportunity to make a submission in response to the *Victoria Energy Jobs Plan Consultation Paper* (The Paper).

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

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.

Victoria's energy transition is already well underway, with 38% of electricity generated from renewables in 2023.¹ However, achieving state targets of 65% renewable electricity by 2030 and 95% by 2035 requires a considerable increase in the deployment rate of renewables. Accelerating the deployment of renewables while retaining social license and optimising local benefits will only be possible with careful workforce planning.

Workforce planning is essential to mitigating the existing challenges of worker shortages that will only be exacerbated through the transition. Clean energy projects currently experiencing skill shortages in critical occupations including electricians and construction workers. The 2023 Skills Priority List (SPL) found that 66% of Electrotechnology and Telecommunications Trades and 94% of Construction and Trades Worker occupations are in shortage in Victoria.² Worker shortages are contributing to high costs of renewables and delaying the completion of projects in the development pipeline.

¹ OpenNEM. Accessed 22 March 2024. URL: <https://opennem.org.au/>

² 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

There are three main enablers of effective workforce planning absent from Victoria's energy transition that should be considered for the Victoria Energy Jobs Plan:

1. Readiness Assessments for Renewable Energy Zones (REZ)
2. State coordination of local renewable energy project delivery
3. Localised training and education strategies

Readiness Assessments for Renewable Energy Zones (REZ)

Victoria's transition to net zero will necessarily have an outsized impact on the regions. While regional Victoria may benefit from the influx of clean energy jobs created, there is persistent uncertainty regarding the capacity and the capability of the regions to realise these benefits in the short- and longer-terms. Capacity analysis has historically been treated as an afterthought in REZ planning. Siting determinations have occurred prior to an analysis of workforce and infrastructure readiness to accommodate job growth.

The absence of Readiness Assessments affects capability planning. Jobs and Skills Australia's (JSA) 2023 report *The Clean Energy Generation* (the Report) documented numerous training and education barriers that need to be addressed for regional Australia to realise the benefits of new clean energy jobs. These include thin markets, the availability of training providers, lack of trainers and facilities.³ It also catalogued the numerous barriers to participation to First Nation communities. If these challenges are not resolved, regional and First Nations communities may be locked out of new jobs, which would then be filled by domestic or international migration. This poses a pressing risk to social license and the delivery of clean energy projects that is poorly understood by governments.

There is also persistent 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.⁴ Australia's renewable superpower ambitions could deliver tens of thousands

³ Jobs and Skills Australia. (2023a). *The Clean Energy Generation*. URL: https://www.jobsandskills.gov.au/sites/default/files/2023-10/The%20Clean%20Energy%20Generation_0.pdf

⁴ 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

of additional jobs to the regional Victoria,⁵ but a vocational education system unable to anticipate and rapidly respond to growing demand could stymie these aspirations.

This knowledge gap could be resolved by conducting Readiness Assessments of each REZ. Readiness Assessments would include analysis of the capacity and implications for each REZ over time with regards to infrastructure, transport, housing and accommodation, workforce, supply chains, waste management, other land uses and social infrastructure. They should be an opportunity to seek community input and perspectives including local industry and First Nations considerations. Readiness Assessments would be a vital tool for developing government understanding and securing the social license of communities for renewable energy developments. Queensland has recently commenced development of REZ Readiness Assessments as part of the Queensland Energy Jobs Plan.⁶ They will resolve a persistent knowledge gap and enable more effective planning and project coordination.

Recommendation 1: Conduct REZ Readiness Assessments in all Victorian REZs to analyse the capacity and implications for each REZ with regards to infrastructure, transport, housing and accommodation, workforce, supply chains, waste management, other land uses and social infrastructure.

