# Forecasting Reference Group Minutes

| Forum: | March FRG 2023 (#1) |
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| Date: | Wednesday 29 March 2023 |
| Time: | 2:00pm – 4:10pm AEDT |

## Attendees:

| Name | Organisation | Name | Organisation |
|---|---|---|---|
| Ellie Cooney Hunt | ACCC | Tony Tsai | DCCEEW |
| Finlay Barr | ACCC | Azadeh Keshavarzmohammadian | Deloitte |
| Jared Claxton | ACCC | Caroline Valente | ECA |
| Ben Skinner | AEC | Shoaib Amjad | Energy Australia |
| Peter Brook | AEC | Rob Murray Leach | Energy Efficiency Council |
| Craig Oakeshott | AEMC | Benson Heng | Energy Queensland |
| Alice McLaren | AEMO | Craig Pollard | Energy Queensland |
| Andrew Turley | AEMO | Kerina Heath | Ergon Energy |
| Chang Liu | AEMO | Brent Hudson | Essential Energy |
| Debborah Marsh | AEMO | Mary Boryslawska | Essential Energy |
| Dominic Price | AEMO | Amin Nabipour | Horizon Power |
| Grace Liu | AEMO | David Edwards | Horizon Power |
| Hespera Henzell | AEMO | David Allen | Hydro Tasmania |
| Jay Stein | AEMO | Natasha Cerexhe | Hydrogen Council |
| Kent Hanh | AEMO | Jack Munro | Iberdrola |
| Leo Ma | AEMO | Mark Henley | ISP Consumer Panel |
| Levi Rosenbaum | AEMO | Christian Suprijatna | Jemena |
| Lin Han | AEMO | Richard Hickling | Mott Mac |
| Maggie Du | AEMO | Stephanie Bashir | Nexa Advisory |
| Magnus Hindsberger | AEMO | Daniel O'Neill | NSW DPIE |
| Rachael Lim | AEMO | Pranav Deshpande | NSW DPIE |
| Reinzy Colle | AEMO | Sarah-Jane Derby | Origin Energy |
| Samantha Lloyd | AEMO | Frank Peylaire | P360 Advisory |
| Sayani Gupta | AEMO | Aaron O'Brien | Powercor |
| Sreeparna Saha | AEMO | Shervin Mohebbi | Powercor |
| Tim Abernethy | AEMO | Joe Hemingway | Powerlink |
| Tom McMahon | AEMO | Jennifer Brownie | QEUN |
| Tristan Smith | AEMO | Linda Yu | QLD EPW |
| Yee Siong Lee | AEMO | Paul Connor | QTC |
| Andrew Godfrey | Alinta Energy | Leo Xue | RM Hedge |
| Craig Tupper | Ausgrid | Marino Bolzon | SA DEM |
| Ed White | Ausgrid | Amir Azmi | Santos |
| Navid Haghdadi | Ausgrid | Christina Sutherland | Santos |
| Jacob Hyslop | CEC | Brady Martin | SAPN |
| Jill Cainey | CEC | Emily Lauritsen | SAPN |
| Ramon Sa | CEFC | Connor McLeod | Shell Energy |
| Sam Ingram | CleanCo QLD | Ron Logan | Shell Energy |
| Clara Wilson | Climate Change Authority | Noel Sligar | Sligar and Associates |
| Ben Tudman | Cornwall-insight | Philip Harrington | Strategy Policy Research |
| Paul Graham | CSIRO | Herath Samarakoon | Tas Networks |
| Alireza Bahramzadeh | DCCEEW | Jochen Reitz | Tas Networks |
| Anthony Dobb | DCCEEW | Sharon Raymond | TAS RECFIT |
| David Charlwood | DCCEEW | Arindam Sen | TransGrid |
| Glen Whitehead | DCCEEW | Gang Cao | TransGrid |
| Lane, Robert | DCCEEW | Bijoy George | Western Power |
| Lucienne Burnham | DCCEEW | | |

## Disclaimer

This document provides an overview of the main points of discussion on the March 2023 Forecasting Reference Group (FRG) meeting agenda.

Readers, please note that:

- This document is a summary only and is not a complete record of discussion at the forum.
- For presentation purposes, some points have been grouped together by theme and do not necessarily appear in the order they were discussed.
- The views expressed at the forum and reflected here are not necessarily those of AEMO.

# 1 Welcome and Introductions

Levi Rosenbaum (AEMO) welcomed everyone and covered the following:

- 2023 Gas Statement of Opportunities (GSOO) publication webinar on 30 March.
- Submissions can be made to Energy.forecasting@aemo.com.au.

# 2 Presentation 1 – Draft 2023 Energy Efficiency (EE) forecasts

Philip Harrington (SPR) presented SPR's draft 2023 EE forecasts. Reinzy Colle (AEMO) presented how AEMO will use SPR's forecasts to compliment Energy Efficiency forecasts in the 2023 Inputs, Assumptions and Scenarios Report (IASR).

