5 May 2023

Jobs and Skills Australia
Department of Employment and Workplace Relations
GPO Box 9828
Canberra ACT 2601
Australia

Via email: CleanEnergyWorkforce@jobsandskills.gov.au

EVC Submission to Clean Energy Capacity Study Discussion Paper

The Electric Vehicle Council (EVC) welcomes the opportunity to provide feedback on the Clean Energy Capacity Study Discussion Paper.

The EVC is the national peak body for the electric vehicle (EV) industry in Australia. Our mission is to accelerate the electrification of transport for a sustainable and prosperous future. We represent members across the EV value chain, including car, bus and truck manufacturers, importers, operators, charging infrastructure suppliers and network providers, and battery recyclers.

The EVC is supportive of the Government's initiative to study the capacity of the clean energy workforce to better understand the skills required to support the energy transition. The outcomes from this study will be useful in guiding policy decisions and driving public and private investment into workforce development initiatives.

Measuring the EV workforce

The clean energy industry is rapidly growing, with the EV industry emerging as a key sector in the energy transition. As we move towards an electrified transportation sector over coming decades, it will be essential to have a skilled workforce that can design, manufacture, maintain, and support electric vehicles and their enabling infrastructure.

To ensure a just and smooth transition to clean energy, we also need to be able to accurately measure and understand the clean energy workforce, including the EV industry, and identify the skills required for its growth. There are gaps in existing data that make it difficult to capture the full extent of the clean energy workforce, particularly in emerging occupations.

In particular, the proportion of the workforce involved in the EV industry needs to be more clearly identified to get an accurate picture of the gaps in skills and training for the growing EV sector. Enhancing workforce measurement data will serve to alleviate some of the barriers associated with recruiting skilled workers, by providing forward certainty on

demand for training and development programs, and improving awareness of career prospects.

Promoting diversity within the energy workforce

There remains significant work to be undertaken to promote development of diversity within the energy workforce. Currently, there is a lack of diversity across the energy and EV sector, particularly in leadership roles and technical positions. This can make it challenging for underrepresented groups, such as women, culturally and linguistically diverse people and First Nations Australians, to feel supported in the industry, which can lead to reduced retention rates and limit the pool of talent in the sector going forward.

To address these issues, a range of measures can be taken to improve workforce diversity, including mentoring programs,[1] and targeted training and development opportunities to promote entry to high-demand areas.[2]

Sustained efforts to improve the experience of underrepresented groups once they enter the workforce (including by ensuring appropriate amenities, protective equipment and broader support systems are provided) can also play a key role in attracting and retaining diverse talent and supporting innovation within the energy and EV industry.

EVC Recommendations

While addressing long-term workforce development challenges will take considerable time and a coordinated approach between industry and government agencies across Australia, initial efforts undertaken as part of the Clean Energy Capacity Study should prioritise the following to establish a better understanding of the clean energy workforce, including the EV sector:

- The clean energy workforce definition should be expanded to explicitly mention workers involved in EV charging and maintenance.

- ANZSIC and ANZSCO categories need to be properly classified to provide an accurate picture of the workforce involved in the clean energy sector, including the EV industry.

- Commitment to regularly update and revise definitions and capture emerging occupations and industries to ensure accurate measurement of the clean energy workforce to identify areas requiring prioritisation.

The EVC supports ongoing collaboration between government and industry stakeholders to address identified challenges and implement strategies that attract and retain talent, ensure workforce diversity and inclusivity, and create opportunities for workers displaced from fossil fuel exposed sectors to transition into the clean energy workforce.

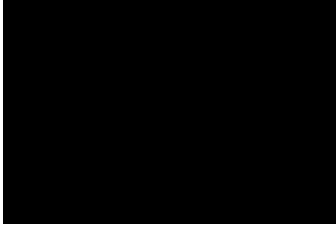Responses to consultation questions are set out below at Appendix A.

