Draft Peak Day Gas

GSOO 2021

January 2021 Forecasting Reference Group Meeting

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Introduction

Purpose

- Discuss changes between draft 2021 GSOO and 2020 GSOO peak day gas forecasts
- Receive feedback on draft forecasts

Forecasts presented today include:

- Tariff V (Residential/Commercial) and Tariff D (Industrial) demand
- Central scenario only
- Winter peak day gas demand
- In some regions the estimation of actual demand has included additional large industrial loads. Transition from using data obtained from Transmission Networks to the Gas Bulletin Board (GBB) enabling real-time insights for most gas users (previously only available by survey, once a year)

Timing	Peak Day Gas Forecasts	Responsible
Jan 2020	Last time this topic was discussed	AEMO
Today	Discussion on 2021 forecasts	AEMO
March 2021	GSOO Released	AEMO

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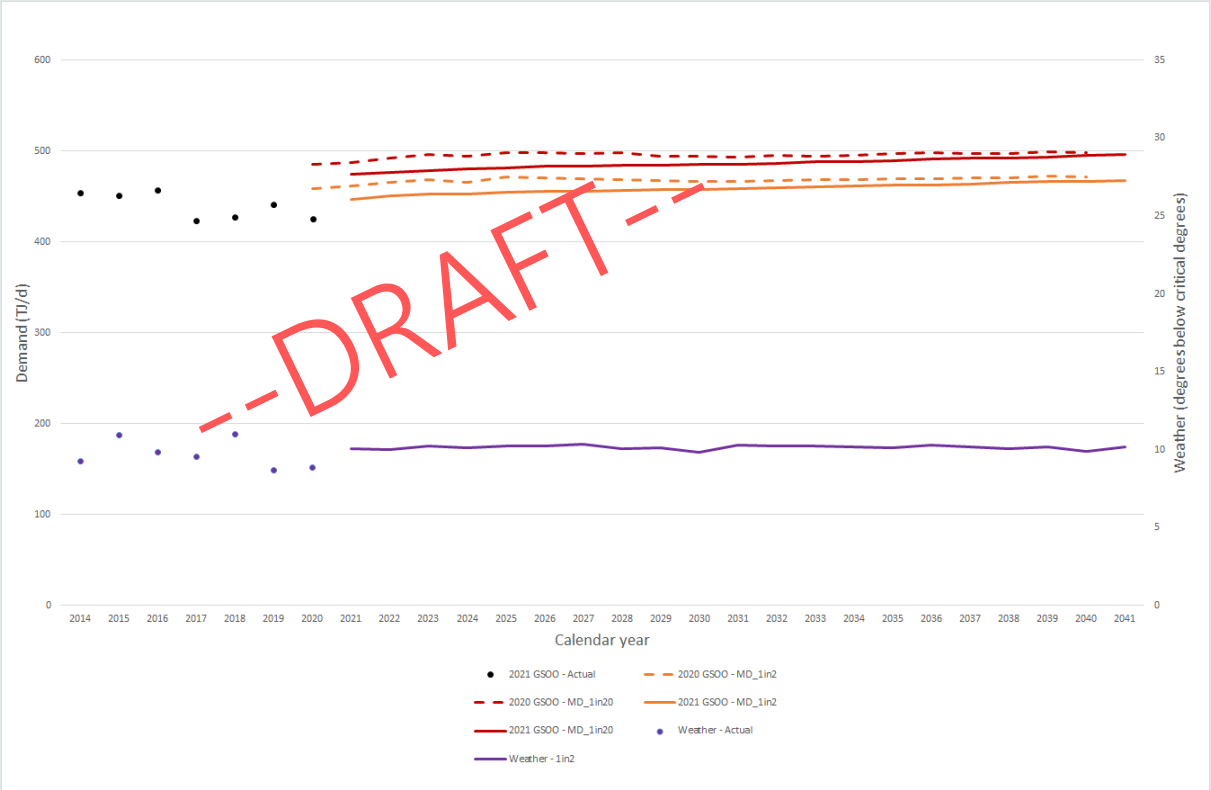
Background: understanding peak day forecasts

