CHAPTER 7. TASMANIA FORECASTS

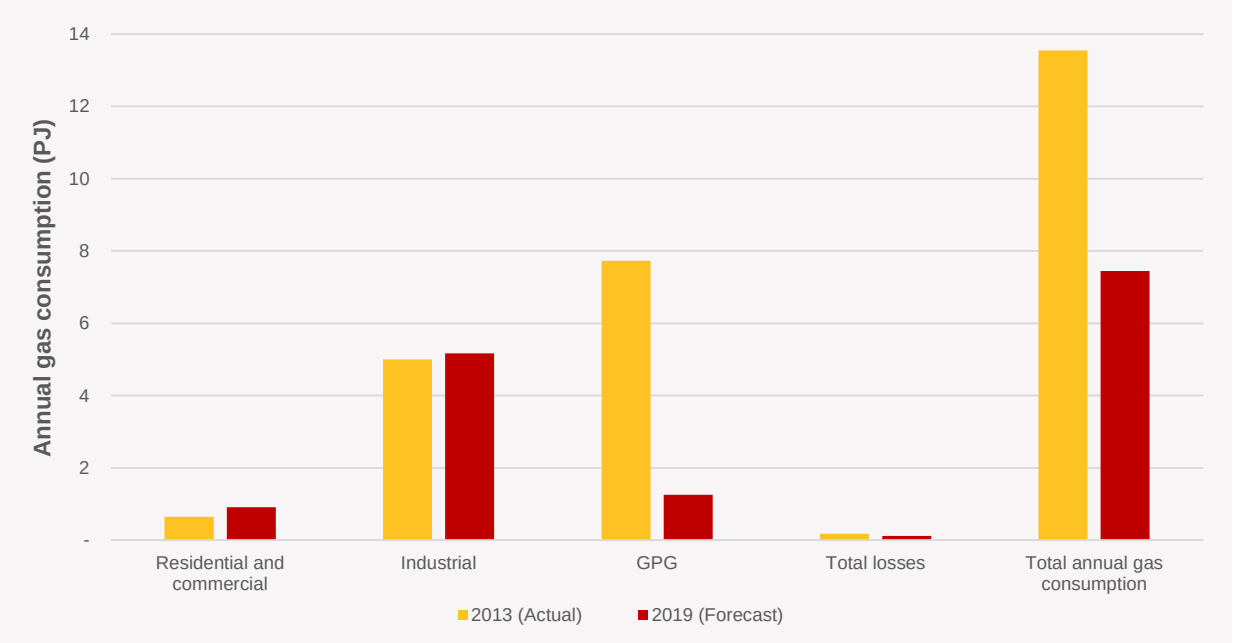
This chapter focuses on the medium scenario short-term forecast. A comparison of the high and low scenario short-term forecast is summarised in Table 48.

7.1 Key findings

Key short-term (2014-19) findings for Tasmania are:

- Total gas consumption is forecast to decrease at an average annual rate of 9.3%.
- Residential and commercial consumption is forecast to increase at an average annual rate of 5.3%, driven by new gas connections.
- Industrial gas consumption is forecast to increase at an average annual rate of 0.3%, driven by increasing consumption for small-to-medium industrial customers.
- GPG gas consumption is forecast to decline at an average annual rate of 27.3%, driven by declining electricity consumption and the temporary closure of Tamar Valley Power Station.[40]

Figure 22 Comparison of 2013 (actual) and 2019 (forecast) annual gas consumption



[40] Refer to http://www.aemo.com.au/Electricity/Planning/Related-Information/Generation-Information. Viewed 1 Dec 2014.

7.2 Annual consumption

Historically, from 2010 to 2013, gas consumption declined from 15.7 PJ to 13.6 PJ. This average annual decline of 4.8% was mainly driven by a 12.2% decline in GPG, a flow-on effect of declining electricity consumption. Other sectors continued to grow, having started from a zero base in 2004[41] when the Tasmanian gas network commenced operation.

