Submissions captured from out-of-session interactions (NEW)

Submission	Date Raised	Topic	Raised by	Possible action	Responsibility	Status
1	29/08/2019	Proposed Change to Seasonal Generator Capability Ratings	Ron Logan	AEMO to consider Ron's suggestion in developing method for derating generators over summer	AEMO	**CLOSED**
2	23/09/2019	Use of historical demand traces for wind and solar generators	Ron Logan	AEMO to report back, when ready, on research underway to use weather data directly to generate future traces, thereby removing anomalies attributed to market responses.	AEMO	**OPEN** This is currently a work in progress. AEMO now uses weather data to derive some, but not all of the generation traces. Further work to derive more granular historical weather data is ongoing, through collaboration with CSIRO and BoM, so that we may extend this method further.

Submission	Date Raised	Topic	Raised by	Possible action	Responsibility	Status
4b	17/10/2019	MT PASA daily POE demands	Ron Logan	Concerns were raised around the accuracy of the MTPASA daily POE demands, despite these demands NOT actually being used by AEMO in any part of the MTPASA process. AEMO considers it more important to assess accuracy of the maximum demands from the demand traces that ARE used in the MTPASA process.	AEMO	**CLOSED** Being addressed through the MTPASA rule change.
5	25/09/2019	Vic maximum demand outcome post 2009	Ron Logan	AEMO to clarify how counter-factual actual demand is calculated for the purpose of assessing forecast accuracy, including how actual USE, RERT, DSP and household disconnections are added back on to load in order to better train the forecasting models.	AEMO	**OPEN** Included in the Forecast Accuracy Report methodology paper currently being consulted on.
6	25/09/2019	Low FRG DSP Numbers vs ISP Presentation	Ben Skinner	AEMO to clarify reconciliation between DSP forecast and ISP numbers presented to the FRG	AEMO	**CLOSED**

Submission	Date Raised	Topic	Raised by	Possible action	Responsibility	Status
7 NEW (attached below)	20/1/2020	FRG Meeting 20 January 2019	Mark Grenning	• Update gas methodology report and provide an explanation about forecast accuracy methodology at the same time as GSOO is published • Share questions on LIL for both gas and electricity with FRG ahead of next survey	AEMO	**CLOSED** Refer to gas methodology report and 2020 GSOO. Questions on LiL survey shared with FRG members in March FRG.
8 NEW (attached below)	20/1/2020	Analysis of Change in GPG vs Forecast 2019	Ron Logan	• As above, AEMO will make as transparent as possible assumptions used to assess forecast accuracy • AEMO agrees that there is much uncertainty relating to future annual GPG consumption and the merits of discussing ranges of possible outcomes.	AEMO	**CLOSED** Refer to 2020 GSOO.
9 NEW (attached below)	25/3/2020	Note data on building approvals vs commencements	Jennifer Brownie	AEMO and FRG to note	AEMO	**CLOSED**

Submission	Date Raised	Topic	Raised by	Possible action	Responsibility	Status
10 NEW (attached below)	25/3/2020	Mark MTD Consumption and Max Demand Outcomes	Ron Logan	AEMO to share data with FRG participants	AEMO	**CLOSED** This log includes the data/graphs from Ron
11 NEW (attached below)	14/4/2020	Request for actual/forecast over Easter period, of interest due to COVID19	Ron Logan	Distribution of COVID19 updates	AEMO	**CLOSED** 16April2020 Ken Harper (AEMO) emailed 'Teleconference Notes – Industry Update on AEMO Operational Response to COVID-19'
12 NEW (attached below)	15/4/2020	Draft ISP assumptions and expected publication date of AEMO/CSIRO Gencost report	Norman Jip	2020 ISP consultation process	AEMO	**CLOSED** **Refer 2020 ISP Consultation** **Gencost report expected week beginning 27April or following week.**

Submission 7 (NEW)

From: Mark Grenning (EUAA)
Sent: Tuesday, 21 January 2020 12:35
Subject: FRG Meeting 20 January 2019

Nicola,

I wanted to follow-up on a couple of issues raised in the gas FRG discussion yesterday.

