

Project Manager
Queensland Renewable Energy Expert Panel
PO Box 15456
City East Qld 4002

Submitted online to <http://www.qldrepanel.com.au/>

3 November 2016

Renewable Energy Expert Panel Draft Report

The Australian Energy Council (the Energy Council) welcomes the opportunity to make a submission to the Queensland Renewable Energy Expert Panel's (the Panel) Draft Report.

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

Renewable energy already plays an important part in our energy system, and will be important to help meet Australia's greenhouse emissions targets. Australia will need more renewable energy as we reduce emissions, given that other low emissions technologies are either currently prohibited (nuclear) or have not been commercialised (fossil fuel plant with carbon capture and storage).

Australia operates a national electricity market, and decisions made in one state can, and often do, impact on others. As we continue to reduce the emissions of the system, we will use more low emissions technologies, and operate the system differently to the way we have operated in the past. This requires clear thinking and careful planning to ensure the transition occurs at the lowest cost while ensuring the current high reliability of supply to consumers. The Queensland (QLD) Government should take steps to carefully consider the benefits and challenges of a high share of renewable energy in the State over the long term, and the Energy Council supports the Government taking time to fully consider the implications.

As the body established by the Queensland Government to provide advice on complex economic and regulatory issues, the Panel has an important role to play in communicating the least-cost, effective policy for QLD. Any policy change needs to carefully weigh the interests of QLD energy consumers against the full cost, risk of policy change and power system security and reliability under high shares of intermittent, non-dispatchable generation.

The Panel has set out pathways to 50 per cent renewable electricity in Queensland by 2030, to lower emissions and address climate change. Renewable energy targets are an indirect means to achieve lower emissions and are not least cost policy to address climate change¹. The Panel has identified that under a State specific renewable energy targets, gains in employment and output in one state would be offset by losses in other jurisdictions. Policies that directly target emissions reduction, such as a carbon tax or emissions trading scheme are more efficient and effective than indirect industry schemes, like renewable energy targets. A consistent, national approach is the most effective means to address emissions and integrate intermittent generation into the power system. The Renewable Energy Target (RET) and the Emissions Reduction Fund address emissions at the national level, allowing projects to locate themselves in the most efficient region, maximising Australia's overall emissions reductions and gains from renewable energy generation.

The Energy Council's responses to the Panel's Draft Report are set out in the following sections.

A national approach is required for a least cost, most effective emissions reduction

The Energy Council welcomes the Panel's finding and recommendations that the QLD Government should support a national approach to renewable energy and emissions reduction policy. The Energy Council recommended in its submission to the Panel's Issues Paper that the QLD Government work through the COAG Energy Council to achieve national emission reduction and renewable energy policy. The Panel recognises that a national approach to energy and emissions policy allows proponents to locate their projects in areas with a natural advantage, such as high wind or solar resource locations. This national approach allows projects to be located in areas that provide the greatest national benefit in terms of industry growth, employment and emissions reductions. The Panel has correctly identified that under a State specific renewable energy targets, gains in employment and output in QLD would be offset by losses in other jurisdictions.

The Energy Council welcomes the Panel's finding that the QLD Government support cutting edge research into lowering emissions and integrating renewables in Australia. The support for cutting edge research in Australia provides value through knowledge creation and skills development, which benefits the broader community.

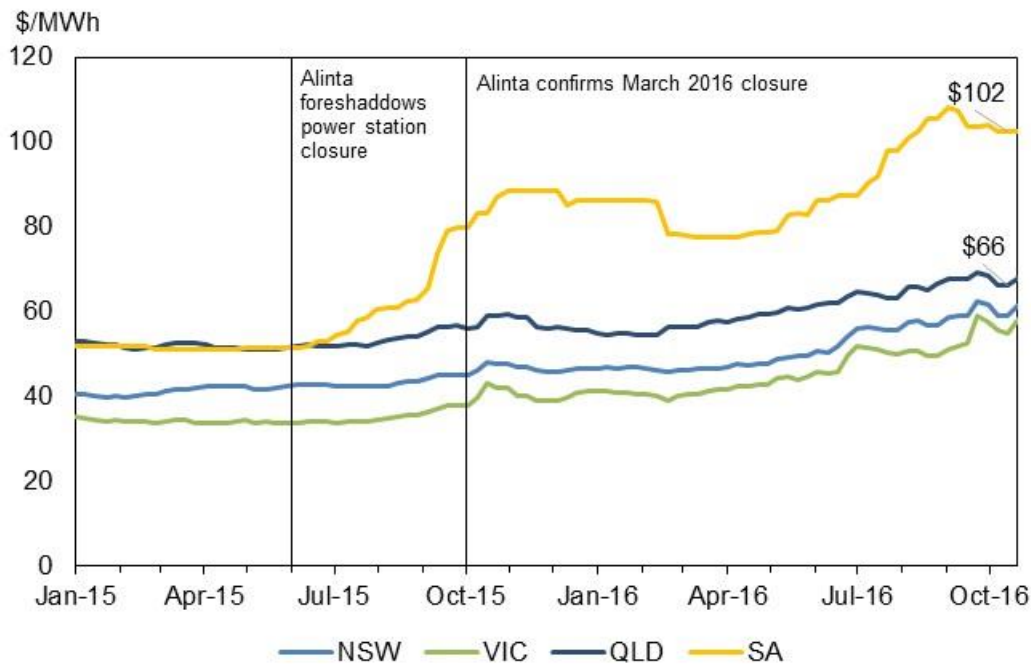
Analysis of risks to the assessment to fully understand the impact on consumers