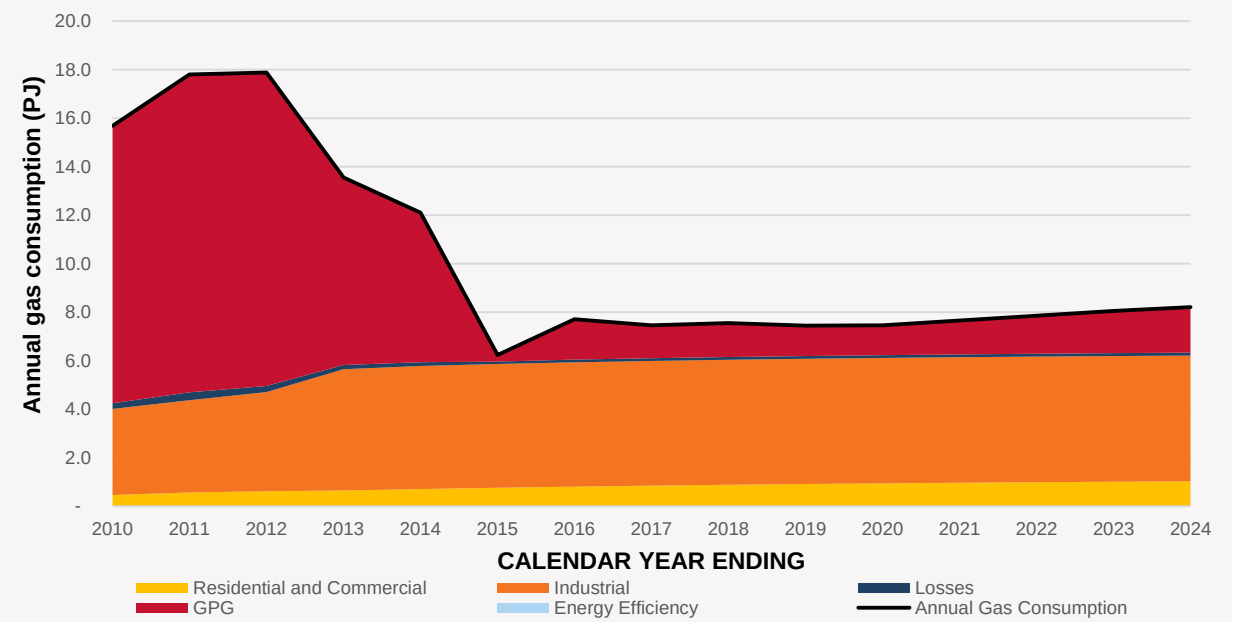
Annual consumption includes total losses from transmission and distribution networks. Refer to Appendix A for further details.

Table 43 demonstrates the annual consumption trends and drivers over the short, medium, and long term.

Table 43 Annual gas consumption

Timeframe	Forecast (PJ)	Average annual growth	Drivers
Short term (2014-19)	12.1 to 7.4	9.3% decrease	Decrease in GPG gas consumption reflecting the temporary withdrawal of Tamar Valley Power Station in 2015.
Medium term (2019-24)	7.4 to 8.2	2.0% increase	Reflects growth in all sectors over the period, including the modelled return of Tamar Valley Power Station.
Long term (2024-34)	8.2 to 5.8	3.5% decrease	Decline in industrial consumption reflecting reduced operation. GPG gas consumption also declines due to long term reductions in electricity consumption.

Figure 23 Annual consumption forecast segments for Tasmania



[41] Source: http://www.dpac.tas.gov.au/__data/assets/pdf_file/0017/141803/Tasmania_s_Energy_Sector_-_an_Overview.PDF.

Differences between high, medium, and low scenario short-term forecasts, 2014-19

The high, medium, and low scenario short-term forecasts decline at average annual rates of 7.2%, 9.3%, and 20.7% respectively. Key differentiating factors are outlined in the individual component forecast sections below.

