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National Energy Guarantee Draft Detailed Design for Consultation – Commonwealth Elements

Energy Queensland welcomes the opportunity to provide comment to the Department of the Environment and Energy (the Department) on the Draft Detailed Design for the Commonwealth Elements of the National Energy Guarantee (NEG).

Energy Queensland is supportive of the proposed detailed design proposed by the Department in respect to the Commonwealth Elements of the NEG. However, Energy Queensland takes this opportunity to emphasise the role Distributed Energy Resources (DER) can play in meeting an emissions target.

Currently and in the future, DER is expected to reduce emissions as emitting generation is displaced by renewable sources. This will require careful consideration when setting emissions targets, and should be aligned with the Integrated System Plan (ISP) processes of the Australian Energy Market Operator (AEMO).

Energy Queensland refers the Department to our response to the inaugural ISP consultation submission, [Energy-Queensland---01-18-EQL-Submission-AEMO-Integrated-System-Plan-consultationon](#). In particular, that in a state the size of Queensland, Energy Queensland will be providing access services for a large volume of renewable, zero emission generation sources across an area that is greater than 44 per cent¹ of the entire National Electricity Market area.

Energy Queensland therefore suggests that the Department must carefully consider how the Commonwealth elements of the NEG will account for the significant level of DER and non-market embedded generation connecting to the distribution networks in Queensland and elsewhere, including:

- The pipeline of renewable generation projects - Regional and rural Queensland has experienced significant growth over the last three years in the number of embedded generation connections, largely attributable to the State's high solar

¹ Ergon Energy Expenditure Benchmarking Partial productivity and cost driver analysis and comparisons, Huegin 17 October 2014 Version 1.0, pg 3

irradiance, the available and affordable land mass, and Queensland's renewable energy target. Energy Queensland currently has a pipeline of more than 1.2 gigawatts (GW) of committed renewable generators connecting to its network. Further, renewable generator connections are expected to continue to increase, with forecasts suggesting that by 2030 there could be as much as 8.3 GW of renewables connected in Queensland to achieve the State's renewable energy target.

- Residential solar photovoltaic (PV) - The Queensland distribution networks have already integrated the highest penetration of residential solar PV in Australia, with south-east Queensland having one of the highest penetrations of solar PV in the world. Currently, there are approximately 462,000 stand-alone houses with solar PV in Queensland, which equates to 1.95 GW of aggregate capacity.
- New technologies - In our future, while solar PV is expected to continue to increase, batteries and electric vehicles will also emerge in higher penetrations as costs continue to fall and customers are able to benefit from these technologies. AEMO has recently forecast that uptake of rooftop solar and batteries is expected to quadruple over the next twenty years, and there will be a significant increase in the uptake of electric vehicles from 2020 onwards.
- Market exempt generation - The shift to a greater volume of market exempt generation (that is, generating systems with a nameplate rating of less than 5 megawatts) and non-scheduled generation, in conjunction with the collective mass of household solar PV systems and battery storage, is not visible in real time to AEMO.

Energy Queensland would also like to iterate the importance of the distribution networks' increasing role in system operations - both in terms of strength with increasing variable renewable generation in regions like Western Queensland, and security due to the forecast highly decentralised system Australia will have by 2030 (up to 40 per cent decentralised) which will likely necessitate orchestration capabilities. Energy Queensland suggests that the role of distribution networks will therefore become increasingly important in satisfying the emissions trajectory.

Should the Department require additional information or wish to discuss any aspect of Energy Queensland's submission, please contact me on (07) 3851 6416 or Trudy Fraser, Manager Policy and Regulatory Reform on (07) 3851 6787.

Yours Sincerely



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