ENERGY IN TASMANIA REPORT 2021-22

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OFFICE OF THE TASMANIAN ECONOMIC REGULATOR

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EXECUTIVE SUMMARY

The Tasmanian energy market continues to evolve, with several new electricity retailers entering the market in 2021-22 and continued growth in generation from rooftop solar, albeit at lower levels than in previous years.

Hydro-electric generation also increased in 2021-22 after low inflows into Hydro Tasmania's catchments and low electricity prices in Victoria contributed to reduced generation in 2020-21.

Basslink Pty Ltd operated under voluntary administration for much of 2021-22, but energy continued to flow across the Bass Strait during the period of administration. Exports across Basslink exceeded imports by 247 GWhs in 2021-22.

2021-22 also saw the announcement of a number of additional large-scale wind generation projects and, on the demand side, hydrogen production projects. However, the progression of some of these projects to the construction phase may be contingent on the construction of the proposed Marinus Link interconnector.

Compared to the previous year, the Tasmanian energy market experienced:

- a 4.4 per cent increase in electricity consumption;
- a 12.9 per cent increase in on-island generation, driven by an increase in hydro-electric generation after lower than average generation in 2020-21;
- a 1.5 per cent decline in wind generation due to wind farm outages during the year;
- a 13.5 per cent increase in rooftop solar exports and an increase in the number of installations and average generation capacity of installations;
- a continuation of the decline in gas-fired generation, which fell by 59.2 per cent in 2021-22;
- a reduction in gas consumption and the number of business gas customers; and
- an increase in the number of electricity customers repaying debts, although there was a decrease in the number of customers on voluntary payment plans.

Electricity generation and consumption

Electricity consumption in mainland Tasmania increased in 2021-22 by 4.4 per cent to the highest level since 2018-19.

Tasmanian on-island generation was higher in 2021-22, rising by 12.9 per cent from 2020-21 levels. The primary driver of this was the higher level of hydro-electric generation, which increased by 16.9 per cent in 2021-22 after falling by 15.7 per cent in 2020-21.

Large-scale wind generation declined by 1.5 per cent or approximately 27 GWh in 2021-22. Generation at the Woolnorth and Cattle Hill windfarms declined by 6.1 and 1.9 per cent respectively, while generation at Granville Harbour windfarm increased by 12.7 per cent compared to 2020-21 levels.

Solar generation exports increased again in 2021-22, rising from 122 GWh in 2020-21 to 138 GWh in 2021-22. This was driven by the increasing number of solar installations, with 3 330 new installations exporting to the grid in 2021-22. The average generating capacity per system also continued to increase, increasing from 4.5 kWh to 4.7 kWh.

For the third year in a row, exported generation from rooftop solar exceeded generation from gas at the Tamar Valley Power Station, which declined by 59.2 per cent from 76 GWh in 2020-21 to 31 GWh in 2021-22.

Because on-island generation exceeded consumption during 2021-22, Tasmania was a net energy exporter, supplying a net 247 GWh to the National Electricity Market (NEM) through Basslink. By contrast, Tasmania was a net importer during 2020-21, importing 590 GWh.

There were no significant electricity transmission or distribution reliability issues in 2021-22. The number of areas that did not meet SAIDI (System Average Interruption Duration Index) or SAIFI (System Average Interruption Frequency Index) target levels during 2021-22 were slightly higher than in 2020-21.

In the retail electricity market, the number of residential and business customers increased in 2021-22. Total customer numbers increased by 0.7 per cent. System peak demand also increased slightly, from 1 697 MW in 2020-21 to 1 735 MW in 2021-22. This remains below the maximum system peak of 1 760 MW recorded in 2008.

Small electricity retailers continued to increase their share of the Tasmanian retail market, although their customer numbers are low compared to Aurora Energy. Several new retailers entered the market, but Elysian Energy Pty Ltd had its retailer authorisation revoked by the Australian Energy Regulator (AER) on 2 September 2022 (outside of the period covered by this report) after entering voluntary administration. Elysian Energy's customers were transferred to Aurora Energy, under the AER's Retailer of Last Resort arrangements.

Residential and business gas consumption

Gas represents a relatively small proportion of total energy usage in Tasmania, especially compared to gas consumption in mainland states and the ACT. This is due to the limited gas reticulation network in Tasmania, which prevents many households and businesses from having access to natural gas supply.

Gas consumption fell by 2.7 per cent in 2021-22 and the number of business gas customers declined by 3.4 per cent. However, the number of residential gas customers increased by 0.3 per cent in 2021-22.

The number of residential and business gas customers entering into a payment plan fell in 2021-22, after rising in 2020-21 as a result of the impacts of the COVID-19 pandemic.

Tasmania did not face any natural gas supply issues in 2021-22 and the State's natural gas transmission and distribution network, including the pipeline linking Tasmania with Victoria, did not experience any major reliability issues. The frequency of unplanned outages was higher than in 2020-21, although the total duration of unplanned outages was slightly lower.

Weston Energy Pty Ltd surrendered its Tasmanian gas retail licence during the year after it ceased trading in Tasmania. Each of Weston Energy's small number of business customers transitioned to alternative retailers.

Tasmanian electricity and natural gas entities met most of their performance standards during 2021-22. The main body of this report contains performance information and analysis for each major entity in Tasmania's electricity supply and natural gas industries.

Future developments

Some recent developments have impacted, or have the potential to impact, on Tasmania's electricity supply and demand balance over the medium-term.

There are a number of additional large-scale wind projects proposed for construction in Tasmania. The most significant of these are the Robbins Island wind farm, the North East Wind project, and the Bass Strait Offshore Energy project, each of which is proposed to have a capacity of 500 to 1 260 MW. These three projects would more than double Tasmania's wind generation capacity on their own. Some of the proposed projects may be driven by large increases in load growth in Tasmania, while others may be contingent on the proposed Marinus Link.

There are also a number of small solar generation projects currently in development. However, at five to 12 MW each, these projects are not expected to make a significant contribution to supply.

Hydro Tasmania's Battery of the Nation is a suite of projects being developed to examine how Tasmania's hydro-electric power system can be redeployed and augmented with pumped hydro energy storage to meet the needs of an evolving national power system.

Hydro Tasmania has stated that it has hundreds of megawatts of latent capacity and opportunities to optimise its existing asset base and build pumped hydro energy storage to increase its electricity exports to mainland Australia. Hydro Tasmania has also stated that additional interconnection such as the Marinus Link would support the expansion of Tasmania's hydro-electric power system[1].

On the demand side, the Tasmania Government is seeking to establish a hydrogen production industry at Bell Bay in northern Tasmania under its Green Hydrogen Hub Project. The establishment of one or more hydrogen production plants would substantially increase electricity consumption in Tasmania.

An additional undersea electricity interconnector between Tasmania and Victoria, known as Marinus Link with a capacity of 1 500 MW, is also in development. The effect of an interconnector such as Marinus Link is that the Victorian and Tasmanian electricity markets would be much more closely integrated than they currently are and could lead to significantly higher investment in renewable energy in Tasmania due to greater export-potential to the mainland NEM jurisdictions.

On 19 October 2022, the Australian, Tasmanian and Victorian Governments announced an agreement to jointly fund Marinus Link. A final investment decision of Marinus Link is scheduled to be made in late 2024.

These future developments are also discussed in detail in the *Annual Energy Security Review 2021-22*, which is available on the Office of the Tasmanian Economic Regulator website.[2]

[1] https://www.hydro.com.au/clean-energy/battery-of-the-nation/

[2] http://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/

KEY STATISTICS

Electricity Industry	2019-20	2020-21	2021-22
National Energy Market (NEM) information[3]			
Tasmanian consumption (GWh)	10 683	10 747	11 225
Tasmanian generation (GWh)	11 192	10 157	11 472
Hydro Tasmania			
Hydro-electric generation (GWh)	9 697	8 177	9 560
Bass Strait Islands (GWh)	18	19	21
AETV			
Gas generation (GWh)	87	76	31
TasNetworks			
Solar PV generation (GWh)[4]	109	122	138
Woolnorth Wind Farm Holding (GWh)	1 166	995	934
Cattle Hill Wind Farm (GWh)	78	442	433
Granville Harbour (GWh)	68	333	376
Basslink			
Imports (GWh)	867	1 612	1 159
Exports (GWh)	1 376	1 022	1 406
TasNetworks			
Total distribution customer consumption (GWh)	4 387	4 483	4 581
Unserved energy (%)	0.0009	0.0010	0.0027
Unplanned supply interruptions (excluding Major Event Days)			
- Annual average outage duration (minutes)	523	116	126
- Annual average number of outages per customer	1.40	1.54	1.58
Retail customers[5]			
Aurora Energy			
Residential customers	244 710	243 340	239 821
Business customers	36 862	35 840	35 740
1st Energy			
Residential customers	3 512	6 809	11 057
Business customers	676	1 018	1 215
Energy Locals			
Residential customers	22	299	491
Business customers	39	38	60
CovaU			
Residential customers	-	-	339
Business customers	-	-	278
Shell Power (ERM)			
Business customers	388	495	533
Elysian Energy			
Residential customers	-	-	442
Business customers	-	-	2
Glow Power			
Residential customers	-	-	4
Smart Energy			
Residential customers	-	-	16

[3] This information is NEM data and may not be consistent with other data presented in this report, which is from annual performance information reported by each entity to the Regulator.

[4] The 2019-20 and 2020-21 solar PV generation figures published in the Energy in Tasmania Report 2020-21 were incorrect due to meter reading policies during the COVID-19 pandemic. These figures have been corrected.

[5] Customer numbers in this table include those on regulated contracts with standing offer prices and market contracts.

Electricity Industry	2019-20	2020-21	2021-22
Retail customers			
Flow Power (Progressive Green)			
Business customers	3	7	8
Future X Power			
Residential customers	0	1	0
Macquarie Bank			
Business customers	1	1	0
Delta Electricity			
Business customers	-	-	2
Natural Gas Industry	**2019-20**	**2020-21**	**2021-22**
Tasmanian Gas Pipeline			
Annual gas flow (TJ)	7 382	7 537	7 330
Tas Gas Networks			
Annual gas flow (TJ)[6]	3 539	3 692	3 594
Aurora Energy			
Residential customers	4 582	4 662	4 674
Business customers	136	139	140
Tas Gas Retail			
Residential customers	8 693	8 957	8 987
Business customers	923	991	952

6 The data from 2019-20 onwards includes one large customer who receives gas via a transmission pipeline.

1 INTRODUCTION

Section 10A of the *Electricity Supply Industry Act 1995* (ESI Act) provides for the Tasmanian Economic Regulator to prepare a state of the industry report for the Tasmanian electricity supply industry. The Regulator may prepare this report on its own initiative, or at the direction of the Minister for Energy and Renewables and the Treasurer.

Similarly, Section 15 of the *Gas Industry Act 2019* (Gas Act) provides for the Regulator to prepare a state of the industry report for the Tasmanian gas supply industry.

This Energy in Tasmania report has been prepared on the initiative of the Regulator and provides:

- an overview of Tasmania's electricity supply industry and a summary of NEM activity for the Tasmanian region, including Tasmania's retail electricity market;
- a summary of activity on the Bass Strait Islands (BSI); and
- key performance information for entities in Tasmania's electricity and gas supply industries.

The performance information is available in an Excel workbook on the Office of the Tasmanian Economic Regulator's (OTTER) website: https://www.economicregulator.tas.gov.au/electricity/reports/performance-reporting/performance-reports.

2 ELECTRICITY MARKET SUMMARY

2.1 Tasmania's electricity supply industry

Tasmania's electricity supply industry comprises three principal sub-industries: electricity generation, networks (transmission and distribution) and retail. State Government businesses own and operate most of the electricity generation plants, all network infrastructure except Basslink, and account for the majority of the electricity retail activity. However, the share of activity by private sector businesses has been increasing in the generation and retail industries over recent years, driven predominately by new large-scale wind projects and greater competition for retail customers following the introduction of full retail contestability.

No single generator holds an exclusive licence to generate electricity in Tasmania. Generators with capacity greater than five MW are required to hold a licence issued by the Regulator under the ESI Act. They must also be registered as a generator in the NEM, unless exempted from registration under the national regulatory arrangements.

In mainland Tasmania in 2021-22, there were 12 companies licensed to generate electricity. There was one licensed network business (TasNetworks Pty Ltd) and ten authorised retailers with at least one customer in Tasmania at the end of 2021-22.

For the BSI, Hydro Tasmania was solely responsible for electricity generation, network services and, through its subsidiary Momentum, retail services during 2021-22.

Basslink has a transmission licence and is responsible for the operation of the link between Victoria and Tasmania.

Tasmanian electricity generation comprises hydro-electric, gas-fired generation, wind and embedded[7] generators. Hydro-electric generation continues to provide the majority of the State's generation, producing just over 83 per cent of the total electricity generated on mainland Tasmania in 2021-22. This was an increase of approximately three percentage points when compared to its share in 2020-21. Wind was the next largest contributor to generation, producing just over 15 per cent of output in 2021-22, down from approximately 17 per cent in 2020-21. Gas-fired generation's share of total electricity generation declined during 2021-22, falling from 0.75 per cent in 2020-21 to 0.27 per cent, continuing the trend observed over previous years. The primary reasons for the decline in wind's contribution to total generation was a number of unplanned outages leading to reduced generation in 2021-22.

The structure of the electricity market in Tasmania, in terms of the different classes of customers, is very different from other Australian jurisdictions. In Tasmania, a small number of major industrial customers account for a relatively large share of electricity consumption, while small business and residential customers account for a much smaller share of total consumption than in other regions of the NEM.

7 Embedded generators are small generation units connected directly to the electricity distribution network.

2.2 The National Electricity Market

The NEM is a wholesale electricity spot market where demand is matched with supply through a centrally-coordinated bidding and dispatch process. The NEM comprises five regional markets (Queensland, New South Wales, Victoria, South Australia and Tasmania), interconnected to form a single electricity grid. The NEM's transmission and distribution networks carry power from electricity generators to customers across six jurisdictions (including the ACT). Increasingly, electricity supply is being supplemented by distributed generation, principally residential solar generation, embedded within distribution networks.

The NEM control centres schedule electricity generation for each five-minute interval of every day. The Australian Energy Market Operator (AEMO) oversees this process, with generators submitting bids to AEMO to provide the market with specified amounts of electricity at specified prices for each trading interval. AEMO stacks the bids received from cheapest to most expensive and aggregates the bid amounts until the volume of electricity in the bid stack is equal to the market demand. The bid price of the last generator dispatched to equalise supply and demand sets the regional dispatch price. Previously, the average of the six (five-minute) dispatch prices in each half hour set the spot price. However, with the implementation of five-minute settlements on 1 October 2021, prices are no longer averaged and the last generator dispatched in each five-minute period sets the price for that period.

All generators in a particular NEM region that are dispatched during a trading interval receive the spot price from AEMO for any electricity they provide to the market, irrespective of their initial bid price. However, generators will usually enter into financial risk sharing contracts with retailers or other market participants such that the revenue they ultimately receive from their generated electricity may be very different from the spot market price.

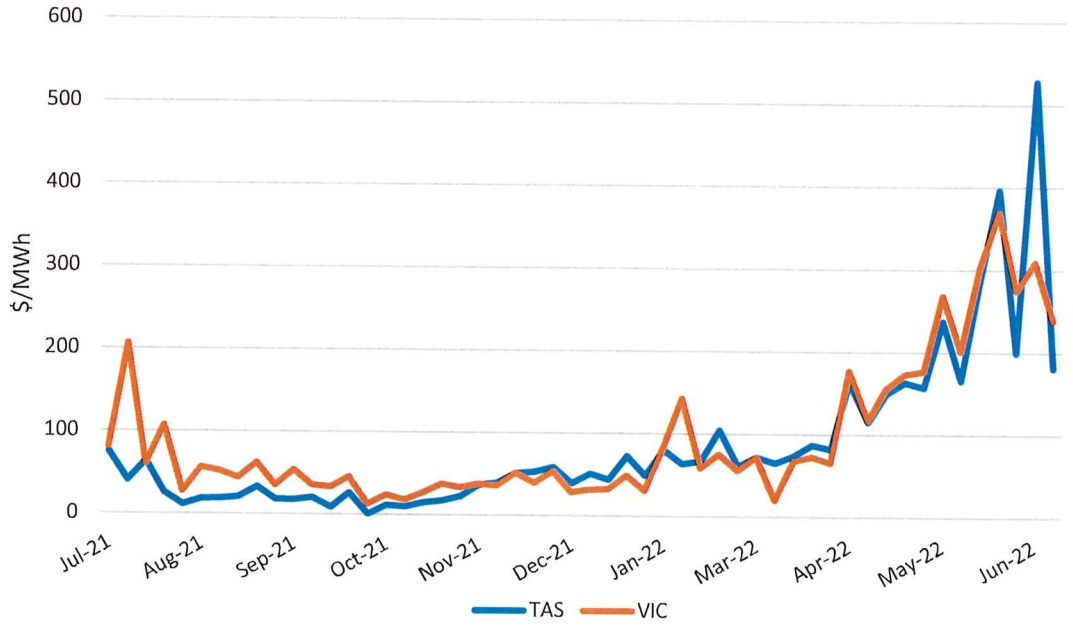
The Australian Energy Market Commission (AEMC) and the AER are responsible for overseeing and regulating the NEM. The AEMC is responsible for rule-making and responding to requests for rule changes, which are usually proposed by NEM participants. The AER is responsible for enforcing and monitoring compliance with the National Electricity Rules (NER), as well as for economic regulation of electricity transmission and distribution entities in the NEM and authorising retailers.