1. Reasons for 2019 actual gas consumption being higher than forecast

We were told yesterday that the main reasons for the under forecast was the outages/lower output of Loy Yang A2 and Mt Piper. However no analysis was provided to support this contention. I asked about AEMO publishing that analysis to support the general statement. You suggested that resources might be limited and you would not commit to doing so. I think AEMO should.

At a general level I think it is very important for AEMO to publish detailed analysis around how its forecasting performed vs actuals – why it was good (eg because it was good or because of mutually offsetting mistakes?), why it was not good (eg because of unexpected factors?). This is essential to the continuous improvement all forecasters seek for their models. It is also essential for building stakeholder support for AEMO's forecasting process.

AEMO is asking consumers to trust it with its ISP forecasting. We had a poor example with the lack of transparency around the assumptions on Loy Yang/Mortlake in the 2019 ESOO. Transparency on methodology is a necessary, but not sufficient condition for getting consumers over the line on the AEMO's forecasting that is about to justify billions of $ in new network investment that we pay for.

So for example, looking at the of the methodology document:

https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GSOO/2019/Gas-Demand-Forecasting-Methodology.pdf

how robust have been the equations in Chapter 4 representing long-term manufacturing sector (4.2.2) and long-term other business sector (4.2.3) demand, been? What changes have been made in recent years to improve the forecasting? How successful have they been? How sensitive are they to gas price – marginal and step change movements – so how does it assess gas price movements apart form the Core estimates? Do they assume linear elasticities? How are the outputs of these models adjusted depending on the information from the LIL surveys?

2. Next questionnaire on forecast C&I gas consumption

You mentioned the idea of David and I being involved in helping AEMO develop the next AEMO questionnaire - presume that means the LIL survey? or more? We are very happy to assist AEMO in this exercise. When will it occur? As part of the 2021 Gas SOO or earlier?

If I understood the discussion correctly yesterday, the questions are based on the Core price forecasts eg what is you demand outlook given these particular forecast prices. If so then it would be useful to add nuanced questions around their expectations based on their expected prices. This can be tricky eg unless they are willing to say what their forecast prices are then the answer is more qualitative that quantitative.

No matter what the question you ask, it is very unlikely, even given the confidential nature of the survey, that you will get any large C&I customer saying "I am going to close in [year]". Those that are public companies don't tell AEMO their plans prior to the market. So it may be difficult to get an idea of potential for demand destruction – but it is still a very important issue that perhaps we can talk more about as you develop your next questionnaire.

Regards

Mark

Submission 8 (NEW)

From: Ron Logan (ERM Power)
Sent: Tuesday, 21 January 2020 18:25
Subject: Analysis of Change in GPG vs Forecast 2019

Hi Nicola.

I hope you had a pleasant break over the holiday period. 2020 has certainly started on a busy note.

Thank you to you and the Team for the FRG – Gas working group meeting and presentations yesterday. I don't have the same intimate knowledge of gas as electricity and found the questions asked by the more experienced attendees and the answers provided by AEMO personel quite informative. It always good to learn new things.

In Presentation 1, Slides 16 and 17, AEMO compared the actual GPG consumption on a monthly basis to the forecast as contained in the 2018 and 2019 GSOO's.

There was no background information with regards how the forecasts contained in the 2018 and 2019 GSOO's were formulated. Whilst there are details in the https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GSOO/2019/Gas-Demand-Forecasting-Methodology.pdf paper that I was able to find, a quick overview of the process yesterday I believe would have been helpful for the meeting attendees.

In addition to the slides, during the presentation AEMO indicated that the primary reasons for the difference between actual and forecast was the Loy Yang A2 unplanned outage (commenced 18 May) and the ongoing coal supply issues at Mt Piper, over Cal Year 2019, however, no analysis was supplied to support this.