- Definition of Peak Day is the day of a season with the highest daily gas demand for a region
- Peak Day is important as the network must be able to adequately serve peak demand via generation and storage
- Dots are actual values (not weather adjusted)
- Orange – 1 in 2 forecast
- Red – 1 in 20 forecast
- Purple – 1 in 2 weather forecast

(NB: Weather forecast has bounce due to simulations and random demand noise at time of simulated peak. Example forecast provided for illustrative purposes only)



Overview: TAS and VIC grow as NSW, QLD, SA flatten

Key Metrics	NSW	QLD	SA	TAS	VIC
Peak day growth (2021 to 2041)	**4.5%**	**-7.3%**	**1.8%**	**13.3%**	**10.8%**
Tariff V peak day growth	3.4%	31.0%	2.5%	9.1%	14.3%
Tariff D peak day growth	6.4%	-9.8%	1.2%	14.1%	-3.0%
Tariff V proportion of peak day	62%	6%	42%	17%	81%
Tariff V proportion of annual consumption	45%	5%	31%	12%	65%
Base Year (Draft vs. 2020 GSOO)	**-14 TJ (-3%)**	**11 TJ (3%)**	**-2 TJ (-1%)**	**1 TJ (5%)**	**15 TJ (1%)**
Drivers					
Connections	Strong growth, drives up peak demand				
Energy efficiency	Varies by region, high EE lowers peak demand				
Coincidence of Tariff V/D peaks	Varies by region, high coincidence increases peak demand				

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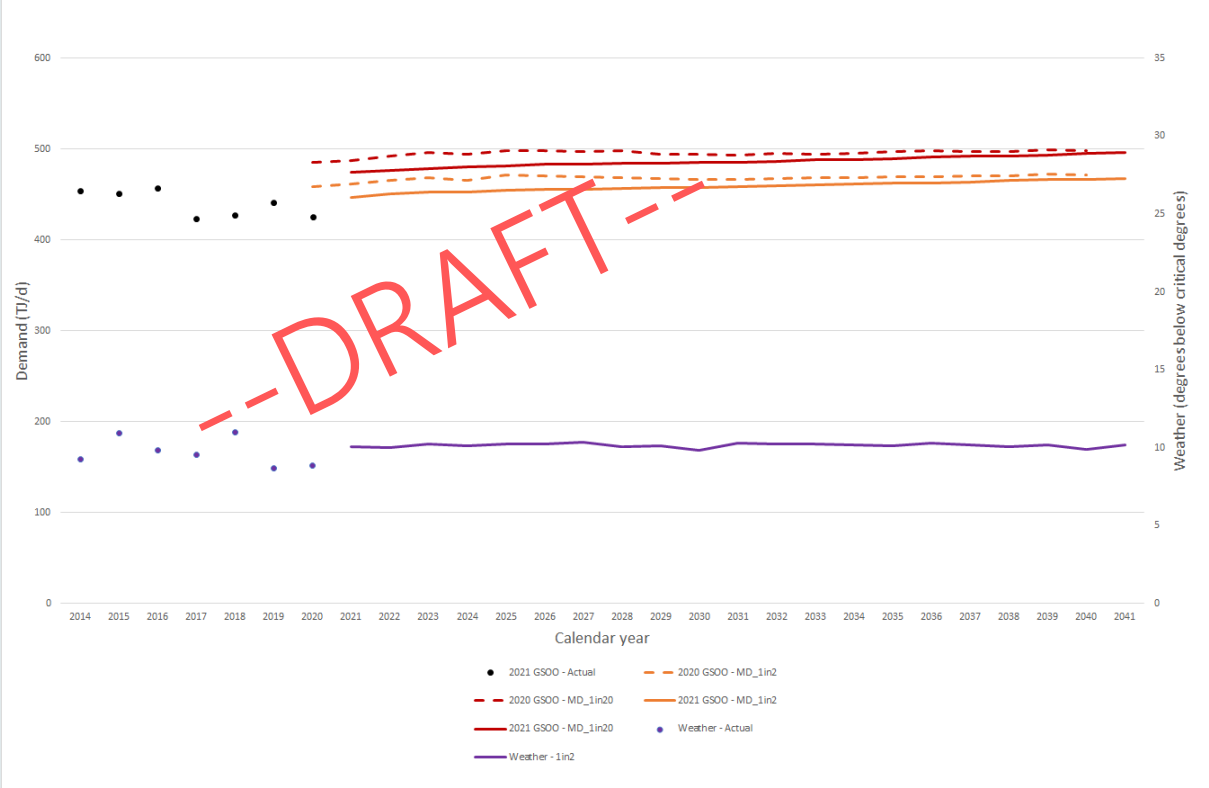
NSW – heating load shift causes slight drop