2.3 Wholesale electricity prices

As Tasmania is connected to the Victorian region of the NEM via Basslink, Tasmanian spot prices are generally closely related to Victorian spot prices, with differences reflecting the costs of generation within each region and the losses associated with transporting electricity between the regions. Only where transmission constraints apply do spot prices between the two regions diverge significantly.

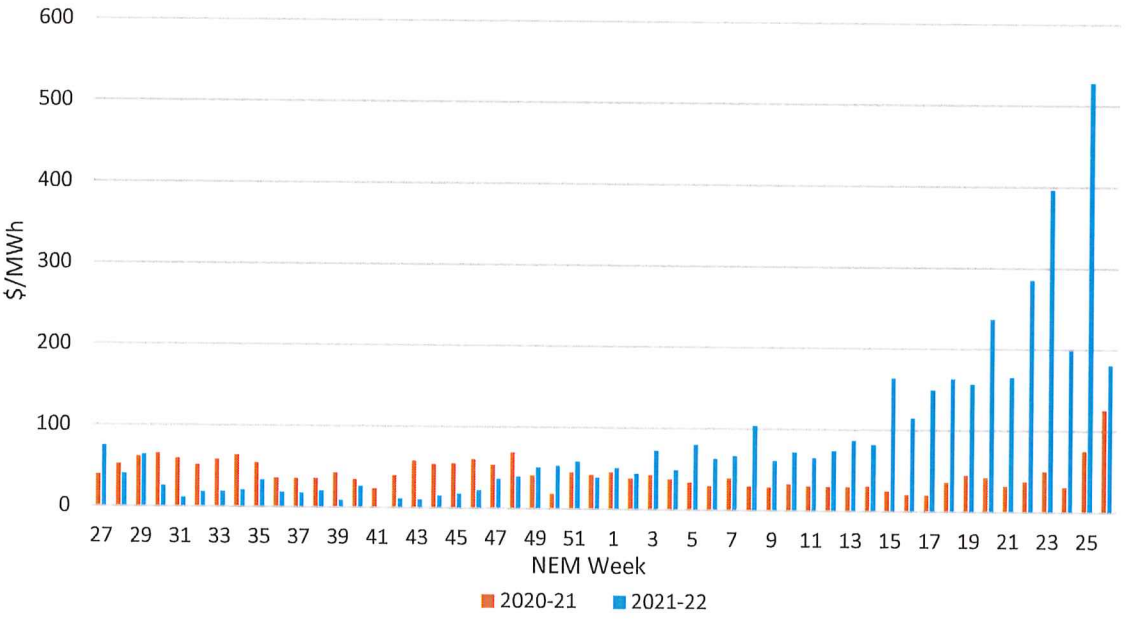
Spot prices in Tasmania generally tracked Victorian spot prices closely during 2021-22. Weekly average volume-weighted prices in Tasmania ranged from $0.96 to $528.71 per MWh during 2021-22, while Victorian average volume-weighted prices ranged from $12.86 to $370.86 per MWh. Prices were marginally lower in Tasmania throughout 2021-22, with a median price of $56.17 per MWh in Tasmania, compared to a median price of $56.42 in Victoria. Tasmanian prices were less volatile throughout the majority of the year when compared to Victoria, excepting the end of quarter four, where Tasmanian prices were quite volatile (Figure 2.1). The volatility in Tasmanian spot prices at the end of quarter four was driven by high maximum demand in early June 2022.

Figure 2.1 Tasmanian and Victorian volume-weighted weekly average electricity spot prices: 2021-22



Although Tasmanian average volume-weighted prices in 2021-22 were lower than 2020-21 in the first half of the financial year, significant price increases in the second half of the financial year resulted in Tasmanian average volume-weighted prices being noticeably higher in 2021-22 than in 2020-21. Median prices were $56.17 per MWh in 2021-22 compared to $39.94 per MWh in 2020-21, an increase of $16.23 per MWh or 41 per cent. Prices in 2021-22 were also more volatile compared to 2020-21 (Figure 2.2). The increase in electricity prices in 2021-22 compared to 2020-21 was driven by higher prices in Victoria caused by the spikes in gas prices globally.

Figure 2.2 Tasmanian volume-weighted average electricity spot prices



2.4 Generation and Consumption

Tasmania's electricity consumption has been relatively stable over the past five years (Table 2.1), while the generation mix has generally seen more variability. Of the generation sources, hydro-electric generation tends to vary most on a year-to-year basis, due to varying inflows into Hydro Tasmania's catchments. Inflows were slightly below average in 2021-22, with the yield into Hydro Tasmania's storages being 1.1 per cent below the 2017-18 to 2021-22 average. This was an improvement compared to 2020-21 inflows, which were the lowest since 2012-13.

The contributions of both wind and rooftop solar have been steadily increasing over the years, while gas generation is at much lower levels than five years ago.

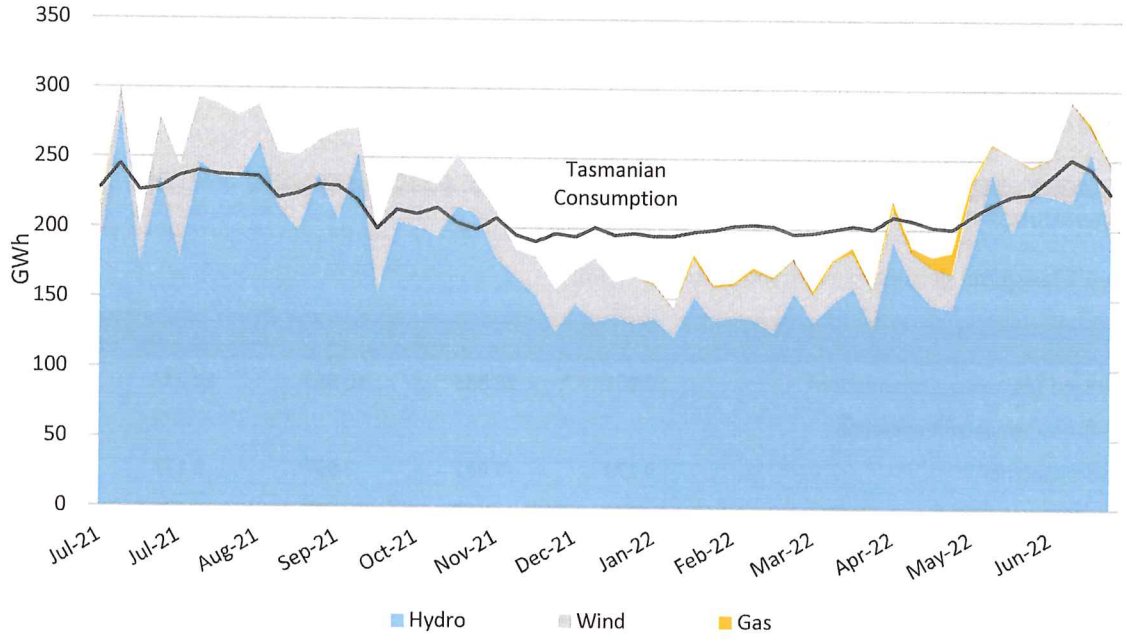
Table 2.1 Tasmanian electricity demand and generation (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Mainland Tasmanian Consumption[8]	10 961	10 843	10 683	10 747	11 225
Mainland Tasmanian Generation					
Hydro-electric	9 178	9 681	9 697	8 177	9 560
Gas	820	465	87	76	31
Wind	1 079	1 105	1 312	1 770	1 743
Rooftop PV generation	93	98	109	122	138
Interconnector					
Basslink exports	1 074	1 496	1 376	1 022	1 406
Basslink imports	865	991	867	1 612	1 159

In the autumn, winter and spring months of 2021-22, on-island electricity generation generally exceeded consumption. In summer, by contrast, consumption in Tasmania was greater than on-island generation (Figure 2.3).

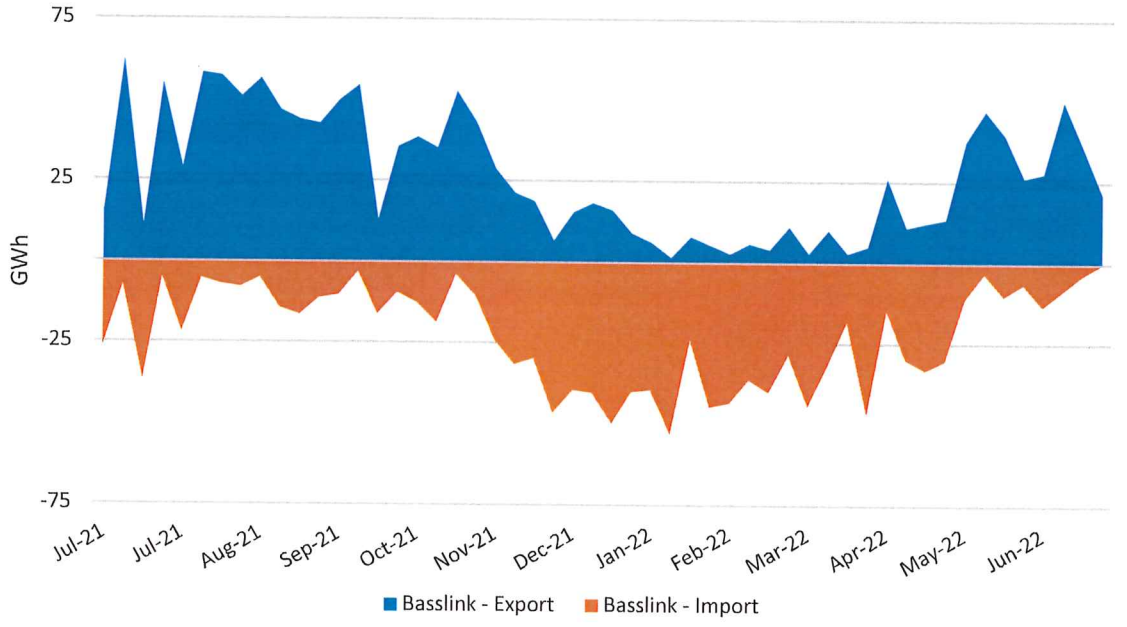
[8] These values refer to the level of electricity generation required to meet annual consumption and therefore include transmission and distribution network losses

Figure 2.3 Tasmanian electricity consumption and on-island generation (excluding solar PV generation): 2021-22



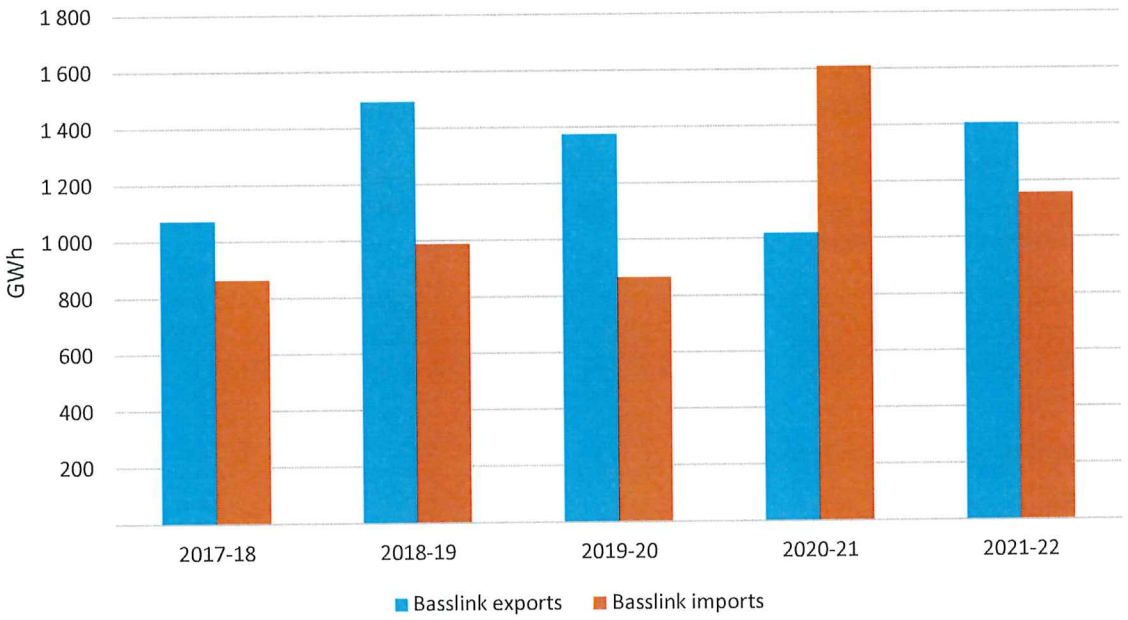
Any difference between generation and consumption is met by imports or exports through Basslink. Tasmania was a net exporter during 2021-22, exporting approximately 250 GWh more than it imported. Weekly electricity flows across Basslink during 2021-22 are presented in Figure 2.4 below.

Figure 2.4 Basslink flows: 2021-22



Whilst there has been some variation in the annual level of imports and exports over the past five years, overall Tasmania has been a net exporter of energy, with the only year of net imports in the past five being 2020-21. Annual electricity flows across Basslink for the past five years are presented in Figure 2.5.

Figure 2.5 Basslink annual imports and exports: 2017-18 to 2021-22



2.5 Frequency Control Ancillary Services

Frequency Control Ancillary Services (FCAS) are designed to maintain the frequency of the power system within a normal operating band of between 49.85 Hz and 50.15 Hz.

In general, FCAS are of two types:

- Regulation FCAS, which are services that correct for continual minor frequency deviations under typical load and generation conditions to maintain power system frequency within the normal operating band.
- Contingency FCAS, which are fast, slow and delayed services used to recover from larger frequency deviations arising from contingent events such as the loss of a generating unit, transmission line or major load.

As the frequency may need to be adjusted up or down to return to the normal operating band, each of these FCAS services is further categorised as a 'raise' or 'lower' service.

Each type of FCAS has a separate market that operates in parallel to the electricity market in the NEM. AEMO purchases FCAS from suppliers in each of the eight FCAS markets in a similar manner to the electricity bidding system, and recovers the costs of procuring FCAS from market participants as part of the settlement process. Regulation FCAS cost recovery is on a causer pays basis and the costs are shared between generators and customers based on their role in deviating electricity system frequency and in restoring system frequency. For the costs of contingency FCAS, raise services costs are paid by generators and lower services costs are paid by customers.

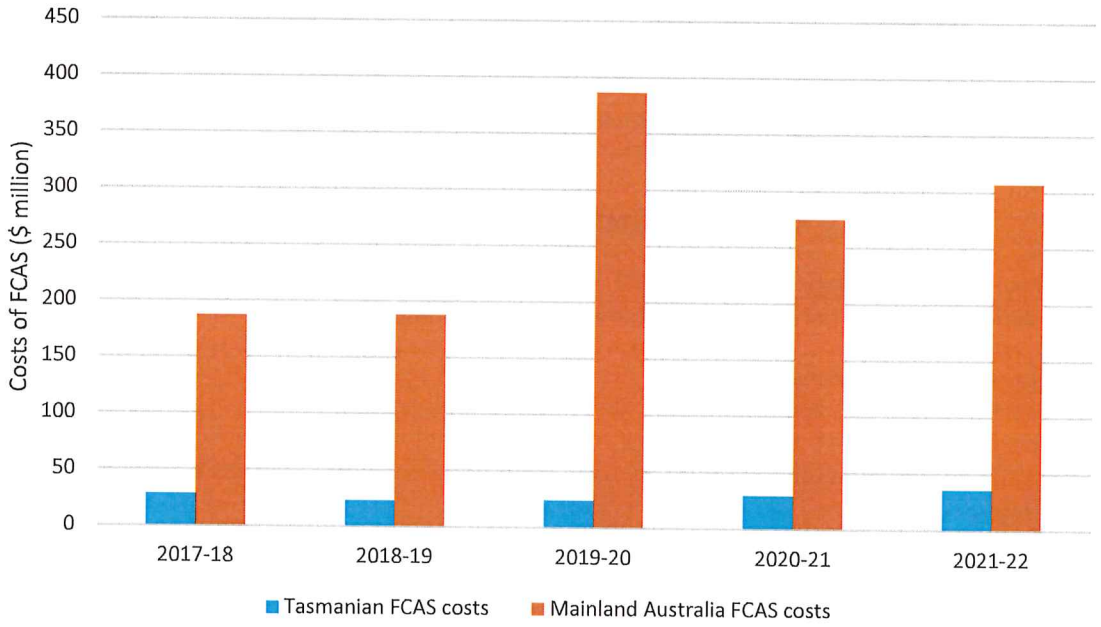
AEMO notes that the FCAS market is undergoing increasingly rapid changes in the number and nature of its participants as older, larger-scale synchronous generators, which have traditionally provided FCAS, are being decommissioned with renewable, non-synchronous generation units replacing them, and new technology providers are entering the market.

