



Friday, 3 February 2023

Submission – Powering the Regions Fund

The Clean Energy Council (CEC) and the Australian Hydrogen Council (AHC) welcome the opportunity to make a submission in response to the Powering the Regions Fund (PRF).

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.

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.

Australia's clean energy sector is currently experiencing significant workforce challenges that could delay our aspirations of achieving net zero by 2050. These workforce challenges have only been exacerbated with the passing of the *Inflation Reduction Act 2022* by the United States Congress in August 2022, which has precipitated the start of a global clean energy investment race. Australia is now at great risk of losing out to other nations driving the energy transition in the absence of a swift and comprehensive policy response. This will disproportionately affect regional investment and workforce availability, and the communities that would otherwise stand to benefit from the global energy transition. The Clean Energy Council recently authored a 2022-23 Pre-Budget Submission outlaying the risks and opportunities for government intervention. As the Pre-Budget submission focussed on the implications for investment, the focus of this submission is on workforce development.

Workforce development

Clean energy sector context

The 2022 Clean Energy Council report [Skilling the Energy Transition](#) provides an overview of the existing and worsening skills shortages experienced by the clean energy sector. This is due to a range of factors:

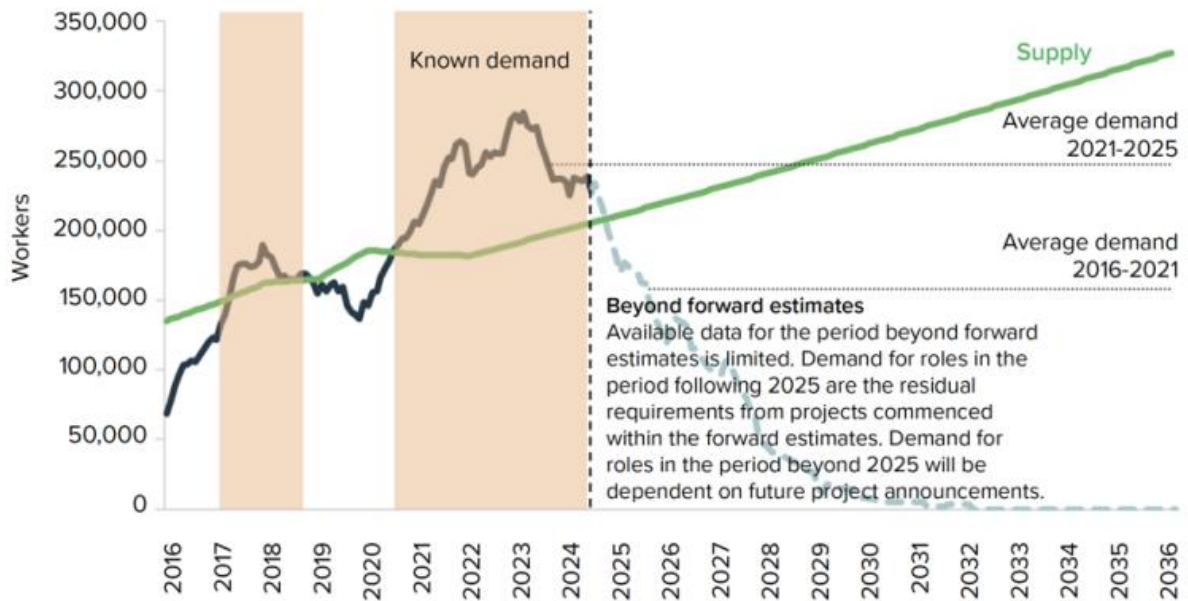
- Visibility – jobs in clean energy jobs and pathways to work in the industry are poorly understood.
- Location – the regional location of most jobs is a major impediment to attracting qualified graduates, who are typically attracted to metropolitan areas.

- Training – the clean energy industry is already experiencing a critical lack of training capacity, notably in electrical trainers. A slow and unwieldy VET system has been a brake on the development of relevant and meaningful qualifications for electrical and mechanical tradespeople in renewable energy. Australia’s enduring STEM (science, technology, engineering, mathematics) crisis threatens clean energy project developments, which rely heavily on STEM-based skills.
- Mobility – workers currently face barriers to mobility between projects. There are opportunities to increase worker mobility, such as harmonising the required qualifications and training, and enabling the portability of long service leave and parental leave entitlements.
- Entitlements – long-standing policy uncertainty and tight operating margins have meant that the clean energy sector has struggled to compete with more established (and subsidised) sectors on salaries and entitlements.

Additionally, considerations affecting future workforce supply and demand for large-scale renewable projects include:

- Historic low unemployment, and a record pipeline of infrastructure investment. This will induce **domestic competition for construction workers** due to large-scale public infrastructure projects (*Figure 1*).
- Projections for **rapid growth in renewable energy projects across solar, wind, storage and green hydrogen**: the Integrated System Plan (ISP) Step Change and Hydrogen Superpower scenarios project NEM capacity will increase by factors of four and ten respectively to 2050. While realising these projections ultimately depends on workforce availability, they indicate substantial increases in demand. To note, the majority of hydrogen projects in the development pipeline are aspiring to meet the demands of an emerging export market, which requires substantial renewable electricity generation and storage infrastructure. It is conceivable that domestic decarbonisation experiences future delays due to competition for the workforce required to build this infrastructure. The ISP scenarios can be compared with findings from the Net Zero Australia project, which modelled decarbonisation pathways for Australia’s domestic and export sector emissions. This study found that national generating capacity needs to increase 40-fold to 2050, largely to accommodate the decarbonisation of fossil fuel exports with green hydrogen.
- **Lack of national coordination and strategic sequencing of projects**, which can lead to boom-bust construction cycles and exacerbate workforce competition between states and regions.
- **Global competition for investment and skilled workers** due to large-scale subsidies offered through the United States Inflation Reduction Act (IRA) and European policies.

