

ENERGY IN TASMANIA REPORT 2022-23



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EXECUTIVE SUMMARY

The annual Energy in Tasmania Report provides an overview of Tasmania's electricity and gas supply industries and presents key performance information for the entities that provide electricity and gas to Tasmanian businesses and residents.

Key themes to emerge in 2022-23 include a fall in total electricity consumption, a continuation of the growth in rooftop solar installations, some consolidation of electricity retailers offering services in the Tasmanian market and an increase in the number of electricity customers repaying a debt.

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

- ❑ a 1.3 per cent decrease in electricity consumption;
- ❑ an 11.2 per cent decrease in on-island generation;
- ❑ a 0.8 per cent decrease in wind generation;
- ❑ a 15.9 per cent increase in rooftop solar exports and an increase in the number of installations and average generation capacity of installations;
- ❑ a modest increase in gas-fired generation, which rose by 40 GWhs or 129 per cent;
- ❑ an increase in gas consumption and the number of residential and business gas customers; and
- ❑ an increase in the number of electricity customers repaying a debt and an increase in the average amount of debt.

Whilst 2022-23 was not a remarkable year in terms of the introduction of new generation or load, several notable events occurred during the year.

On 22 October 2022, the sale of Basslink Pty Ltd to APA Group Ltd (APA) was completed. Hydro Tasmania and Basslink Pty Ltd subsequently entered into a new Network Services Agreement which governs bidding and revenue arrangements for electricity flowing across the Basslink interconnector. APA has since applied to the Australian Energy Regulator (AER) to convert Basslink from a Market Network Service Provider to a prescribed Transmission Network Service Provider and for the AER to commence the process for making a revenue determination for the period 1 July 2025 to 30 June 2030. If APA's application is approved, the commercial arrangement with Hydro Tasmania providing for payment of a facility fee will be replaced with regulated revenues from 1 July 2025.

On 14 October 2022, heavy rainfall resulted in a landslide that damaged a transmission tower and caused an extended outage on the 220kV transmission line between Waddamana and Palmerston. This transmission line is the primary transmission line linking networks in the north and south of the State, with some redundancy provided by a parallel 110kV transmission line. While north-south electricity transmission was severely limited by this incident, there was no impact on residential customers and limited impact on large industrial customers. The damaged transmission line was returned to service on 2 December 2022.

TasNetworks also experienced a significant increase in the number of payments under the Guaranteed Service Level (GSL) scheme, which compensates customers for extended or frequent electricity outages. An extreme weather event in June 2022 caused extensive network damage, which contributed to a significant increase in the number and value of GSL payments in 2022-23. The total number of

payments increased from approximately 10 700 in 2021-22 to approximately 30 300 in 2022-23 and the value of payments increased from \$1.1 million to \$3.2 million.

On the electricity retail side, several small retailers ceased trading in the Tasmanian market during 2022-23. Most significantly, Elysian Energy Pty Ltd, which had 444 Tasmanian customers at the end of 2021-22, entered voluntary administration and had its retailer authorisation revoked by the AER on 2 September 2022. Elysian Energy's remaining customers were transferred to Aurora Energy under the AER's Retailer of Last Resort arrangements.

While no new wind generation came online during the year, 2022-23 saw the announcement of several large-scale wind generation projects and, on the demand side, a number of proposed hydrogen production projects. The progression of some of these projects is likely to be contingent on the construction of the proposed Marinus Link, which was reduced from an initial proposal of 1 500 MW capacity to 750 MW in September 2023 as a result of higher than originally expected costs of constructing dual 750 MW links.

A number of grid scale batteries, or "Big Batteries", have also been proposed for Tasmania, with capacities of up to 300 MW. These facilities have the benefit of being able to store energy from renewable sources during times of low demand and dispatch it at times of peak demand. Batteries provide flexibility and can respond faster than other storage or generation facilities, helping to maintain grid stability through frequency control and shifting.

