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Energy Security Board
COAG Energy Council Secretariat
Department of the Environment and Energy
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Submitted via info@esb.org.au

Sydney, 30 September 2019

Dear Members of the Energy Security Board,

RE: Post-2025 Market Design Issues Paper

Enel Green Power welcomes the ESB's investigation into a long-term, fit-for-purpose market framework for the National Energy Market to deliver more affordable energy and satisfied energy consumers.

Founded in 2008, part of Enel Group, Enel Green Power develops and manages activities for the generation of energy from renewable sources. Enel Green Power is present in 29 countries in 5 continents with a managed capacity of over 43 GW and over 1,200 plants. EGP is one of the main renewable operators worldwide, with an annual production of about 82 TWh, produced mainly from hydro, solar, wind and geothermal resources.

In line with the UNFCCC Paris Agreement, Enel has committed to achieve zero emissions by 2050 and adopted a company strategy that pursues growth through low-carbon technologies and services.

Climate change is the core challenge and risk for the Post-2025 market design

Climate change will cause more intense weather events which will affect the performance of generators and networks and reduce reliability and security of supply NEM. These impacts, plus the investment required to adapt to them, will involve financial costs which will ultimately be borne by consumers.

Recognising these challenges and risks, the Australian Government and states and territory members of COAG have committed to reach net zero emissions by 2050. To meet these obligations at least cost, the NEM will need to transition to 100% renewable energy within the timeframe being considered by the Post-2025 Market Design process.

For the COAG Energy Council to make robust decisions on market design, the Post-2025 Market Design process must appropriately recognize the challenges and risks of climate change and appropriately value how different market design options will influence impacts, and adaptation and mitigation efforts. To do this, we believe that the Post-2025 Market Design process should:

1. summarise existing analysis on adaptation costs and climate change impacts for electricity networks and detail how climate change will impact on system security, reliability and affordability
2. incorporate a short-term traded carbon value for options analysis and for all modelling, which is in line with international best-practice for economic analysis.

If the ESB identifies other climate change issues that are outside its scope, it should highlight these limitations to the COAG Energy Council and recommend complimentary analysis from appropriate experts, such as the Climate Change Authority or Clean Energy Regulator.

Costs and capabilities of thermal and renewable energy technologies

The Issues Paper seems to overestimate risks associated with variable renewable energy (VRE) generation technologies and does not acknowledge any risks associated with thermal generation.

The capabilities of VRE and other clean energy technologies have significantly improved over the last decade. For instance, modern inverters and wind turbines can help contribute to system security by providing voltage and frequency control. Forecasting and scheduling of renewable energy has improved drastically, increasing its reliability. The market is also now combining storage with VRE generators to provide additional firming capacity. Importantly, it is now clear that renewable energy generation augmented with storage and demand management is the cheapest way to deliver a reliable and secure electricity supply.

Thermal generators contain significant risks to reliability and security that are not identified in the Issues Paper. Coal generators have higher maintenance requirements and are increasingly tripping as they age: coal and gas plants have suddenly disconnected from the grid more than 200 times since December 2017[1] . Thermal generators not only contribute to the climate change but also perform worse than clean energy technologies during extreme heat events. Finally, it is now more expensive to continue running existing coal plant than to replace them with renewables and storage.

We recommend the Post-2025 Market Design process:

- further investigates the capabilities and (financial) cost of different generator technologies
- compares how different market designs would affect investment across different technology types and identifies whether different options will drive investment in the least-cost technologies to achieve reliability and system security.

Market comparison

We welcome the ESB's decision to examine other energy markets to learn from international experience. European markets, through network planning, management and development, and a focus on ancillary services and digitization has helped European markets successfully integrate large volumes of renewables, and we offer our expertise to help the ESB better understand these markets.

Please contact Silvia Piana, Head of Regulatory Affairs for Africa Asia and Oceania, at Piana Silvia silvia.piana@enel.com to discuss anything we have raised in this submission.

Yours faithfully,

Javier Blanco

Country Manager

Enel Green Power Australia

[1] TAI (2019) *Gas & Coal Watch*, Accessed at: https://www.tai.org.au/gas-coal-watch