Forecasting Reference Group Minutes

Forum:	August FRG 2022 (#7)
Date:	Wednesday 31 August 2022
Time:	3:20pm – 4:30pm AEST

Attendees:

Name	Organisation	Name	Organisation
Wallace Stark	ACCC	Adela Gokovi	Ergon
Ben Skinner	AEC	Kerina Heath	Ergon
Peter Brook	AEC	Jill Cainey	Erne Energy
Lucia Zuniga-Mendoza	AEMC	Brent Hudson	Essential Energy
Aaron Stephens	AEMO	Matt Newey	Essential Energy
Andrew Turley	AEMO	Rowan Smith	Essential Energy
Anula Abeygunawardana	AEMO	James Miranda	ETU Australia
Ben Tudman	AEMO	Mark Grenning	EUAA
Bianca Christison	AEMO	Fei Qiao	EY
Chris Lopes	AEMO	Jordan Morse	EY
Christopher du Plessis	AEMO	Juan Gonzalez	FRV
Daniel Collins	AEMO	Christina Sutherland	GLNG
Darran Wu	AEMO	Cindy Yang	Gullen Range Wind Farm
Debborah Marsh	AEMO	Simon Zhao	Gullen Range Wind Farm
Elijah Pack	AEMO	Alice Hines	Hydro Tasmania
Grace Liu	AEMO	Kat Kiemele	Hydro Tasmania
Helen Wang	AEMO	Luke Middleton	Hydro Tasmania
John Liang	AEMO	Joe Kremzer	Hydrogen Council
Jose Viada Galvez	AEMO	Sami Aoude	IESYS
Leslie Lay	AEMO	Eddy Buckovic	iiNet
Levi Rosenbaum	AEMO	John Godfrey	Individual
Magnus Hindsberger	AEMO	John Short	Individual
Nancy Zhu	AEMO	Erdal Sen	Maoneng
Oliver Derum	AEMO	Richard Hickling	Mott Mac
Paul Rositano	AEMO	Hassan Ali	Neoen
Rodney Jose	AEMO	David Stephen Havyatt	NICE
Sandy Ng	AEMO	Courtney O'Connor	NOPTA
Sayani Gupta	AEMO	Junjie Jiang	NSW DPE
Siobhan Attwood	AEMO	Sarah-Jane Derby	Origin
Toby Price	AEMO	Charlotte Warke	Phillip Riley
Zewen Zhang	AEMO	Dean Knight	Powerlink
Monami Das Gupta	AER	Enrique Montiel	Powerlink
Elsie Zhao	AGIG	Brett Clark	PWC
Mark Riley	AGL	James Tighe	PWC
Audelle Hong	Alinta	Jennifer Brownie	QEUN
Damien Dwyer	APPEA	Linda Yu	QLD EPW
Lachlan Martin	ATCO	Sophie Vorrath	Renew Economy
Daniel Sim	Ausgrid	Andrew Manson	SA Gov
Navid Haghdadi	Ausgrid	Marino Bolzon	SA Gov
Luke Clough	Ausnet Services	Elisia Reed	SAPN
Morteza Moallemi	Ausnet Services	Lachlan Hillier	SAPN
Richard Cumpston	Australian Projections	Jasper Noort	Schneider Electric
Daniel Crook	BIS OE	Stanley Lee	Schneider Electric
Gary Wang	BIS OE	Charles Loh	Shell
Kristian Kolding	BIS OE	Ron Logan	Shell
Ruchira Ray	BIS OE	Noel John Sligar	Sligar and associates
Peter Zhang	BJCE Australia	Joe Hemingway	Stanwell
James Seymour	C4NET	Shaz Billimoria	Sun cable
Jordan Ferrari	CEC	Dhor Ngor-Apuol	TasNetworks
Rodney Littlejohn	Clear Energy	Herath Samarakoon	TasNetworks
Carolyn Moore	CSIRO	James Teirney	TasNetworks
John McKibbin	CSIRO	Julie Morrison	TasNetworks
Luke Reedman	CSIRO	Stephen Jarvis	TasNetworks
Denis Cooke	DCA	Diwei Zhang	TransGrid
Jake Roberts	DELWP	Doug Thomson	TransGrid
Geoffrey Brett	DISER	Dragana Hele	TransGrid
Kim Collins	DISER	Gang Cao	TransGrid

Name	Organisation	Name	Organisation
Brian Spak	ECA	Gloria Zhang	TransGrid
Caroline Valente	ECA	Izzah Afandi	TransGrid
Alex Driscoll	EDGE 2020	Mohammad Abdullah	TransGrid
Harrison Bradley	ElectraNet	Saleha Dawood	TransGrid
Florie Fong	Energy Australia	Suman Poudel	TransGrid
Lawrence Irlam	Energy Australia	Sujeewa Vithana	United Energy
Shoaib Amjad	Energy Australia	Simon Bartlett	UTAS
Benson Heng	Energy Queensland	Mark Lavery	VIC DELWP
Justin Xiao	Energy Queensland	Reid Hutchins	VIC DELWP
Peter Kilby	Energy Queensland	Dora Guzeleva	WA DMIRS
Aubert Kubwange	Engie	Steve Kruit	WA DMIRS
Erdem Oz	ERAWA	Shanker Lamichhane	Yurika

Disclaimer

This document provides an overview of the main points of discussion on the agenda for the August Forecasting Reference Group meeting, including BIS Oxford Economics' draft 2022 macroeconomic projections.

