

Forecasting Reference Group (FRG) DRAFT MINUTES

MEETING: FRG #11 2021
 DATE: Wednesday, 24 November 2021
 TIME: 2:00pm – 4:45pm AEDT
 LOCATION: Teleconference

ATTENDEES:

Name	Company	Name	Company
Anthony Ferraro	ACCC	Thomas Brinsmead	CSIRO
Wallace Stark	ACCC	Geoffrey Brett	DISER
Warren Vosper	ACCC	Lucienne Burnham	DISER
Ben Skinner	AEC	Abu Abdullah	ElectraNet
Abbas Mohammadi	AEMO	Florie Fong	Energy Australia
Adrian Grantham	AEMO	Lawrence Irlam	Energy Australia
Ali Habibi Khalaj	AEMO	Patrick Gan	Energy Australia
Azadeh Keshavarzmohammadian	AEMO	Richard Paprzycki	Energy Australia
Bella Pennington	AEMO	David Heard	Finncorn
Ben Tudman	AEMO	Alanna Gibson	GLNG
Connie Ganser	AEMO	Christina Sutherland	GLNG
Cristina Rocca	AEMO	Andrew Nance	ISP Consumer Panel
Daniel Collins	AEMO	Mark Grenning	ISP Consumer Panel
Deborah Marsh	AEMO	Brent Davis	Jemena
Ebby Thomas	AEMO	John Cheong-Holdaway	Jemena
Greg Staib	AEMO	Stephen Coghlan	Jemena
Jay Stein	AEMO	Richard Lewis	LGA
Joachim Tan	AEMO	Alex Gosewinckel	NSW DPIE
Kent Hanh	AEMO	Sarah-Jane Derby	Origin Energy
Kristine Cruz	AEMO	Anna Livsey	PIAC
Lawrence Chan	AEMO	Aaron O'Brien	Powercor
Levi Rosenbaum	AEMO	Ben McGregor	Powerlink
Magnus Hindsberger	AEMO	Dean Knight	Powerlink
Matthew Marston	AEMO	Jennifer Brownie	QEUN
Natasha Sinclair	AEMO	Bret Harper	RepuTex
Nicola Falcon	AEMO	Andrew Schultz	SA DEM
Oliver Derum	AEMO	Marino Bolzon	SA DEM
Puwasala Gamakumara	AEMO	Matt Sherwell	Santos
Rachael Saw	AEMO	Stanley Lee	Schneider Electric
Siobhan Attwood	AEMO	Tao Liang Lee	Shell
Tim Abernethy	AEMO	Ron Logan	Shell Energy AUS

Elsie Zhao	AGIG	Noel John Sligar	Sligar and associates
Suzanne Bentley	Alcoa	Adrian Staples	TAS Growth
Damian Dwyer	APPEA	Laura McDonald	TAS Growth
Ed White	Ausgrid	Prateek Beri	TasNetworks
Nick Cimdins	Ausnet Services	Jean Paul Dussaubat	VIC DELWP
Owen Pascoe	CEFC	Katharina Benzler	VIC DELWP
Sam Ingram	CleanCo QLD	Norman Jip	VIC DELWP
James Foster	CSIRO	Taryn Gale	VIC DELWP

1. Welcome and Introductions

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

- A moment of silence for David Headberry
- Overview of changes following the FRG survey in October
- How to join the FRG list
- Draft FRG Minutes
 - 29 September 2021
- [The Forecast Improvement Plan consultation](#). Submissions close on 22 December 2021.
- An upcoming forward January – June 2022 forward plan will be circulated.
- Submissions to Energy.forecasting@aemo.com.au are appreciated.

2. Presentation 1 – 2022 draft gas consumption forecasts

Deborah Marsh (AEMO) presented AEMO's draft Tariff D (Commercial and Industrial) and Tariff V (Residential and small commercial) gas consumption forecasts, an input to the 2022 Gas Statement of Opportunities (GSOO). The presentation noted the incorporation of prior stakeholder feedback on electrification and hydrogen (including gas blending). Adrian Grantham (AEMO) noted that 2022 peak day gas forecasts generally follow annual consumption drivers. Joachim Tan (AEMO) presented draft LNG forecasts and drivers.