Key Updates:

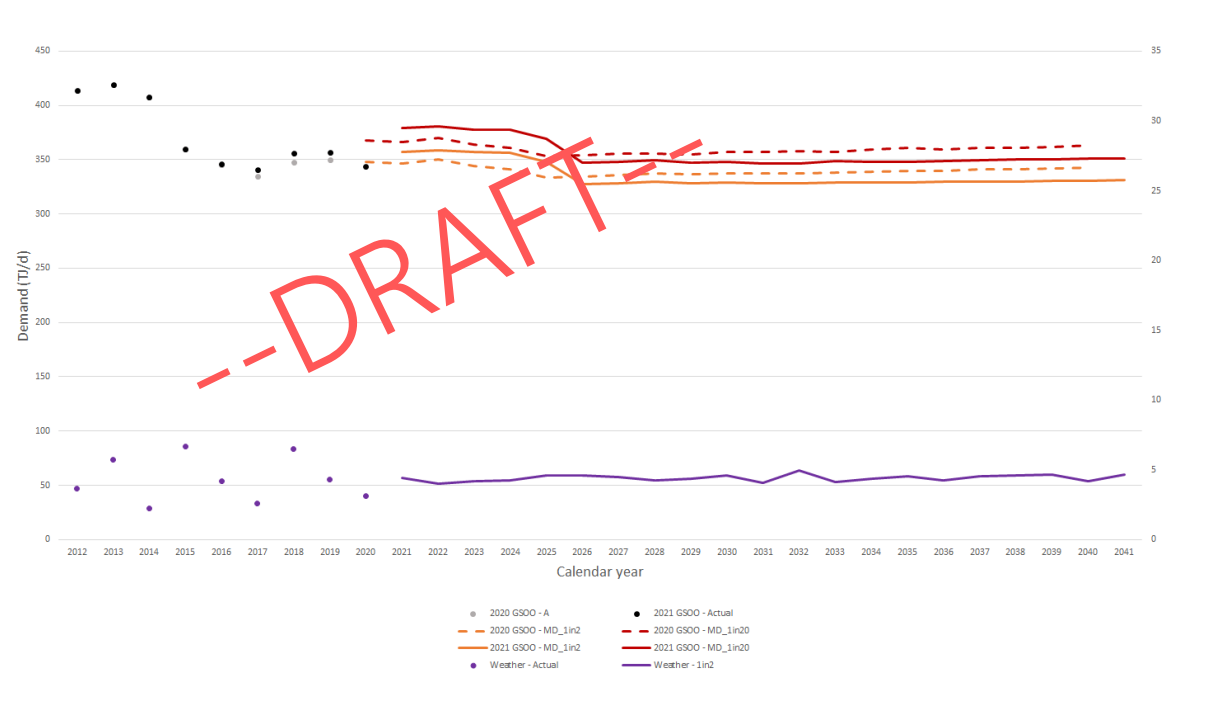
- First year forecast is roughly 14 TJ lower than the 2020 GSOO mainly due to Tariff V peak shifting to later in winter, causing the coincident peak to drop slightly. This is consistent with increased weather-driven demand, suggesting higher weather sensitivity for NSW Tariff V.
- 2020 had a slightly lower HDD at time of peak compared to long term average, suggesting the 2020 peak day observation is indicative of a lower demand actual in a market with a slight upward trend since 2016.
- Slight upward trend compared to the 2020 GSOO, driven mainly by Tariff V growth, consistent with growth rate of connections in previous years.
- In NSW, Tariff V is roughly 62% of total peak day, implying a relatively high degree of weather sensitivity in demand, in comparison to a 45% share of annual gas consumption.