Figure 1 | National supply and demand for public infrastructure workers



Source: Infrastructure Australia, 2021, p.108.

Shortages are currently being experienced in engineers across various specialisations, including electrical, civil, power systems and grid connection, mechanical, structural and SCADA. Electricians, electrical engineering technicians and plant operators are all experiencing skill shortages. Cyber security is also an emerging sector where skills shortages have been experienced across all relevant ANZSCO occupations.

The 2020 Clean Energy Council report [Clean Energy at Work](#) identified the following primary causes of recruitment difficulty for the large-scale wind and solar projects:

- Insufficient candidates with specific experience in renewable energy.
- Suitable candidates wanted higher pay.
- Difficulty attracting suitable candidates for projects in regional or remote locations.

It should be noted that the emerging hydrogen sector is exposed to the same factors affecting the clean energy sector more broadly. However, a lack of policy certainty regarding domestic demand has pushed investors to attempt to capture first-mover advantage in the nascent export market. These projects will now experience investment and workforce competition from the United States

due to substantial tax incentives for green hydrogen production included in the IRA. These uncertainties have affected basic workforce planning considerations, including how many jobs the sector will require, where, and when they will be needed. Recent reports from [PwC](#) and [Swinburne University](#) have noted that Australia's existing hydrogen training is extremely limited, significantly behind that of Europe and the United States.

PRF opportunities

Projects that deliver greater workforce development and participation should be eligible to receive additional funding under the PRF. However, consideration should also be given to the duration of roles that are being created (i.e., whether short-term or ongoing) as well as the extent to which projects prioritise workforce diversity and inclusion of underrepresented cohorts including women, First Peoples, people with a disability and under 30s. Additional funding could be afforded to assist organisations to achieve these outcomes, whether through the recruitment of diversity officers, assisting with the development of workforce strategies aimed at both recruiting and retaining diverse workforces, or the provision of training in the benefits of workforce diversity for leadership and project teams. In the context of a growing industry with concerns around skills shortages, expanding the talent pool is critical. Female participation in trades is low, with more work required to attract and retain women in trades. Employers that are known to be inclusive and have employees that are empowered to bring their own true self to work tend to attract a larger pool of highly skilled and capable talent.

In assessing funding applications based on scale, care should be taken to differentiate applications from large and small and medium-sized enterprises (SMEs). SME applicants are unlikely to compete on the basis of scale and may require additional funding to support workforce development as well as efforts to achieve greater diversity and inclusion.

The social infrastructure requirements of projects offering larger workforce participation should also be the target of additional funding. Population growth in regional areas will require social infrastructure, including health and education services. It will also require appropriate accommodation. Insufficient housing supply risks a rapid increase in house prices, which can impact the social license of a project when residents are priced out of their communities.

Metrics and evaluation

All projects applying for funding under the Powering the Regions Fund should be required to show consideration of workforce development concerns and challenges. If a regional project is not delivering workforce development benefits, it is likely to face challenges and community pushback due to lack of social license. Community pushback creates delays and exacerbates costs. This has been experienced by regional export projects that depend heavily on fly-in fly-out or temporary migrant workforces, rather than local labour or permanent skilled migration.

The clean energy industry currently suffers from a data gap regarding the size of the workforce, occupations, and skills. This is a key driver in establishing the Australian Energy Employment Report. Increasing the visibility and availability of data regarding the number of workers required during a project lifecycle would be beneficial to the industry in benchmarking, workforce planning and identifying opportunities for policy intervention. As such, all applicants under the PRF should be required to estimate the number of workers required over the project lifecycle. Estimates of temporary and contract jobs should be calculated based on full-time equivalent job-years over the duration of construction, while ongoing operations and maintenance jobs should just be calculated as full-time equivalent jobs. This is an essential component in measuring the scale of workforce development efforts in creating jobs. To protect industry, estimates and actual performance could be aggregated up to an appropriate level (e.g., by technology or state).

Additionally, workforce inclusion and diversity should be measured through the lifecycle of projects. This should include achievements at both recruiting and retaining underrepresented cohorts in the clean energy industry, including women, First Peoples, people with a disability and under 30s. Diversity and inclusion measures should also note representation of these cohorts at various levels of the organisation, from frontline to leadership and executive levels.

As previously noted, a key success criterion for regional projects is social license. Achieving community buy-in by utilising the local workforce where possible is an important step in ensuring a project delivers local benefits and will minimise project delays due to community pushback. Projects should be required to identify local capacity and preferentially employ local workers. Where local labour is insufficient to meet demand, permanent skilled migration is an alternative satisfy project requirements.

We thank the Department for this opportunity to provide feedback on the Powering the Regions Fund, and hope this work catalyses an important conversation about the opportunities for workforce development in regional Australia.

Yours sincerely,



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