Minister for Employment and Small Business
Minister for Training and Skills Development
Minister for Youth Justice

Queensland
Government

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Jobs and Skills Australia
Email: CleanEnergyWorkforce@jobsandskills.gov.au

Dear Secretariat

Thank you for your email dated 5 April 2023 regarding the Jobs and Skills Australia (JSA) discussion paper for the Clean Energy Capacity Study (Discussion Paper). I provide this submission in response to the Discussion Paper on behalf of the Queensland Government.

The Queensland context

Queensland's strong response to the COVID-19 pandemic has laid the foundation for the state's economic recovery. The Australian Bureau of Statistics (ABS) Annual State Accounts estimates that the Queensland economy grew 4.4 per cent in 2021–22, exceeding the national average of 3.6 per cent. As at March 2023, employment in Queensland has increased 228,500 persons compared with the March 2020 pre-COVID level (or 8.9 per cent, the largest percentage rise in the nation).

In addition, Queensland's unemployment rate at 3.8 per cent as at March 2023, is below its pre-COVID rate of 5.6 per cent in March 2020. However, Queensland, along with the nation, is experiencing one of the most competitive labour markets in recent history, with significant skills and workforce shortages.

The *Good jobs. Good people: Queensland Workforce Strategy 2022-2032* (QWS) highlights that Queensland will need an extra 280,000 workers in three years out to 2024-2025, in this tight labour market. Projected jobs growth in Queensland is shared across all industry sectors, including the clean energy sector, and across all of the state's unique regions. Queensland's regional economies have unique workforce characteristics and face distinct challenges and opportunities to grow local jobs and deliver on the renewable energy project opportunities in their areas. Predicted employment growth across the regions will drive the need for skilled workers at all levels.

Queensland's Economic Strategy as outlined in the 2022-23 Queensland Budget and 2022-23 Budget Update highlights the Government's commitment to expanded trade opportunities, a larger skilled workforce, enhanced innovation and digitalisation, continued investment in public and private infrastructure, strengthened environmental, social and governance credentials, and a competitive investment environment. Securing the Brisbane 2032 Olympic and Paralympic Games also offers significant employment opportunities, with research estimating the Games will deliver substantial social and economic benefits.

Queensland's renewable energy sector has continued to grow since the Queensland Government established a 50 per cent renewable energy target by 2030, creating more regional jobs. The scale of employment opportunities presented by the transformation of the energy sector in Queensland is significant. Modelling to support the *Queensland Energy and Jobs Plan* (QEJP) estimates the plan will support around 100,000 jobs. This includes 64,000 jobs in clean energy infrastructure including direct jobs in construction, manufacturing, and operations of renewable energy projects, and indirect jobs in the services industry that supports the energy sector to 2040. It also includes 36,000 more jobs in green growth opportunities, including direct and indirect jobs in key sectors like renewable hydrogen, battery manufacturing, resource mining and metal refining. Most of these jobs in clean energy infrastructure and green growth opportunities are expected to be in regional Queensland.

Similarly, a report by Construction Skills Queensland in 2022 (*Queensland's Renewable Future Report*) suggests that out to 2050, an addition 26,700 construction workers will be needed on top of a projected baseline demand of 105,000 construction workers across renewables related occupations.

Against this backdrop, the Queensland Government recognises the importance of a skilled and ready workforce as a critical enabler of the energy transformation, and is undertaking a number of activities to ensure Queensland has the energy workforce it needs now and into the future.

Current Queensland Government activities supporting clean energy workforce capacity

As a key action out of the QEJP and the QWS, Queensland is developing a *Future Energy Workforce Roadmap* (FEWR) for delivery in 2023 that will identify opportunities to build and develop clean energy workforce capacity and capability.

The FEWR will deliver on the QWS and its priority focus on 'skilling Queenslanders now and into the future', which includes a commitment to supporting emerging industries such as the renewable energy sector. It also builds on the state's dedicated *Hydrogen Industry Workforce Development Roadmap 2022-2032* to support workforce development for the renewable hydrogen industry. This Roadmap was the first dedicated workforce roadmap for the hydrogen industry in Australia at its time of release in July 2022, and sets a path to achieving a strong, adaptable workforce for a safe and thriving Queensland renewable hydrogen industry.