I would recommend that AEMO supply more detailed analysis behind the reason for the difference in forecast vs actual GPG gas consumption taking into account the following;

Change in Hydro generator output, noting in particular that often Hydro and gas are direct substitutes for each other due to the nature of their operations – intermediate and peaking duty.

Whilst output from Mt Piper was reduced, how much of this was compensated for by increased output at other black coal generators in NSW and Qld.

Whilst output from Loy Yang A was reduced, how much of this was compensated for by increased output from the remaining brown coal generators in Vic.

When looking at the forecast vs actual consumption, was it driven by changes in southern regions (Vic, Sa and Tas) or northern regions (Qld and NSW) GPG consumption. I think it would be good to understand this. Did changes occur across peaking or intermediate GPG. Were the changes balanced across all

GPG's or were the changes primarily on one or two power stations, if the latter is the case, could this have also been influenced by changes in hedge contract levels.

Were there any other lengthy outages of other coal fired generators during 2019 compared to 2018 and how did this impact overall gas usage. If these were planned outages had these been allowed for in the GSOO forecasts.

Were there any significant changes in southern or northern regions wind and solar output that may have impacted both GPG and coal fired generator output. For instance, due to increased solar crowding out coal fired generation in the higher SRMC regions of NSW and Qld.

Were there any significant changes in regional demand that may have impacted coal fired generator output or GPG consumption. How did electricity consumption in the different regions compare to AEMO's forecasts.

To save time and use of AEMO's resources may I suggest you could limit the analysis to a quarterly rather than monthly basis, notwithstanding, if AEMO would prefer to complete monthly analysis, that's fine by me.

In considering your improvements for the 2020 GSOO – Slide 18, I agree that the GPG consumption model should include for a reasonable range of generator forced outage probabilities as per that contained in the ESOO forced outage modelling. It should also include for the natural variance in hydro inflows.

I don't support the specific inclusion of "special" coal fired generator forced outage events on the basis that the range of modelling contained in the ESOO outage forecast modelling would already include the occurrence of this type of event. If it doesn't I would be genuinely surprised and concerned.

The presentation indicates that Q1 2019 period included a large number of extreme weather events. It is however uncertain in my view if similar events are not already apparent in some of the other historical reference years used in AEMO's modelling. The summer of 2013/14 had extreme weather events in SA and Vic, the summer of 2016/7 in NSW and the summers of 2016/17 and 2017/18 in Qld. The events of 2019 were almost certainly be included in future forecasts as the historical demand profiles for 2019 are rolled into the historical demand profiles used for the 2020 modelling. Will AEMO be expanding to 10 historical demand traces for the 2020 modelling.

When considering the yearly forecasts of GPG gas consumption for the prompt year, may I recommend AEMO consider a range for GPG gas consumption, as opposed to single point forecasts. Analysis for variance outside this range would then be all that is required for future years. This would allow for the inclusion of the natural variations observed across the different generator energy input assumptions, ie coal, hydro, wind and solar on a monthly or quarterly basis, as well as the variations observed in electricity consumption compared to forecasts.

I am happy for this request to be circulated to the wider FRG membership.

I am happy to discuss the details set out in this email with yourself and the Team if you would like to nominate a time.

Kind regards

Ron Logan

Submission 9 (NEW)

From: admin@qeun.com.au <admin@qeun.com.au>
Sent: Wednesday, 25 March 2020 4:39 PM
To: Energy Forecasting <Energy.Forecasting@aemo.com.au>
Subject: AEMO FRG - building approvals vs commencements

Hi Forecasting Reference Team

Please find following an email from one of the QEUN network members sent during today's FRG meeting re building approvals vs commencements.

Also attached is HIA graph on possible impact of coronavirus on building numbers ie number of new NMIs.