Key topics raised by stakeholders during this session included:

- Damian Dwyer (APPEA): What assumptions are considered for Steam Methane Reforming (SMR) and its coexistence with Carbon Capture and Storage (CCS)?
 - AEMO: The 2022 GSOO uses information about SMR and CCS from CSIRO's multi-sector modelling report¹.
- John Cheong-Holdaway (Jemena): The Strong Electrification scenario is extremely unlikely. AEMO's modelling should focus on, and advocate for, the least cost path to net zero carbon emissions, rather than relying on CSIRO's full electrification forecasts.
 - AEMO: The range of scenarios, with differing electrification levels, explores various possibilities. Strong Electrification is a sensitivity, to explore the most extreme electrification scenario. CSIRO's scenario specific modelling was developed with AEMO and stakeholders and consulted upon for the 2021 IASR, and reflects the outcomes of the multi-sector optimisation of the means to decarbonise. More information on the method is available within the multi-sector modelling report.
- John Cheong-Holdaway (Jemena): Jemena would like to see a scenario comparing residential gas infrastructure retention to full electrification².
 - Ron Logan (Shell): AEMO need to clearly communicate which inputs are exogenous and that stretch sensitivities are only to test extreme possibilities.
 - Nick Cimdins (Ausnet Services): The purpose and potential of each scenario needs to be carefully presented.

¹ Available at: https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/isp/2021/csiro-multi-sector-modelling.pdf

² See a report outlining the Benefits of Gas Infrastructure to Decarbonise Australia available at: <https://www.energynetworks.com.au/resources/reports/2020-reports-and-publications/the-benefits-of-gas-infrastructure-to-decarbonise-australia-frontier-economics>

- Ron Logan (Shell): It is highly unlikely that all large users will fully electrify or that household electrification will occur uniformly.
 - AEMO does not consider full electrification appropriate and gas still has a role to play as some industrial loads cannot efficiently electrify³. Residential electrification is occurring gradually through system replacements.
- Nick Cimdins (AusNet): Does the modelling consider the network price impacts from this decreased connection forecasts?
 - AEMO: This aspect has not been modelled at this stage.
- Damian Dwyer (APPEA): What impacts do long term LNG contracts have in the Strong Electrification and Hydrogen Superpower scenarios?
 - AEMO: Refer to Presentation 2.

3. Presentation 2 – 2022 draft gas price forecasts - (Lewis Gray Advisory)

Richard Lewis (LGA) presented 2022 draft gas price forecasts to be used in the 2022 GSOO.

Key topics raised by stakeholders during this session included:

- Wallace Stark (ACCC): Do production cost assumptions vary between different Proved and Probable (2P) reserve basins?
 - LGA: Costs vary between basins, but are constant within each basin.
- Stephen Coghlan (Jemena): Has the model considered the long term price impacts of current low storage levels on the east coast coupled with seasonal import difficulties?
 - LGA: This model only considers contract price, not the spot price, which is affected by storage variation. Storage volume is assumed to balance itself over the year and the cost of storage is added post modelling.
- Tao Liang Lee (Shell): How are inverter regasification terminal costs modelled?
 - LGA: Regasification terminals, as well as pipeline and LNG shipping costs have constant costs since their variations do not impact gas production.
- David Heard (Finncorn): The forecasts imply that imported LNG will be cheap for decades. This requires continual global investment in LNG and gas developers to supply a long-term low-priced traded LNG market and removes Australia's LNG exports. How can the market rely on decades of low cost, imported LNG?
 - LGA: This outcome is only in the extreme "Low gas price" sensitivity. Once LNG usage declines, so does liquefaction investment and development, lowering the cost.
- Mark Grenning (EUAA): Competition levels in domestic gas markets are very low, so why do contract prices not follow the global LNG netback price when imports increase?
 - LGA: The Nash model used replicates imperfect competition. Therefore, a new import terminal that increases the number of competing firms reduces contract prices. Historically, domestic contract prices do not track the netback price.
- Stephen Coghlan (Jemena): The value of LNG imports is adding seasonal shape to the market. It is therefore not comparable to \$/GJ from domestic production.

