

20 March 2019

Ms Nicola Falcon
General Manager – Forecasting
Australian Energy Market Operator
Level 22, 530 Collins Street
Melbourne VIC 3000

Lodged online: forecasting.planning@aemo.com.au

Dear Ms Falcon,

Response to the Australian Energy Market Operator's (AEMO) '2019 Planning and Forecasting Consultation Paper' (5 February 2019)

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in renewable energy and energy storage along with more than 6,000 solar and battery installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC welcomes the opportunity to provide high-level feedback on this important Consultation Paper. Below, are our comments for AEMO's consideration.

1. Scenarios

The CEC considers there is merit in AEMO adopting a symmetric approach to examining both high and low Distributed Energy Resources (DER) growth paths in the fast change scenario. The CEC acknowledges and supports AEMO's sensible explanation for the inverse relationship between DER and utility-scale renewable energy but still considers there is value to a high DER coupled with high utility-scale renewable energy scenario.

2. Inputs and Details

AEMO may benefit from a more holistic narrative and some clearer objectives and definitions in introducing and explaining the forecasting challenge. Furthermore, there is a need to focus on the likely price outcomes for consumers.

AEMO may need to include in its forecasting processes, the following:

- Earlier retirements of fossil-fuel plant
- What are the bounds of the fast and slow scenarios to be utilised as given the coming federal election, such boundaries may need to be adjusted with a re-setting of the neutral and fast scenarios
- Going beyond the 26 per cent emission reduction levels by 2030 (the only known target) and tougher emission cuts modelling in the energy sector
 - In addition, AEMO could explore modelling sensitivities that can transparently quantify the impact that a carbon price will have on the generation mix and future grid requirements. This will provide at least one pathway that can support the investment certainty required for low-emission energy technologies
- The impacts of DER (consumers and greater decentralisation) without pre-empting any current Australian Energy Market Commission rule change processes (e.g. the potential Wholesale Demand Response mechanism).

3. Inputs and Assumptions

The CEC notes that further clarity is required on the management and growth of DER. A number of questions not addressed in the Consultation Paper seem fairly important to address, such as who is assumed to be able to control individual and/or aggregated DER and what is considered an appropriate level of aggregation for DER to participate in markets operated by AEMO.

We support the AEMO approach in engaging two independent consultants in undertaking DER projections and adopting a synthesis process.

On the assumptions and data contained in the accompanying workbook, some identified issues include:

- The need to correct the inconsistent starting points for rooftop PV trajectories
- addressing the accuracy of Marginal Loss Factors (MLFs), especially as a number of Tasmanian connection points were highlighted for review
- re-examining the likely lead times for some open cycle gas turbine projects and expected gas transport costs.

The CEC supports a more detailed examination of AEMO's proposal to assess the economics/revenue sufficiency of generators. However, the CEC seeks further clarity on this subject, by further consideration of the following:

- What criteria will be used as we note the difficulty in obtaining individual businesses' books, contracts and futures positions, and rehabilitation costs (especially for the Latrobe Valley)
- Additional information from an impending Integrated System Plan (ISP) insights paper (which is an AEMO commissioned report referred to on pages 37 and 59 of the Consultation Paper)
- Committed and/or advanced project definition use
- Potential data by regions
- Alternative demand side response options
- Different sized storage options (as foreshadowed in the Consultation Paper) in recognising the increasing value provided by longer duration battery storage in the National Electricity Market (NEM)
- The level of granularity and aggregation of the presented information.

The CEC acknowledges that confidentiality may be quite problematic and needs careful consideration in the development of such a measure.

We propose that AEMO provide specific commentary on the South Australian synchronous condensers solution, in particular for managing system security constraints.

4. Material Issues for 2019 (and beyond)

The CEC supports a further examination of, or acknowledgment by AEMO to further address, the following matters:

- The need to encapsulate a range of uncertainties/different risks for more robust resilience modelling
- MLFs and clarifying potential avenues for providing these for new and existing generation

- The different timeframe emphasis of the Electricity Statement of Opportunities (ten years) versus the ISP (20 to 30 years)
- Sufficiency of gas as a generation source
- Symmetry of forecasting consequences (analyses of both a bring forward and a push back of two years)
- Progressing Renewable Energy Zones, which could include an examination of the assumptions on the benefits of co-located storage in such assessments
- Consideration of the capacity over time of batteries and rooftop PV dispatch and response capabilities
- Encouraging and supporting AEMO's additional emphasis on system strength and inertia considerations and analyses in future ISP's and other modelling tasks
- Weather and climate change (e.g. wind and water droughts) and longer-term trends and the correlation of events across regions
- Consideration of the Retailer Reliability Obligation impacts
- How the modelling decision making criteria considers total value contributions of storage across not just energy generation but also its capabilities and flexibilities as an ancillary service and positive contribution to system security.

5. AEMO's National Electricity Market Demand Forecasting Methodology Final Report

Since the release of the Consultation Paper, AEMO has published its National Electricity Market Demand Forecasting Methodology Final Report on 28 February 2019.

The CEC considers key opportunities emanating from that report include:

- Permitting methodological issues (e.g. Table 4 – smart home systems and appliances (p. 9) and Table 11 – electric vehicles (p. 11)) to be adequately included in this planning and forecasting consultation and future forecasting processes
- A need for AEMO to further examine:
 - The significant growth in smart DER systems and smart appliances
 - Monthly rather than seasonal maximum demands
 - Using more regional weather stations as a future model improvement, both for maximum/minimum demand and annual consumption forecasting
 - Validating assumptions for electric vehicle growth paths.

The CEC looks forward to further engagement with its members, interested stakeholders and AEMO in progressing this crucial aspect of the NEM's transformation.

If you would like to discuss any of the issues raised in this submission, please contact either Lillian Patterson (Director Energy Transformation) on (03) 9929 4142 or lpatterson@cleanenergycouncil.org.au or myself, as outlined below.

Yours sincerely,

[original signed]

Norman Jip
 Policy Officer
njip@cleanenergycouncil.org.au
 (03) 9929 4107