Forecasting Reference Group (FRG) DRAFT MINUTES

MEETING: FRG #4(b) 2021

DATE: Wednesday, 5 May 2021

TIME: 2:00pm – 4:10pm AEST

LOCATION: Teleconference

ATTENDEES:

Name	Company	Name	Company
Carol Tran	AEC	Ben Ganim	DISER
Abbas Mohammadi	AEMO	Abu Abdullah	ElectraNet
Ali Habibi Khalaj	AEMO	Patrick Gan	EnergyAustralia
Andrew Turley	AEMO	Ngoc Nguyen Tho	ENET
Azadeh Keshavarzmohammadian	AEMO	Sandy Xu	Engie
Bella Pennington	AEMO	Kerina Heath	Ergon Energy
Cam Potter	AEMO	Damien Slinger	EY ROAM
Dane Winch	AEMO	Jennifer Abedin	IES Advisory Services
Daniel Collins	AEMO	Andrew Nance	ISP Consumer Panel
Daniel Guppy	AEMO	David Headberry	Major Energy Users
Debborah Marsh	AEMO	Jeff Jamieson	MMTECHNOLOGY
Gregory Staib	AEMO	Sharon Young	NSW DPIE
Helen Wang	AEMO	Sarah-Jane Derby	Origin
Jose Viada	AEMO	Phil Pollard	QEUN
Leslie Lay	AEMO	Jennifer Brownie	QEUN
Levi Rosenbaum	AEMO	Bret Harper	RepuTex
Magnus Hindsberger	AEMO	Ali Moradiamani	RMIT University
Nicola Falcon	AEMO	Andrew Manson	SA DEM
Siobhan Attwood	AEMO	Marino Bolzon	SA DEM
Ashok Kaniyal	AER	Elisia Reed	SA Power Networks
Chrys Chandraraj	Alinta Energy Pty Ltd	Ron Logan	Shell Energy Australia
Paul Grzinic	Aurora Energy	Gareth Xu	Simply Energy
Sunidhi Sharan	BHP	Lam Phan	Simply Energy
Sonja Lekovic	CitiPower Powercor UE	Noel Sligar	Sligar and associates
Thakshila Gunaratna	Clean Energy Council	Jean Paul Dussaubat	Solar Victoria (DELWP)
Jayanthi Thennakoon	Clean Energy Regulator	Catherine Laurie	Solar Victoria (DELWP)
Luke Reedman	CSIRO	Prateek Beri	TasNetworks
Tom Yankos	CWA	Trevor Lim	Total Eren
Michelle Lam	DELWP	Sujeewa Vithana	United Energy
Niraj Garimella	DELWP		

1. Welcome and Introductions

Daniel Collins (AEMO) welcomed everyone and covered the following:

- Open FRG Consultation on:
  - Draft Energy Efficiency forecasts. Submissions close on 12 May 2021.
- Submissions to Energy.forecasting@aemo.com.au are appreciated.

2. Presentation 1 – Large Industrial Load (LIL) forecasting

Greg Staib (AEMO) presented AEMO's LIL forecasting process, addressing selection criteria, the survey questions and historical forecast accuracy.

Key topics raised by stakeholders during this session included:

- David Headberry (MEU): Is the LIL forecast accuracy validated over time?
  - AEMO: LIL forecast accuracy will be assessed in the Forecast Accuracy Report. Load closures are accounted for in the application of the LIL forecast across the scenario range.
- Ron Logan (Shell Energy AUS): Are previous survey variances analysed?
  - AEMO: Part of the interview process looks into survey response history.
- Prateek Beri (TasNetworks): Is an increase in load growth from cryptocurrency miners expected? Additionally, miners can participate in Frequency Control markets.
  - AEMO: The LIL survey targets large individual users. Data centres are incorporated in the business mass market consumption forecasts though not a specific site level.
- Jennifer Brownie (QUEN): AEMO should ensure that reporting of LIL closures maintains confidentiality.

3. Presentation 2 – Draft appliance uptake forecasts

Greg Staib (AEMO) presented AEMO's methodology for applying its Appliance Index (AI) to projected appliance uptake. AEMO expect an updated Residential Baseline Study (RBS) data over the next year. There are opportunities to accommodate Gas to electricity fuel switching, Multi-sector electrification assumptions (Presentation 3) and potential policy changes in the AI.