The Queensland Government is investing $56 million in training infrastructure for renewable energy and hydrogen. This includes:

- $20 million in the Hydrogen Centre of Excellence in Beenleigh;
- $12.45 million in TAFE Queensland's Townsville Trade Training Centre;
- $17 million for the Pinkenba Renewable Energy Training Facility; and
- $2 million to upgrade training facilities at the Gladstone State High School.

In addition, the QEJP itself includes a $90 million investment to establish two regional transmission and training hubs in Gladstone and Townsville. These hubs will act as a regional base to train up to 500 workers per year in a range of areas, including high voltage technical training, to help meet increased demand, including opportunities for apprentices. Under the Queensland Government's $15 million VET Emerging Industries initiative, $4 million is being

invested in an energy strategy that includes a Hydrogen Skills Fund, a TAFE Queensland Renewable Energy Strategy, and an Electric Vehicle Skills Fund.

Queensland's state ownership of the majority of the energy system is also an energy workforce lever for the state. Queensland energy Government Owned Corporations are able to access the $4.5 billion Queensland Renewable Energy and Hydrogen Jobs Fund to increase their ownership of commercial renewable energy and hydrogen projects, as well as supporting infrastructure, including in partnership with the private sector. As part of the QEJP's dedicated section on secure jobs and communities, the Queensland Government is implementing a $150 million Jobs Security Guarantee to support all workers in publicly owned coal-fired power stations and ensure no worker will be out of a job. The Guarantee will be backed by a fund and a new tripartite Energy Workers' Charter between unions, government and employers.

As the Queensland Government's workforce strategy, the QWS contains a range of actions that will support the development of the state's renewable energy workforce. This includes:

- establishing a Workforce Connect Fund to increase investment in industry and community-led projects that address workforce shortages;
- the delivery of the *Queensland Government's Paving the Way – First Nations Training Strategy* to develop Queensland's First Nations workforce and improve job outcomes;
- establishing a network of Industry Workforce Advisors to provide workforce planning assistance to employers in small and medium sized businesses, enabling them to address workforce challenges, diversify their workforces, and support workforce growth;
- developing a *Queensland Resources Industry Workforce Plan* as an action under the *Queensland Resources Industry Development Plan*;
- creating a Queensland Government Skilled Workforce Attraction Office to promote Queensland as an attractive destination to live, work and play;
- developing skills pathways for the growing clean energy economy, including the critical skills required for Queensland to embrace the emerging opportunities in clean energy (being delivered through the development of the FEWR);
- enhancing the Queensland Government's *Mentoring for Growth* Program to provide further one-on-one support to employers to help them address their workforce challenges;
- implementing new initiatives focussed on supporting apprentices and trainees to complete their training; and
- delivering an internship program pilot for a supported pathway for people with a trade qualification to become qualified teachers.

Other Queensland Government strategies and workplans underway relevant to the capacity of the energy sector workforce include the *Zero Emission Vehicle Strategy 2022-2032* and *Zero Emission Vehicle Action Plan 2022-2024*, and the *Advanced Manufacturing 10 Year Roadmap and Action Plan*.

As a key action out of the QWS, the Queensland Government is also developing a *Queensland VET (QVET) Strategy* to build on the strengths of Queensland's Vocational Education and Training (VET) system and to ensure that Queensland's annual investment in skills and training of over $1.2 billion meets current and future workforce needs.

The Queensland Government's VET funding is directed at minimising skills shortages, focuses on training for jobs that are in demand in our critical industries, including renewable energy, and seeks to increase the number of Queenslanders with formal post-school qualifications.

Investment is focused across several program areas to support VET activity covering a range of occupational and study areas relevant to the energy sector. Subsidised training and incentives, such as the Government's Certificate 3 Guarantee, User Choice and High Level Skills programs, are helping to ensure Queensland has a pipeline of skilled workers for the renewable energy sector. The funding of micro-credentials provides opportunities to support changing workplaces, including those in the transforming energy sector, enabling the provision of focused training for new or transitioning employees in specific skills to better support businesses and industries to adopt innovations and improve productivity.

Strong networks with industry are crucial to understanding the emerging skills needs of the renewable energy sector. Likewise, knowledge sharing between the Queensland Government and the Australian Government is recognised as critical to an effective response to the workforce needs of the renewable energy sector.