Electricity generation and consumption

Tasmanian on-island generation was lower in 2022-23, declining by 1 281 GWh, or 11.2 per cent from 2021-22. This was primarily driven by a reduction in hydroelectric generation, offset by net imports across Basslink and a 1.3 per cent reduction in electricity consumption on mainland Tasmania.

Large-scale wind generation declined by 15 GWh, or 0.8 per cent, in 2022-23. Generation at the Granville Harbour and Cattle Hill windfarms declined by 4.4 per cent and 1.1 per cent respectively, while generation at Woolnorth windfarms increased by 0.75 per cent compared to 2021-22.

The contribution of exported generation from rooftop solar installations continued to increase, rising from 138.3 GWh in 2021-22 to 159.5 GWh in 2022-23. This was driven by the increasing number of solar installations, with 4 121 new installations exporting to the grid in 2022-23. The average generating capacity per system also continued to increase, from 4.7 kWh to 5.0 kWh.

While exported generation from rooftop solar continued to exceed generation from gas at the Tamar Valley Power Station, there was an increase of gas generation for the first time in five years, from 31 GWh in 2021-22 to 76 GWh in 2022-23. However, total gas generation was only slightly above the average of the previous three years.

There were net imports of 891 GWh across Basslink in 2022-23. Rainfall into Hydro Tasmania's catchments was below average from January to May 2023, contributing to high net imports for a large portion of the year. By contrast, Tasmania was a net exporter during 2021-22.

Other than the landslide which damaged the transmission line between Waddamana and Palmerston, there were no other significant electricity transmission or distribution reliability issues in 2022-23. The number of areas that did not meet SAIDI (System Average Interruption Duration Index) or SAIFI (System Average Interruption Frequency Index) target levels during 2022-23 was similar to 2021-22.

In the retail electricity market, the number of residential and business customers increased in 2022-23. Total customer numbers increased by 0.6 per cent. System peak demand decreased slightly, from 1 735 MW in 2021-22 to 1 690 MW in 2022-23. This remains below the maximum system peak of 1760 MW recorded in 2008.

Aurora Energy's share of the residential customer market declined from 95.1 per cent in 2021-22 to 94.1 per cent at the end of 2022-23, with 1st Energy's share increasing from 4.4 per cent to 5.6 per cent.

Likewise, Aurora Energy's share of the business market declined from 94.5 per cent to 94.0 per cent, with 1st Energy's share increasing from 3.2 per cent to 4.1 per cent.

Aurora Energy experienced a 31.9 per cent decrease in the total number of customer complaints recorded, driven by a 39.7 per cent decrease in billing complaints.

The largest electricity retailers, Aurora Energy and 1st Energy, experienced an increase in the number of residential customers repaying a debt and the average amount of debt. This may reflect the impact of cost of living pressures on customers in 2022-23.

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 increased by 4.7 per cent in 2022-23. The number of business gas customers increased by 2.9 per cent and the number of residential gas customers increased by 0.8 per cent in 2022-23.

Tasmania did not face any natural gas supply issues in 2022-23 and the State's natural gas transmission and distribution network, including the pipeline linking Tasmania with Victoria, did not experience any major reliability issues. While the frequency and average duration of unplanned outages was significantly higher than in 2021-22, Tas Gas Networks attributed this to a change in their reporting methodology to include third party interference and damage to supplies, which were the primary drivers of the increase in the number of interruptions.

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 large-scale onshore and offshore wind projects proposed for construction in Tasmania, including several in the 1 GW range. The progression of a small number of such projects could substantially increase Tasmania's wind generation capacity. However, some of the proposed projects may be dependent on large increases in load in Tasmania (hydrogen production, for example), while others may be contingent on the proposed Marinus Link.

There are also a small number of solar generation projects currently in development. However, at up to 400 MW each, these projects would make a less significant contribution to Tasmania's generation capacity.

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.

In January 2021, Hydro Tasmania announced that Lake Cethana had been selected as Hydro Tasmania's preferred site of its top three Tasmanian pumped hydro opportunities and that it will now progress to the last stage of its feasibility study. A pumped hydro site is planned to be commissioned in line with the completion of the proposed Marinus Link.