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

Following the second 2023 scenarios webinar[1], Daniel Collins (AEMO) welcomed everyone and covered the following:

- Publication of 29 June FRG minutes.
- 2022 ESOO publication on 31 August 2022[2] and release webinar on 1 September 2022.
- Open consultation on Gas Transparency Measures, including GSOO procedures[3]. Submissions close on 23 September 2022, and should be provided to Energy.forecasting@aemo.com.au.

2 Presentation 1 – Draft 2022 macroeconomic forecasts – BIS Oxford Economics

Ruchira Ray (BIS OE) presented BIS Oxford Economics' draft 2022 macroeconomic projections.

Key topics raised by stakeholders during this session included:

- Daniel Collins (AEMO): What does 'heat resilience' mean?
  - BIS OE: Heat resilience referred to how well a physical asset can endure warmer climates. For example, investment would need to be channelled towards heatproofing houses or energy-generating assets to prevent faster depreciation when exposed to warmer climates.

[1] See: https://aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2024-integrated-system-plan-isp
[2] Available at: https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-reliability/nem-electricity-statement-of-opportunities-esoo
[3] See https://aemo.com.au/consultations/current-and-closed-consultations/gas-transparency-measures

- Ron Logan (Shell): High heat resilience and energy costs might defer investment to softer emissions related opportunities. Has this been considered?
  - BIS OE: All scenarios include a cost recovery period following strong decarbonisation investments. Even the *Hydrogen Export* scenario, which assumes strong population, economic growth and investment, considers a period where consumption slumps as governments recovers costs.
- Jennifer Brownie (QEUN): Do the forecasts consider worsening supply chain issues, and drought in China and the Unites States, that will reduce the battery and PV manufacturing necessary for Australia's energy transition?
  - BIS OE: These forecasts use July data, so more recent developments are not explicitly included. However, the *Progressive Change* scenario implicitly incorporates some of these risks, including greater delays in domestic transition to greener energy due to global supply disruptions and weaker domestic outlook.
- Jennifer Brownie (QEUN): Australia's agricultural exports will be impacted by Chinese and American droughts and the lack of Ukrainian grain exports. Are these commodities included?
  - BIS OE: Australia's agriculture exports, including relevant machinery, have a very high outlook. These are included in the model and are a key reason for Australia's continued short to medium term economic growth.
- Ron Logan (Shell) and Peter Brook (AEC): Why does the *Hydrogen Export* scenario forecast net migration increasing much more than it has historically?
  - BIS OE: It is important to note that the *Hydrogen Export* scenario, with a strong economic pathway, is not the base case. In the near term in this scenario, a short term catch-up period could see net overseas migration overshoot pre-COVID levels due to a strong backlog of international students and migrant workers. Looking longer term, strong net overseas migration growth could be driven by high workforce immigration to manage an ageing local population, and lower emigration due to strong domestic economic outcomes (i.e. greater job opportunities). Also, net overseas migration of 300,000 in 2050 represents a smaller proportion of the Australian population at that time than what we experienced in the years preceding 2020.
- Peter Brook (AEC): Should electrification levels in *Step Change* induce higher migration?
  - BIS OE: Electrification in its own right is unlikely to materially impact migration. Rather, employment opportunities and living standards are expected to drive migration outcomes.
- David Havyatt (NICE): Are climate-caused economic disruption outcomes modelled?
  - BIS OE: Emissions scenarios determine warming levels. The resultant productivity damage is endogenous to the model, considering longer term implications of investment, re-training and decarbonisation. Acute extreme weather event risk is not considered.
- Sandy Ng (AEMO): What drives the near term upward rebasing of GDP across all scenarios?
  - BIS OE: First, the strong post-pandemic recovery caused an upward rebasing for 2022. Second, the new Federal Government climate policy commitments are embedded into the

Step Change and *Progressive Change* scenarios this year, which is expected to contribute to higher productivity gains and therefore economic outcomes compared to last year.

- Andrew Turley (AEMO): Is the generally higher long term productivity due to decarbonisation re-basing? Should the longer term economic drivers retain similarity to 2021?
  - BIS OE: The stronger climate investments in this year's scenarios facilitate long-term productivity improvements. Decarbonisation efforts improve long term productivity through increased heat resilience, upskilling, research and development, and broader investment growth.

3 Meeting close

The next FRG meeting will be held on Wednesday 21 September 2022, presenting CSIRO and ClimateWorks Australia's draft 2022 Multisector modelling.

Forecasting Reference Group (FRG) Actions Items

Table 1 FRG Action Items (at 19 October 2022)

Item	Date Raised	Topic	Action required	Responsible	Details	Status
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