Cheers

Jennifer Brownie

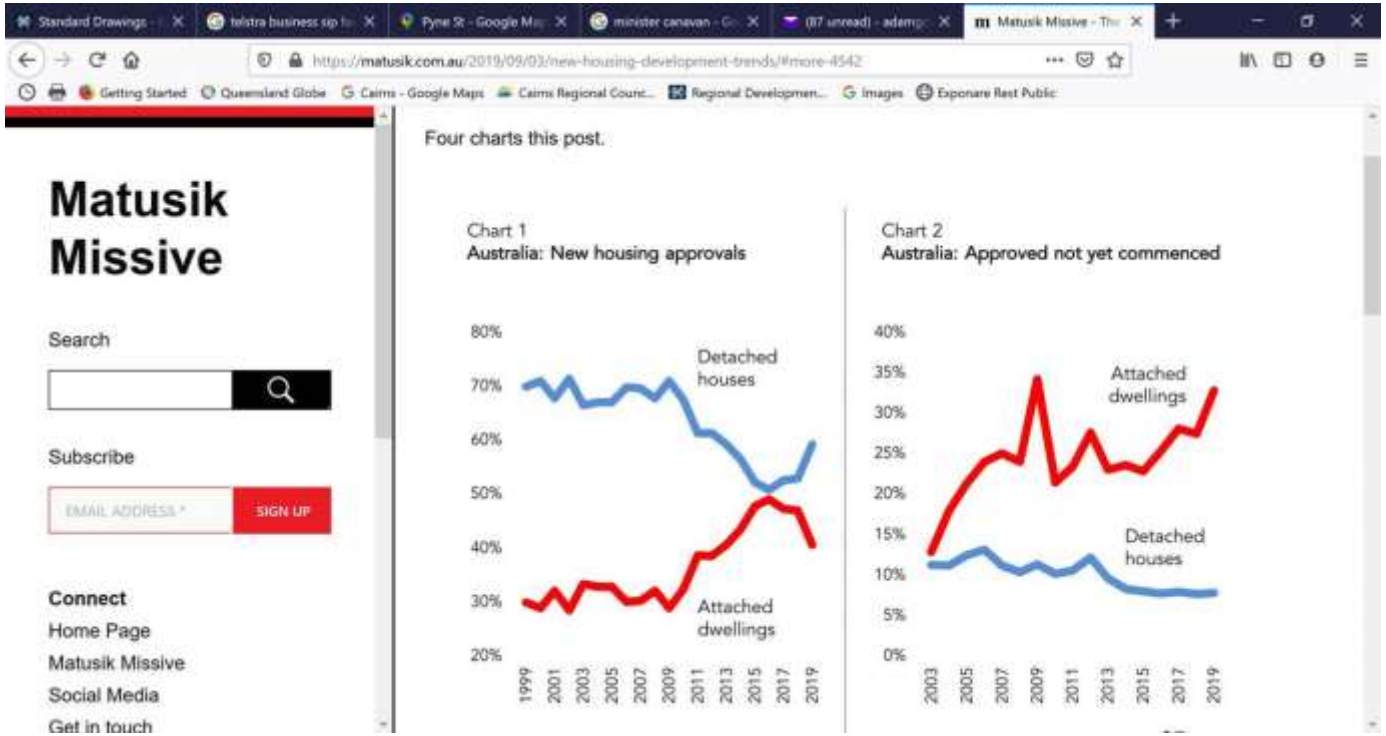
QEUN

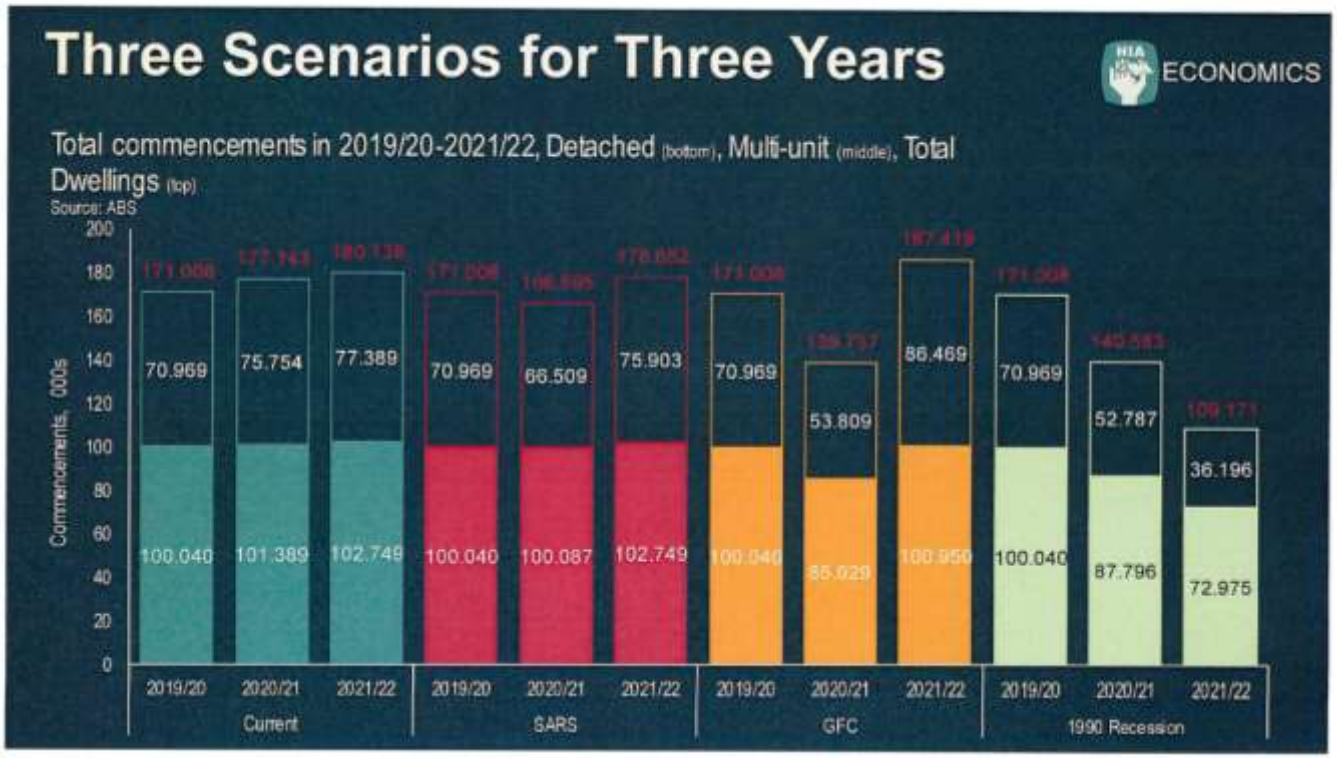
Hi ya,

Can't find it exactly – second chart on the first link. Is pretty close. Its screen shot is below. 35% for attached dwellings don't proceed (meaning everything other than a single house) 10% for single res.

https://matusik.com.au/2019/09/03/new-housing-development-trends/#more-4542

https://matusik.com.au/2019/04/02/the-three-rps/#more-4036





Submission 10 (NEW)

From: Ron Logan <RLogan@ermpower.com.au>
Sent: Wednesday, 25 March 2020 10:56 AM
To: Nicola Falcon <Nicola.Falcon@aemo.com.au>; Energy Forecasting <Energy.Forecasting@aemo.com.au>
Subject: Mark MTD Consumption and Max Demand Outcomes

Nicola and Team

I note we are having a session on ESOO Inputs and Assumption Refresh. We think this could equally apply to the ISP work even if it were to result in a delay to publishing the final ISP report.

Just looking at the consumption outcomes for the March 2020 MTD, energy consumption is back where it was in March 2003.