QLD – LIL loads create growth out to 2026

Key Updates:

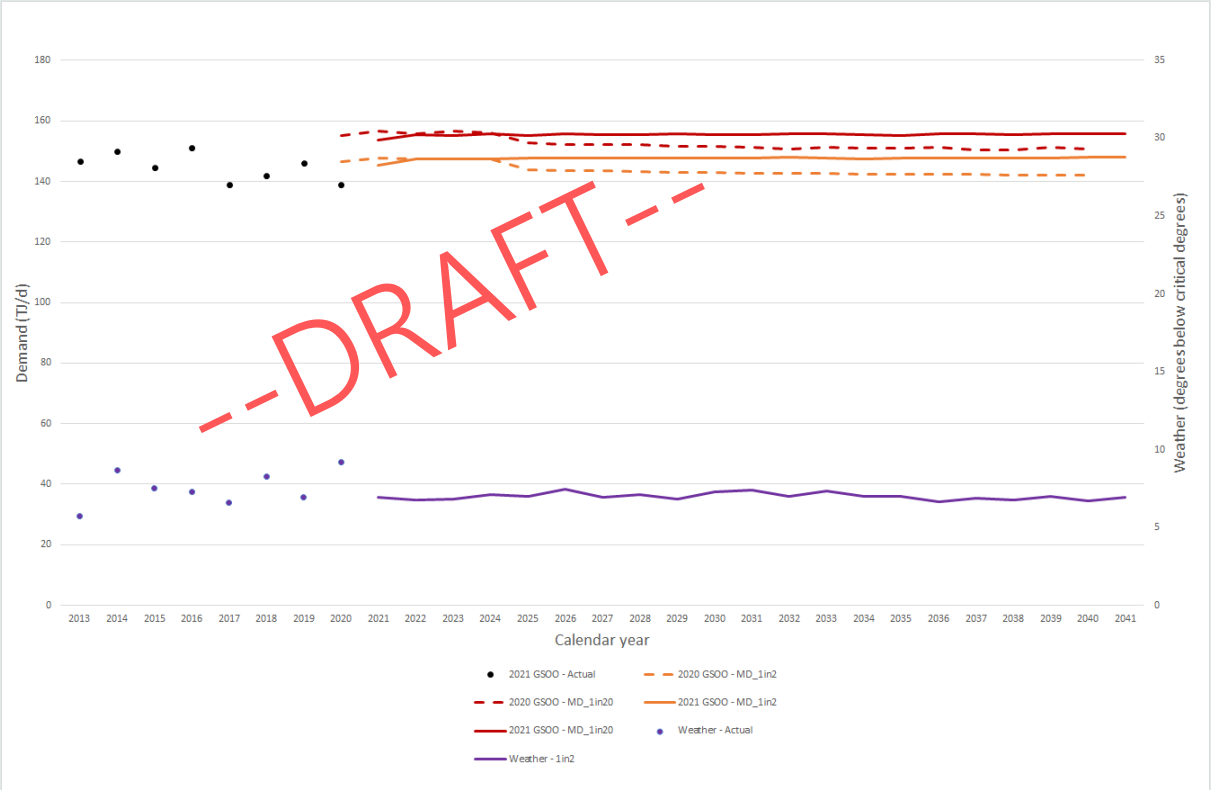
- Redefinition of actuals to include newly-identified LIL loads accountable for the step up in Tariff D between publications. Migration from survey data to GBB (Gas Bulletin Board) has also improved accuracy of actuals estimation.
- First year forecast difference between the 2020 GSOO and draft 2021 GSOO due to above points (original actuals provided in grey).
- Tariff D steadily declines between 2022 and 2026 due to advised LIL activity ramping down over this period.
- Tariff V is 6% of total peak day, as such QLD demand is much less weather-sensitive than other states, similar to its 5% share of annual gas consumption.



