DRAFT MINUTES – Forecasting Reference Group (FRG) Gas and Electricity

MEETING: # 1

DATE: Tuesday 19 September 2017

CONTACT: Energy.Forecasting@aemo.com.au

ATTENDEES:

NAME	ORGANISATION	LOCATION
Tania McIntyre (Chair)	AEMO	Melbourne
Jo Dean (Secretariat)	AEMO	Melbourne
Greg Staib	AEMO	Melbourne
Kirsty Camilleri	AEMO	Melbourne
Ruchira Ray	AEMO	Melbourne
Scott Maves	AEMO	Melbourne
Magnus Hindsberger	AEMO	Brisbane
Vince Duffy	SA Government	Adelaide
Abe Abdallah	SA Government	Adelaide
Mark Ainsworth	Dept. of Energy & Water	Brisbane
Chris Parslow	Dept. of Energy & Water	Brisbane
Robert Murphy	Stanwell	Brisbane
Connie Ganser	Stanwell	Brisbane
Steve Meiklejohn	Stanwell	Brisbane
Luke Russell	AusNet Services	Melbourne
Nick Cimdins	AusNet Services	Melbourne
Dr Souhaib Ben Taieb	Monash University	Melbourne
Sujeewa Vithana	United Energy & Multinet Gas	Melbourne
Tim Jordan	Clean Energy Finance Corp	Sydney
Kathy Staggs	New South Wales Government	Sydney
David Moore	New South Wales Government	Sydney
John Sligar	Silgar and Associates	Sydney
Craig Oakeshott	AER	Teleconference
Kyle Lin	AGL	Teleconference
Don Prentis	APA Group	Teleconference
Paul Graham	CSIRO	Teleconference
Shane Tennent	Dept. of Energy & Water	Teleconference
Jacqueline Pham	Dept. of Environment ACT	Teleconference
David Whitelaw	Dept. of Environment and Energy	Teleconference
Brad Harrison	ElectraNet	Teleconference
Dylan Reiseger	Energy Australia	Teleconference
Richard Paprzycki	Energy Australia	Teleconference
Maya Muthuswamy	Engie	Teleconference
Geoff Bongers	Gamma Energy Technology	Teleconference
Bryan Scott	Hydro	Teleconference
David Headberry	Major Energy Users	Teleconference
Steven Rowlandson	Momentum Energy	Teleconference
Amjad Adil	New South Wales Government	Teleconference
Tadiparti Prasad	New South Wales Government	Teleconference
Denise Anderson	Powerlink	Teleconference
Craig Memery	Public Interest Advocacy Centre	Teleconference
Phil Pollard	QLD Electricity Network	Teleconference

| Jennifer Brownie | QLD Electricity Network | Teleconference |
| James Bennett | SA Power Networks | Teleconference |

1. Welcome and Introductions

Tania McIntyre (AEMO) introduced herself as the new Chair and welcomed participants to the first Forecasting Reference Group (FRG) meeting (since the Forecasting and Planning Reference Group was split). Tania also advised that the future Forecasting Reference Group meeting dates will be circulated with the meeting minutes.

2. Administration

Tania McIntyre (AEMO) ran through the Forecasting related action items from the August 2017 FPRG. The updates of these are appended to these meeting minutes. The August FPRG meeting minutes were accepted by the group and noted as final.

3. Update of Forecasting Work Program

Scott Maves (AEMO) informed the FRG that the objective of the Reference Group is to receive feedback on AEMO's methods, assumptions and AEMO's forecasting key messages. This meeting will serve as a 'sense-check' on the numbers used in AEMO forecasts, and the October and November 2017 meetings will be used to review the regional forecasts.

A forward plan has been drafted and input from stakeholders is welcomed.

AEMO is currently performing testing of the forecasting system which will provide insights around the dynamics that are featured in our forecasts.

A walkthrough of the results is being offered to stakeholders in a separate session in November. Those who are interested in attending this session, please email: energy.forecasting@aemo.com.au.

Phil Pollard (QLD Electricity Users Network) pointed out that if quarterly updates are to be published by AEMO, the second update will be due during the peak of summer and cyclone season. Phil also queried whether AEMO is looking into the impact of cyclone season on forecasts. Scott advised AEMO is trying to monitor the dynamic environment and based on these changes, will publish updates to the forecast when they are relevant.

4. Summer Analytics Program

Greg Staib (AEMO) presented Paper 1, a memo as distributed in the meeting pack to the forum, stating that the intent is to have three separate streams going on over summer, two with students and one project with the CSIRO. The first project, **Smart Meter Analytics**, involves working with CSIRO and using Commonwealth funding to review the many records of meter data received by AEMO. The primary aim of this is to assist with balancing the market. Data for rooftop PVs and batteries will also be collected.