Figure 24 Comparison of high, medium, low scenario forecasts, including LNG

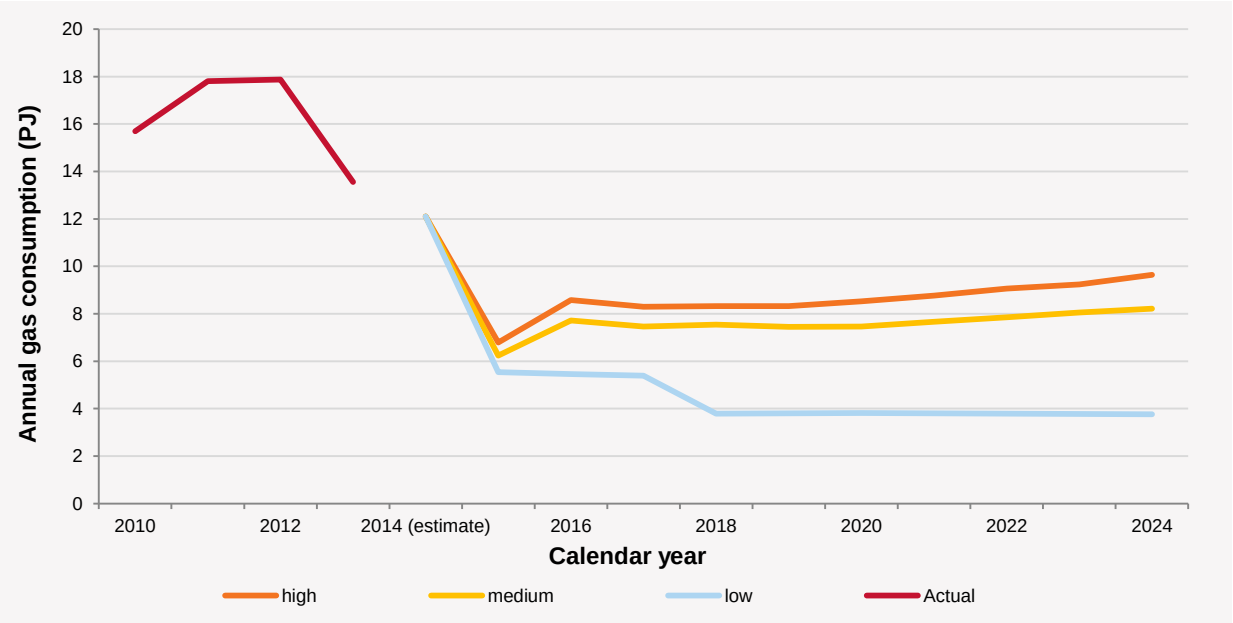


Table 44 Annual gas consumption for Tasmania (PJ)

	Actual	High	Medium	Low
2013	13.6			
2014		12.1	12.1	12.1
2015		6.8	6.2	5.5
2016		8.6	7.7	5.5
2017		8.3	7.5	5.4
2018		8.3	7.5	3.8
2019		8.3	7.4	3.8
2020		8.5	7.5	3.8
2021		8.8	7.7	3.8
2022		9.1	7.9	3.8
2023		9.2	8.1	3.8
2024		9.6	8.2	3.8

7.2.1 Residential and commercial consumption (Tariff V)

Historically, from 2010 to 2013, residential and commercial consumption increased from 0.5 PJ to 0.6 PJ. This average annual increase of 12.1% was driven by the progressive connection of new customers throughout the period. Table 435 demonstrates the trend and drivers in residential and commercial consumption.

Table 45 Residential and commercial consumption over the short, medium, and long term

Timeframe	Forecast (PJ)	Average annual growth	Drivers
Short term (2014-19)	0.7 to 0.9	5.3% increase	Growth in connections as new customers choose to connect to gas when replacing appliances.
Medium term (2019-24)	0.9 to 1.0	2.3% increase	Continued growth in new connections, though moderating as gas prices rise.
Long term (2024-34)	1.0 to 1.1	1.1% increase	Continued growth in new connections, although the rate of new connections reduces as the network matures.

Refer to Appendix B for further details on savings from federal energy efficiency programs.

7.2.2 Industrial consumption (Tariff D)

Historically, from 2010 to 2013, industrial consumption increased from 3.6 PJ to 5.0 PJ. This average annual increase of 12.1% is mainly driven by the progressive connection of small to medium industrial customers. Table 46 demonstrates the industrial consumption trends and drivers.

Table 46 Industrial consumption over the short, medium, and long term

Timeframe	Forecast (PJ)	Average annual growth	Drivers
Short term (2014-19)	5.1 to 5.2	0.3% increase	Growth in small-to-medium customer consumption, though at a slower rate than historically as saturation occurs.
Medium term (2019-24)	5.16 to 5.18	0.1% increase	Continued (though slowing) growth in small-to-medium customer consumption.
Long term (2024-34)	5.2 to 3.5	3.9% decrease	Reduced operation by industrial customers driven by higher gas prices.