The Draft Report and modelling analysis should more carefully analyse and articulate the risks to the QLD consumers and taxpayers who will ultimately pay for a 50 per cent renewable policy. The transition to lower emissions is not a costless trade-off, and effective communication of the risks, costs and benefits to consumers is essential to ensure expectations are realistic and the risk of bill shock is mitigated.

The Energy Council recommends that the final modelling and analysis undertaken by the Panel includes sensitivity analysis, and considers the full impact on consumers and QLD taxpayers. The Panel point out that the results and the impact on energy consumers are likely to change substantially, if one coal fired generator exits the generation mix in the State. There is a very high probability this will occur under a 50 per cent renewables policy. We encourage the Panel to include results of the impact to the wholesale market and retail bills under a scenario with one coal fired generator exitingⁱⁱ. Additionally, the modelling and final analysis should include the costs of state owned assets earning lower revenues under the target. It is essential that QLD consumers are informed about the risks to them benefiting from the target in what is a highly complex market. The transition to lower emissions is not costless, and QLD consumers who will ultimately pay for the policy should be informed with realistic and accurate descriptions of the costs and benefits.

It is not clear if the modelling includes the bill impacts of the higher contract prices for energy that could be expected to arise under a high share of intermittent generation. In our submission to the Panel's Issues Paper we outlined that high intermittent generation raises the cost of hedging market risk with long term contracts. The majority of a consumer's wholesale energy costs come from long term contracts for energy, and intermittent renewable generation is not well placed to provide these products. Price volatility, wider spreads and lower liquidity will contribute to higher contract prices for energy, and this dynamic of the energy market should be incorporated into any modelling of changes to consumers' bills. Figure 1 shows the substantial growth in the gap between South Australia's forward energy contracts compared to other NEM jurisdictions as the market adjusted to the news that Northern Power Station would close, and the growing importance of intermittent generation to the region.

Figure 1: Future baseload prices for calendar year 2017



Source: NEM-Futures, 2016

As the ramp ups and turn downs required from dispatchable plant increase at high shares of intermittent generation, and the Panel have acknowledged the likelihood of increased volatility in wholesale prices. As volatility in prices rises, the hedging contracts that retailers and generators use to mitigate their price risk will rise in value. This trend has played out in South Australia, where forward contract prices for electricity increased after the announcement of the closure of Northern Power Station and remain well above other regions. South Australia’s regional market provides a guide to the adjustments that may play out in the QLD region with 50 per cent renewable generation.

The Panel conclude that the existing generation fleet, much of which is owned by the QLD government, will be required to increase operational flexibility to cater for intermittent renewable generation and mitigate the markets impacts observed in South Australia. Under this assumption, thermal generators adjust to frequent changes in both output and unit commitment/de-commitment due to an increased share of intermittent generation, increased operational costs and increased fuel costs due to a deterioration of thermal efficiency. It is unclear if the modelling has included these additional costs and these costs represent a risk to the financial viability of generators, costs to taxpayers and prices to energy consumers.

Policy design options

If the QLD Government chooses to go ahead with this higher cost policy of a state renewable energy target, then the Energy Council recommends minimising the economic cost of the program. The renewable target policy mechanism could include design of contracts that incorporates exposing recipients to wholesale price signals, and considers the cost of maintaining system reliability and security and RET certificate arrangements.

The contracts for difference (CFDs) proposed by the Panel should be carefully designed to maximise the total value of the energy to the market by rewarding projects that respond to demand. Contracts that guarantee a return, regardless of the level of demand, make producers insensitive to demand (and price). In the long run, insensitivity to price results in inefficient outcomes and underinvestment which may require future government assistance to overcome. CFDs which allow the project proponent to maximise the benefits of their projects to

consumers (by capitalising on wholesale prices at times or locations of high demand) will maximise the benefit of each project to QLD consumers and lower the commercial risk to consumers.