---

[1] See, e.g., Clean Energy Council Mentoring Program, https://www.cleanenergycouncil.org.au/advocacy-initiatives/women-in-renewables/mentoring-program.
[2] See, e.g., Canberra Institute of Technology (2021), *Scholarships for female electricians and apprentices to study solar*, https://cit.edu.au/news/scholarships_for_female_electricians_and_apprentices_to_study_solar.

If you have any questions on this submission, please contact █████████████████ ██████████████████████

Thank you for your consideration of our submission.

Yours sincerely,

Electric Vehicle Council

Appendix A – Responses to Consultation Questions

	Consultation Question	Response
Definitions and Terminology	1. Is the conceptual definition of the clean energy workforce ambiguous? If so, how could it be more clearly defined?	The proposed definition of the clean energy workforce appears to be comprehensive and includes workers directly involved in various aspects of the clean energy sector. However, to ensure the inclusion of workers involved in the electric vehicle industry, the definition could be expanded to explicitly mention workers involved in EV charging and maintenance.
	2. How could clean energy supply workers be identified in existing data? What are the gaps?	Existing data could potentially identify clean energy supply workers, including those involved in the electric vehicle charging installation, through categorisation of relevant industries such as power distribution and transmission. However, there are limitations to broad groupings that make it difficult to identify gaps in skills and training for the growing EV industry.
	3. How could workers involved with energy use be identified in existing data? What are the gaps?	Workers involved with energy use in the electric vehicle industry, such as technicians and maintenance personnel for electric vehicle charging stations, may also be identified in existing data through relevant occupational categories, such as 'Electrician (general)' or 'Automotive electrician'. However, it remains difficult to get a clear picture of the proportion of the workforce directly involved in the EV industry (within the existing energy and automotive sectors).
	4. Which jobs require skills that are unique to the clean energy workforce?	Jobs that may involve skills unique to the clean energy workforce in the EV industry could include electric vehicle charging station manufacturing, installation and maintenance, electric vehicle technicians, and renewable energy system integration specialists. Most of these individuals will come from engineering or electrical trades backgrounds that are able to transfer existing skillsets or retrain through targeted upskilling programs.
	5. How do workers obtain skills that are unique to the clean energy workforce	Workers in the clean energy workforce, including the electric vehicle industry, can obtain skills through various avenues from Vocational Education and Training (VET), higher education and on-the-job

	(VET/Higher Education/on-the-job skilling/other)?	practical training programs. These include certifications, apprenticeships, and specialised training programs focused on EV technologies and practices.
	6. Are there any emerging occupations and industries in clean energy that aren't well captured by current definitions?	Due to the evolving nature of the sector, there may be emerging occupations in the EV industry, that are not well captured by current definitions. For example, emerging roles related to manufacturing of charging equipment, smart charging, EV integration, and vehicle-to-grid management may not be captured in existing data sources. Efforts to regularly update and revise definitions and capture emerging occupations and industries should be considered to ensure accurate measurement of the growing clean energy workforce over coming decades.
Australia	7. What are the main barriers to employers recruiting and retaining workers with the skills required to support the clean energy transition?	Barriers to Australian employers recruiting and retaining workers with the skills required to support the clean energy transition include a lack of awareness of job opportunities, insufficient investment in programs to supply the future workforce (leading to national shortage of skilled engineering professionals and electrical tradespeople). This is also tied to insufficient data to date to help identify areas of growth that require near-term prioritisation. The future shortfall of engineering and electrical trades-qualified personnel will present a significant barrier to the energy transition more broadly. A key avenue to alleviate this involves targeting skilled migrants to meet demand for electrical contractors and other occupations in short supply.
	8. What barriers do priority social cohorts, including women, First Nations Australians, people with disability, and culturally and linguistically diverse people face in entering the clean energy workforce?	At a more practical level it is essential to ensure that workers have appropriate amenities, and access to suitable personal protective equipment (PPE) to ensure workforce retention and support the development of a more diverse clean energy workforce.