In 2021-22, there were two registered FCAS providers in Tasmania, Hydro Tasmania and Firmus (Firmus Infrastructure Pty Ltd and Firmus Grid Pty Ltd):

- Hydro Tasmania provides FCAS through its hydro-electric generating units, the Tamar Valley Power Station (TVPS) (the Combined Cycle Gas Turbine can provide lower contingency FCAS), and the Adaptive Under Frequency Load Shedding Scheme[9] (AUFLS 2); and
- Firmus is a cloud infrastructure provider located in Launceston, and is registered to provide all three types of raise contingency FCAS, by varying its electricity demand in response to measured frequency in the network.

Total FCAS costs in mainland Australia are in an upward trend with the peak in the last five years occurring in 2019-20. FCAS costs can vary significantly from week to week but, annually, Tasmanian costs have been comparatively stable, averaging $28.68 million per year over the past five years (Figure 2.6).

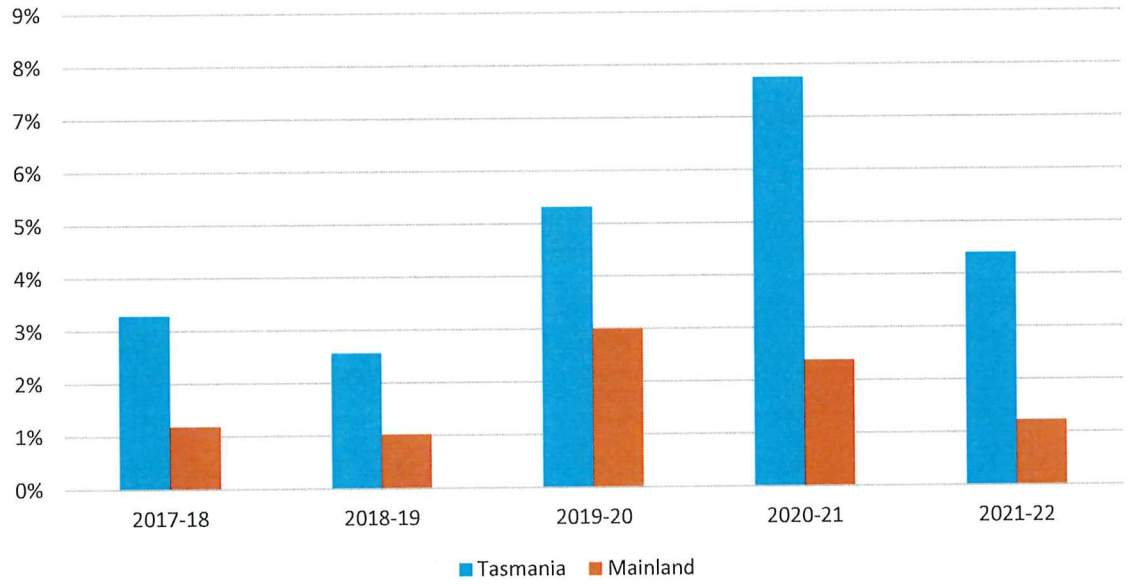
Figure 2.6 FCAS costs: 2017-18 to 2021-22



FCAS costs in Tasmania as a proportion of total electricity turnover have been consistently much higher than for mainland Australia, with FCAS representing an average of 4.52 per cent of Tasmanian market turnover, compared to approximately 1.78 per cent on the mainland over the past five years (Figure 2.7).

[9] Under frequency load shedding is a method of restoring electrical power system frequency by reducing the load on the system. AUFLS 2 allows Hydro Tasmania to enter into contractual agreements with major electricity users to trip their loads to meet raise contingency FCAS requirements. The aim of the scheme is to adaptively calculate and trip a minimum amount of load while providing a fast, smooth and safe return to normal operating frequency.

Figure 2.7 FCAS costs as a proportion of total wholesale electricity turnover: 2017-18 to 2021-22



The amount of FCAS needed in Tasmania is relatively high compared to the mainland. This is because the mainland system is generally much more resilient to frequency changes, compared to Tasmania, due to its size and higher interconnectivity across the NEM regions.

Table 2.2 Volume-weighted average annual FCAS prices ($/MWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Tasmania	10.72	9.37	9.25	9.48	10.46
Mainland NEM	11.60	11.81	18.41	8.36	10.99

The prices of FCAS in Table 2.2 are the average prices of all eight FCAS services in each financial year, weighted by the demand for each FCAS service, for Tasmania and mainland NEM jurisdictions. In 2021-22, Tasmania's volume-weighted price was 4.77 per cent lower than the mainland price. Over the past five years, the average annual FCAS price per MWh was lower in Tasmania than in mainland NEM jurisdictions except in 2020-21.

FCAS prices are currently unregulated in Tasmania although they have been regulated in the recent past. The Regulator continues to monitor FCAS costs and prices.

2.6 Tasmanian retail electricity market summary

Customers in Tasmania, excluding those on the BSI, can purchase electricity through a retailer under a negotiated market contract or under a standard retail contract, which results in regulated tariffs that include standing offer prices and service standards. Other possibilities also exist, but these constitute a small minority and are largely dependent on an individual or group's circumstances warranting a more complex arrangement.

Regulated tariffs provide a safety net price for small customers, specifying the maximum price that a regulated offer retailer can charge those customers. Any small customer meeting the conditions for supply is entitled to receive supply from a regulated offer retailer. In the mainland Tasmanian market, the only regulated offer retailer is Aurora Energy Pty Ltd (Aurora Energy).

Under the *National Energy Retail Law 2011* (NERL), an entity must hold a retailer authorisation (unless exempt from the requirement) prior to engaging in the retail sale of electricity. From 1 July 2012, the Regulator no longer issues licences to retailers intending to operate within mainland Tasmania, with the AER now responsible for the assessment and authorisation of retailers.

Authorised retailers are required to submit quarterly performance reports to the AER in accordance with section 282(1) of the NERL. The Tasmanian Economic Regulator has powers under the ESI Act to require retailers operating in Tasmania to provide information and these retailers must provide the Regulator with a copy of these reports after they are formally submitted to the AER. This information is used to monitor trends in the electricity retail market in Tasmania.

On 1 July 2014, full retail competition was introduced into mainland Tasmania, enabling retailers other than Aurora Energy to offer products to residential customers and to the balance of small business customers that were not opened to retail competition during 2011. Residential customers have faced a choice of retailers since early 2019.

During 2021-22, eight electricity retailers (Aurora Energy, 1st Energy, Energy Locals, Elysian Energy, CovaU, Smart Energy, GlowPower, and Future X Power) supplied electricity to residential customers, and nine electricity retailers (Aurora Energy, 1st Energy, Shell Power (ERM), CovaU, Energy Locals, Flow Power (Progressive Green), Elysian Energy, Delta Electricity, and Macquarie Bank) supplied electricity to business customers. During 2021-22, Macquarie Bank surrendered its retailer authorisation, and on 2 September 2022 Elysian Energy had its retailer authorisation revoked by the AER.

Aurora Energy is the dominant retailer in the State, with market shares of 95.1 per cent of residential customers and 94.5 per cent of business customers as at 30 June 2022. This represents a decrease in residential customers and business customers of 2.1 percentage points and 1.4 percentage points respectively, compared to 30 June 2021.

On the BSI, Hydro Tasmania is the only retailer and has a retail licence issued by the Regulator. The retail services are provided by Hydro Tasmania's subsidiary company Momentum. Retail prices on the BSI are approved by the Regulator.

The number of residential customers in Tasmania, excluding those on the BSI, has been increasing over the past five years, to just over 252 000 in 2021-22, accounting for approximately 87 per cent of all customers (Table 2.3). This is in contrast to the number of small business customers, which has remained relatively consistent over the same period. The number of large business customers has fallen over the last five years.

Table 2.3 Number of Tasmanian electricity customers by customer type[10]

	2017-18	2018-19	2019-20	2020-21	2021-22
Total Tasmanian electricity customers (Excluding BSI)	279 102	282 686	286 233	287 790	289 923
Total residential customers	241 125	244 662	248 244	250 448	252 150
Total business customers (small)	35 648	35 661	35 793	35 233	35 760
Total business customers (large)	2 329	2 362	2 176	2 109	2 011

[10] The number of Tasmanian electricity customers shown in Table 2.3 differs slightly from the electricity customer number reported by the AER in its quarterly retail energy market performance update. This is because the retail electricity customer numbers reported by the AER include the number of customers in a deemed arrangement, that is, customers supplied electricity from a retailer without a contract. The number of customers in a deemed arrangement is not included in the figures reported in Table 2.3 and the rest of this report.

3 HYDRO-ELECTRIC CORPORATION (HYDRO TASMANIA)

The Hydro-Electric Corporation, trading as Hydro Tasmania, is the major electricity generator in Tasmania. It owns and operates 30 hydro power stations with a combined generating capacity of 2 290 MW. Since 2013, Hydro Tasmania has been the owner and operator of the TVPS through its wholly owned subsidiary, AETV Pty Ltd. Chapter 4 of this report contains details of the performance of the TVPS.

Hydro Tasmania also owns a combined 25 per cent holding in associates Woolnorth Wind Farm Holding Pty Ltd and Woolnorth Wind Farm Finance Holding Pty Ltd. Chapter 5 of this report contains details of Woolnorth Wind Farm's performance.

Chapter 16 provides details of Hydro Tasmania's distribution and retail performance on the BSI.

In addition to its hydro and wind generation assets on mainland Tasmania, Hydro Tasmania also generates electricity on the BSI using a combination of solar, wind and diesel sources, and provides electricity distribution and retail services on the BSI. The total capacity of Hydro Tasmania's BSI generation is 14.7 MW.

3.1 Hydro-electric generation

Hydro-electric generation is the main source of electricity in Tasmania. Table 3.1 presents the total energy supplied in relation to Hydro Tasmania's mainland Tasmanian (excluding AETV) and BSI operations.

Table 3.1 Energy generation (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Energy supplied - Hydro (mainland Tasmania)	9 178	9 681	9 697	8 177	9 560
Energy supplied (BSI)	16	17	18	19	21

Table 3.2 summarises Hydro Tasmania's performance in terms of availability, forced outages, and planned outages. Hydro Tasmania comfortably met its performance targets during 2021-22. This result is broadly consistent with previous years.

Like other generators, Hydro Tasmania's performance targets are set by the entity each year and provided to the Regulator in its annual performance report. Hydro Tasmania's performance targets have remained unchanged since 2017-18.

Table 3.2 Generation reliability (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Availability factor	86.50	86.30	85.13	83.37	87.72	>80.00
Forced Outage factor	2.60	0.81	2.16	2.15	1.10	<2.00
Planned Outage factor	10.90	12.90	12.71	14.48	11.18	<18.00

3.1.1 Water storages

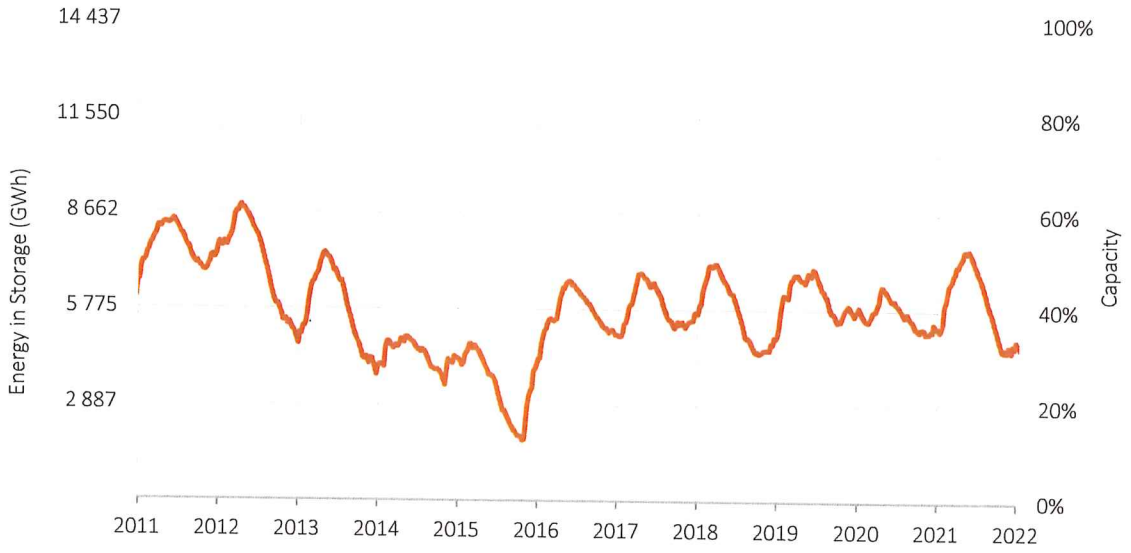
Hydro Tasmania's total water storage capacity is 14 437 GWh.[11] As hydro-electric generation is the major source of electricity in Tasmania, maintaining an appropriate level of water storage is crucial for energy security in the State. Hydro Tasmania's water storage levels as at 30 June each year have ranged between 33.8 per cent and 40.1 per cent (Table 3.3). While there has been a decline from 2019-20 to 2021-22, the actual water storage level remains above the prudent storage level prescribed in the *Energy Co-ordination and Planning Order 2021.*

Table 3.3 Water storages as at 30 June (%)

	2017-18	2018-19	2019-20	2020-21	2021-22
Water storages	39.2	34.7	40.1	36.2	33.8

Figure 3.1 shows Hydro Tasmania's historical water storage levels from July 2011 to June 2022. This chart illustrates the highly seasonal nature of water storage levels, with levels generally increasing through the winter and spring months before decreasing during summer. Since 2017, there has been less volatility in water storage levels.

Figure 3.1 Historical water storage levels



In the most recent Annual Energy Security Review 2021-22, published in December 2022, which covers the period from 1 November 2021 to 31 October 2022, the Regulator found that despite falling marginally below the prudent storage level on two occasions during the water year, Tasmania's energy

[11] Excludes Lakes Gardiner, Margaret and Plimsoll. Hydro Tasmania reports against this value for historical consistency.

supply remained secure. The Regulator also found that there was a low likelihood that energy in storage would fall to levels that would place Tasmania's energy security at risk during the following year.

Further information on Hydro Tasmania's water storages and the Regulator's assessment of energy security in Tasmania is available in the annual energy security reviews and the monthly dashboards published on the Office of the Tasmanian Economic Regulator website.[12]

12 http://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/

4 AETV PTY LTD

AETV operates the TVPS and is a wholly-owned subsidiary of Hydro Tasmania. The TVPS receives gas supply directly from the Tasmanian Gas Pipeline under a Gas Transportation Agreement. The TVPS consists of a combined cycle gas turbine (CCGT) plant and four open cycle gas turbine (OCGT) units with a combined generating capacity of 372 MW. The volume of electricity supplied by TVPS was lower in 2021-22 than in 2020-21, continuing the very substantial reduction in gas generation since 2018-19. Table 4.1 summarises the TVPS's generation output for the past five years.

Table 4.1 Gas generation summary (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Electricity supplied	820	465	87	76	31

The OCGT plant provides FCAS while the CCGT supplements hydro-electric generation as required, usually between September and June, when energy storages are generally at their lowest. The TVPS generation output is shown as gas generation in Table 2.1.

4.1 Generation performance

Table 4.2 summarises TVPS's performance in terms of availability, forced outages and planned outages. The performance targets for the TVPS are set by Hydro Tasmania.

Table 4.2 Whole-of-station generation performance (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Availability factor	59.30	48.20	39.20	44.00	32.90	>43.17
Forced outage factor	5.60	1.30	0.40	0.20	0.50	<1.08
Planned outage factor	35.10	50.50	60.40	55.80	66.70	<55.74

TVPS met the forced outage factor (the probability that the unit will not be available for service when required) target, but did not meet its availability factor (the percentage of a given operating period in which a generating unit is available without any outages) target and its planned outage target in 2021-22. Hydro Tasmania advised that the low availability during 2021-22 was due to the OCGT unit being decoupled to allow greater synchronous condenser support.

Similar to Hydro Tasmania's hydro generation, AETV's annual performance targets were also self-determined and are unchanged since 2018-19.

5 WOOLNORTH WIND FARM HOLDING PTY LTD

Woolnorth Wind Farm Holding Pty Ltd (Woolnorth) owns and operates the Musselroe, Studland Bay and Bluff Point wind farms in Tasmania. Shenhua Clean Energy owns a 75 per cent share in Woolnorth, and Hydro Tasmania owns the remaining 25 per cent.