Project proponents, rather than energy users (or QLD taxpayers) should bear the normal commercial risk of new generation projects. Project developers need to bear some risks in order to encourage the development of the most productive, efficiently sized and located projects that will work in tandem with the wholesale electricity market. If the CFD auctions result in locking in fixed prices for energy generation, those generators become insulated from wholesale price fluctuations and have little incentive to produce energy in the most efficient way or to innovate. This means that QLD's energy consumers bear the risk of poor investment decisions, rather than the project investor. Allowing investors and retailers or large users to contract with one another on commercial terms ensures that both parties can take advantage of opportunities for effective emissions reduction and efficient energy generation.

The Energy Council encourages the Panel to consider how projects could be supported to provide value to power system reliability and security. The policy design could encourage projects toward energy production which is not outweighed by the costs of maintaining secure and reliable network operations. It is worthwhile to maintain flexibility in renewable policy that allows government to respond to network operation or security needs in the future, as the market transitions.

The Panel is of the view that any efforts should be complementary to the projects that are likely to be delivered under the Large Scale Renewable Energy Target (LRET), and should avoid crowding out market investment that would otherwise occur. The Panel also finds that the QLD Government should avoid competing (with other jurisdictions) on the basis of financial incentives to be paid to the supported projects. The Energy Council supports the Panel's finding, and notes that this highlights the lower overall outcome (in emissions reductions, efficiency, jobs and state output) when jurisdictions compete for project investment.

The Energy Council supports the principle of complementarity with the RET and recommends the Panel outline a plan to avoid volatility in the large-scale generation certificate (LGC) market.

Power system security

The Energy Council encourages the QLD Government to work closely with the Australian Energy Market Operator (AEMO) to ensure it can maintain the reliability and security of power during the transition to lower emissions energy. QLD is in a position to analyse and learn from South Australia's energy market and security challenges under high amounts of intermittent generation. AEMO's Future Power System Security program is working to develop solutions to maintain power system frequency and voltage control, system strength and system restart capability as the generation mix changes to comprise fewer sources of inertia, frequency and voltage control and dispatchable generationⁱⁱⁱ.

The Panel should recognise that QLD is currently the weakest interconnected region of the NEM in terms of import capability. As demonstrated in South Australia through 2016, interconnection capability plays a key role in regions with high intermittent generation. Moving towards an increased share of intermittent generation could reduce interconnector capability, particularly if conventional generation exits from South East QLD. Any interconnector upgrades between QLD and New South Wales will require connection points deep within the New South Wales transmission network. This will be particularly the case following the planned decommissioning of Liddell power station in 2021-22. These interconnector upgrades will come at considerable cost to consumers and should form part of the open discussion of the transition to a decarbonised energy market.

Unlocking the most efficient way to further decarbonise our energy systems, while maintaining supply stability and power quality requires careful consideration. Renewable energy targets are an indirect means to achieve lower emissions and so this policy is not least cost or the most effective means of reducing emissions. The Energy Council supports QLD's efforts through COAG to achieve an effective, consistent, national approach to emissions reductions.

Any questions about our submission should be addressed to Emma Richardson, Policy Adviser by email to emma.richardson@energycouncil.com.au or by telephone on (03) 9205 3103.

Yours sincerely,



Kieran Donoghue
General Manager, Policy & Research
Australian Energy Council

ⁱ Productivity Commission, 2011, *Carbon Emission Policies in Key Economies*, <http://www.pc.gov.au/inquiries/completed/carbon-prices/report/carbon-prices.pdf>; Grattan Institute, 2015, <http://grattan.edu.au/wp-content/uploads/2015/05/822-sundown-sunrise5.pdf>; Licensed from the Commonwealth of Australia under a Creative Commons Attribution 3.0 Australia Licence, 2014, *Renewable Energy Target Scheme: report of the Expert Panel*, <http://retreview.dpmc.gov.au/ret-review-report-0>

ⁱⁱ As observed in South Australia after the exit of Norther Power Station, wholesale market dynamics can result in material changes for energy users. Modelling by Frontier Economics of the exit of Hazelwood from Victoria, also identified significant wholesale market changes in the Victorian region (with spot prices forecast to rise 46 per cent in the first year, and 25 per cent over the longer term). The potential for Queensland to experience similar price changes indicates the requirement for a thorough investigation and understanding of the exit of a major baseload generator from the QLD region.

Frontier Economics, 2016, *Sudden Impact – revised version*, <http://www.frontier-economics.com.au/documents/2016/05/sudden-impact-wholesale-price-impact-closure-brown-coal-power.pdf>

ⁱⁱⁱ AEMO, 2016, <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/FPSSP-Reports-and-Analysis>