



National Electricity Market Demand Forecasting Methodology

November 2018

Issues Paper

Important notice

PURPOSE

The publication of this Issues Paper commences AEMO's consultation on the effectiveness of its 2018 Demand Forecasting Methodology Information Paper in describing in adequate detail the methodologies for forecasting annual consumption and maximum and minimum demand in the National Electricity Market (NEM) for use in planning publications such as the NEM Electricity Statement of Opportunities (ESOO).

This publication has been prepared by AEMO using information available at 31 October 2018. Information made available after this date may have been included in this publication where practical.

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VERSION CONTROL

Version	Release date	Changes
1	7/11/2018	

Executive summary

The publication of this Issues Paper commences AEMO's consultation on the effectiveness of its 2018 Demand Forecasting Methodology Information Paper in describing in adequate detail the methodologies for forecasting annual consumption and maximum and minimum demand in the National Electricity Market (NEM) for use in planning publications such as the NEM Electricity Statement of Opportunities (ESOO).

Given the importance of the forecasts in evaluating the expected achievement of the NEM reliability standard, which allows for a maximum expectation of 0.002% of energy demand to be unmet in a given region for a given financial year, AEMO wants to engage with all relevant stakeholders, to ensure the outlined forecasting approach, methods and assumptions meet stakeholder expectations. This starts with having a well-documented methodology report, and transparency around inputs and assumptions, that ensures the forecasts are well understood. This, in turn, informs decision makers on how the forecasts are used, and enables constructive feedback to help improve forecast accuracy.

Stakeholders are invited to submit written responses to the questions outlined in this paper, and on other issues related to the transparency of long-term demand forecasting inputs, assumptions and methodologies used in the NEM ESoo, by 5.00 pm (Australian Eastern Standard Time) on 28 November 2018. Submissions should be sent by email to energy.forecasting@aemo.com.au.

Contents

Executive summary	3
1. Stakeholder consultation process	5
2. Background	6
2.1 AEMO's forecasting objectives	6
2.2 Electricity demand forecasting approach	6
3. Feedback	7

1. Stakeholder consultation process

AEMO is consulting on the effectiveness of its 2018 Demand Forecasting Methodology Information Paper¹ (the Methodology Paper) in explaining the data sources and methodologies used to forecast annual consumption and maximum and minimum demand in the National Electricity Market (NEM) for use in planning publications such as the NEM Electricity Statement of Opportunities (ESOO).

AEMO's indicative timeline for this consultation is outlined below. Dates may be adjusted depending on the number and complexity of issues raised in submissions and any meetings with stakeholders.

Deliverable	Indicative date
Issues Paper published	Wednesday 7 November 2018
Industry workshop	Tuesday 13 November 2018
Submissions due on Issues Paper	Wednesday 28 November 2018
Consultation response published	Friday 14 December 2018

The submissions will guide improvements in transparency of our forecasting process, and quality of the methodology documentation.

¹ 2018 Demand Forecasting Methodology Information Paper, accessible at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2018/2018-Demand-Forecasting-Methodology-Information-Paper.pdf

2. Background

2.1 AEMO's forecasting objectives

AEMO is committed to producing quality forecasts that support informed decision-making.

For decision-makers to act on our forecasts, the forecasts must be credible and dependable. To achieve this, AEMO's forecasting team has three main objectives:

- Transparency – to ensure our inputs and forecast methodologies are well understood.
- Accountability – to measure forecasting performance, refine and improve where issues are detected.
- Accuracy – to adopt best-practice methodologies and monitor lead indicators of change.

We continually seek to improve our forecasts. Industry expertise, insights, and feedback help us to address the challenges of forecasting in a rapidly-changing energy industry.

2.2 Electricity demand forecasting approach

Energy industry stakeholders use AEMO's forecasts to assist in decision-making regarding ongoing investments in energy markets associated with the NEM. It is important, therefore, that stakeholders understand AEMO's forecasts and have confidence in the data sources and methodologies used.

AEMO produces the Methodology Paper to provide stakeholders with sufficient information to be able to understand the inputs, assumptions and methodologies used to produce the forecasts. The Methodology Paper provides details for each sector and sub-sector bottom-up methodology, as well as key definitions used in the forecasting process.

AEMO is consulting with stakeholders to seek feedback on whether the Methodology Paper provides sufficient clarity on the inputs, assumptions and methodologies to understand and allow reproduction of the forecasts by interested stakeholders. If not, AEMO is seeking guidance on the additional details stakeholders are seeking to understand for the Methodology Paper to meet its transparency and comprehension objectives.

The Methodology Paper outlines:

- Definitions used by AEMO in performing and providing the forecasts,
- Methodology changes influencing the 2018 forecasts,
- Segmentation rules that assist in determining sectoral and sub-sectoral breakdowns, and
- Methodologies for each sectoral and sub-sectoral forecasting approach, including aggregation methods and processing rules to produce the defined energy and maximum and minimum demand targets, as well as the methods for creating regional time series demands that are used in the ESOO supply-adequacy assessments.

The Methodology Paper also provides key data sources and third-party consultancy dependencies, where appropriate.

3. Feedback

AEMO invites stakeholders to provide feedback on the transparency of AEMO's forecasting inputs, assumptions and methodologies set out in the Methodology Paper. The questions below can be used as a guide.

Stakeholders are invited to submit written responses to the questions below, and on other issues related to the transparency of long-term demand forecasting inputs, assumptions and methodologies used in the NEM ESOO, by 5.00 pm (Australian Eastern Standard Time) on 28 November 2018. Submissions should be sent by email to energy.forecasting@aemo.com.au.

Questions for consultation

In relation to AEMO's 2018 Demand Forecasting Methodology Information Paper:

- 1 Does it help improve transparency of AEMO's approach to forecasting annual consumption, maximum demand and minimum demand in the NEM? What more could practically be done to ensure the forecasting process is well understood, and build greater confidence in the forecasts for decision-makers?
- 2 Does it adequately explain and justify the choice of inputs and drivers used for each forecast component?
- 3 Is the level of detail provided sufficient to allow you to understand the methodologies applied?
 - Is the annual energy consumption forecasting approach adequately explained?
 - Are the maximum and minimum demand forecasting approaches adequately explained?If not, what additional information/explanations are required?
- 4 Does it adequately capture any recent issues or influences affecting each forecast component? Are there any data quality or data latency issues with the data sources used?