The Bluff Point Wind Farm has 37 turbines with a total generation capacity of 64.75 MW, the Musselroe Wind Farm has 56 turbines with a total generation capacity of 168 MW and the Studland Bay Wind Farm has 25 turbines with a total generation capacity of 75 MW.

5.1 Generation performance

Electricity output from Woolnorth in 2021-22 was 6.1 per cent below the level in 2020-21 and the lowest output since 2015-16 (Table 5.1). Woolnorth's combined output of 934 GWh accounted for approximately 8.1 per cent of electricity generated in Tasmania during 2021-22, below the 9.8 per cent share of generation in 2020-21.

Table 5.1 Woolnorth generation (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Bluff Point	249	245	251	203	141
Musselroe	564	598	649	543	551
Studland Bay	266	261	266	249	242
Total	1 079	1 105	1 166	995	934

Wind turbine availability factors show the percentage of time the generation units are available to produce energy. These factors are affected by wind speeds and repair and maintenance activities.

Of the Woolnorth windfarms, Musselroe was the only windfarm that met its own generator availability target for 2021-22 (Table 5.2). The Bluff Point windfarm did not meet its generator availability target for 2021-22 predominately due to a main transformer failure preventing generation from 30 April 2021 until 19 October 2021. Generation availability at both Bluff Point and Studland Bay was impacted between 28 February 2022 and 8 March 2022 due to an accidental severing of the optical ground wire caused by nearby agriculture activity.

Table 5.2 Wind turbine generator availability factor (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Bluff Point	96.49	96.69	97.09	96.75[13]	96.32	>97.00
Musselroe	99.39	99.37	99.13	98.57	98.86	>97.00
Studland Bay	97.60	98.00	97.00	97.00	95.74	>97.00

[13] Wind turbine generator availability factor for Bluff Point was estimated with Studland Bay windfarm wind data for May and June 2021 due to no data being available for Bluff Point as a result of the main transformer failure.

6 WILD CATTLE HILL PTY LTD

Wild Cattle Hill Pty Ltd operates the Cattle Hill Wind Farm, located on the eastern shore of Lake Echo in the southern side of the Central Plateau of Tasmania. Wild Cattle Hill Pty Ltd is now owned by a partnership of Power Construction Corporation of China (80 per cent) and a Chinese private wind turbine manufacturer Goldwind (20 per cent). Cattle Hill consists of 48 Goldwind wind turbines that have a total capacity of 148.4 MW.

6.1 Generation performance

The wind farm commenced operation on 29 October 2019 but on a constrained basis until 3 August 2020, when allowable output reached 100 per cent. Final testing was completed on 31 March 2021. Given these constraints, output was only 78 GWh in 2019-20 but increased significantly, to 442 GWh in 2020-21, falling slightly to 433 GWh in 2021-22 (Table 6.1). Cattle Hill's contribution to total Tasmanian generation fell marginally from 4.35 per cent in 2020-21 to 3.78 per cent in 2021-22.

Table 6.1 Wind generation summary (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Energy supplied	-	-	78	442	433

Wild Cattle Hill did not meet its wind turbine availability factor target for 2021-22. Wild Cattle Hill explained that this was mainly due to a force majeure event on the transmission line with heavy snow causing grid outage downtime in August 2021, unplanned maintenance downtime relating to plant HV infrastructure in February and June 2022, and increased protective turbine shutdowns on the IdentiFlight Eagle Detection System throughout the reporting period. Table 6.2 shows the wind turbine generator availability factor since the windfarm's inception.

Table 6.2 Wind turbine generator availability factor (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Availability factor	-	-	14.69	97.78	97.55	>98.5

7 GRANVILLE HARBOUR OPERATIONS PTY LTD

Granville Harbour Wind Farm has been developed and constructed by Palisade Investment Partners, an independent Australian-based infrastructure manager with experience in clean energy projects. Granville Harbour Operations Pty Ltd owns the generation assets and operates the wind farm, with Palisade Integrated Management Services providing all asset and business management services to the entity. Granville Harbour Operations Pty Ltd is owned by Palisade's Renewable Energy Fund (50.2 per cent) and First Sentier Investors (49.8 per cent).

Granville Harbour is located on the West Coast of Tasmania, and comprises one power station with 31 Vestas V126 3.6 MW wind turbines, a 33/220kV HV electrical substation, and operations and maintenance facilities, with a total capacity of 111.6 MW.

7.1 Generation performance

Granville Harbour was first energised on 11 December 2019, with generation commencing on an output-constrained basis on 1 February 2020. Final commissioning was completed in December 2020. Output for 2021-22 was 376 GWh, 43 GWh higher than in 2020-21 (Table 7.1).

Table 7.1 Wind generation summary (GWh)

	2017-18	2018-19	2019-20	2020-21	2021-22
Energy supplied	-	-	68	333	376

Wind turbine generator availability was below target in 2021-22 (Table 7.2). This was due to two site outages resulting from failed voltage and current transformers during February 2022 and June 2022. However, outside of these periods, the generation availability factor was around or above the 2021-22 target.

Table 7.2 Wind turbine generator availability factor (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Availability factor	-	-	96.90	92.60[14]	96.10	>98.00

[14] Reduced availability due to construction and commissioning activities.

8 TASNETWORKS PTY LTD

TasNetworks Pty Ltd (TasNetworks) owns and operates the electricity transmission and distribution networks on mainland Tasmania.

The Tasmanian electricity transmission network consists of 220 kV circuits totalling 1 638 km and 110 kV circuits totalling 1 732 km, with some smaller transmission elements operating at 44, 33, 22 and 11 kV. The distribution network comprises sub-transmission lines operating at 44, 33 and 22 kV, as well as distribution lines operating at 22, 11 and 6.6 kV. The distribution network connects to the transmission system at 49 terminal substations throughout Tasmania and supplies electricity to 298 251 installations, as at 30 June 2022.

8.1 Transmission performance

The Tasmanian Electricity Code (TEC) requires TasNetworks to report to the Regulator annually on the performance of the transmission network. Table 8.1 summarises key transmission system statistics.

Table 8.1 Key transmission system statistics

	2017-18	2018-19	2019-20	2020-21	2021-22
System peak demand for period (MW)	1 694	1 728	1 618	1 697	1 735
Unserved energy (%)[15]	0.0007	0.0003	0.0009	0.0010	0.0027
Total system minutes off supply	2.47	0.98	3.39	3.60	10.50

System peak demand was higher in 2021-22 compared to 2020-21, and was the highest level in the past five years. Both unserved energy and total minutes off supply were significantly higher in 2021-22 than in 2020-21, and were also the highest levels in the past five years.

TasNetworks advised that the key driver for the high unserved energy and total minutes off supply was three low probability incidents that occurred in the same year. These incidents created unsafe conditions for the network, preventing re-energisation. TasNetworks advised that actions have been taken to reduce the risk of reoccurrence of these incidents.

8.1.1 Transmission network reliability

TasNetworks reports on the reliability of its transmission network based on the number and duration of any loss of supply (LOS) events. Table 8.2 shows TasNetworks' reliability performance with reference to service levels set out in the service target performance incentive scheme (STPIS) applied to TasNetworks' transmission network by the AER.

[15] Unserved energy refers to customer demand that suppliers cannot deliver due to deficiencies in generation or network capacity. The reliability standard requires there be sufficient generation and transmission interconnection in a region such that unserved energy does not exceed 0.002 per cent of forecast total customer demand in a financial year.

Table 8.2 Transmission network reliability (LOS duration)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
> 0.1 system minute	4	2	3	8	7	≤15
> 1.0 system minute	1	0	1	0	3	≤2

TasNetworks recorded seven LOS events of greater than 0.1 system minute during 2021-22, which was below the STPIS performance target for 2021-22. TasNetworks recorded three LOS events of greater than 1.0 system minute, which was above the STPIS performance target.

8.1.2 Plant availability

TasNetworks uses the targets for circuit availability as a measure of plant availability. Table 8.3 summarises TasNetworks' performance against its 2021-22 targets.

Table 8.3 Performance against TasNetworks' targets (%)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Transmission line circuit availability (critical)	98.93	98.97	99.91	99.76	99.80	>99.13
Transmission line circuit availability (non-critical)	99.86	99.72	99.80	98.81	98.25	>98.87
Transformer circuit	98.70	98.93	99.56	99.66	98.40	>99.28
Capacitor bank	98.25	96.29	93.67	98.63	99.87	>99.00

TasNetworks achieved two of its four circuit availability targets in 2021-22. The availability of critical transmission line circuits and capacitor bank were above target for the period, while non-critical transmission line circuit and transmission circuit availability fell short of their respective minimum availability targets. Non-critical transmission line circuit availability in 2021-22 was at its lowest level in the past five years.

8.1.3 Outage duration

The duration of unplanned outages for transmission lines and transformers is a measure of the effectiveness of management plans and operational responses to unexpected events. Table 8.4 shows the average duration of unplanned outages for TasNetworks' assets compared to its targets for 2021-22, which have remained unchanged in the last five years.

Table 8.4 Average unplanned outage duration (minutes)

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Transmission lines	51	105[16]	523	116	126	<326
Transformers	686	220	41	124	17	<712

TasNetworks' average unplanned outage duration for transmission lines increased slightly compared to 2020-21, but was still comfortably below its target. Its average unplanned outage duration for transformers in 2021-22 was considerably below the 2020-21 figure, as well as being under its target.

8.2 Distribution performance

The Tasmanian high voltage (HV) distribution network distributes electricity at 44, 33, 22 and 11 kV. The HV distribution network is best characterised as a rural overhead network, since most of the HV feeders are overhead cables. Underground cables are restricted to central business districts, subdivisions and commercial centres in urban and some suburban areas.

Distribution substations throughout Tasmania reduce incoming voltage to 230/400 volts and supply the majority of customers through the low voltage network. There are a number of HV customers with their own distribution substations that take electricity supply directly at 22 kV and/or 11 kV, while customers who use energy intensively receive supply via dedicated distribution feeders.

Table 8.5 shows the total electricity consumption from the distribution network in Tasmania, measured at the point of supply. This comprises consumption by households and most business customers but does not include consumption of electricity from distributed energy resources such as PV generation systems.

Table 8.5 Total distribution customer consumption

	2017-18	2018-19	2019-20	2020-21	2021-22
Customer consumption at point of supply (GWh)	4 334	4 321	4 387	4 483	4 581
Maximum demand (MW)	962	973	973	984	985

Total customer consumption in 2021-22 was marginally higher than in 2020-21, which may reflect a continuation of the trend of people working from home in recent years. The maximum demand for electricity from the distribution network also increased by 0.1 per cent.

Despite growth in population and the number of households and economic growth in Tasmania since 2017-18, total consumer consumption from the distribution system (consumption at point of supply) has only increased by 5.70 per cent over this period. This is likely to be due to increased adoption of more energy efficient appliances and increased consumption from solar power systems at the customer's premises.

[16] An extended outage of the CR-NH 110 kV transmission cable was initially included in error due to a reporting system issue. This outage was instigated by a third party and has now been excluded.

8.2.1 Overall distribution network performance

The reliability of the distribution network is measured by the frequency and duration of interruptions, also referred to as outages. TasNetworks reports these statistics as averages, termed SAIFI and SAIDI, totalled over a 12-month period.

- SAIFI is the System Average Interruption Frequency Index (measured here as the average number of interruptions per customer per year); and
- SAIDI is the equivalent measure for the duration of any interruptions (measured in minutes per customer).

Tables 8.6 and 8.7 present SAIFI and SAIDI measures for 2021-22 and the preceding four financial years. The tables show the frequency and duration of interruptions during each financial year. For Tasmania as a whole, network reliability in 2021-22 was approximately the same as in 2020-21. Whilst the frequency and duration of planned interruptions per customer decreased compared to 2020-21, the frequency and duration of unplanned interruptions per customer increased in 2021-22.

Table 8.6 TasNetworks' overall network performance (SAIFI): average number of interruptions per customer

	2017-18	2018-19	2019-20	2020-21	2021-22
Planned interruptions	0.24	0.22	0.27	0.28	0.24
Unplanned interruptions (excl. major event day)	1.41	1.46	1.40	1.54[17]	1.58
Major event days	0.41	0.10	0.09	0.11	0.20

Table 8.7 TasNetworks' overall performance (SAIDI): average duration of interruptions (minutes) per customer

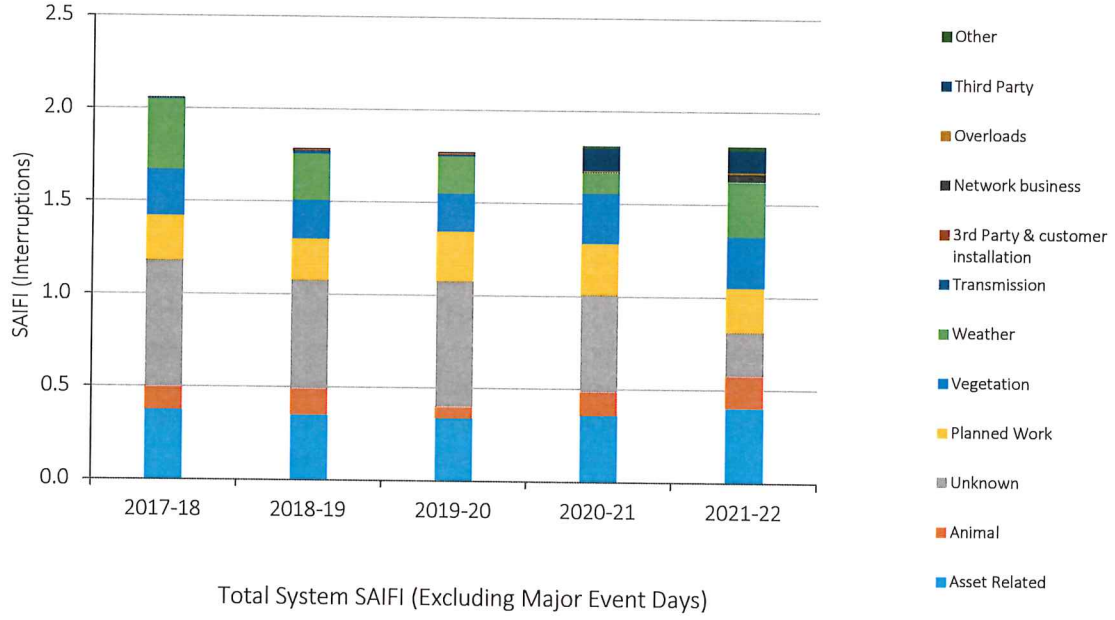
	2017-18	2018-19	2019-20	2020-21	2021-22
Planned interruptions	62	54	69	77	62
Unplanned interruptions (excl. major event day)	129	146	142	160[17]	181
Major event days	154	23	24	33	132

8.2.2 Cause of supply interruptions

TasNetworks' field crews report on the causes of any supply interruptions once they have identified and repaired the relevant faults. The major identified causes of supply interruption include planned outages and unplanned interruptions due to factors such as vegetation, weather, wildlife and asset failure. Figure 8.1 and 8.2 present a breakdown of supply interruption causes and their relative contributions to overall system SAIFI and SAIDI.

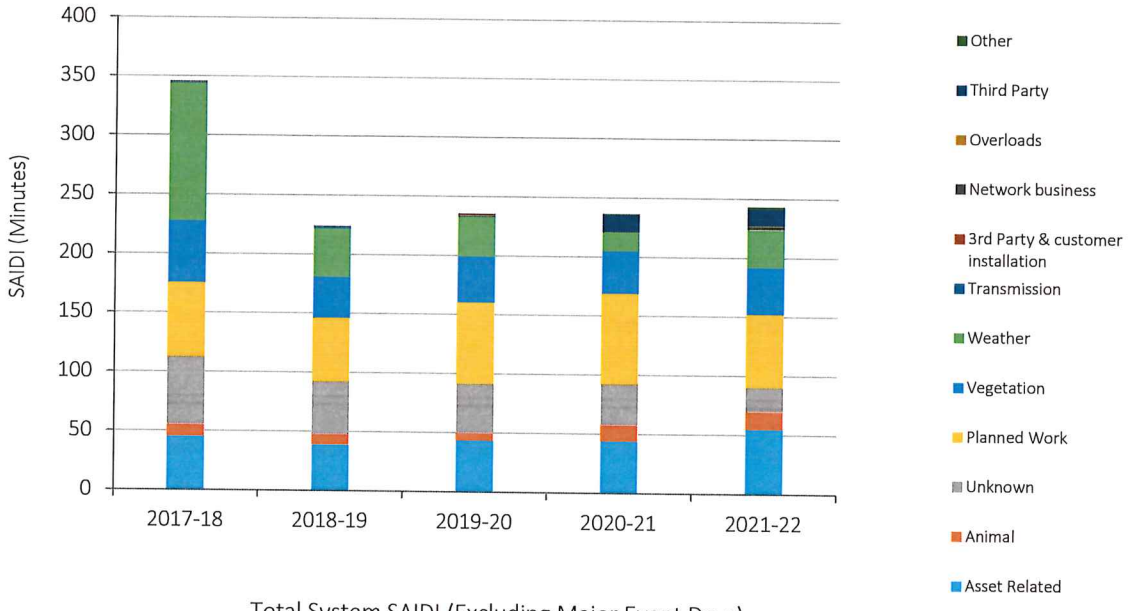
[17] TasNetworks is required to report annual SAIFI and SAIDI values under the Regulator's *Electricity Supply Industry Performance and Information Reporting Guideline (the Guideline)*. As a result of amendments to the Guideline in July 2021, values from 2020-21 are no longer directly comparable with those prior to this time.

