NATIONAL ELECTRICITY FORECASTING REPORT UPDATE

FOR THE NATIONAL ELECTRICITY MARKET

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose

The purpose of this publication is to report on the accuracy of the consumption and maximum demand forecasts in the 2014 National Electricity Forecasting Report (NEFR), and any improvements made by AEMO or other relevant parties to the forecasting process that will apply to the next National Electricity Forecasting Report.

This publication is based on information available to AEMO as at end September 2014 although AEMO has endeavoured to incorporate more recent information where practical.

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CHAPTER 1. NEFR UPDATE

The 2014 National Electricity Forecasting Report (NEFR) was published on 16 June 2014 and provides independent operational consumption[1] forecasts for each National Electricity Market (NEM) region over a 20-year outlook period (2013-14 to 2033-34).

AEMO tracks the variance between forecast and actual operational consumption for all NEM regions to determine whether or not a forecast update is warranted. AEMO determined that only the forecasts for Queensland required updating for this December update. As Tasmania is winter-peaking (unlike all other NEM regions), this report also updates Tasmanian consumption and maximum demand forecasts using data for the latest (2014) winter. This data was not available when the NEFR was published.

Between July and October 2014, Queensland's variance was the highest in the NEM. This is primarily due to changes in large industrial consumption and increased residential and commercial consumption. This variance signalled the need to revise Queensland's consumption forecasts. There was no indication that the maximum demand forecasts required revision, so AEMO has not revised these.

Table 1 shows the financial year-to-date (YTD) variance by region as at 31 October 2014.

Table 1 Regional operational consumption variance (July to October 2014)[2]

	NEM	NSW	Qld	SA	Tas	Vic
Variance	+2.3%	+2.9%	+4.8%	+1.3%	+0.9%	-0.5%

1.1 Queensland update

Queensland operational consumption[1] for 2013-14 was 46,442 GWh, 80 GWh higher than estimated in the 2014 NEFR.

Compared to the 2014 NEFR, the updated medium scenario forecast results in:

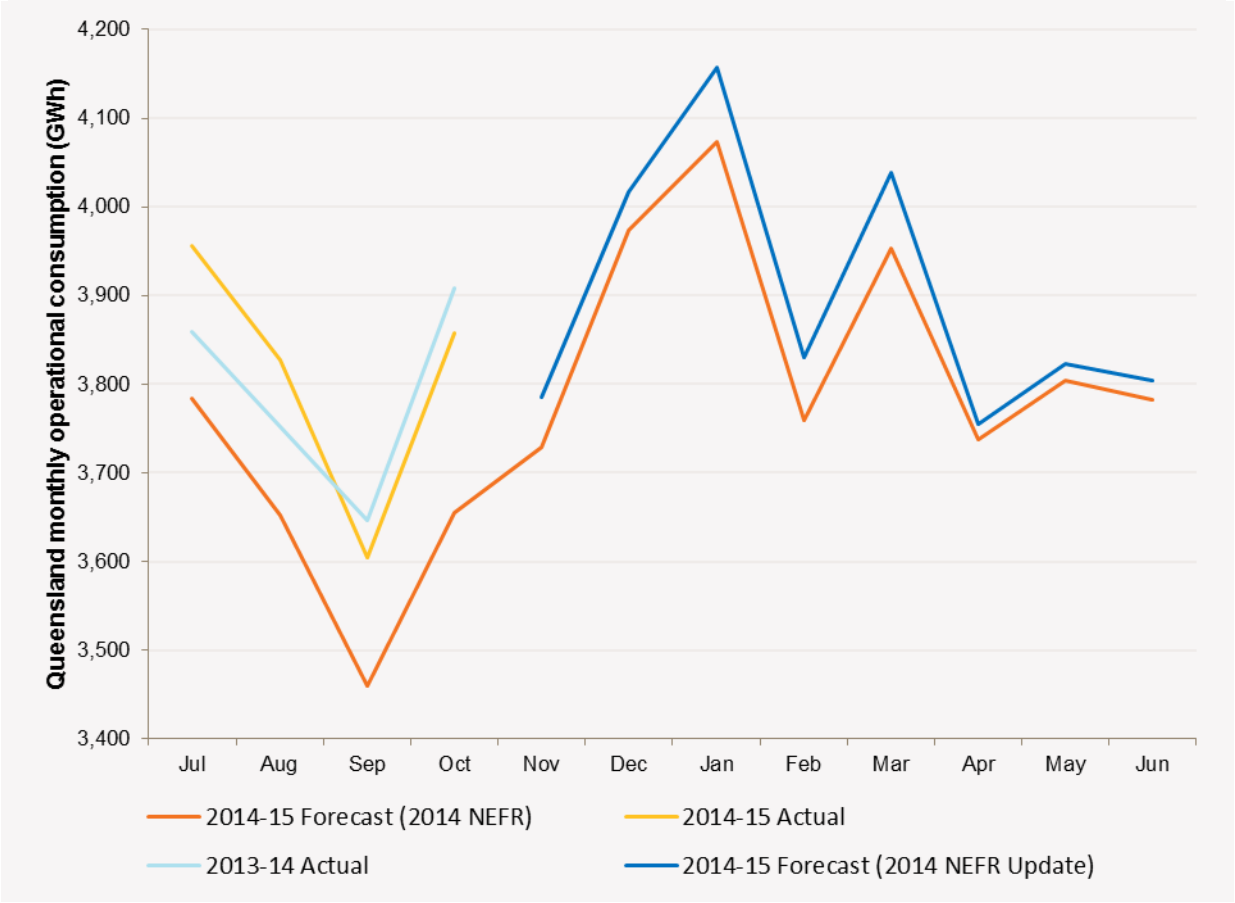
- A 2.4% (1,086 GWh) increase in operational consumption for 2014-15.
- A slower short-term (2013-14 to 2016-17) average annual growth rate of 3.8%[3] in operational consumption (down from 4.0%[1]).