	9. What accredited clean energy education and training pathways (qualifications and course components) are currently available in Australia?	Accredited education and training pathways relevant to the EV sector in Australia are varied and include qualifications and courses related to civil, mechanical and electrical engineering, electrical fitting, power systems, manufacturing, and automotive technology.[3] A key source of newly qualified workers in this sector comes through existing electrical apprenticeships programs.
	10. What barriers do students and prospective workers face in accessing education and training specific to clean energy?	While there are no structural barriers in place limiting access to training and education programs, students and prospective workers may face challenges in accessing suitable training due to limited availability of specific programs to meet national demand, which will be alleviated over the course of the energy and EV transition. In particular, demand for battery electric vehicle servicing programs to upskill existing workers is exceeding the capacity of training providers to run courses.[4]
	11. What barriers do education and training providers face in delivering courses specific to clean energy at the scale and pace required?	Education and training providers may face barriers in delivering courses specific to clean energy at the scale and pace required due to a lack of funding and resources, limited understanding of industry demand (in part due to incompleteness of workforce data available), and difficulty in attracting suitably qualified trainers and assessors.
Regional experiences	12. Which regional and First Nations communities should JSA engage with to better understand and address the impacts of the clean energy workforce transition?	JSA should engage with regional and First Nations communities where emissions-intensive industries are prevalent, as well as areas where there is high potential for growth in clean energy industries. While the automotive sector may be beyond the scope of this particular study, more work needs to be done to assess the scale of the automotive maintenance sector transition as we move towards an electrified transport system.
	13. What information and assistance do communities need to prepare and harness the	More effort can be undertaken by government agencies to assist with promoting the opportunities provided by the energy and EV transition (including opportunities available across the EV value chain).

---

[3] Australian Government, *AUR32721 - Certificate III in Automotive Electric Vehicle Technology (Release 2),* https://training.gov.au/Training/Details/AUR32721.
[4] See, e.g., Canberra Institute of Technology, *Battery Electric Vehicle Inspection and Servicing Skill Set AURSS00064*, https://cit.edu.au/courses/trades/automotive/SA-TS93.

	opportunities of future clean energy industries?	This includes communicating information on available training and employment opportunities, as well as support in developing skills to transition into the clean energy workforce.
	14. What programs and initiatives have worked well to support workers transition out of in emissions-intensive industries?	Programs and initiatives to support workers' transition out of emissions-intensive industries include targeted training programs, financial assistance and incentives, and partnerships between industry, government, and community groups.

International	15. What international experiences should JSA look at to establish an understanding of international best practice in relation to:
	
	   a. supporting workforce transitions
	
	   b. developing education training opportunities and incentives
		While countries globally are taking steps to transition simultaneously, there are shared learnings that could be leveraged to facilitate the development of the Australian clean energy industry.[5] JSA should look at international experiences in supporting the energy workforce transition in comparable countries, including the US.[6]

Analysis	16. What do you consider to be the most significant information gaps in this sector?	Significant information gaps in the clean energy sector include data on the current and future demand for clean energy jobs, as well as information on the skills and qualifications required for different types of clean energy jobs. It is important to ensure that relevant occupations are properly classified and identified in existing ANZSIC and ANZSCO data sources (and made consistent across government) to provide an accurate picture of the workforce involved in the clean energy sector, including the EV industry.

---

[5] International Energy Agency (2022), *Skills Development and Inclusivity for Clean Energy Transitions*, https://iea.blob.core.windows.net/assets/953c5393-2c5b-4746-bf8e-016332380221/Skillsdevelopmentandinclusivityforcleanenergytransitions.pdf.

[6] US Government (2023), *Clean Energy Job Creation and Growth*, https://www.energy.gov/eere/clean-energy-job-creation-and-growth.

	It may also be worth considering how to classify the upstream critical minerals workforce more clearly, given the essential role of mining for batteries and clean energy technologies. This will be important for gathering long-term data on the evolving transition from the mining of fossil-fuel energy generation sources.
17. How can government better work with industry to measure the workforce?	Government can better work with industry to measure the workforce by partnering with industry associations, as well as engaging directly with employers to gather information on workforce needs and skills gaps.
18. Are there existing data sources that could be better leveraged or improved?	Existing data sources that could be better leveraged include: labour market data, industry surveys, and data on training and education enrolments, and completions from VET and university institutions.