SA – muted growth with lower coincidence

Key Updates:

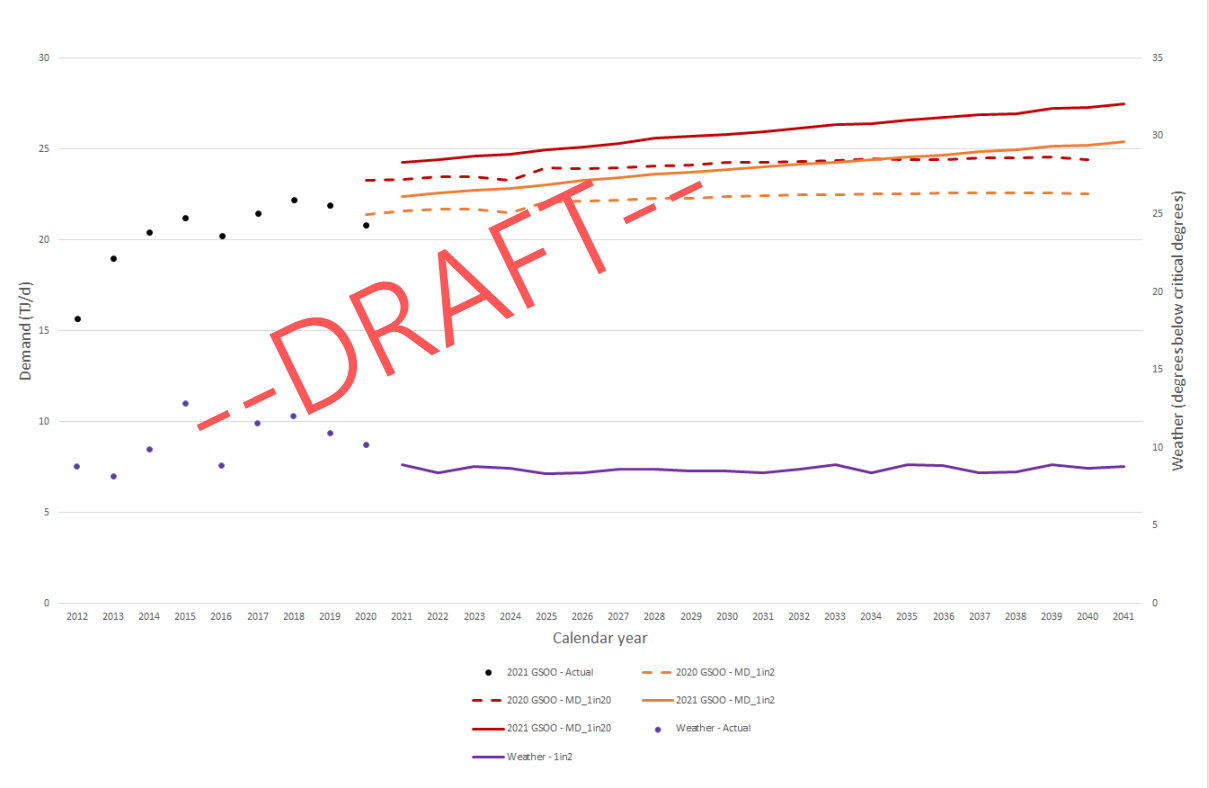
- First year forecast is almost identical to the 2020 GSOO with a difference of only 2 TJ between the two forecasts.
- Latest SA peak was lower than expected even though HDDs for 2020 were higher than average, mainly due to heating load peaking in August instead of June this year. As Tariff D peaks in June, this caused a lower coincidental peak and hence a lower peak day demand. However, there is no evidence to suggest this is a trend that will continue (see Appendix). This is likely due to lower Tariff D demand in June from COVID-19.
- Trajectory of Tariff D is smooth with no decline in 2024, as opposed to previous forecasts which assumed LIL retirements around this time.
- Tariff V is 42% of total peak day gas demand, implying a moderate amount of weather-sensitivity when compared to its 31% share of annual gas consumption.