In Queensland, Industry Skills Advisors (ISA's) for electrotechnology, utilities and manufacturing provide the government with ongoing industry advice and intelligence about workforce needs and skills and training solutions, jobs growth and employment opportunities relevant to the energy sector – this informs investment settings for expenditure on VET and VET pathways, assessments of industry proposals and specific training priority strategies. ISAs, as well as Construction Skills Queensland, will provide industry contributions to the work of the new Jobs and Skills Councils established under national VET sector reforms.

The Queensland Government continues to work closely with the Australian Government on clean energy workforce initiatives. The Queensland member of the Skills Senior Official's Network (SSON) co-represents the SSON on the Clean Energy Capacity Steering Group. The Queensland Government is also represented on stakeholder reference groups for the *National Energy Workforce Strategy*; the *Australian Energy Employment Repor;* and the National Hydrogen Skills Working Group.

Comments in response to Discussion Paper

In addition to the Queensland-specific information above, input in response to key themes and questions in the Discussion Paper is provided below.

Clean energy workforce definition and occupations, data limitations

- The conceptual definition of the clean energy workforce aligns with the definition which has been adopted in Queensland for the purposes of the development of the FEWR.

- There are limitations in the current data available regarding the identification and classification of occupations related to clean energy. This is a persistent issue – for example, it is not clear how 'energy generation type' can be appropriately categorised from the labour side or separated from existing energy generation and transmission occupations.

- Many core skills in current and future electrical generation processes are thought to be broadly similar or an expansion on existing workers already classified, so a material differentiation within ANZSCO hierarchies may not be possible.

- Queensland Government stakeholder consultation and analysis to inform the development of the FEWR indicates that some jobs within the clean energy workforce will require specialised skills, such as battery design specialists, wind turbine technicians and, solar farm technicians. Other occupations that are part of the clean energy workforce are not specific to clean energy technology, such as stakeholder engagement practitioners, lawyers, accountants and ESG specialists.

- Modelling for the study should include analysis of labour supply as far as possible to maximise the study's usefulness. Understanding supply is of particular importance for a large and decentralised jurisdiction like Queensland.

Skills and training pathways

- A variety of training pathways will be required to deliver the necessary skills needed by the clean energy workforce, including across VET, Higher Education, as well as training undertaken 'on-the-job'. There is value in collaboration between the Higher Education and VET sectors, given the skills needs across the energy sector that cut across both higher education and VET.

- A number of qualifications exist that are specific to sustainable and renewable energy. However, workers with traditional trade qualifications such as electricians, gas fitters, gas plumbers, and process plant operators are well placed to fill clean energy roles, especially when complimented with on-the-job training, additional relevant units of competency, or a small skill set.

- Generally, it is understood that clean energy employers prefer workers with a relevant or aligned traditional trade, and if required train them on-the-job to meet their specific needs. For this reason, there may be a lack of demand for specific clean energy specific qualifications from employers, which may make it difficult for Registered Training Organisations to deliver them.

- Industry-led training forms an important component of the upskilling of workers within the clean energy sector. Industry representatives consulted as part of the development of the FEWR indicated that on-the-job (in-house) training is required to ensure workers have the specific skills required within the clean energy industry. VET and Higher Education providers in Queensland are also undertaking activities related to the development of education and training courses directly related to renewable energy to provide the necessary skills associated with renewable energy occupations.

- Access to training in a highly dispersed state like Queensland is a persistent challenge, with implications for local economies, workforce and labour supply. With around 50 per cent of Queenslanders living outside Greater Brisbane, regional workforce planning and access to regional and rural delivery of training is needed. Costs of training delivery are often higher in regional, rural and remote Queensland. Challenges to accessing training for regional, rural and remote Queensland include (but are not limited to) long travel distances, attraction and retention of trainers and assessors, difficulties in accessing face to face training, digital connectivity to support online learning, and the high costs faced by registered training organisations seeking to deliver training in regional, rural and remote areas. There are also challenges around attracting and retaining educators in rural and remote communities.