Figure 8.1 Contributions to system SAIFI by cause[18]



Total System SAIFI (Excluding Major Event Days)

Figure 8.2 Contributions to system SAIDI by cause[18]



Total System SAIDI (Excluding Major Event Days)

Asset related events were responsible for a greater proportion of unplanned outages (SAIFI) in 2021-22, while the proportion of unknown causes of unplanned outages was much smaller than it has been in the last five years.

[18] TasNetworks is required to report annual SAIFI and SAIDI under the Regulator's *Electricity Supply Industry Performance and Information Reporting Guideline*. The Guideline was amended in July 2021, a result of which is that TasNetworks is now required to report causes of supply interruption and their contributions to overall system SAIFI and SAIDI against a revised set of categories. TasNetworks has provided backcast values for the years prior to 2020-21 according to the revised Guideline and, as such, these values are no longer comparable with previous EiT reports.

Planned works was the primary driver of higher SAIDI values in 2021-22, followed by asset related outages.

8.2.3 Reliability of supply at the area level

To measure distribution supply reliability, mainland Tasmania has 101 supply reliability areas, with each area assigned to one of five supply reliability categories as follows:

- Critical Infrastructure (1 area);
- High Density Commercial (8 areas);
- Urban and Regional Centres (32 areas);
- High Density Rural (33 areas); and
- Lower Density Rural (27 areas).

The Tasmanian Electricity Code (TEC) sets standards for reliability of supply performance (i.e. frequency and duration of interruptions, also called outages) at each category level. Table 8.8 shows TasNetworks' performance against the TEC reliability of supply limits.

Table 8.8 TasNetworks' reliability of supply performance by supply reliability category

	2018-19	2019-20	2020-21[19]	2021-22	Standards
Critical Infrastructure					
SAIFI (interruptions)	0.17	0.25	0.15	0.25	<0.20
SAIDI (minutes)	55	27	15	70	<30
High Density Commercial					
SAIFI (interruptions)	0.42	0.33	0.46	0.76	<1
SAIDI (minutes)	57	56	62	88	<60
Urban and Regional Centres					
SAIFI (interruptions)	1.29	1.29	1.40	1.19	<2
SAIDI (minutes)	142	149	169	145	<120
High Density Rural					
SAIFI (interruptions)	2.45	2.56	2.36	2.57	<4
SAIDI (minutes)	294	323	305	351	<480
Lower Density Rural					
SAIFI (interruptions)	3.44	3.26	3.26	3.92	<6
SAIDI (minutes)	531	545	490	585	<600

During 2021-22, for the supply reliability categories, TasNetworks met the performance standard for the number of interruptions (SAIFI) in all categories except for Critical Infrastructure, and met the

[19] The data presented for this period in the 2020-21 EiT Report was incorrect and has been corrected in Table 8.9.

performance standard for the duration of interruptions (SAIDI) in the Higher and Lower Density Rural categories, but did not meet the performance standard in the remaining three categories.

It is often more useful to examine performance across the 101 areas, where the performance standards can be different from the standards for the relevant supply reliability category. This is presented in Table 8.9.

Table 8.9 TasNetworks' performance in supply reliability areas against TEC standards for 2021-22

	SAIFI limit	Non-complying areas	SAIDI limit	Non-complying areas	Non-compliant in both measures
Critical Infrastructure (1)	0.2	1	30	1	1
High Density Commercial (8)	2	0	120	2	0
Urban and Regional Centres (32)	4	2	240	9	1
High Density Rural (33)	6	3	600	5	3
Lower Density Rural (27)	8	0	720	6	0

A summary of TasNetworks' performance since 2017-18, across the 101 areas, is presented in Table 8.10.

Table 8.10 Areas with non-compliance by TasNetworks

	2017-18	2018-19	2019-20	2020-21	2021-22
Non-complying with SAIFI standards	4	6	6	3	5
Non-complying with SAIDI standards	35	21	25	19	23
Non-complying with both measures	4	5	4	3	5

Instances of non-compliance were higher in 2021-22 when compared to 2020-21, halting the trend of gradual improvement in compliance noted in the previous Energy in Tasmania Report.

Individual area performance reports are available in the 2021-22 EiT Performance Data Workbook on the OTTER website, on the worksheet labelled "Network Performance by Area".

8.3 Guaranteed Service Level scheme

A guaranteed service level (GSL) scheme has operated in Tasmania since 1 January 2004. Under this scheme, TasNetworks must make payments to customers who experience supply interruptions greater than the reliability supply threshold set for their particular reliability category. These payments relate to the number of interruptions and the duration of interruptions.

These payments are funded from TasNetworks' regulated revenue. Table 8.11 lists the current reliability supply thresholds for each of the five reliability categories, and the associated GSL payment amounts.

Table 8.11 Reliability supply thresholds and GSL payments in 2021-22

	Single outage duration payment (hours)		Frequency of outage payment in 12 months
Critical Infrastructure, High Density Commercial and Urban and Regional Centres	>8	>16	10
High Density Rural	>8	>16	13
Lower Density Rural	>12	>24	16
GSL Payment ($)	80	160	80

Table 8.12 lists details of GSL payments made by TasNetworks for the past five financial years.

Table 8.12 GSL payments by TasNetworks

	2017-18	2018-19	2019-20	2020-21	2021-22
Late restoration payments >8 or >12 hours					
Number of payments made	17 686	8 704	9 322	10 337	6 648
Total paid ($)	1 414 880	696 320	745 760	826 960	531 840
Late restoration payments >16 or > 24 hours					
Number of payments made	9 290	3 010	1 572	2 224	2 859
Total paid ($)	1 486 400	481 600	251 520	355 840	457 600
Outage frequency payments > 10 outages					
Number of payments made	2 815	998	341	998	223
Total paid ($)	225 200	53 440	27 280	79 840	17 840
Outage frequency payments > 13 outages					
Number of payments made	906	1 647	448	972	634
Total paid ($)	72 480	131 760	35 840	77 760	50 720
Outage frequency payments > 16 outages					
Number of payments made	148	544	209	211	383
Total paid ($)	11 840	43 520	16 720	16 880	30 720
Total					
Number of payments made	30 845	14 573	11 892	14 742	10 747
Total paid ($)	3 210 800	1 406 640	1 077 120	1 357 280	1 088 720

The number and amount of GSL payments can vary significantly from year to year. The number of payments and the amount paid in 2021-22 decreased in all categories except for timely restoration payments greater than 16 or 24 hours and reliable supply payments for greater than 16 outages relative to 2020-21.

8.4 Complaints about quality and reliability of supply

TasNetworks reports to the Regulator on the complaints it has received and its claims handling processes. The number of complaints regarding the quality and reliability of supply received by TasNetworks fell by approximately 14 per cent in 2021-22 and was considerably lower than for any of the past four years (Table 8.13).

Table 8.13 Complaints regarding the quality and reliability of supply

	2017-18	2018-19	2019-20	2020-21	2021-22
Complaints	581	321	240	204	175

8.5 Quality of supply

Quality of supply refers to maintaining a stable electricity supply waveform. Deviations from the standard 230/400 volt, 50 Hz supply waveform can cause interference or interruption to customers' electricity supply. Several factors affect quality of supply, including momentary voltage sags and swells, dips and spikes, harmonics, brownouts and other electrical noise or pollution.

The reported number of customers with premises that received over-voltage due to high voltage injection events fell sharply in 2021-22, after peaking in 2020-21 (Table 8.14). The number of over-voltage events due to lightning increased to slightly above the average range. The number of over-voltage events due to voltage regulation or other causes was similar in 2021-22 to the previous two years.

Table 8.14 TasNetworks' distribution performance - quality of supply indictors

	2017-18	2018-19	2019-20	2020-21	2021-22
Over-voltage events due to high voltage injection events[20]	2	3	4	10	1
Customers with premises receiving over-voltage due to high voltage injection[21]	3	65	26	71	2
Over-voltage events due to lightning[22]	20	16	20	6	29
Customers with premises receiving over-voltage due to lightning[23]	40	25	24	6	47
Over-voltage events due to voltage regulation or other causes[24]	74	34	4	4	6

8.6 Customer service

TasNetworks gathers network performance information through its fault centre and reports the information it receives from field crews regarding faults, repairs and service restoration.

In August 2015, TasNetworks implemented a new fault messaging system called Message Management Solution (MMS). This system can place outage information on both fault centre phones and TasNetworks' website. Customers are now able to input their postcode and receive outage information relating to their specific location and the system can hold an unlimited number of specific outage

[20] High voltage injection events relate to reported incidents involving contact between HV and LV lines and pass-through of transmission over-voltage events.

[21] The figure for the number of customers receiving over-voltage due to high voltage injection comes from the number of claims made by customers for damaged equipment relating to such events.

[22] Over-voltage events due to lightning relates to the number of reported interruptions where the reported cause was lightning.

[23] The figure for the number of customers receiving over-voltage due to lightning comes from the number of claims made by customers for damaged equipment relating to those events.

[24] Figures for over-voltage events due to voltage regulation and other causes and the number of customers receiving over-voltage due to those events come from the number of complaints attended where a recording of the supply voltage verified over-voltage.

messages. If the messages do not meet a customer's needs, or a customer has a new fault to report, the customer can speak to a member of the fault centre team for assistance.

The number of calls answered by TasNetworks' fault centre team increased in 2021-22 compared to 2020-21, halting the downward trend seen since 2017-18 (Table 8.15).

Table 8.15 Number of calls answered at TasNetworks' fault centre

	2017-18	2018-19	2019-20	2020-21	2021-22
Calls answered	50 203	37 433	33 653	33 563	38 035

8.7 Customer Charter payments

Some of TasNetworks' service standards carry a guarantee, which allows customers to make a claim for a service guarantee payment within one month of TasNetworks failing to meet a specified service standard. These standards include ensuring that new connections are completed by the agreed date; and providing at least four business days' notice to customers of planned interruptions to supply.

The AER, which regulates TasNetworks' prices, provides TasNetworks with an allowance for these payments, which are sent to customers by cheque. Table 8.16 shows the service guarantee payments relating to connections, alterations and planned interruptions.

Table 8.16 Customer Charter services and service guarantee payments

	2017-18	2018-19	2019-20	2020-21	2021-22
New Connections[25]					
Total	2 779	2 703	2 689	2 922	2 876
Completed by scheduled date	2 141	2 144	1 973	2 444	2 437
Completed by scheduled date (%)	77.04	79.32	73.37	83.64	84.74
Customer Charter payments	155	599	184	160	208
Total payment value ($)	16 410	33 930	18 330	15 180	19 680
Alterations[26]					
Total	9 379	5 214	3 170	3 082	1 912
Completed by scheduled date	7 282	4 192	2 356	2 371	1 584
Completed by scheduled date (%)	77.64	80.40	74.32	76.93	82.85
Customer Charter payments	107	172	130	68	50
Total payment value ($)	12 210	20 550	15 600	6 510	4 770
Planned interruptions					
Total	2 850	2 301	2 389	3 450	2 170
Customer Charter payments	116	40	66	51	16
Total payment value ($)	4 040	2 000	3 400	2 550	800

The number of eligible events for Customer Charter payments does not necessarily correlate with the number of payments made in any given year, as not all customers will submit a claim to receive

25 New Connections are now reported using a revised methodology under the *Electricity Supply Industry Performance and Information Reporting Guideline*, which was revised in July 2021. As such, 2020-21 values are not comparable with those reported in previous years.

26 Alternation is a new metric which TasNetworks is now required to report against under the *Electricity Supply Industry Performance and Information Reporting Guideline*, which was revised in July 2021. TasNetworks has provided backcast values for the years prior to 2020-21 according to the revised Guideline and, as such, these values are not comparable with those in previous EiT reports.

payment. TasNetworks' Customer Charter payments can vary considerably from year to year, although there has been a reduction in the number and value of payments for alterations and planned interruptions since 2017-18.

In 2021-22, the number of payments decreased, but the total value of payments increased marginally compared to 2020-21.

8.8 Photovoltaic generation

As of 30 June 2022, there were 40 360 photovoltaic (PV) generation units connected to the Tasmanian distribution network with a total generating capacity of approximately 191 MW. This represents an 8.95 per cent increase in the number of units since 2020-21 and an increase of 14.05 per cent in total generating capacity. This equates to an additional 3 315 units with a combined 23.46 MW of generating capacity (Table 8.17).

Data are available on the volume of electricity exported from PV generation but not on total output, as there is no recording of customers' own consumption of the electricity they generate. However, estimates are available based on data collected from households and businesses with Solar Analytics software installed on their systems. Figure 8.3 shows estimates of the growing amount electricity generated and exported by customers with solar photovoltaic micro-generation in Tasmania.

Figure 8.3 Estimated solar generation in Tasmania[27]: 2017-18 to 2021-22

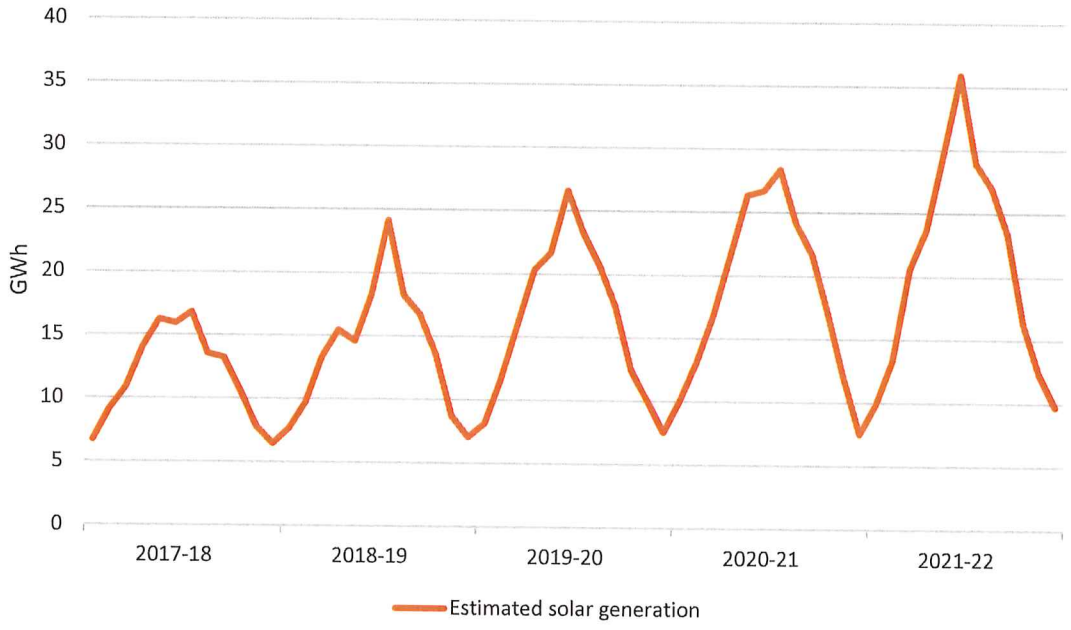


Table 8.17 summarises the details of embedded PV generation units connected to the mainland Tasmanian distribution network. The number of customers with PV generation units continued to increase in 2021-22. The average capacity of individual generation units has also been increasing steadily, from approximately 3.9 kW in 2017-18, to 4.7 kW in 2021-22.

In accordance with Division 5A of the ESI Act, customers with eligible embedded generation installations are entitled to a minimum feed-in tariff (FiT) payment from their retailer for the electricity they export into the distribution network. The Regulator sets the minimum FiT rate that customers receive for any electricity that their systems send to the electricity grid.

[27] Estimate data are sourced from the Australian PV Institute website, available at https://pv-map.apvi.org.au/analyses

Under the initial transitional FiT arrangements, eligible customers continued to receive a one-for-one FiT rate, equivalent to the per-unit charge of purchasing electricity during 2012-13 - 28.28 c/kWh for residential customers or a minimum of 28.32 c/kWh for small business customers - until 31December 2018. After that date, customers received 5 c/kWh on top of the regulated FiT rate until 31 December 2019. TasNetworks reimbursed retailers for the additional FiT rates paid to customers under the transitional FiT arrangements. Transitional arrangements for feed-in tariff customers ceased on 1 January 2020.