TAS – strong LIL growth over horizon

Key Updates:

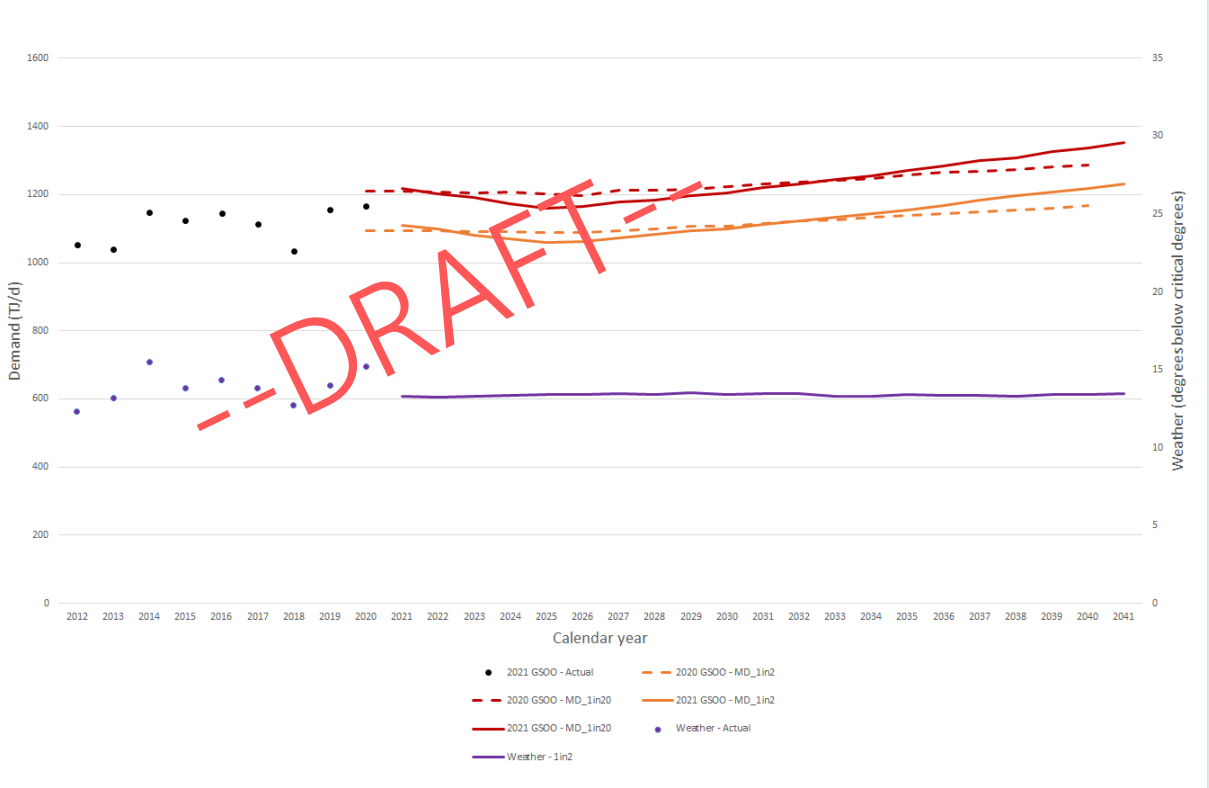
- Upwards shift in first year forecast via an increase in LIL demand due to greater information and transparency gained through the survey process.
- Stronger trend observed between forecasts in short- and long-term due to data provided by stakeholders, including higher growth in connections (see Appendix – Tas Connections in Draft Gas Consumption forecasts).
- Tariff V is 17% of total peak day, implying a relatively low impact of weather on demand.