I have also undertaken a comparison of the last 5 years to see if I can reasonable align outcomes for March with years having similar overall temperature outcomes, not perfect, but reasonable close, as well as an indicating of the number of working weekdays in the month noting that WWD consumption is higher than Non WWD consumption.

Data as follows;

	Ave Demand							
	Qld	NSW	Vic	SA	Tas	NEM	WWD	
Mar-15	6,453	7,764	4,906	1,257	1,050	21,430	22	
Mar-16	6,514	8,114	5,190	1,435	915	22,168	21	
Mar-17	6,680	7,947	4,888	1,384	1,027	21,926	23	
Mar-18	6,604	7,874	4,850	1,349	1,146	21,823	21	
Mar-19	6,851	7,921	4,998	1,404	1,105	22,279	21	
Mar-20	6,478	7,486	4,738	1,300	1,077	21,079	22	
Selected years based on close alignment of ave of daily max temperatures								
	Peak demand							
	Qld	NSW	Vic	SA	Tas	Nem 1	Mainland	NEM
Mar-15	8,809	10,367	6,759	1,681	1,372	18,505	26,686	27,733
Mar-16	7,980	12,191	9,213	2,441	1,177	22,426	30,064	30,993
Mar-17	8,636	11,000	7,719	2,661	1,297	19,602	27,675	28,816
Mar-18	9,261	11,763	6,788	2,184	1,403	18,502	27,036	28,317
Mar-19	9,449	11,198	9,306	2,885	1,394	21,922	29,242	30,508
Mar-20	9,271	11,444	6,792	2,153	1,392	17,938	26,197	27,423

I would be happy for you to share this data with the wider FRG membership in the spirit of fostering discussion this afternoon. I think its important that we don't make the same mistakes we made back in the 2009 to 2011 period where following the GFC we continued to forecast fairly optimistic recovery in energy consumption and demand.

Back in my Mac Gen days at the time, we estimated that approx. 40% of the load that disappeared with the GFC never came back.

Kind regards

Ron Logan
Senior Trading Analyst

Submission 11 (NEW)

From: Ron Logan <rlogan@ermpower.com.au>
Sent: Tuesday, 14 April 2020 13:45
To: Levi Rosenbaum <Levi.Rosenbaum@aemo.com.au>
Cc: Mike Davidson <Mike.Davidson@aemo.com.au>; Nicola Falcon <Nicola.Falcon@aemo.com.au>; Paul Johnson <Paul.Johnson2@aemo.com.au>
Subject: RE: Minimum Demand workshop Slides

Hi Levi

Just wondering if there will be any follow up presentation following last Monday's Easter period min load workshop to compare actual to forecast outcomes. No suggesting another workshop but an update to slide 14 – Presentation 1 and to slides 6 and 7 in presentation 2 expanded for all regions to show actual vs Monday's forecast outcomes.

I think it would be good feedback to the industry to understand how the demands went.

Kind Regards

Ron Logan
Senior Trading Analyst

Submission 12 (NEW)

From: Norman Jip (DELWP) <norman.jip@delwp.vic.gov.au>
Sent: Wednesday, 15 April 2020 8:14 AM
To: Roberta Maher <Roberta.Maher@aemo.com.au>; Nicola Falcon <Nicola.Falcon@aemo.com.au>
Subject: Energy Forecasting questions

Hi Ladies

Hope you are both keeping well.

I have two follow up questions, that I hope you will be able to provide indicative answers to, at your earliest convenience.

3. (a) Are the draft input and assumptions in the FINAL ISP likely to change based on the consultation up to 7 Feb 2020? and (b) when are the new assumptions likely to be released, in light of COVID-19)?

4. Any additional clarity on the expected publication date of the joint AEMO/CSIRO Gencost 2019/20 report.

Please feel free to enter into the official FRG submissions log if required.

Kind regards

Norman Jip | Senior Policy Officer, Wholesale Markets & Security | Energy Markets and Networks

Energy, Environment and Climate Change | Department of Environment, Land, Water and Planning