7.2.3 Gas-powered generation

Historically, from 2010 to 2013, Tasmanian GPG gas consumption decreased from 11.4 PJ to 7.7 PJ. This average annual decline of 12.2% was driven by declining electricity consumption in this period. Table 47 demonstrates the GPG gas consumption growth and drivers over the short, medium, and long term.

Table 47 GPG gas consumption over the short, medium, and long term

Timeframe	Forecast (PJ)	Average annual growth	Drivers
Short term (2014-19)	6.2 to 1.3	27.3% decrease	Temporary shutdown of the Tamar Valley Power Station over winter 2015.[42]
Medium term (2019-24)	1.3 to 1.9	8.4% increase	Modelled return of Tamar Valley Power Station to operation.
Long term (2024-34)	1.9 to 1.0	5.7% decrease	Long-term forecast decline in Tasmanian electricity consumption.

[42] Source: Generation Information Page: http://www.aemo.com.au/Electricity/Planning/Related-Information/Generation-Information. Viewed 1 October 2014

7.2.4 Summary of high, medium, and low scenario trends and drivers in the short-term (2014-19)

Table 48 High, medium and low drivers for Tasmania (PJ)

Forecast component	Scenario	Forecast (PJ)	Average annual growth	Key drivers
Residential and commercial	Medium	0.7 to 0.91	5.3% increase	Growth in connections as new customers choose to connect to gas when replacing appliances.
	High	0.7 to 0.94	5.9% increase	Lower gas prices and an assumed faster rate of new connections.
	Low	0.7 to 0.85	3.8% increase	Higher gas prices and an assumed slower rate of new connections.
Industrial	Medium	5.1 to 5.2	0.3% increase	Growth in small-to-medium customer consumption.
	High	5.1 to 5.6	2.1% increase	More optimistic operating forecasts due to favourable economic conditions, higher GDP growth, higher commodity prices, lower gas prices and lower exchange rates.
	Low	5.1 to 2.8	11% decrease	Reduced production forecast due to less favourable economic conditions, lower GDP growth, lower commodity prices, higher gas prices and higher exchange rates. AEMO adopted a probabilistic approach to reflect the reduced production or closure of aluminium smelters in response to less favourable economic conditions.
Gas-powered generation	Medium	6.2 to 1.3	27.3% decrease	Temporary shutdown of the Tamar Valley Power Station over winter 2015.
	High	6.2 to 1.6	23.3% decrease	Lower forecast gas prices and higher electricity consumption result in higher GPG gas consumption.
	Low	6.2 to 0.04	63.2% decrease	Higher gas prices and lower electricity consumption result in negligible GPG gas consumption outside of peak electricity demand periods.

7.3 Winter MD

Historically, MD in Tasmania occurs in winter and is driven by both GPG and residential and commercial demand. The 2013 winter MD was 59.4 TJ on 24 June 2013.

Summer MD forecasts and growth rates are published in the 2014 NGFR datasheets.[43] Table 49 demonstrates the growth and drivers of MD over the short, medium, and long term.

Table 49 Winter MD for Tasmania in the short, medium, and long term.

Timeframe	Forecast (TJ/d)	Average annual growth	Drivers
Short term (2014-19)	59.3 to 63.7	1.5% increase	Driven by both GPG and residential and commercial MD, which grow at annual average rates of 1.5% and 5.3% respectively.
Medium term (2019-24)	63.7 to 70.6	2.1% increase	Residential and commercial MD grows consistent with the consumption forecasts, and is linked to continued growth in new connections. While Tamar Valley Power Station is withdrawn in winter 2015, it returns from winter 2016 and GPG MD increases as the electricity supply-demand balance tightens.
Long term (2024-34)	70.6 to 49.7	3.4% decrease	Reduction in industrial MD due to reduced operation, and a decline in GPG MD linked to long-term decline in Tasmanian electricity MD.

The high and medium short-term forecasts increase at annual average rates of 1.6% and 1.5% respectively. The low short-term forecast decreases at an annual average rate of 13.9%. The key drivers for differences from the medium scenario are:

- In the high scenario, faster rate of new residential, commercial and industrial connections, and more optimistic operating forecasts due to favourable economic conditions, higher commodity prices, lower gas prices, and lower exchange rates.
- In the low scenario, less favourable economic conditions, lower commodity prices, higher gas prices and higher exchange rates result in reduced operation or closures from existing large industrial customers. This is coupled with lower electricity MD, and subsequently reduced GPG MD values.