AEMO has purchased 30 minute data from a Japanese satellite and this will be combined with actual data coming from meters to provide a firm view of demand by rooftop PV.

Luke Russell (AusNet Services) queried whether AEMO had been in contact with Solcast who are doing something similar, in an ARENA project with AusNet Services. Luke Russell and Scott Maves agreed to talk offline about this project. (Action item)

The second project available to students is to understand demand relationships with **extreme weather and climate change**, specifically what happens over heatwaves and what heatwaves will look like in 20 years and their impact on demand.

The third project Greg discussed is titled '**Probabilistic Forecasts Data Analytics**' is also an opportunity for students to work on. This is utilising cluster data from different scenarios with different weather outcomes to obtain key performance indicators in the drivers for demand and develop dashboards.

Greg Staid requested that any feedback with regards to these projects to be forwarded to: energy.forecasting@aemo.com.au

Steve Meiklejohn (Stanwell) enquired on what time frames were being used on the Analytics Programs. Greg Staib advised that this would leverage off the new forecasting system which produces long duration forecasts of 20 years. Typically, half hourly insights covering dynamics relevant to a season ahead, through to 20 years ahead.

Leanna Tedesco (AEMO) added that there is separate work being conducted in the short term forecasting space, for more details please email energy.forecasting@aemo.com.au .

Nick Cimdins (AusNet Services) queried how price response ties into the summer analytics program. Scott Maves responded that there is the potential for AEMO to utilise one or two CSIRO resources. The Meter data Analytics program was primarily designed to address a high priority need to improve the understanding on installation efficiency and installation characteristics of PV sites. To be able to pull the data out of these data sets there is a need for highly refined models to cover a full range of dynamics relevant to driving demand. This would provide a modelling basis and data to enable the tracking of information on price response on a range of different drivers.

Jennifer Brownie (QLD Electricity Users Network) advised that QEUN recently conducted a survey of 100 'off-grid' solar PV users, asking for the age of solar panels and how often they are cleaned. Jennifer questioned how AEMO would take into account consumer behaviour (cleaning, age, resilience to hail etc.) and how peak smart tariffs for air conditioning would fed into this. Scott Maves (AEMO) responded that consumption data will be made available on a location basis, however to understand more specific characteristics as well as shading patterns, a more sophisticated system. AEMO has access to databases with information on the age, technology and brands of PVs. Once the system is more advanced in the future hail may be looked into. Cleaning has not yet been considered however this has been noted for future analyses.

Craig Memery (PIAC) pointed out that the impact of consumer behaviour around tariffs is worth looking into further. Scott Maves and Craig Memery to continue this discussion off line. (Action item)

5. Electric Vehicle Forecast Update – modelling results

Greg Staib (AEMO) ran through Presentation 1 which was circulated prior to the meeting, noting that AEMO engaged with Energeia in 2016 to put together the Electric Vehicle (EV) forecast. Greg pointed out that sales of EVs are currently only sitting at 0.01%, which is quite low compared to overseas.

Richard Paprzycki (Energy Australia) asked what the penetration of EVs is for a strong, neutral and weak scenarios. Greg advised that it has been capped for 2050 at 100% for the strong scenario, 90% neutral and 80% weak. These figures are to be confirmed by Greg. (Action item)

Richard also questioned whether AEMO has any insights on charging patterns for EVs and Greg advised that this is still being looked into, however it is unlikely that EVs will be charged during peak times. John Sligar (Sligar and Associates) queried whether AEMO will be dividing the analysis into slow and fast charging. Greg noted that new charge profiles have been assumed and these details can be shared with the group if required.

James Bennett (SA Power Networks) asked whether AEMO has considered situations where EVs may be used as an electricity source and Scott advised that this has not yet been

looked into. Jennifer Brownie (QEUN) requested data on the range of costs (and median) for EVs as well as for natural gas vehicle, to take into consideration household budgets.

6. Updated Coal Seam Gas (CSG)/Liquefied Natural Gas (LNG) Forecast

Scott Maves (AEMO) presented Presentation 2 which was circulated prior to the meeting. This is a routine update to the LNG and CSG forecasts. AEMO has been working very closely with the Australian Competition and Consumer Commission (ACCC) and Commonwealth governments to better understand on gas supply for the next two years.

John Sligar (Sligar and Associates) asked how competitive Australia's CSG is in the world market. Scott pointed out that there is an international gas supply glut currently being experienced which means that global gas prices are quite low overall. In comparison Australian prices for new gas supply are relatively high.