Table 8.17 Solar PV connections

	2017-18	2018-19	2019-20	2020-21	2021-22
Total generating capacity (MW)	112.6	124.0	145.5	167.0	190.5
Electricity supplied (GWh)	92.9	97.9	109.0	121.9	138.3
Customers connected at end of year	29 273	31 202	34 050	37 045	40 360
New connections during year	2 030	2 244	2 867	3 025	3 330
Customers with transitional FiT rate	16 424	15 250	12 197	0[28]	-
Amount paid to retailers for transitional FiT ($m)	10.26	6.80	1.39	0.0004[29]	-

[28] TasNetworks corrected the number of transitional FiT rates customers from 1 490 in the 2020-21 Energy in Tasmania Report to 0 after clarifying how they should be treated in system.

[29] Although the transitional FiT ceased on 31 December 2019, TasNetworks did pay Aurora Energy a residual payment of $362.68 due to underlying data corrections.

9 BASSLINK PTY LTD

Basslink is a high voltage direct current electricity interconnector comprising transmission assets and converter technology that connect the Tasmanian and mainland jurisdictions of the NEM, facilitating the export of Tasmanian-generated electricity into the NEM, and the import of mainland-generated power into Tasmania. Basslink Pty Ltd (BPL) is the owner and operator of the Basslink infrastructure. The Regulator does not regulate BPL but does licence BPL as a transmission service provider.

On 12 November 2021, the Basslink group announced that it had been placed in voluntary administration and on 10 February 2022, Hydro Tasmania announced that it had terminated the Basslink Services Agreement between it and BPL. As a result, Hydro Tasmania's ability to issue bidding instructions to BPL ceased from 10 February 2022. However, Basslink remained operational and energy continued to flow across Bass Strait during the period of voluntary administration.

The sale of BPL to APA Group Ltd was completed on 20 October 2022. Hydro Tasmania and BPL have entered into a new Network Services Agreement, which commenced on 21 October 2022 and will remain in place until Basslink is regulated by the AER or until 30 June 2025, whichever occurs first.

Basslink performance

The Regulator does not set any performance measures for Basslink. However, BPL provides annual performance information to the Regulator as required under the conditions of its transmission licence.

Basslink experienced one unplanned outage during 2021-22. This was attributable to a trip in the AC protection control system and was of relatively short duration. Table 9.1 shows Basslink performance data since 2017-18.

Table 9.1 Basslink performance

	2017-18	2018-19	2019-20	2020-21	2021-22
Basslink availability (%)	79.77[30]	99.40	90.10	99.10	97.70
Minutes unavailable	106 329	3 379	52 034	4 736	12 080
Total unplanned outages	1	2	1	5	1

[30] The low availability figures for 2017-18 was caused by one unplanned outage. On 24 March 2018, a third party damaged Basslink equipment during routine maintenance at its Victorian transition station. The resultant unplanned outage caused a temporary separation of Tasmania from the mainland power grid. Following complex technical repairs, which required equipment and personnel from overseas, Basslink resumed normal operations on 5 June 2018.

10 AURORA ENERGY PTY LTD

Aurora Energy is the largest electricity retailer in Tasmania and is a regulated offer retailer. The Regulator sets the maximum prices that Aurora Energy can charge (standing offer prices) under standard retail contracts to small customers (regulated tariffs). Aurora Energy offers a range of regulated and unregulated tariffs to residential and business customers on mainland Tasmania. Aurora Energy is also a natural gas retailer.

In 2021-22, Aurora Energy continued to provide retail service to the majority of customers in Tasmania, servicing 95.1 per cent of residential customers and 94.6 per cent of business customers, although its market share has declined over previous years as new retailers have entered the Tasmanian market. Table 10.1 provides a summary of Aurora Energy's electricity customer data.

Table 10.1 Aurora Energy electricity customers as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Customers on standard retail contracts on standing offer prices					
Residential customers	220 049	236 879	244 684	243 330	239 815
Business customers (small)	31 276	31 826	31 250	29 387	28 795
Business customers (large)	0	131	58	53	51
Customers on market contracts					
Residential customers (APAYG)	21 076	6 989	26	10	6
Business customers (small)	4 192	3 550	3 756	4 721	5 364
Business customers (large)	2 046	1 913	1 798	1 679	1 530
Total customers	278 639	281 288	281 572	279 180	275 561
Residential customers with a concession[31]	92 863	93 126	96 177	94 337	89 493

Aurora Energy experienced a net decrease in the number of its customers on standing offer prices across all customer segments in 2021-22, and a net increase in the number of customers on market contracts.

The Aurora Energy's Pay As You Go (APAYG) products were decommissioned over 2019-20 and APAYG customers have been required to switch to other Aurora Energy tariffs or to tariffs offered by other retailers. It is expected that the few remaining customers on this tariff will be transitioned to a new product soon.

10.1 Electricity retail performance

Table 10.2 presents a summary of Aurora Energy's call centre performance.

31 This value comprises residential customers on standard retail contracts and on market contracts.

Table 10.2 Call centre performance (electricity)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	328 638	321 808	312 258	351 241	342 557
Calls answered in 30 seconds (%)	75.0	71.0	46.6	35.9	47.2
Average time to answer calls (seconds)	20	24	70	242	158
Calls abandoned (%)	2.9	3.5	7.7	19.9	13.9

The number of customer calls received by Aurora's call centre decreased by 2.5 per cent compared to 2020-21. Higher than usual call numbers in 2020-21 were partially due to the resumption of collection activities for non-payment of accounts having resumed in April 2021 after its suspension during the 2019-20 'AER COVID-19 Statement of Expectation' period. The 2021-22 figures, however, are still well above the average levels prior to COVID-19.

Table 10.3 presents a summary of the complaints that Aurora Energy has received.

Table 10.3 Complaints summary (electricity)

	2017-18	2018-19	2019-20	2020-21	2021-22
Billing complaints	11 687	12 014	7 729	6 039	5 193
Marketing	0	0	0	16	56
Customer transfer	0	0	0	2	24
Other[32]	5 896	8 395	4 468	3 851	3 677
Total	17 583	20 409	12 197	9 908	8 950

The total number of complaints in 2021-22 decreased by approximately 9.7 percent compared to 2020-21. This result was driven by a significant decrease in billing complaints.

There was a significant increase in marketing and customer transfer complaints in 2021-22 as the number of retailers servicing small customers in Tasmania continue to increase.

[32] "Other" complaints include, but are not limited to, issues relating to the installation and operation of smart meters, concessions and rebates, products and services, App activation times, and call wait times.

10.2 Electricity customers experiencing payment difficulties

The National Energy Customer Framework (NECF) requires Aurora Energy to offer alternative payment plans to customers experiencing financial difficulties.

In this regard, Aurora Energy:

- offers several payment options to help customers work through financial difficulties;
- operates the Your Energy Support (YES) program, which provides affordable energy options for vulnerable households; and
- participates in the Centrepay scheme, whereby customers receiving Centrelink payments can opt to have scheduled bill payments automatically debited from their fortnightly Centrelink payments.

The number of Aurora Energy's residential customers repaying a debt increased by 29.8 per cent, but the number of small business customers repaying a debt decreased by 37.9 per cent in 2021-22 compared to 2020-21 (Table 10.4). The average amount of debt for residential customers decreased by $394 or 28.8 per cent, and the average amount of debt for business customers decreased by $423 or 20.8 per cent. The reduction in the average amount of debt for residential and business customers in 2021-22 is likely to be due, in part, to the cessation of Aurora Energy's policy of not disconnecting customers (discussed below).

Table 10.4 Electricity customers experiencing payment difficulties as at 30 June each year

	2017-18	2018-19	2019-20	2020-21	2021-22
Centrepay customers (residential)	8 621	9 198	9 659	10 525	9 674
Residential customers (excluding YES customers) repaying a debt	3 710	4 292	7 655	8 672	11 252
Average amount of debt ($)	776	892	889	1 366	972
Business customers (small) repaying a debt	162	172	404	425	264
Average amount of debt ($)	386	1 014	1 542	2 033	1 610
Residential customers on payment plans[3334]	2 797	2 725	5 983	5 018	4 896
Customers on the Your Energy Support (YES) program[34]	3 251	4 090	4 962	4 480	4 169
YES customers with concession[34]	2 492	2 949	3 578	3 219	2 953

In 2021-22, the number of residential customers utilising Aurora Energy's Centrepay service, a free service that allows customers to pay bills and expenses as regular deductions from their Centrelink payments, returned to 2019-20 levels following a sharp increase in 2020-21.

33 Aurora Energy revised its methodology for calculating the number of customers on payment plans during 2020-21 so as to ensure consistency with AER performance reporting requirements. From 2020-21, the number of customers includes those on long-term and short-term payment plans, where only those on long-term plans were previously reported.

34 Aurora Energy was required by the AER to resubmit these figures for a number of periods in 2019-20 as its methodology for the calculation of payment plans differed to the AER's expectation. As such these figures have been amended from the figures used in the 2019-20 and 2020-21 Energy in Tasmania Reports.

10.3 Electricity disconnections and reconnections

Aurora Energy reports to the Regulator on the number of standard metered customers who are disconnected and/or reconnected to TasNetworks' electricity distribution network. These numbers exclude any customers still using Aurora's now-discontinued APAYG products. Disconnections resumed in 2021-22 after Aurora Energy stopped any form of disconnection from April 2020 to June 2021 in response to the AER's Statement of Expectations in order to protect customers against the uncertainty caused by COVID-19. The number of disconnections in 2021-22 is approximately seven per cent above the number of disconnections in 2018-19, the last full year before the suspension in disconnections (Table 10.5).

Table 10.5 Disconnections and reconnections

	2017-18	2018-19	2019-20	2020-21	2021-22
Disconnections					
Residential customers	818	598	471	0	652
Business customers (small)	42	33	18	0	25
Reconnections within seven days					
Residential customers	410	260	201	0	235
Business customers (small)	6	9	3	0	5
Customers disconnected more than once in the last 24 months	53	48	13	0	15

10.4 Electricity Community Service Obligations

Community Service Obligations (CSO) are contractual arrangements between the Tasmanian Government and electricity retailers whereby retailers receive a subsidy in return for providing electricity price concessions to pensioners and Health Care Card holders. Aurora Energy received $41.4 million from the Tasmanian Government to fund its CSOs during 2021-22. Table 10.6 details CSO payments to Aurora Energy to support the Tasmanian Government electricity price concessions.

Table 10.6 Community Service Obligation payments ($million)

	2017-18	2018-19	2019-20	2020-21	2021-22
CSO payments	40.1	40.3	41.8	43.7	41.4

As other retailers commenced operation in Tasmania, and some concessional customers transfer to other retailers from Aurora Energy, the CSO payments in Table 10.6 are no longer representative of the total CSO payments provided by the Tasmanian Government.

10.5 Gas retail performance

The natural gas market in Tasmania is relatively small compared to mainland states and territories but continues to grow at a modest pace. Aurora Energy holds a licence to retail natural gas in Tasmania and sells gas to approximately 33 per cent of the Tasmanian market. Table 10.7 provides a summary of Aurora Energy's gas customers.

Table 10.7 Aurora Energy gas customers as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Residential customers	4 240	4 381	4 582	4 662	4 674
Business customers	141	145	136	139	140

The number of residential and business gas customers was marginally higher in 2021-22 compared to 2020-21, increasing by 0.26 per cent and 0.72 per cent respectively.

Table 10.8 summarises Aurora Energy's gas customer call centre performance and the number of complaints received. Similar to electricity-related calls, the number of gas-related calls and complaints decreased in 2021-22. The percentage of calls answered within 30 seconds increased by approximately 30 per cent following a decline in 2020-21.

Table 10.8 Aurora Energy call centre and complaints performance (gas)

	2017-18	2018-19	2019-20	2020-21	2021-22
Call Centre					
Total calls	931	672	892	635	273
Calls answered in 30 seconds (%)	71.9	72.0	45.9	33.2	43.0
Complaints	243	256	119	94	62

10.6 Gas customers on payment plans

The number of Aurora Energy customers on payment plans increased marginally to 29 in 2021-22, one higher than in 2020-21 which was the lowest level in recent history (Table 10.9). This value excludes customers on Aurora Energy's YES hardship program, which declined in 2021-22. Those on payment plans, including the YES program, represented around 4.2 per cent of Aurora Energy's residential gas customers in 2021-22, slightly less than the 4.4 per cent in 2020-21.

Table 10.9 Gas customers on payment plans (as at 30 June) [35]

	2017-18	2018-19	2019-20	2020-21	2021-22
Residential customers (excluding YES program)	108	71	87	28	29
Residential customers on YES program	166	248	300	179	168

10.7 Gas disconnections and reconnections

As with electricity, Aurora Energy resumed disconnections for gas customers in 2021-22.

35 Some customers may enter a payment plan to help manage their payments, but without a pre-existing debt.

Table 10.10 Aurora Energy gas customer disconnections and reconnections

	2017-18	2018-19	2019-20	2020-21	2021-22
Disconnections					
Residential	39	24	10	0	25
Business	0	0	0	0	0
Due to suspected illegal use of gas	2	0	0	0	0
Reconnections – same name					
Residential	5	4	0	0	3
Business	0	0	0	0	0

11 1ST ENERGY PTY LTD

On 18 February 2019, 1st Energy started offering market retail contracts to residential and business customers on mainland Tasmania. It was the first non-government owned electricity retailer to be operating in the Tasmanian residential market.

The number of Tasmanian residential, and small and large business customers on 1st Energy's market retail contract continued to increase in 2021-22 (Table 11.1). Compared to 2020-21, residential customers on market retail contracts increased by 61 per cent.

Table 11.1 1st Energy electricity customers in Tasmania as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Standard Retail Contract					
Residential customers	-	-	-	-	72
Small business customers	-	-	-	-	9
Market Retail Contract					
Residential customers	-	794	3 512	6 809	10 985
Residential customers with a concession	-	59	824	1 037	3 108
Business customers (small)	-	98	643	969	1 149
Business customers (large)	-	43	33	49	57
Total Customers	-	935	4 188	7 827	12 272

11.1 Electricity retail performance

The AER does not require electricity retailers operating in multiple NEM jurisdictions to provide a breakdown of call volumes by state in retailers' quarterly performance reports. As such, 1st Energy provides the total number of calls it receives at its national call centre. Table 11.2 presents a summary of 1st Energy's national call centre performance.

Table 11.2 1st Energy call centre and complaint performance in 2021-22 (national)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	-	16 799	60 664	63 135	66 309
Calls answered in 30 seconds (%)	-	73	82	75	66
Average time to answer calls (seconds)	-	55	30	41	66
Calls abandoned (%)	-	5.2	7.0	6.8	5.8
Complaints (Tasmania)	-	3	68	288	317

1st Energy reported 317 complaints from Tasmanian customers during 2021-22, approximately 10 per cent more than in 2020-21.

11.2 Electricity customers experiencing payment difficulties

Table 11.3 1st Energy electricity customers in Tasmania experiencing payment difficulties as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Centrepay customers (residential)	-	8	72	112	174
Residential customers (excluding hardship customers) repaying a debt	-	0	72	105	161
Average amount of debt ($)	-	0	557	485	381
Business customers (small) repaying a debt	-	0	18	23	14
Average amount of debt ($)	-	0	1 422	1 123	1 428
Residential customers on payment plans	-	3	107	98	135
Customers on the hardship program	-	0	6	36	73
Hardship customers with concession	-	0	4	12	60

The number of residential customers repaying a debt increased by approximately 55 per cent in 2021-22, but the average value of those debts decreased by approximately 21 per cent compared to 2020-21. The number of small business customers repaying a debt decreased by approximately 39 per cent, whilst the average amount of debt increased by 27 per cent. In accordance with the NECF requirement, 1st Energy provides a hardship program for customers experiencing financial difficulties in making payments. 1st Energy reported that, as at 30 June 2022, 73 customers were on its hardship program, approximately double the number in 2020-21.

11.3 Electricity disconnections and reconnections

Table 11.4 1st Energy disconnections and reconnections (Tasmania)

	2017-18	2018-19	2019-20	2020-21	2021-22
Disconnections					
Residential customers	-	0	11	78	122
Business customers (small)	-	0	4	7	15
Reconnections within seven days					
Residential customers	-	0	5	32	78
Business customers (small)	-	0	1	1	9
Customers disconnected more than once in the last 24 months	-	0	0	9	29

1st Energy disconnected 137 customers from TasNetworks' electricity distribution network during 2021-22, with 87 customers, or 63.5 per cent, being reconnected within seven days.

12 ENERGY LOCALS PTY LTD

Energy Locals Pty Ltd is a small energy retailer operating across New South Wales, South-East Queensland, South Australia, Victoria, Tasmania and the ACT. Energy Locals commenced operation in Tasmania and gained its first Tasmanian retail customers during the second quarter of 2019-20. As at 30 June 2022, Energy Locals had 551 customers, 99.1 per cent of which are on market retail contracts (Table 12.1).