State coordination of local renewable energy project delivery

Wind and solar farms have to date been delivered through existing mechanisms for large-scale infrastructure. The relatively constrained pace and scale of deployments has necessitated little coordination of project delivery across REZs. This will change as clean energy projects increase in size to gigawatt-scale and are delivered at a more rapid rate. A continued lack of coordination may risk communities' abilities to realise the benefits of the energy transition. In turn, this threatens to erode the social license of renewable projects to operate in REZs and the achievement of decarbonisation targets. The risks of an uncoordinated deployment include:

⁵ Rutovitz, J., Langdon, R, Mey, F., Briggs, C. (2023). Electricity Sector Workforce Projections for the 2022 ISP: Focus on Victoria. Revision 1. Prepared by the Institute for Sustainable Futures for RACE for 2030. URL: https://racefor2030.com.au/wp-content/uploads/2023/03/Focus_on_VIC_Rev1-2.pdf

⁶ Queensland Renewable Energy Zone Roadmap. (2024). Department of Energy and Climate. URL: https://www.epw.qld.gov.au/data/assets/pdf_file/0019/36037/draft-2023-queensland-rez-roadmap.pdf

- Boom-bust construction cycles due to delays between the completion of one project and the commencement of another.
- Impacts on the local economy from large spikes of temporary workers, including localised inflation of house prices, rental and temporary accommodation, and goods and services.
- Pressure on the availability of in-demand skills including electricians and the construction workforce.
- Consultation fatigue for residents due to multiple prospective developers seeking to engage concurrently.

A higher level of coordination between industry, communities, and governments, at state, federal and local levels would smooth the transition and enable the management of these impacts. This should be a joint effort funded and led by the state government, in partnership with the new Net Zero Authority and local governments. A coordinated rollout would deliver the following workforce benefits for regional communities:

- Increase the utilisation of apprentices by enabling a group training organisation-type approach to managing placements between clean energy projects.
- Aggregate regional skill and training needs across projects, mitigating the problem of thin markets for education and training providers.
- Provide local businesses with a continuous pipeline of work across the duration of the transition. Pipeline surety enables investment in equipment and workers.
- A unified approach to delivering the net zero transition across state government departments and bodies, including the Department of Energy, Environment and Climate Action, the Department of Jobs, Skills, Industry and Regions, the Department of Education, the Department of Transport and Planning, the Victorian Skills Authority etc.

Recommendation 2: Establish a statutory body responsible for local coordination of renewable energy projects in partnership with local communities, governments, and the Net Zero Authority.

Localised training and education strategies

Around 75% of clean energy jobs will be in regional and remote locations. Most of these jobs will require vocational education qualifications. Regional cities face several barriers to delivering vocational education and training (VET), including market barriers, such as trainer shortages and thin markets; location barriers, including distance, lack of infrastructure, resources, limited job opportunities, and training offerings mismatched with

local demand; and student barriers, including language, literacy, numeracy and digital literacy.⁷

Government should work with local training and education providers to develop strategies that reflect local capacities and workforce needs identified in REZ Readiness Assessments. These should respond to challenges including:

- **Trainer shortages** – 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 in particular require a low supervision ratio due to safety risks.⁸
- **Thin markets** – low uptake of key apprenticeships result in increased costs for training providers unable to enrol a critical volume of students.
- **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.⁹ This major group includes 16 occupations that are critical to the clean energy workforce.¹⁰ Once in the workforce, women in project engineering and deployment roles experience barriers to retention due to lack of access to flexible and part-time arrangements, and social infrastructure including access to childcare.
- **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 apprenticeship readiness assessments, apprentice mentoring, blended delivery and effective partnerships with industry, the Energy Industry Apprentice

⁷ Griffin, T. (2023). Vet Delivery in Regional, Rural and Remote Australia: Barriers and Facilitators. National Centre for Vocational Education Research. URL: https://www.ncver.edu.au/_data/assets/pdf_file/0044/9677267/VET_delivery_in_regional_rural_and_remote_australia_barriers_and_facilitators.pdf

⁸ Jobs and Skills Australia. (2023a).

⁹ Jobs and Skills Australia. (2023b).

¹⁰ Jobs and Skills Australia. (2023a).

Progression Management System project saw completion rates increase to 93%.¹¹

Recommendation 3: state government to collaborate with local governments, training and education providers, and industry to develop localised strategies to maximise local participation of skilled workers in clean energy projects.

Recommendation 4: state government to fund implementation of the Energy Industry Apprentice Progression Management System.