- Attracting suitably qualified and experienced teachers and trainers is a well-known barrier to skills and training across a range of sectors, including for clean energy. Industry may have a greater capacity to pay higher rates to teachers and trainers than training organisations. For some clean energy technologies, there may also be shortage of teachers and trainers with the depth of practical experience needed to instruct others.

- The Queensland Government is supporting skills and training pathways through QWS initiatives such as partnering with industry to harness the existing skills of the onshore migrant workforce, particularly to address skills shortages in high demand sectors. The expansion of the *Gateway to Industry Schools Program* is supporting pathways into the emerging renewable hydrogen sector, and the appointment of Regional School Industry Partnership managers in education regions will help strengthen school-industry partnerships and supporting school to work transitions.

- The Queensland Government is addressing identified barriers for education and training providers through QWS action, including partnering with industry to increase the uptake of higher-level apprenticeships and traineeships in industries where strong demand exists; partnering with Queensland's university sector to increase collaboration and engagement between government, universities and industry and develop pathways into higher education courses for those interested in pursuing a career in automation; and support for upskilling and reskilling in autonomous technology fields through an additional investment of $3.3 million in the *Queensland Future Skills Partnership.*

<u>Workforce participation</u>

- Like other jurisdictions, Queensland is experiencing a tight labour market. Many of the occupation groups relevant to the clean energy industry are in high demand from other industries (for example, construction workers, engineers and electricians). This means the clean energy industry will be in direct competition for skills from other parts of the economy, and industry will need a robust value proposition to attract and retain skilled workers. Attracting workers to the industry may also be complicated by the regional and remote nature of clean energy projects.

- Addressing barriers to equitable participation will require clean energy employers to create inclusive workplaces, purposefully designed workspaces that support all workers, and invest in on-the-job training and facilitated career pathways. Efforts to increase women's participation will be important given the energy workforce is reliant on trades that traditionally have a high proportion of males. Relevant Queensland Government actions include 'Train and Retain' initiatives delivered in response to the Queensland Training Ombudsman's 2022 *Review of support provided to Queensland apprentices and trainees, with a focus on female apprentices in male-dominated occupations*. This includes the March 2023 'Lets protect respect' campaign to promote support available to apprentices, trainees and employers and build workforces that are supportive and open to diversity. Initiatives like the Commonwealth's Department of Climate Change, Energy, the Environment and Water's *Women in Energy Roundtable* (WiER) are also good examples of energy-sector specific initiatives aimed at accelerating the participation of women and diverse groups in the sector.

- As with other industries, international migration should be part of efforts to alleviate skills and labour supply gaps in the clean energy sector. Skilled migration may be a particularly appropriate response to the challenge of finding energy sector workers with specialist skills that are not currently widespread in Australia. While migration policy is largely an Australian Government lever, in Queensland the QWS includes an action to create a Skilled Workforce Attraction Office, to improve coordination of migration functions and promote the state as an attractive destination to live, work and play. In addition, the Queensland Government is also establishing a Multicultural Affairs Settlement Team to improve workforce outcomes for migrants and refugees, and expanding the Diverse Queensland Workforce Program to support migrants, refugees and international students to find a fulfilling job and build rewarding careers.

- The Queensland Government's $8.3M *Paving the Way – First Nations Training Strategy* is supporting workforce participation of First Nations people through training that will open opportunities for employment. Key themes raised by the community during consultation on this Strategy included the value of Indigenous-led training and workforce solutions to drive job opportunities; skills and training pathways that meet local needs; and the importance of building cultural awareness skills and competency amongst employers.

- There are unique workforce challenges and opportunities across different communities and regions, and across businesses and energy industry sub-sectors. The Queensland Government has a number of local structures in place to support training and workforce outcomes including Regional Jobs Committees, local manufacturing hubs, and an extensive network of Queensland Government regional offices, as well as *Local Thriving Communities,* the local decision-making bodies established as an initiative from the Queensland Government's *Tracks to Treaty* that are engaged in the delivery of training and workforce solutions for their community.

As the QWS and *Queensland Energy and Jobs Plan* both highlight, the clean energy industry will drive the jobs and skills of the future. I would like to thank JSA for pursuing the important work of developing Australia's clean energy workforce and for providing the Queensland Government with the opportunity to respond to the Discussion Paper.

If you require further information or assistance, please contact ████████████
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Yours sincerely