These changes in the short term, are due to:

- A slower increase in large industrial load consumption (15.3% average annual increase, down from 16.2%). This is based on updated timing estimates of liquefied natural gas production ramp up.
- A slower increase in rooftop PV output (26.2% average annual increase, down from 29.2%). This is driven by incorporating an additional six months of actual installed capacity data from the Clean Energy Regulator (CER) and a reduction in Queensland's feed-in tariff from 8 cents/kWh to approximately 6 cents/kWh.
- A slower decline in residential and commercial consumption (1.9%[3] average annual decline, down from 2.2%). This is based on an additional three months of historical data.

1 Operational consumption in this report is referred to as annual energy in previous reports.
2 Positive variance values indicate that actual consumption was higher than forecast.
3 Growth rates are based on 12 month of actual data for 2013-14. This differs to the growth rates published in the 2014 NEFR, which are based on nine months actual data and three months estimated data.

Figure 1 Comparison: Qld actual, NEFR, and NEFR Update consumption forecasts, 2014-15



1.2 Tasmanian update

1.2.1 Operational consumption

Tasmanian operational consumption for 2013-14 was 10,028 GWh, 70 GWh lower than estimated in the 2014 NEFR.

Compared to the 2014 NEFR, the updated medium scenario forecast results in:

- A 0.9% (86 GWh) increase in operational consumption for 2014-15.
- No change to the average annual decline of 0.5%[4] for operational consumption.

These changes in the short-term, are due to:

- Faster growth in rooftop PV (20.5% average annual growth, up from 19.7%). This is based on incorporating an additional six months of actual data from the CER.
- Faster decline in residential and commercial consumption (2.1%[4] average annual decline, down from 1.8%). This is based on an additional three months of historical data.
- Faster average annual growth of 1.1% (up from 1.0%[1]) in large industrial consumption. This is based on updated consumption forecasts from large industrial customers, despite the Queenstown mine closure.[5]

[4] Growth rates are based on 12 month of actual data for 2013-14. This differs to the growth rates published in the 2014 NEFR, which are based on nine months actual data and three months estimated data.
[5] Available at http://www.abc.net.au/news/2014-08-14/queenstown-locals-fear-for-towns-future-after-mine-closure/5671754. Viewed 8 Dec 2014.

1.2.2 Maximum demand

The 2014 actual winter maximum demand (MD) of 1,656 MW occurred on 30 June 2014 at 8.30 a.m.

The updated MD forecasts result in a slower short-term average annual growth rate of 0.2% for winter MD, down from 0.9% in the 2014 NEFR.

This reduction reflects:

- Slower short-term decline of 0.2% for large industrial winter MD, compared to a decline of 0.4% in the 2014 NEFR.
- Continuing decline in actual residential and commercial MD, despite increases in gross state product (GSP) for Tasmania.

In winter 2014, an increase in GSP did little to offset the decline in average daily consumption or MD. AEMO revised the relationship between GSP and average consumption to reflect the weaker interaction between these two variables. AEMO also conducted a sensitivity study using the latest GSP data released by the Australian Bureau of Statistics on 21 November 2014. This data yielded consistent results with the modelling, which used a forecast value for GSP.

1.3 NEM-wide update

The NEM-wide operational consumption for 2013-14 was 181,248 GWh, 9 GWh higher than estimated in the 2014 NEFR.

Changes to the consumption forecasts for Queensland and Tasmania affect the NEM-wide consumption forecast as follows:

- A 0.7% (1,172 GWh) increase in forecast operational consumption for 2014-15.
- No change to the short-term average annual growth rate of 0.4%.[6]

Table 2 Operational consumption 10-year forecast[7]

	NEM (GWh)	Qld (GWh)	NSW (GWh)	SA (GWh)	Vic (GWh)	Tas (GWh)
2013-14 (actual)	181,248	46,442	66,233	12,855	45,691	10,028
2014-15	176,862	46,448	65,321	12,560	42,586	9,947
2015-16	179,770	49,140	65,780	12,466	42,470	9,915
2016-17	183,162	51,961	66,100	12,371	42,842	9,887
2017-18	184,344	52,906	66,389	12,225	42,982	9,841
2018-19	184,505	53,003	66,684	12,093	42,938	9,787
2019-20	184,536	52,944	66,849	11,987	43,021	9,736
2020-21	185,079	53,083	67,078	11,940	43,272	9,706
2021-22	185,678	53,294	67,305	11,929	43,492	9,658
2022-23	185,928	53,364	67,506	11,891	43,570	9,597
2023-24	186,327	53,500	67,672	11,875	43,733	9,547

[6] Growth rates are based on 12 month of actual data for 2013-14. This differs to the growth rates published in the 2014 NEFR, which are based on nine months actual data and three months estimated data.

[7] Qld, Tas, and NEM forecasts have been updated; NSW, SA and VIC forecasts remain unchanged from the 2014 NEFR.