Recommendations from The Clean Energy Generation

Many of the topics raised in the Paper have also been explored at length in the Report. This made 50 recommendations for substantial reform across sectors including government, industry, education, and training. Many are directly relevant for state-level planning. Recommendations from the Report to improve regional training and education capacity and capability are included below. Adopting these recommendations would enable the Victoria Energy Jobs Plan to be developed in alignment with the federal government response to the Report.

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.

7.11 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

¹¹ 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

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.

Industry initiatives

The Victorian Energy Jobs Plan should seek to promote and support work already being progressed by industry. The Clean Energy Council is currently leading several relevant initiatives and projects. These include Careers for Net Zero, the Victorian Clean Energy Required Training project, and our Women in Renewables program.

Careers for Net Zero

In 2023, to address the visibility gap for young people seeking a career in clean energy, the Clean Energy Council and the Energy Efficiency Council jointly delivered the inaugural Careers for Net Zero Fair. The Fair featured the Hon. Jacinta Allan MP, the Hon. Brendan O'Connor MP, Hon. Lily D'Ambrosio MP, and a host of other leading industry, education and training sector, and civil society representatives. It launched the [Careers for Net Zero campaign](#), which is designed to help fill Australia's skills gap and encourage

job seekers to pursue a clean economy career. It showcases the many occupations needed to deliver the clean energy transition in Australia and information on pathways into the industry.

Since the inaugural Careers for Net Zero Fair, the CEC has worked with the Queensland government to deliver a similar program throughout [regional Queensland](#), with events being held in Toowoomba, Gladstone and Townsville in August this year. Other state governments have expressed interest in repeating the Fair in regional locations that will host REZs. We would welcome the opportunity to collaborate with the Victorian state government to bring this event to regional Victoria.

Victorian Clean Energy Required Training

The Victorian government has already funded the CEC to deliver the Victorian Clean Energy Required Training (VCERT) program, which is currently under development. VCERT exists to increase the pool of qualified, competent, and safe workers so that employers can access the right people, with the right skills and experience, at the right time and in the right places. It is designed to make any workforce gap analysis for projects easier and more efficient for all users – i.e. employers, workers, state government, employment agencies, regional economic development agencies etc.

We recommend the Victoria Energy Jobs Plan endorse the VCERT program as the primary digital skills app for clean energy in Victoria, which will help:

- Strengthen the role of skills, training and workforce development as critical enablers in Victoria's clean economy transition;
- Improve cross-portfolio coordination and collaboration in the development of Victoria's renewable energy zones; and
- Communicate to stakeholders that VCERT is supported by government as Victoria's primary clean energy workforce development tool to improve training participation, productivity, and employment.

Women in Renewables Program

The Clean Energy Council's Women in Renewables program enables and champions women working in the renewable energy industry. By building a united community of people who share a collective mission and vision, we support women to step up as empowered leaders within their organisations. The Women in Renewables initiative has five core aims:

1. To showcase the contribution of women in renewables.
2. To provide professional development opportunities and advice for women in renewables.
3. To foster a sense of valued community, and wider industry pride in Women in Renewables.
4. To provide opportunities for informal self-guided development and support for women in renewables.
5. To foster positive change in the renewable industry so it can be more inclusive and supportive of women.

The program includes a suite of initiatives, including:

- A **Mentoring Program** that facilitates connections and support for women in the industry as they progress their careers.
- **Women in Renewables Scholarships**, including the Chloe Munro Scholarship for Transformational Leadership and the Australian Institute of Company Directors Scholarship. These enable professional development of women in the clean energy industry.
- The **Panel Pledge**, which commits signatories to only participate in forums and panels that embrace gender diversity.
- A **Speakers Guide**, which showcases the breadth, expertise and knowledge offered by women in the sector to event organisers.
- The **Career Launcher Program**, which enables member companies to sponsor a student or recent graduate who identifies as a woman to attend a major conference.

Victoria's energy transition presents a substantial opportunity for regional communities to benefit from new jobs in clean energy. Thank you for the opportunity to provide feedback on the Paper, and we look forward to working with government as the Victorian Energy Jobs Plan is developed.

Yours sincerely,



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