Key topics raised by stakeholders during this session included:

- Ron Logan (Shell Energy AUS): Does the index incorporate new housing?
  - AEMO: Yes, the index includes growth in new housing.
- Ron Logan (Shell Energy AUS): How are appliance replacements considered?
  - AEMO: The AI accounts for the lifetime of appliances and stock turnover. Generally, split systems are replacing window wall units. Updated data will provide further insights.
- David Headberry (MEU): Can the AI be validated through testing previous forecasts with actuals? This will check the impact of changing house types.
  - AEMO: The National Energy Analytics Research (NEAR) program[1] is investigating housing types. Their results will hopefully elucidate the direction of the residential appliance uptake and efficiency.
- David Headberry (MEU): Has the appliance forecast incorporated incentives to remove residential gas heating appliances?
  - AEMO: At this stage the index is raw but can be adapted to include policy implications. In the Gas Statement of Opportunities (GSOO), the AI was used to model potential fuel switching.
- Jenifer Brownie (QEUN): Can AEMO use the number of households using off-peak retail tariffs for hot water or pool pumps as a proxy for appliance uptake?
  - AEMO: The AI needs data for many appliance and the entire NEM.
- David Headberry (MEU): Appliance use will be critical when Time of Use tariffs begin. AEMO should work closely with networks on this.
  - AEMO will monitor this, many broad stakeholders will be interested.

[1] See: https://near.csiro.au/ and Presentation 2 in FRG Meeting pack 36, available from 30/09/2020 at: https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/forecasting-reference-group-frg

- Andrew Nance (ISP Consumer Panel): Consistent data sources and methods should be used by AEMO and networks in their forecasting work.
    - AEMO: AEMO works closely with networks to have consistency. Once the new AI data comes in, which is planned by the Federal Department (DISER) AEMO will seek to collaborate on how best to use it.

4. Presentation 3 – Multi-sector modelling – approach and draft forecasts – CSIRO and ClimateWorks Australia (CWA)

Luke Reedman (CSIRO) and Tom Yankos (CWA) presented their joint work on multisector modelling. The presentation focused on their approach and draft forecasts for fuel switching and energy use across industries to 2050.
Andrew Turley (AEMO) encouraged participants to offer feedback and to collaborate on the multi-sectoral forecasting process.

Key topics raised by stakeholders during this session included:

- David Headberry (MEU): Does industrial thermal energy include electrification?
    - CSIRO: Electrification and energy efficiency savings account for a small amount of industrial energy use in 2050. Since electricity is not expected to be sufficient for high temperature processes, industrial gas use will more likely be replaced by biofuel and hydrogen.
- David Headberry (MEU): Hydrogen will be more economical than bioenergy. Why do transport forecasts include significantly more biofuel than hydrogen?
    - CWA: Bioenergy fuel cost assumptions are from 2017 and will be updated.
    - CSIRO: The graph shown on slide 15 includes aviation, which is more likely to transition to like-for-like biofuel use than hydrogen.
- Jennifer Brownie (QEUN): Do Electric Vehicle (EV) forecasts include retirement ages of Internal Combustion Engine (ICE) vehicles?
    - AEMO: CSIRO's EV analysis[2] included ICE retirements and declining use. CSIRO's EV report, to be released with the finalisation of the IASR in July, will provide more detail.
- Prateek Beri (TasNetworks): Could the rise in forecast demand by 2050 from electrification in net zero scenarios be met by black or brown coal generation?
    - AEMO: No; The Draft ISP Methodology[3] explains how AEMO will use CSIRO/CWA's forecasts in the ISP to include the emissions reductions from the multi-sectoral modelling as carbon budget inputs to the broader ISP modelling, thereby enforcing the emissions reductions appropriate for the scenario narratives (e.g. net zero).

5. Other business

Key topics raised by stakeholders during this session included:

- Patrick Gan (EnergyAustralia): Will an interim Inputs and Assumptions Spreadsheet be published with the new DER forecasts?
    - AEMO: These will be released as part of the IASR publication in July.
- Jennifer Brownie (EUN): Can AEMO do a case study on the impact of Cyclone Seroja on the Kalbarri (WA) solar and battery microgrid?
    - AEMO: Climate factors will be presented in the 26 May FRG.

6. Meeting close

The next FRG meeting will be held on Wednesday 26 May 2021 with presentations on: Demand Side Participation (DSP) forecasts, Climate change factors and assumptions and draft 2021 consumption forecast

[2] See Presentation 2b in meeting pack 4, available at: https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/forecasting-reference-group-frg
[3] Available at: https://aemo.com.au/en/consultations/current-and-closed-consultations/isp-methodology