



Enel Green Power Australia Pty Ltd

Level 23.07, One International Towers

100 Barangaroo Avenue

Sydney NSW 2000

Dr Kerry Schott AO

Chair | Energy Security Board
Department of the Environment and Energy
GPO Box 787 | Canberra ACT 2601
Submitted via: info@esb.org.au

Sydney, 13 July 2018

Dear Dr Schott,

RE: Energy Security Board – National Energy Guarantee Draft Detailed Design – June Consultation Paper and supporting technical documents

I thank you for the opportunity to comment and provide our insights on the ESB's Draft Detailed Design elements of the proposed National Energy Guarantee (NEG).

Enel is a multinational power company and a leading integrated player in the global, power, gas and renewables markets. It is the largest integrated utility in Europe in terms of market capitalisation and rates among Europe's leading power companies in terms of installed capacity and reported EBITDA. Enel works in 37 countries across 5 continents, generating energy with a net installed capacity of almost 84 GW, selling gas and distributing electricity across a network spanning approximately 2.1 million km. In 2016, Enel generated a total of about 262 TWh of electricity, distributing 426 TWh over its own grids and selling 263 TWh. The customer base amounts to around 72 million end users worldwide. Company revenue totalled 70.6 billion euros, with an ordinary EBITDA of 15.3 billion euros.

Founded in 2008, **Enel Green Power (EGP)** is the Enel Group company dedicated to the development and operation of renewable energy generation activities across the world.

With a presence in Europe, the Americas, Asia, Africa and Oceania, EGP is a global leader in the sector, generating around 86 TWh of energy each year, enough to meet the energy needs of almost 200 million households while avoiding more than 54 million tons of CO₂ emissions every year.

Enel Green Power has an installed capacity of about 38 GW, with more than 1,200 plants in 30 countries and a generation mix that includes all the main sources of renewable energy: wind, solar, hydroelectric, geothermal and biomass.

EGP also invests in new businesses and technologies, such as off-grid solutions and storage systems to improve its plants flexibility and performance. Thanks to the research, technological innovation,

operational excellence and the hard work of over 7,400 people, EGP can look ahead with full confidence in the huge potential for further growth in scale and performance improvements.

Enel supports its important ambitions in Australia through its subsidiary **EGP Australia**, set up in 2017. EGP Australia operates the 137.7 MW Bungala Solar One photovoltaic (PV) plant, which is located near Port Augusta in South Australia. The plant constitutes the first part of the Bungala Solar PV Project, whose capacity will total more than 275 MW.

In 2017 Enel Group completed the acquisition of **EnerNOC**, the leading provider of demand response and energy services for utility, commercial, institutional and industrial customers. EnerNOC operate in liberalised markets across the Americas, Europe and Asia Pacific. In Australia, EnerNOC is a market participant in the Wholesale Electricity Market (WEM) and the National Electricity Market (NEM).

Enel Green Power response to the ESB Draft Detailed Design Elements

EGP provided a submission to the Australian Government on the proposed Commonwealth elements for the NEG on Friday 6 July. It is attached for your information.

Enel Green Power believes the framework outlined in the Energy Security Board's (ESB's) Draft Detailed Design Consultation Paper and supporting technical working papers could help deliver a reliable energy supply at least cost in line with the NEG's objectives. However, the success of the NEG's framework depends primarily on details that are not yet developed.

Our primary recommendation is to regularly consult with the public beyond COAG's August 2018 decision and after the NEG commences on this further detail. This will help ensure the NEG identifies risks early and adequately mitigates them to deliver its objectives.

Recommendation 1 – publicly consult to ensure the NEG appropriately values technologies

EGP congratulates the ESB in taking a 'technology neutral' approach with the NEG. With the right emissions target setting, the NEG could deliver reliability and emissions reductions at least cost to consumers if it appropriately values the characteristics of different technologies.

We particularly commend the proposed approach to develop AEMO's reliability forecasts through public engagement. We recommend the ESB and supporting agencies should similarly consult on any other NEG design elements that could affect technology neutrality, such as the methods or framework used to determine reliability factors.

These methods will decide the 'value' different technologies have on reliability and emissions reductions. In turn, this will affect the market value of these technologies.

The last decade of debate on energy policy has often framed renewable energy as 'expensive and intermittent' and thermal generation as 'plentiful, reliable and cheap'. If the NEG's methods adopt a similar perspective, it would not accurately value different technologies given Australia's current market context.

By 2035, over 85% of Australia's thermal generators will be beyond their design life. These generators will either need to be replaced or significantly refurbished.

The cheapest, most reliable approach to deal with this issue is to invest in a combination of renewable generation, storage and demand management to allow ageing thermal generators to exit the market when they become too expensive and unreliable to operate. This approach is already cheaper and more reliable than extending the life of ageing thermal generators or building new thermal plant, and it will become even cheaper over the next decade.

Demand in the NEM has become more peaky and volatile since the 20th century. It needs a flexible and responsive supply that delivers energy when it's needed, not more 'baseload' generation. Combined with

storage and DM, renewable energy can provide firm, 'dispatchable', emissions-free energy more reliably and cheaply than thermal plant at the times consumers want it. As we have seen with Hornsdale's Tesla battery, storage can provide FCAS quicker than thermal plant. Properly deployed, these technologies could meet AEMO's 0.002 per cent USE requirement even with 100% renewable generation.^{1,2}

To ensure it delivers reliability and emissions reductions at least cost to consumers, the NEG needs to recognise and reward the reliability services these technologies provide. EGP therefore recommends the ESB and supporting agencies continue to publicly consult on the further design of the NEG to ensure its methods and calculations are robust. EGP would be more than happy to provide further advice based on our international experience.

Recommendation 2 – manage risks through monitoring, evaluation and public consultation

The design of the NEG is new, unique, novel and untested. As such, it's not clear how it will perform. COAG and the Australian Government need appropriate oversight of the NEG to identify and manage the NEG's unknown risks, as well as to deliver Australia's Paris Agreement commitments at least cost.

EGP recommends the Australian Government and COAG conduct an early review of the NEG's framework and targets (for example, after two years of operation) and assign monitoring, evaluation and review responsibilities to independent experts. These experts should have the remit to consider the NEG in the context of the broader objectives for COAG and the Australian Government and should publicly consult on this process, including its methodology.

In our Commonwealth elements submission, we recommended the Australian Government sets out the NEG's emissions reduction target in subordinate Commonwealth regulations and establishes a process to independently review and recommend target adjustments over time. This could be done as part of the independent review process suggested above.

If you would like to further discuss anything we have raised, please kindly contact Tyson Vaughan, Regulatory Affairs Manager for Enel Green Power Australia at tyson.vaughan@enel.com.

Yours faithfully,



Javier Blanco
Country Manager
Enel Green Power Australia

¹ Mark Diesendorf, Ben Elliston, and Iain MacGill, 2013, "Simulations of scenarios with 100% renewable electricity in the Australian National Electricity Market", *Energy Policy*, Volume 45, June 2012, pp. 606-613. Accessed at:

<http://www.ceem.unsw.edu.au/sites/default/files/documents/simulations.pdf>

² Mark Diesendorf and Ben Elliston, 2018, "The feasibility of 100% renewable electricity systems: A response to critics" *Renewable and Sustainable Energy Reviews*, Volume 93, October 2018, pp. 318-330. Accessed at:

<https://www.sciencedirect.com/science/article/pii/S1364032118303897>