[43] Available at http://aemo.com.au/Gas/Planning/Forecasting/National-Gas-Forecasting-Report. To be published 17 December 2014

Figure 25 Winter 1-in-2 and 1-in-20 year event MD forecasts for Tasmania

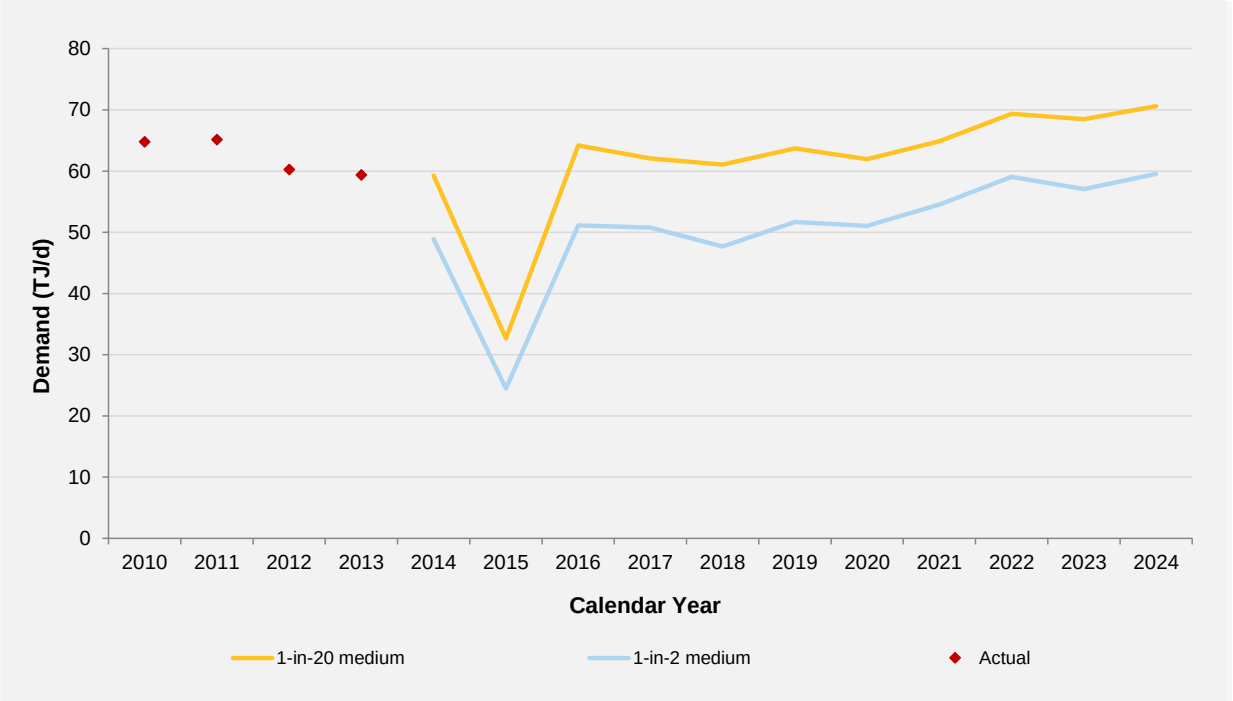


Table 50 Winter 1-in-2 and 1-in-20 year event MD for Tasmania (TJ/d)

		High		Medium		Low	
	Actual	1-in-2	1-in-20	1-in-2	1-in-20	1-in-2	1-in-20
2013	59.4						
2014		48.9	59.3	48.9	59.3	48.9	59.3
2015		27.5	35.6	24.5	32.7	19.9	26.0
2016		55.0	66.5	51.1	64.2	19.5	24.0
2017		54.4	67.1	50.8	62.1	20.9	28.9
2018		54.9	64.3	47.7	61.1	20.1	27.4
2019		53.4	64.0	51.7	63.7	20.2	28.0
2020		56.5	68.1	51.1	62.0	21.6	28.1
2021		59.7	71.0	54.5	64.9	20.3	26.7
2022		62.5	75.5	59.1	69.3	19.3	26.4
2023		64.3	74.3	57.1	68.5	19.3	26.1
2024		66.5	78.6	59.5	70.6	19.3	26.1