

Jobs and Skills Australia
Australian Government

By email: CleanEnergyWorkforce@jobsandskills.gov.au

Australia's Clean Energy Workforce – Discussion Paper

Dear Sir/Madam

The Australian Petroleum Production & Exploration Association (APPEA) welcomes the opportunity to provide a submission to the Jobs and Skills Australia discussion paper on Australia's Clean Energy Workforce.

APPEA is the peak national body representing companies actively engaging in oil and gas exploration and production in Australia. **Over the past decade, our sector has invested more than \$400 billion in the Australian economy and contributed in excess of \$60 billion to state and federal governments through taxation and royalties which assists in providing essential services for all Australians.** The industry supports around 80,000 jobs directly and indirectly in Australia and hundreds of thousands more in electricity generation, manufacturing, transport and other industries that rely on the sector's outputs.

The industry is committed to helping Australia reach net zero emissions by 2050. Gas will be essential in the transition of Australia's energy system towards achieving net zero emissions. Achieving the composition of skills in the economy supported by timely investment in education and training will be essential for Australia in making the transition to net zero emissions.

This year alone the industry will contribute in-excess of \$16 billion in taxes to commonwealth and states governments. These taxes will directly contribute to the provision of essential government services including education and training vital to securing the workforce to meet the challenges of the future.

Australia's transition to a net zero emissions economy will be a significant challenge. Not only will it require significant investments in new energy generation infrastructure, it will also require the development of the workforce and skills required to support the provision of safe, reliable and affordable energy for the community. There is also a regional dimension to this transition, with many of the jobs associated with Australia's energy production located in the regions. The transition to a net zero emissions economy must be orderly and just with regional Australia seeing the benefits, including access to new job opportunities.

The role of the gas industry in supporting the economy as it transitions to net zero cannot be underestimated. Gas will be essential in the transition of Australia's energy system towards achieving net zero emissions. As noted by the Australian Energy Market Operator (AEMO) and the International Energy Agency (IEA), significant investment in gas fired electricity generation will be required through

the period to 2050 to meet demand. This generation capacity will support the transition to renewable energy technology and provide the firm dispatchable electricity required in the economy.

The discussion paper identifies that there will be a transition in the generation of electricity. Coal fired electricity generation is being withdrawn more quickly as the rapid penetration of renewable energy changes the economics of the electricity market. This will require additional firming capacity in the electricity market. This firming capacity will be provided by a range of dispatchable electricity such as batteries and pumped hydro. Gas will remain an important part of this firming capacity and will require the maintenance a skilled workforce and new investment to supply to meet the needs of the economy. As noted by the Australian Energy Market Operator (AEMO):

- *10 GW of gas-fired generation for peak loads and firming. Gas-fired generation will play a crucial role as coal-fired generation retires. It will complement battery and pumped hydro generation in periods of peak demand, particularly during long ‘dark and still’ weather periods. It will help cover for planned maintenance of existing generation and transmission. And it will provide essential power system services to maintain grid security and stability, particularly following unexpected outages or earlier than expected generation withdrawal. This critical need for peaking gas-fired generation will remain through the ISP time horizon to 2050, and older and less efficient peaking plants may need to be replaced¹.*

The capacity study should explicitly capture industries and workforce needs in the industries that will support the transition to net zero emissions. The gas industry role in firming the supply of renewable energy in the period to 2050 means that there will need to be a focus on ensuring that Australia maintains a skilled workforce for this industry. A lack of a skilled workforce for the supply gas industry will impede the necessary energy transition and potentially undermine community support if there are interruptions in energy supplies. We have already seen a crisis in the electricity market with AEMO suspending the operation of the National Electricity Market in June 2022 in response to unexpected outages in electricity generation where the market could not operate effectively to ensure secure and reliable electricity supply for consumers.

The speed of investment in and the deployment of new energy technologies remains uncertain. This also includes the investment required in the building out of the electricity transmission and distribution system to enable the greater electrification of the economy. As the IEA has noted in its most recent review of Australia’s energy polices:

- *Considerable uncertainty remains on the pace of clean energy investment at the right time and in the right place and the system integration and flexibility needs in generation and storage; demand response and grid investment; and workforce, supply chain and community needs².*

The capacity study should examine the likely investment path for these investments to be made and how that will impact on the workforce composition over time. This will underscore the timely investment in new skills but also inform the workforce requirements for industries, such as the gas industry, in supporting the energy transition. It will also allow analysis of the opportunities for skilled labour to move to new energy industries over time.

The gas industry has a highly skilled workforce. The gas industry workforce comprises skills ranging from geophysicists, petroleum and civil engineers, construction, exploration drillers, electricians and plant operators. In addition, the gas industry relies on occupational skills in supporting remote

¹ Australian Energy Market Operator, 2022 Integrated System Plan, June 2022

² International Energy Agency, Australia 2023 Energy policy Review

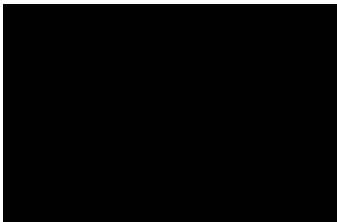
worksites. Many of these jobs are in the regions and much of the expenditure associated with the industry occurs in the regions providing significant economic outcomes for these communities.

These skills will continue to be in demand by the gas industry as well as many of the new energy technology industries that will support the energy transition.

The capacity study should examine the skills base of the gas industry as a potential source of skilled labour for clean energy development. Developing a clear understanding of the gas industry workforce and what skills development will be required for the industry in supporting the transition to a net zero economy. This would include the geographic dispersal of these skills and the contribution they make to regional communities to understand the consequences and opportunities of the energy transition to the regions.

Carbon Capture, Utilisation and Storage (CCUS) will be essential in the transition to a net zero emissions economy³. CCUS will not only address emissions from the electricity sector, it will also play a role in reducing emissions from hard to abate sectors such as cement, steel making and critical minerals processing. The gas industry in Australia is actively investing in CCUS projects that not only support their own operations but can also play a role in reducing emissions from other sectors of the economy. Investment in developing the workforce needed for the deployment CCUS at sufficient scale will be vital in the transition to net zero.

Yours sincerely,



³ International Energy Agency, Energy Technology Perspectives 2020