Table 12.1 Energy Locals electricity customers in Tasmania as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Standard Retail Contract					
Residential customers	-	-	-	-	4
Small business customers	-	-	-	-	1
Market Retail Customers					
Residential customers	-	-	22	299	487
Residential customers with a concession	-	-	0	31	39
Business customers (small)	-	-	39	38	59
Business customers (large)	-	-	0	0	0
Total Customers	-	-	61	337	551

12.1 Electricity retail performance

The AER does not require electricity retailers operating in multiple NEM jurisdictions to provide a breakdown of call volumes by state in retailers' quarterly performance reports. As such, Energy Locals provides the total number of calls it receives at its national call centre. Table 12.2 presents a summary of Energy Locals' national call centre performance.

Table 12.2 Energy Locals call centre performance (national)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	-	-	48 905	62 157	61 914
Calls answered in 30 seconds (%)	-	-	82	64	40
Average time to answer calls (seconds)	-	-	27	62	78
Calls abandoned (%)	-	-	3.7	5.8	28.2
Complaints (Tasmania)	-	-	0	5	2

Energy Locals reported two complaints from Tasmanian residential customers during 2021-22 and no complaints from small business customers.

12.2 Electricity customers experiencing payment difficulties

Table 12.3 Energy Locals electricity customers in Tasmania experiencing payment difficulties

	2017-18	2018-19	2019-20	2020-21	2021-22
Centrepay customers (residential)	-	-	0	1	1
Residential customers on payment plans	-	-	0	0	0

12.3 Electricity disconnections and reconnections

No Energy Locals customers were disconnected from, or reconnected to, TasNetworks' electricity distribution network during 2021-22.

13 COVAU PTY LTD

CovaU Pty Ltd is a wholly-owned subsidiary of TPC Consolidated Ltd, and operates in the electricity and gas retail market across Australia. In Tasmania, CovaU offers retail electricity services to residential and business customers.

CovaU offers products through both standard retail contracts and market retail contracts, and gained its first retail customer in Tasmania during the second quarter of 2021-22.

Table 13.1 CovaU electricity customers in Tasmania as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Standard Retail Contract					
Residential customers	-	-	-	-	1
Small business customers	-	-	-	-	0
Large business customers	-	-	-	-	0
Market Retail Contract					
Residential customers	-	-	-	-	338
Residential customers with a concession	-	-	-	-	16
Small business customers	-	-	-	-	273
Large business customers	-	-	-	-	5
Total Customers	-	-	-	-	617

13.1 Electricity retail performance

The AER does not require electricity retailers operating in multiple NEM jurisdictions to provide a breakdown of call volumes by state in retailers' quarterly performance reports. As such, CovaU provides the total number of calls it receives at its national call centre. Table 13.2 presents a summary of CovaU's national call centre performance.

Table 13.2 CovaU call centre performance (national)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	-	-	-	-	27 083
Calls answered in 30 seconds (%)	-	-	-	-	94.5
Average time to answer calls (seconds)	-	-	-	-	12.3
Calls abandoned (%)	-	-	-	-	0.8

13.2 Electricity customers experiencing payment difficulties

Table 13.3 CovaU electricity customers in Tasmania experiencing payment difficulties

	2017-18	2018-19	2019-20	2020-21	2021-22
Residential customers repaying a debt	-	-	-	-	31
Average amount of debt ($)	-	-	-	-	236
Small business customers repaying a debt	-	-	-	-	26
Average amount of debt ($)	-	-	-	-	628

13.3 Electricity disconnections and reconnections

CovaU disconnected one residential customer from TasNetworks' electricity distribution network during 2021-22.

14 ELYSIAN ENERGY PTY LTD

Elysian Energy Pty Ltd is an independent electricity retailer across Australia that operated between 2019 and 2022.

On 2 September 2022, the AER suspended Elysian Energy's authorisation operate in the NEM after the appointment of an external administrator. This suspension resulted in the initiation of the Retailer of Last Resort (RoLR) process in which all of Elysian Energy's remaining Tasmanian customers were transferred to Aurora Energy.

Prior to ceasing to trade, Elysian Energy offered retail electricity services to residential and business customers in Tasmania. It also provided products through standard retail contracts and market retail contracts.

Table 14.1 Elysian Energy electricity customers in Tasmania as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Standard Retail Contract					
Residential customers	-	-	-	-	11
Small business customers	-	-	-	-	0
Large business customers	-	-	-	-	0
Market Retail Contract					
Residential customers	-	-	-	-	431
Residential customers with a concession	-	-	-	-	25
Small business customers	-	-	-	-	1
Large business customers	-	-	-	-	1
Total Customers	-	-	-	-	444

14.1 Electricity retail performance

The AER does not require electricity retailers operating in multiple NEM jurisdictions to provide a breakdown of call volumes by state in retailers' quarterly performance reports. As such, Elysian Energy provides the total number of calls it receives at its national call centre. Table 14.2 presents a summary of Elysian Energy's national call centre performance.

Table 14.2 Elysian Energy call centre performance (national)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	-	-	-	-	29 598
Calls answered in 30 seconds (%)	-	-	-	-	35.7
Average time to answer calls (seconds)	-	-	-	-	272.8
Calls abandoned (%)	-	-	-	-	16.3

14.2 Electricity customers experiencing payment difficulties

Table 14.3 Elysian Energy electricity customers in Tasmania experiencing payment difficulties

	2017-18	2018-19	2019-20	2020-21	2021-22
Residential customers repaying a debt	-	-	-	-	19
Average amount of debt ($)	-	-	-	-	730
Small business customers repaying a debt	-	-	-	-	0
Average amount of debt ($)	-	-	-	-	0

14.3 Electricity disconnections and reconnections

No Elysian Energy customers were disconnected from, or reconnected to, TasNetworks' electricity distribution network during 2021-22.

15 SHELL ENERGY PTY LTD

Shell Energy Pty Ltd, previously ERM Power, is a wholly-owned subsidiary of Shell Energy Australia Pty Ltd, and operates in the electricity retail market and generation market across Australia. In Tasmania, Shell Energy offers retail electricity services to business customers only.

Shell Energy offers products through both standard retail contracts and market retail contracts.

Table 15.1 Shell Energy electricity customers in Tasmania as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Customers on standard retail contracts					
Business customers (small)	9	21	44	48	48
Business customers (large)	0	0	0	0	0
Customers on market contracts					
Business customers (small)	171	166	61	70	61
Business customers (large)	250	270	283	377	424
Total Customers	430	457	388	495	533

The total number of customers with Shell Energy increased by 7.7 per cent during 2021-22, driven by a 12.5 per cent increase in the number of large business customers. This continues a recent trend of growth in customer numbers, with the number of total customers in 2021-22 being 37.4 per cent higher than in 2019-20.

15.1 Electricity retail performance

The AER does not require electricity retailers operating in multiple NEM jurisdictions to provide a breakdown of call volumes by state in retailers' quarterly performance reports. As such, Shell Energy provides the total number of calls it receives at its national call centre. Table 15.2 presents a summary of Shell Energy's national call centre performance.

Table 15.2 Shell Energy call centre performance (National)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total calls	9 116	4 598	2 988	3 243	2 508
Calls answered in 30 seconds (%)	72.8	72.4	97.0	94.5	90.4
Average time to answer calls (seconds)	16.5	15.3	8.5	12.0	15.7
Calls abandoned (%)	0.8	0.5	1.6	3.4	1.7

15.2 Electricity customers experiencing payment difficulties

Table 15.3 Shell Energy customers in Tasmania experiencing payment difficulties

	2017-18	2018-19	2019-20	2020-21	2021-22
Business customers (small) repaying a debt	3	13	0	10	14
Average amount of debt ($)	2 059	2 216	0	2 700	1 955

15.3 Electricity disconnections and reconnections

No Shell Energy customers were disconnected from, or reconnected to, TasNetworks' electricity distribution network during 2021-22.

16 BASS STRAIT ISLANDS

Hydro Tasmania provides electricity generation, distribution and retail services on the BSI.[36] There is no transmission network on the BSI.

Electricity generation on King Island is provided by a combination of:

- five diesel generators (7.20 MW);
- five wind turbines (2.45 MW);
- a solar array (0.1 MW); and
- domestic solar PV generation (approximately 0.8 MW).

On Flinders Island, electricity generation comes from a combination of:

- four diesel generators (2.94 MW);
- one wind turbine (0.9 MW);
- privately owned wind generators (0.3 MW);
- a solar array (0.175 MW); and
- domestic solar PV generation (approximately 0.5 MW).

Table 16.1 shows customer information for Hydro Tasmania's BSI operations.

36 For the purposes of this report, the BSI include King and Flinders Islands but exclude Cape Barren Island and all other islands in the Bass Strait.

Table 16.1 Bass Strait Island customer information[37]

	2017-18	2018-19	2019-20	2020-21	2021-22
Flinders Island					
Residential customers	586	587	595	590	618
Business customers	163	165	165	184	194
Annual consumption (MWh)	4 593	4 579	4 834	5 116	6 186
Connected kVA	6 350	6 350	8 820	9 956	10 633
King Island					
Residential customers	969	961	945	962	969
Business customers	309	299	306	326	349
Annual consumption (MWh)	11 674	11 532	12 274	13 985	14 412
Connected kVA	16 703	16 703	18 627	19 155	21 524

The number of residential customers on Flinders Island increased by 4.7 per cent in 2021-22, representing the largest year-on-year growth in the last five years. The number of residential customers increased marginally on King Island. The number of business customers on Flinders Island increased by 5.4 per cent and increased by 7.1 per cent on King Island during 2021-22. This growth in customer numbers contributed to a 7.8 per cent increase in electricity consumption on the BSI in 2021-22.

16.1 BSI generation performance

Table 16.2 shows the generation performance on Flinders and King Islands.

Table 16.2 Bass Strait Islands generation performance

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Flinders Island						
System blackout events	8	3	1	0	0	<20
Average restoration time (minutes)	24	38	52	0	0	<12.50[38]
King Island						
System blackout events	1	0	1	2	0	<8
Average restoration time (minutes)	6	0	21	11	0	<13.75[39]

Hydro Tasmania's Flinders Island Hybrid Energy Hub, commissioned in November 2017, integrated renewable energy sources into the Flinders Island generation mix and has substantially reduced the number of system blackout events on Flinders Island from 19 in 2016-17, to zero in 2020-21, a trend which continued in 2021-22.

37 Information in this table is sourced from Hydro Tasmania's Annual Performance reports. Annual consumption refers to energy supplied by Hydro Tasmania, which does not account for on-site consumption from rooftop PV units.

38 This is the target restoration time for outages occurring between 06:00 and 21:59. The target restoration time for outages occurring between 22:00 and 05:59 is 22.50 minutes.

39 This is the target restoration time for outages occurring between 06:00 and 21:59. The target restoration time for outages occurring between 22:00 and 05:59 is 23.75 minutes.

There were also no system blackout events on King Island during 2021-22.

16.2 BSI distribution system performance

16.2.1 King Island

The King Island electricity distribution network consists of four 11 kV overhead feeders of approximately 400 km in total length. There are also several short sections of underground 11 kV cable totalling about 2.0 km in length.

For the BSI, SAIFI is the average number of interruptions for each customer. SAIDI is the equivalent measure for the duration of any interruptions (measured in minutes).

Table 16.3 summarises the performance of the King Island distribution network.

Table 16.3 King Island distribution performance

	2017-18	2018-19	2019-20	2020-21[40]	2021-22	Target
SAIFI (interruptions)	4.17	4.40	5.71	5.43	4.34	<8
SAIDI (minutes)	1 564	1 061	970	419	757	<720

Whilst SAIFI was comfortably within the target in 2021-22, SAIDI was approximately five per cent above the target.

16.2.2 Flinders Island

The Flinders Island electricity distribution network consists of three 11 kV overhead feeders of approximately 330 km in total length. There are only 200 metres of underground 11 kV feeder cabling on Flinders Island. Table 16.4 summarises the performance of the Flinders Island distribution network.

Table 16.4 Flinders Island distribution performance

	2017-18	2018-19	2019-20	2020-21[40]	2021-22	Target
SAIFI	10.82	6.40	2.91	4.35	4.76	<8
SAIDI	502	707	352	400	243	<720

In 2021-22, SAIFI and SAIDI on Flinders Island were well under their respective targets.

16.3 BSI retail performance

Momentum Energy, a subsidiary of Hydro Tasmania, provides retail services on the BSI. The TEC requires Hydro Tasmania to report on its BSI retail performance against the same measures required of authorised retailers by the AER. Table 16.5 summarises Hydro Tasmania's BSI retail performance.

[40] Hydro Tasmania is required to report annual SAIFI and SAIDI under the Regulator's *Electricity Supply Industry Performance and Information Reporting Guideline*. The Guideline was amended in July 2021, a result of which is that Hydro Tasmania is now required to report SAIFI and SAIDI values on a customer number basis, rather than the kVA originally required. Hydro Tasmania is also no longer required to report on a per-feeder-basis, with the requirement now being a single SAIDI and SAIFI value for both King and Flinders Islands. Hydro Tasmania has provided backcast values, on a kVA basis, for the years prior to 2020-21, for both King and Flinders Islands, and SAIDI and SAIFI values for 2020-21 according to the revised methodology. As such, no accurate comparison can be made between 2020-21 and the prior years.

Table 16.5 Bass Strait Islands retail performance

Performance measure	2017-18	2018-19	2019-20	2020-21	2021-22
Call centre					
Total calls	981	1 027	1 321	1 518	1 990
Calls answered in 30 seconds (%)	93	74	50	75	70
Average time to answer calls (seconds)	7	22	205	54	44
Calls abandoned (%)	1	2	15	3	2
Complaints					
Billing complaints	3	3	15	16	13
Other	2	3	12	9	6
Total	5	6	27	25	19
Residential customers experiencing payment difficulties (excludes hardship customers)					
Number repaying a debt	76	65	62	22	61
Average amount of debt ($)	966	932	964	556	424
Business customers experiencing payment difficulties					
Number repaying a debt	19	18	4	6	48
Average amount of debt ($)	435	417	198	83	807
Customers on hardship program	15	4	7	12	4

In 2021-22, the number of calls increased by approximately 31 per cent, following an increase of almost 15 per cent in 2020-21. The average time to answer a call decreased by 10 seconds or approximately 18 per cent compared to 2020-21.

The total number of residential customers experiencing payment difficulties on the BSI increased sharply in 2021-22, returning to around the same level as in 2018-19 and 2019-20. The increase was even more apparent in the number of business customers experiencing payment difficulties, which increased to more than twice the previous peak level of the past five years.

The number of customers on the hardship program fell in 2021-22. Given the importance of tourism to the Islands, this result may be attributable to the impact of the reopening of borders following the closures associated with the COVID-19 pandemic.

Table 16.6 Disconnections and reconnections

	2017-18	2018-19	2019-20	2020-21	2021-22
Disconnections					
Residential customers	0	11	5	0	0
Business customers (small)	0	0	0	0	0
Reconnections within seven days – same name					
Residential	0	5	4	0	0
Business customers (small)	0	0	0	0	0

No residential or small business customers had their electricity supply disconnected on the BSI during 2021-22 (Table 16.6).

16.4 BSI Community Service Obligations

The cost of supplying electricity on the BSI is significantly higher than on mainland Tasmania, due to the Islands' remoteness and heavy utilisation of diesel generation which supplements solar and wind generation. To ensure that prices to electricity customers are not correspondingly higher, the Tasmanian Government requires Hydro Tasmania to perform an unfunded CSO.

Under the CSO Agreement, Hydro Tasmania does not recover all of its costs in supplying electricity to BSI customers and, separately, Hydro Tasmania provides the same concession to BSI customers as the concession eligible customers receive in mainland Tasmania.

During 2021-22, the net cost of the CSO to Hydro Tasmania was approximately $10.1 million, representing an increase of approximately $1 million from the previous year (Table 16.7).

Table 16.7 CSO cost incurred by Hydro Tasmania ($million)

	2017-18	2018-19	2019-20	2020-21	2021-22
CSO costs	10.0	10.2	9.1	9.1	10.1[41]

[41] Hydro Tasmania 2021-22 Annual Report, page 101.

17 TASMANIAN GAS PIPELINE PTY LTD

Tasmanian Gas Pipeline Pty Ltd (TGP) holds a pipeline licence (operations) in Tasmania and operates the Tasmanian Gas Pipeline. The pipeline transports natural gas from the Longford Plant in Victoria, to Bell Bay and to Bridgewater in the south, and Port Latta in the north-west. Meter stations at various locations along the pipeline allow for connection to local distribution networks and for direct supply connections to major industrial customers.

Under the terms of its licence, TGP is required to report its annual performance data to the Regulator. Table 17.1 shows TGP's performance information against its targets in its performance plan.