VIC – high weather sensitivity drives peaks

Key Updates:

- First year forecast is almost identical to the 2020 GSOO with a difference of only 7 TJ between the two forecasts.
- Tariff V declines until 2025 before returning to a strong growth rate, with both observations due to Victorian Energy Efficiency schemes peaking in 2025 and then slowly phasing out.
- Tariff D decline is significantly longer, lasting until around 2032 due to a smoother transition of the energy efficiency forecasts into the long term.
- Tariff V is 81% of total peak day, the largest proportion of all the regions, implying weather plays a significant role in Victorian gas peak demand. Victorian Tariff V has a relatively lower share of total gas consumption at 65%.



Stakeholder discussion

- Are forecast trends as expected?
- Are there any drivers you were expecting to see?
- What needs reviewing?

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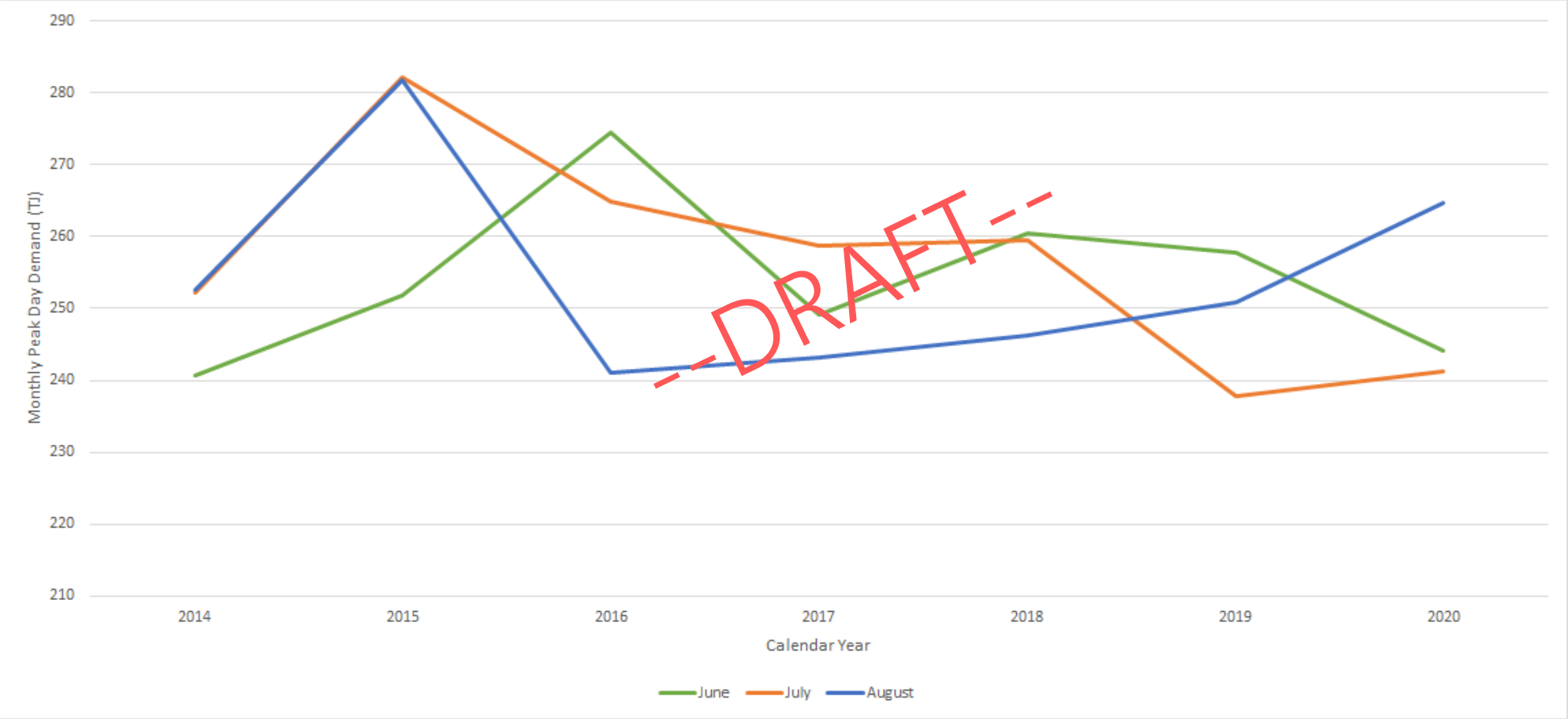
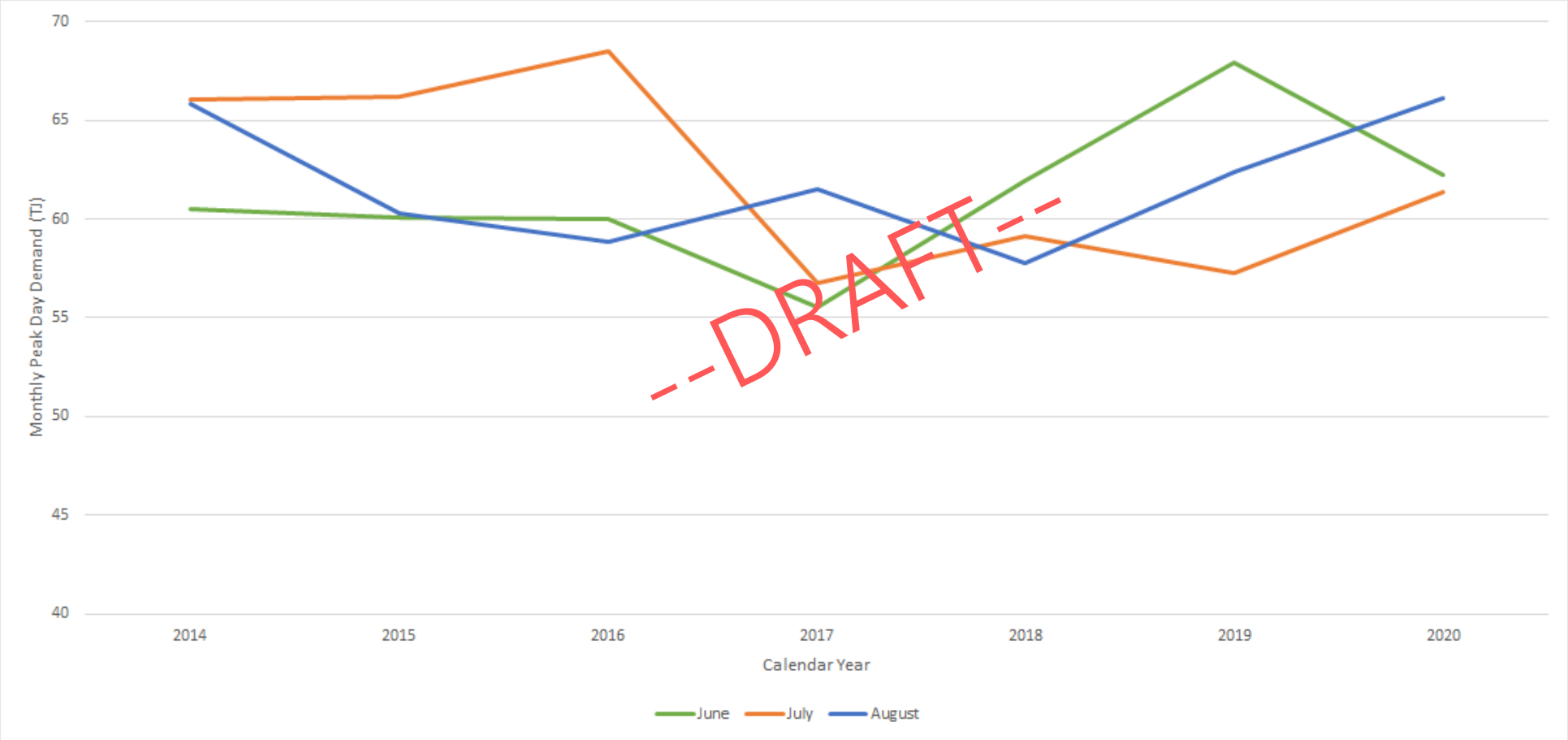
Appendix

NSW: Tariff V peak day shifts later in Winter



SA: no evidence of shift in month of peak day