4. Presentation 3 – 2022 draft Gas Powered Generation (GPG) forecasts

Rachael Saw (AEMO) presented 2022 draft GPG forecasts for the 2022 GSOO. The presentation included annual GPG forecasts and drivers, the impacts of power system events on GPG forecasts, GPG peak day forecasts and market sensitivities. All forecasts presented were from the Progressive Change scenario. Rachael Saw asked the FRG which combination of GPG sensitivities would be plausible and impactful.

Key topics raised by stakeholders during this session included:

- John Cheong-Holdaway (Jemena): Power system events have caused gas to be underforecast for the past 5 years, and this trend will continue. Clearly, there is a long term importance of gas, which must be clearly communicated to ensure significant investment.
 - AEMO recognises the importance of communicating both system normal base forecasts and the potential spread due to events that increase GPG utilisation.

³ See Section 3.3.5 of the 2021 IASR, available at: <https://aemo.com.au/-/media/files/major-publications/isp/2021/2021-inputs-assumptions-and-scenarios-report.pdf>.

- Alex Gosewinckel (NSW DPIE): The 2021 GSOO assumed that South Australian GPG will trend down due to synchronous condenser (syncons) installations. When are related system constraints expected to be relaxed?
 - AEMO: Since the commissioning of additional syncons, the number of large synchronous generating units (in the form of gas generators) required online has reduced. However, a minimum unit commitment requirement will remain in place until Project EnergyConnect⁴ is operational. From July 2022 the modelling constraints incorporating these syncons relax and it is assumed that only two gas generator units are required to operate the system in a secure and reliable manner⁵.
- Stephen Coghlan (Jemena): Peak GPG moving to winter is insightful as it requires additional capacity investment, even though annual GPG is falling. Will AEMO step in to ensure capacity, or leave it to the market?
 - AEMO: The role of the GSOO is to demonstrate the adequacy of gas infrastructure and provide the relevant data to stakeholders to act on.
- Ben Skinner (AEC): Extreme planning for the gas network is not necessary. GPG is elastic with spot prices, so tightness in the gas market will self-curtail GPG. Do the GPG forecasts consider potential high spot prices?
 - AEMO: The GPG forecast does not capture gas spot price volatility.
 - Ron Logan (Shell Energy AUS): It is important to understand which peaking plants are dual-fuelled.
- Ron Logan (Shell): What happens to GPG forecasts if battery storage and pumped hydro costs do not fall as forecast?
 - AEMO apply a range of future capital cost reductions as developed via the GenCost⁶ project.

5. Other business

Key topics raised by stakeholders during this session included:

- John Cheong-Holdaway (JEMENA): Perhaps AEMO's media team can present in 2022 on how they communicate modelling results and insights, including the importance of gas in the future energy systems.
 - Jennifer Brownie (QEUN): Communication is important; Governments and media are assuming full electrification, and ignoring other AEMO scenarios.
- Andrew Nance (ISP CP): The ISP Consumer Panel wants to hear more about material uncertainties, including the highly uncertain and highly material 'electrification'.
- Andrew Nance (ISP CP): The draft ISP will be published on 10 December⁷. The FRG conversations today are very important to inform ISP priorities.
- Andrew Nance (ISP CP): Thanks for remembering David Headberry and acknowledging his contributions to the energy market throughout his career.

6. Meeting close

The next FRG meeting will be held on Thursday 27 January 2022, with presentations including the 2022 GSOO, Transmission Outage Rates, and the 2023 IASR engagement process.

⁴ See: <https://www.projectenergyconnect.com.au/>

⁵ See: <https://aemo.com.au/-/media/files/major-publications/isp/2021/2021-inputs-assumptions-and-scenarios-report.pdf?la=en>

⁶ CSIRO's 2020-21 GenCost report available at: <https://www.csiro.au/en/news/news-releases/2021/gencost-report-finds-renewables-holding-steady-as-cheapest-new-build-power>

⁷ See: <https://aemo.com.au/consultations/current-and-closed-consultations/2022-draft-isp-consultation>