Table 17.1 Performance data

	2017-18	2018-19	2019-20	2020-21	2021-22	2021-22 Target
Unplanned interruptions to supply	0	0	0	0	1	0
Third-party encroachments	2	4	3	3	6	<5
Unaccounted for gas losses (%)	1.04	1.27	1.39	1.56	1.07	<1.00
Environmental incidents	0	0	0	0	0	0
Maintenance plan compliance (%)	99.30	99.20	101.50	100.00	99.00	>90.00

TGP did not meet three of its targets in 2021-22. The duration of the unplanned supply interruption was brief, and the root cause was identified and resolved to prevent recurrence. Whilst the number of third-party encroachments in 2021-22 was twice the average amount in the previous four years, it was only one encroachment above its target. The causes of the encroachments were largely consistent with previous years. While unaccounted losses in 2021-22 were slightly above its target, it was approximately 32 per cent below the 2020-21 level and around 16 per cent below the average of the past five years.

TGP reported that maintenance plan compliance performance was satisfactory and above target. This was despite a number of unplanned activities, such as capital projects and other compliance works, which occurred during the period.

Table 17.2 Annual natural gas flow

	2017-18	2018-19	2019-20	2020-21	2021-22
Annual gas flow (TJ)	15 215	10 089	7 382	7 537	7 330

In 2021-22, 7 330 TJ of natural gas flowed from the Longford Plant in Victoria, through TGPs transmission pipelines, for consumption by residential and business customers in Tasmania (Table 17.2). This was approximately three per cent lower than in 2020-21.

18 TAS GAS NETWORKS PTY LTD

Tas Gas Networks (TGN) holds a distribution licence (operations) to maintain and operate the State's natural gas distribution network, delivering gas to Tasmanian homes and businesses.

TGN reports on the distribution of gas to customers consuming less than 10 terajoules (TJ) per annum (10 TJ is equivalent to 2.78 GWh) and separately to customers consuming more than 10 TJ per annum. There were 14 678 customers connected to TGN's distribution network as at 30 June 2022, of which 39 customers consumed more than 10 TJ of gas during the year. Table 18.1 shows the quantity of gas that TGN supplied to its customers.

Table 18.1 Gas consumption (GJ)

	2017-18	2018-19	2019-20	2020-21	2021-22
To customers consuming <10TJ	868 534	826 994[42]	844 862	849 151	852 946
To customers consuming >10TJ[43]	1 832 908	1 781 159	2 694 273	2 842 504	2 741 165
Unaccounted for gas (%)	0.71	0.16	-0.18	-0.46	0.51

The quantity of gas consumed in 2021-22 increased marginally for customers consuming less than 10 TJ, but decreased by 3.6 per cent for customers consuming more than 10 TJ. The percentage of unaccounted for gas (ie where the volume of gas sales to customers differs from the gas received into TGN's network) during 2021-22 was 0.5 per cent. This excludes the Ulverstone Transmission Pipeline and is attributable to meter accuracy differences between TGP and TGN.

18.1 Customer complaints and reports

Table 18.2 shows the number of gas distribution complaints and reports made directly to TGN.

Table 18.2 Customer complaints and reports[44] made directly to TGN

	2017-18	2018-19	2019-20	2020-21	2021-22
Detectability of gas by odour	228	227	233	216	210
Inadequate gas supply	13	40	134	156	154
Other	25	14	16	9	14

The number of customers reporting inadequate gas supply in 2021-22 was comparable to 2020-21. TGN reported that 64 instances were due to faulty meter regulators (56 in 2020-21), 62 instances of tripped over-pressure shut-off regulators (59 in 2020-21), four instances of faulty gas meters (five in

42 The reduction in consumption by customers in 2018-19 was attributed by TGN to weather-related factors and changing customer consumption patterns.

43 The data from 2019-20 includes one customer who receives gas via TGN's transmission pipeline.

44 TGN reported that in 2018-19 it reclassified reports of gas escapes and inadequate or no gas supply as reports of technical issues rather than complaints (unless the customer specifically requests them to be treated as such). This created inconsistency in the complaints data, so to maintain consistency and accuracy, Table 18.2 was renamed to include customer reports.

2020-21), three instances of customer piping issues (11 in 2020-21) and 21 instances with no fault found on TGN assets (25 in 2020-21).

18.2 Reliability of supply

The Gas Distribution Code requires TGN to report on a number of reliability measures. These measures include performance in terms of both planned and unplanned supply interruptions. Table 18.3 provides details of TGN's reliability of supply performance.

There were two unplanned interruptions in 2021-22 due to an industrial meter change out.

The duration of unplanned interruptions affecting between one and five customers decreased by 49 minutes in 2021-22, an improvement of approximately four per cent. The average interruption duration per customer fell by 15 minutes or 28.3 per cent in 2021-22. Confirmed reports of no gas supply increased slightly in 2021-22, but were still comfortably below the average of the three years prior to 2020-21.

Table 18.3 Reliability of supply performance

	2017-18	2018-19	2019-20	2020-21	2021-22
Planned interruptions	0	0	0	4	2
Unplanned interruptions					
Affecting 1-5 customers	57	34	30	22	29
Duration (minutes)	335	635	3 000	1 158	1 109
Affecting 6-100 customers	0	1	0	0	0
Duration (minutes)	0	360	0	0	0
Average interruption duration per customer	6	9	45	53	38
Confirmed reports of no gas supply	62	40	21	11	14
Confirmed reports of no gas supply as a proportion of the number of connections (%)	0.4	0.3	0.2	0.1	0.1

19 TAS GAS RETAIL PTY LTD

Tas Gas Retail (TGR) is a licensed natural gas retailer in Tasmania and sells gas to approximately 67 per cent of Tasmanian gas customers. Table 19.1 shows TGR's residential and business customer numbers.

Table 19.1 Tas Gas Retail customer numbers as at 30 June

	2017-18	2018-19	2019-20	2020-21	2021-22
Residential customers	9 004	8 639	8 693	8 957	8 987
Business customers	854	907	923	991	952

The number of business customers decreased slightly in 2021-22, while the number of residential customers increased slightly, leading to a small decline in total customers. TGR attributes this decline to duplicate reporting in previous years where customers had been counted multiple times when moving between contracts.

Table 19.2 presents a summary of TGR's gas customer call centre performance and the number of complaints received. The total number of calls received was significantly higher in 2021-22 compared to 2020-21, increasing by over 92 per cent.

The number of calls reported has increased from 2020-21 due, in part, to the monitoring system no longer differentiating between calls relating to Tasmanian and mainland customers. Part of the increase is also attributable to the volatility in the wholesale gas market during 2022, leading to higher levels of customer enquiries.

The number of complaints also increased but remains equivalent to the average number of complaints received for the previous four years.

Table 19.2 Tas Gas Retail call centre and complaints performance

	2017-18	2018-19	2019-20	2020-21	2021-22
Call Centre performance					
Total calls	13 673	14 243	11 331	11 715	22 530
Calls answered in 30 seconds (%)	89	85	90	88	87
Complaints	51	16	34	20	30

19.1 Customers on payment plans

TGR offers payment plans to all customers, allowing them to pay their bill by instalments. The numbers reported include both customers on a payment plan that may be experiencing financial difficulty and customers who may have opted for a payment plan to assist in their financial management.

TGR reported that there was an overall decrease in the number of customers who entered into arrangements to help manage the payment of their accounts in 2021-22 (Table 19.3).[45] The number of residential customers on payment plans decreased by 44 per cent, while the number of business customers decreased by 51 per cent.

Table 19.3 TGR Customers on payment plans

	2017-18	2018-19	2019-20	2020-21[46]	2021-22
Residential customers	461	335	341	2 226	1 246
Business customers	43	37	61	156	76

19.2 Disconnections and reconnections

TGR reports on the number of metered customers disconnected from the gas distribution network due to non-payment, and those subsequently reconnected to the network. Table 19.4 shows the number of disconnections together with the number of reconnections.

Table 19.4 TGR customer disconnections and reconnections

	2017-18	2018-19	2019-20	2020-21	2021-22
Disconnections					
Residential	94	110	61	66	45
Business	8	3	7	14	1
Due to suspected illegal use of gas	1	1	1	0	0
Reconnections – same name					
Residential	52	42	36	38	26
Business	3	2	4	9	0

The number of disconnections in 2021-22 decreased to five-year lows for both residential and business customers. Whilst the number of reconnections were lower in 2021-22 compared to 2020-21, the ratio of reconnections to disconnections for residential customers was effectively the same in both years.

45 During an audit of its reporting systems during 2017, TGR discovered that it had not been correctly capturing customer data in relation to payment plans. Customers on payment plans who vacated their properties during the reporting period were not included in the reported figures. TGR rectified this issue in its 2017-18 Performance Report to the Regulator. The data in Table 19.3 are therefore not comparable with estimates in earlier reports.

46 The residential and business customers on payment plan figures in 2020-21 from the 2020-21 EiT report were incorrect, these have been corrected in Table 19.3.

APPENDIX: LICENSED AND AUTHORISED ENERGY ENTITIES OPERATING IN TASMANIA 2021-22

Electricity	Gas
Generation Entities	**Transmission Entities**
Hydro-Electric Corporation	Tasmanian Gas Pipeline Pty Ltd
AETV Pty Ltd	Tas Gas Networks Pty Ltd
Woolnorth Bluff Point Wind Farm Pty Ltd	
Woolnorth Studland Bay Wind Farm Pty Ltd	**Distribution Entities**
Musselroe Wind Farm Pty Ltd	Tas Gas Networks Pty Ltd
LMS Energy Pty Ltd	Origin Energy Tasmania Pty Ltd
Tasmanian Irrigation Pty Ltd	
G7 Generation Pty Ltd	**Retail Entities**
Simplot Australia Pty Ltd	Aurora Energy Pty Ltd
UPC Robbins Island Pty Ltd	Tas Gas Retail Pty Ltd
Wild Cattle Hill Pty Ltd	Weston Energy Pty Ltd
Granville Harbour Operations Pty Ltd	Origin Energy Retail Pty Ltd
Transmission Entities	
Tasmanian Networks Pty Ltd	
Basslink Pty Ltd	
Marinus Link Pty Ltd	
Distribution Entities	
Tasmanian Networks Pty Ltd	
Hydro Electric Corporation (BSI only)	
Retail Entities[47]	
Aurora Energy Pty Ltd	
1st Energy Pty Ltd	
Shell Energy Pty Ltd	

[47] Retailers operating in Mainland Tasmania must receive authorisation from the AER.

Flow Power Pty Ltd	
Hydro Electric Corporation (BSI only)	
Macquarie Bank Pty Ltd	
Energy Locals Pty Ltd	
Future X Power Pty Ltd	
Elysian Energy Pty Ltd	
Smart Energy Pty Ltd	
Glow Power Pty Ltd	
CovaU Pty Ltd	
Delta Electricity Pty Ltd	

GLOSSARY OF TERMS

Term	Meaning within the context of this report
AEMC	Australian Energy Market Commission. The AEMC is the rule maker for Australian electricity and gas markets. It makes and amends the National Electricity Rules, National Gas Rules and National Energy Retail Rules, and provides market development advice to governments.
AEMO	Australian Energy Market Operator. AEMO is responsible for operating Australia's largest gas and electricity markets and power systems, providing critical planning, forecasting and power systems information, security advice, and services for governments and consumers.
AER	Australian Energy Regulator. The AER regulates wholesale and retail energy markets, and energy networks, under national energy legislation and rules. Its functions mostly relate to energy markets in eastern and southern Australia.
AETV	Aurora Energy Tamar Valley Pty Ltd. AETV is a subsidiary company of Hydro Tasmania and operates the Tamar Valley Power Station.
APAYG	Aurora Pay as You Go. APAYG is a market offer product to Aurora Energy's residential customers involving prepayment, but is currently being withdrawn.
BPL	Basslink Pty Ltd. BPL is the owner, operator and maintainer of the Basslink infrastructure.
BSA	Basslink Services Agreement. The BSA is the agreement between Hydro Tasmania and Basslink Pty Ltd. It establishes the rights and obligations of both parties regarding the operation of Basslink, and includes a number of financial incentives relating to Basslink's performance in terms of its availability.
BSI	Bass Strait Islands. The BSI comprise Flinders Island and King Island but exclude Cape Barren Island and all other islands in Bass Strait.
CCGT	Combined Cycle Gas Turbine. A CCGT uses both a gas and a steam turbine and produces up to 50 per cent more electricity than a traditional gas-fired plant. The waste heat from the gas turbine heats the steam turbine, which generates extra power.
CSO	Community Service Obligation. The CSO provides direct concessions to Bass Strait Island electricity customers who are pensioners, and enables the prices to Bass Strait Island customers to be below the costs incurred by Hydro Tasmania in supplying electricity.
ESI Act	*Electricity Supply Industry Act 1995* (Tas). This Act lists its objectives as promoting efficiency and competition in the electricity supply industry, providing for a safe and efficient system of electricity generation, transmission, distribution and supply, providing for the safety of electrical installations, equipment and appliances, enforcing proper standards in the performance of electrical work and protecting the interests of consumers of electricity.

Term	Meaning within the context of this report
FCAS	Frequency Control Ancillary Services. Ancillary services are the specialty services and functions that support the continuous flow of electricity and ensure supply can continually meet demand. FCAS does this by maintaining the frequency of electricity in the power system between normal operating bands.
FiT	Feed-in Tariff. A FiT is a pricing mechanism whereby an electricity retailer pays a customer for the electricity generated by the customer's distributed generation systems that is exported to the grid.
GSL	Guaranteed Service Level. Under the GSL scheme, TasNetworks must make payments to customers who experience supply interruptions greater than the reliability supply threshold set for their particular reliability category.
GWh	Gigawatt hour. A GWh is a measure of electrical energy equivalent to a power consumption of one thousand MWhs.
HV	High voltage. HV refers to voltage greater than 1 kilovolt.
kV	Kilovolt. A kV is a unit of electromotive force equal to one thousand volts.
kVA	Kilovolt ampere. A kVA is a unit of apparent power in an electrical circuit equal to one thousand volt amperes.
kW	Kilowatt. A kW is unit of power equal to one thousand watts.
kWh	Kilowatt hour. A kWh is a measure of electrical energy equivalent to a power consumption of one thousand watts for one hour.
LOS	Loss of Supply. A LOS constitutes a short or long-term loss of electric power or natural gas to an area.
LV	Low voltage. LV refers to voltage less than 1 kilovolt.
MW	Megawatt. A MW is unit of power equal to one million watts.
MWh	Megawatt hour. A MWh is a measure of electrical energy equivalent to a power consumption of one million watts for one hour.
NECF	National Energy Customer Framework. The NECF is a suite of legal instruments that regulate the sale and supply of electricity and gas to retail customers. The NECF includes the National Energy Retail Law, the National Energy Retail Rules and the National Energy Retail Regulations.
NEM	National Electricity Market. The NEM comprises five regional market jurisdictions (Queensland, New South Wales, Victoria, South Australia and Tasmania) connected by a number of interconnectors into a single alternating current system and associated synchronous electricity transmission grid.
NER	National Electricity Rules. The NER govern the operation of the National Electricity Market. The Rules have the force of law, grounded under the National Electricity Law.
OCGT	Open Cycle Gas Turbine. An OCGT is a combustion turbine fired by liquefied gas that turns a generator rotor to produce electricity.
OTTER	Office of the Tasmanian Economic Regulator.

Term	Meaning within the context of this report
RoLR	Retailer of Last Resort. A scheme overseen by the AER to ensure that in the event of a retailer failure, customers of the failed retailer are transferred to new providers to ensure continuity of energy services.
PV	Photovoltaic. PV systems generate electric power by using solar cells to convert energy from the sun into electricity.
SAIDI	System Average Interruption Duration Index. SAIDI is a performance measure for electricity network distribution entities relating to the duration of interruptions experienced by customers. It is reported in minutes.
SAIFI	System Average Interruption Frequency Index. SAIFI is a performance measure for electricity network distribution entities relating to the number of interruptions experienced by customers.
TEC	Tasmanian Electricity Code. The TEC provides a statement of the relevant technical standards of the electricity supply industry, an access regime to facilitate new entry, guidance on price setting methodologies, a means of resolving disputes that may arise and establishes advisory committees to assist the Regulator.
TGN	Tas Gas Networks Pty Ltd. TGN holds a distribution licence (operations), and maintains and operates Tasmania's gas distribution network.
TGP	Tasmanian Gas Pipeline Pty Ltd. TGP holds a pipeline licence (operations), and transports natural gas from the Longford Plant in Victoria to Tasmania.
TGR	Tas Gas Retail Pty Ltd. TGR is a licensed retailer of natural gas in Tasmania.
TJ	Terajoule. A TJ is a unit of energy equal to one trillion joules.
TVPS	Tamar Valley Power Station. TVPS is a gas electricity generation facility consisting of a Combined Cycle Gas Turbine and four open cycle gas turbine units.
YES program	Your Energy Support program. The YES program provides affordable energy options for Aurora Energy residential customers that may struggle to pay their electricity bills.