David Headberry (Major Energy Users) noted that there is a view that it's expensive to build export facilities in Australia and asked whether the potential for future exports on the east coast may have been overestimated. Scott advised that a conservative approach has been taken by AEMO in these projections. David also queried what netback costing numbers have been used in terms of savings to not generate LNG. Scott noted that pricing methodology was presented at the August FPRG. The netback price is currently lower than the deemed upstream price.

A stakeholder queried when AEMO is aiming to finalise and publicly release these forecasts and Scott advised that it will most likely be in December 2017.

7. Forecast Accuracy Report

Scott Maves (AEMO) provided an update on the *Forecast Accuracy Report* which has previously been discussed at the FPRG. Presentation 4 provided in the meeting pack outlines AEMO's approach. Scott pointed out that the Forecast Performance Dashboard will assess the forecast performance of AEMO's long term electricity forecasts, the National Electricity Forecasts Report (NEFR), including annual energy consumption and maximum demand. AEMO will address forecast and model accuracy. The intention is that the dashboard can be accessed at any time and it will be updated as needed based on new forecast components.

Nick Cimdins (AusNet Services) queried whether electricity prices would be a factor and Scott advised that this may be considered.

Sujeewa Vithana (United Energy) queried whether AEMO plans to include connection point forecasting in this report. Scott advised that at this stage the focus is on the NEFR and Leanna added that this is being looked into internally, and will be brought to a Forecasting Methodology workshop once it is more advanced.

Arindam Sen (Transgrid) asked if historical POE distribution will be published and Scott advised that these are yet to be determined.

John Sligar (Sligar and Associates) queried whether AEMO will look into spikes in the system during one-off events such as earth hour or Melbourne Cup. Scott advised that a back-casting capability is being looked into however this will not go into this level of detail. Abe Abdallah (SA Government) asked whether AEMO has made any attempts to look at minimum demands for different regions. Scott advised that these are currently produced AEMO is looking into publishing these.

Phil Pollard (QEUN) asked how other reviews that are being undertaken in the industry will be embedded into AEMO's forecast report. Scott commented that these will be picked up on a case by case basis, as has been done with the Finkel review recommendations.

8. Other Business

8.1 Terms of Reference

Tania McIntyre (AEMO) advised that Terms of Reference (ToR) for the FRG have been drafted and included in the meeting pack. Tania requested that the group review the drafted ToR and provide any comments or feedback to AEMO by the next FRG meeting.

Tania also mentioned that a brief survey will be distributed to meeting attendees to collect feedback from participants on this Forecasting Reference Group meeting.

9. Meeting Close

The next Forecasting meeting is scheduled on Tuesday 24 October 2017.

Forecasting Reference Group (FRG) Actions Items

Item	Date Raised	Topic	Action required	Responsible	By	Status
1.4.1	19-Sep-17	Summer Analytics Program	Chat with Ausnet Services regarding the ARENA project with Solcast.	Scott Maves (AEMO)	24-Oct-17	In progress
1.4.2	19-Sep-17	Summer Analytics Program	Discuss consumer behaviour around tariffs with Craig Memery (PIAC)	Scott Maves (AEMO)	24-Oct-17	In progress
1.5.1	19-Sep-17	Electric vehicles	Confirm penetration of EVs is for a strong, neutral and weak scenarios. Model outcomes were 61% for neutral, 26% for weak and 96% for strong.	Greg Staib (AEMO)	24-Oct-17	Completed
6.5.1 (FPRG)	22-Aug-17	Price Response	Chat further with Jennifer offline regarding potential data sources.	Leanna Tedesco (AEMO)	September-17	Completed
6.5.2 (FPRG)	22-Aug-17	Price Response	Scott to present a draft project scope at the next Forecasting Reference Group	Scott Maves (AEMO)	September-17	Completed
6.7.1 (FPRG)	22-Aug-17	Forward Plan	Future Forecasting and Planning meeting dates to be communicated.	Brooke Edwards (AEMO)	September-17	Completed
5.3.2 (FPRG)	18-July-17	Electricity Forecasting Insights	Further discussion with Prasad re: date stamps for reports on the data portal.	Magnus Hindsberger (AEMO)	22-August-17	Completed
5.3.3 (FPRG)	18-July-17	Electricity Forecasting Insights	AEMO to discuss influencers and sensitivities associated with AEMO forecasts with Ausgrid (Craig Tupper).	Magnus Hindsberger (AEMO)	22-August-17	Completed