Key topics raised by stakeholders during this session included:

- Joe Hemingway: What are the main drivers and methods of how the Autonomous EE Improvement (AEEI) improves EE. How is the total EE estimated?
  - SPR: AEEI is market led EE savings, showing changes in the absence of EE policy incentives. Total EE adds policy led savings and is determined from regional top-down historical data, with more EE savings in states with more policies.
- Craig Oakeshott (AEMC): Does the Safeguard Mechanism reduce emissions through reduction in energy consumption rather than process improvements?
  - SPR: Significantly greater use of high-temperature heat pumps, high-efficiency motor drive systems, and process efficiency improvements are expected. These compete, with fuel switching and potentially product mix changes.
- Craig Oakeshott (AEMC): Why do some residential forecasts diverge before 2023?
  - SPR: Historical consumption records are revised over time, and therefore cannot be directly compared. That is why these lines are different between 2021 and 2023 forecasts, which are based on different base years (2002 vs 2015).
- Ron Logan (Shell): How will the Safeguard Mechanism change the forecasts, particularly the *Progressive Change* scenario?
  - SPR: The Safeguard Mechanism is new information. It is expected to look more like *Diverse Step Change*, with less other policies.
- Craig Oakeshott (AEMC): Is the annual kWh EE saving per capita improving?
  - SPR: These forecasts are top-down, so per capita numbers would be an outcome, rather than an assumptions.
- Rob Murray-Leach (EEC):What is the percentage reduction in per capita residential and per $GDP business energy demand?
  - SPR: Per capita residential demand has fallen 1.4% on average and gas has fallen 0.9%. This will be in clarified in the final report.
- Craig Oakeshott (AEMC): Are there state by state graphs for these figures?

- SPR: All forecasts are by region, but ready-made charts are not available. Specific graphs can be published in the final report. (Action 1)

- Rob Murray-Leach (EEC): This approach creates policy scenarios first, then works out energy savings. Has technoeconomic energy saving potentials been calculated?
  - SPR: These forecasts do not investigate technoeconomic potential[1]. This model looks into policy and market led EE savings, from as far back as possible.
- Rob Murray Leach (EEC): The multi-sector model uses a cost-curve approach. Have non-cost barriers to energy management been considered?
  - AEMO: The model also imposed maximum energy efficiency uptake rates in addition to cost trajectories.
- Arindam Sen (TransGrid): What does New South Wales and ACT out-of-trend EE uptake look like?
  - SPR: NSW and ACT have more policies, so more EE savings are expected than other jurisdictions. (Action 1)
- Caroline Valente (ECA): How are National Construction Code assumptions applied to each scenario? Will the average star rating for existing houses improve?
  - SPR: Assumptions around each policy and timing of star rating requirement changes are included. Commercial properties are assumed to improve before residential houses. (Action 1)
- Paul Connor (QTC): How will these forecasts impact AEMO's demand forecasts?
  - AEMO: The main impact on load shapes is from EE improvements targeting heating and cooling loads. Delays could lead to slightly higher peak demands.

## 3 Presentation 2 – 2022-23 Summer maximum and minimum demand reflection

Magnus Hindsberger (AEMO) presented the forecast accuracy of AEMO's 2022 Electricity Statement of Opportunities (ESOO) peak demand forecasts for the 2022-23 Summer. Magnus Hindsberger explained the conditions required to achieve maximum demand and their impacts relevant forecast accuracy.

Key topics raised by stakeholders during this session included:

- Ron Logan (Shell): March should be included in summer for Tasmania too.
  - AEMO: The NER definition of summer is driven by line ratings and the risk of high temperatures causing issues. This risk is much lower risk in March.
- Ron Logan (Shell): Forecast unserved energy (USE), which impacts consumer bills, is based on the 10% POE forecast. Therefore, it must be accurate and not overly conservative. Maximum demand days in QLD and NSW had temperatures exceeding the 95th percentile of historical March temperatures, however demand outcomes seem low. Perhaps humidity needs to be modelled, or the weather stations used should better align to demand loads.

[1] see CWC and CSIRO's Multisector modelling at: https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/2023-inputs-assumptions-and-scenarios-consultation/supporting-materials-for-2023/csiro-climateworks-centre-2022-multisector-modelling-report.pdf

- Jennifer Brownie (QEUN): Have residential connections been adjusted for the housing shortfall across Australia?
  - AEMO: Scenarios assume different growth rates for dwellings, with *Progressive Change* following slower population and economic trajectories. The ESOO connections forecast will be rebased with actual connections, so any recent slowdown would be captured.
- Jennifer Brownie (AEUN): With the rollout of smart meters for hot water loads, will time of use tariffs impact peak demand?
  - AEMO: The time when hot water tanks are refilled, is most important; usually in the middle of the day or other times that do not impact on maximum demand.

## 4 Meeting close

The next FRG meeting will be held on 26 April 2023 with presentations on short duration battery methodology in the ESOO, Forecasting Improvement initiatives synthetic demand traces. Visit the FRG webpage for the forward plan of agenda topics for 2023.

# Forecasting Reference Group (FRG) Actions Items

**Table 1 FRG Action Items (at 19 April 2023)**

| Item | Date Raised | Topic | Action required | Closing comments | Status |
|---|---|---|---|---|---|
| **1** | 29/03/2023 | Additional graphs | SPR to provide graphs on:<br>• Regional EE savings<br>• NCC star rating forecasts | | OPEN |