Hydro Tasmania is also investigating the redevelopment of the Tarraleah hydro power scheme, which has the potential to increase the capacity of the scheme from around 90 MW to around 190 MW.

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. Several hydrogen production

plants are being considered that would each increase electricity demand by around 100 MW (around 880 GWh annually) to 300 MW (around 2 630 GWh annually).

This would result in substantially increased electricity consumption in Tasmania. For example, the annual consumption of one 300 MW plant represents almost one quarter of Tasmania's total electricity consumption in recent years. While a number of hydrogen production facilities in Tasmania have been proposed, none have progressed to the construction phase.

On 3 September 2023 the Tasmanian, Victorian, and Australian Governments announced new joint ownership and funding arrangements to progress Marinus Link, a proposed undersea electricity and telecommunications interconnector between Tasmania and Victoria. Under these new arrangements, stage one will consist of one 750 MW transmission cable, rather than the dual 750 MW cables that were initially proposed. A final investment decision is expected to be made in December 2024.

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 12 December 2023, Tas Gas Retail rebranded as Solstice Energy Retail and announced its intention to enter the Tasmanian electricity retail market. As an established gas retailer, with approximately 66 per cent of Tasmania residential gas customers and 89 per cent of business gas customers, the entry of Solstice Energy Retail to the electricity retail market has the potential to increase competition.

A number of these matters are also discussed in detail in the *Annual Energy Security Review 2022-23*, which is available on the Office of the Tasmanian Economic Regulator website.¹

¹ <http://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/>

KEY STATISTICS

Electricity Industry	2020-21	2021-22	2022-23
National Energy Market (NEM) information²			
Tasmanian consumption (GWh)	10 747	11 225	11 082
Tasmanian generation (GWh) ³	10 157	11 472	10 191
Hydro Tasmania			
Hydro-electric generation (GWh)	8 177	9 560	8 232
Bass Strait Islands (GWh)	19	21	22
AETV			
Gas generation (GWh)	76	31	71
TasNetworks			
Solar PV generation (GWh) ⁴	122	138	160
Woolnorth Wind Farm Holding (GWh)	995	934	941
Cattle Hill Wind Farm (GWh)	442	433	428
Granville Harbour (GWh)	333	376	359
Basslink			
Imports (GWh)	1 612	1 159	1 664
Exports (GWh)	1 022	1 406	773
TasNetworks			
Total distribution customer consumption (GWh)	4 483	4 581	4 631
Unserved energy (%)	0.0010	0.0027	0.00004
Unplanned supply interruptions (excluding Major Event Days)			
- Annual average outage duration (minutes)	116	126	514
- Annual average number of outages per customer	1.54	1.58	1.56
Retail customers^{5,6}			
Aurora Energy			
Residential customers	243 340	239 821	238 984
Business customers	35 840	35 740	35 237
1st Energy			
Residential customers	6 809	11 057	14 215
Business customers	1 018	1 215	1 543
Energy Locals			
Residential customers	299	491	492
Business customers	38	60	46
CovaU			
Residential customers	-	339	140
Business customers	-	278	97

² 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.

³ Mainland Tasmania only. Excludes electricity generated on the Bass Strait Islands.

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. The 2020-21 figure in this report has been corrected.

⁵ Customer numbers in this table include those on regulated contracts with standing offer prices and market contracts in the fourth quarter of each year. Due to the AER's requirement that electricity entities report connection numbers (including deemed customers) rather than the number of customers with a contract with the entity, customer numbers may vary from those reported in the entities' annual reports.

⁶ Mainland Tasmania only. Excludes customers on the Bass Strait Islands.

Electricity Industry	2020-21	2021-22	2022-23
Retail customers ⁷			
Shell Power (ERM)	495	533	579
Business customers			
Local Volts			
Residential Customers	0	0	3
Electricity in a Box			
Residential Customers	0	0	40
Flow Power (Progressive Green)			
Business customers	7	8	12
MTA Energy			
Business customers	0	0	2
Delta Electricity			
Business customers	-	2	2
Natural Gas Industry	2020-21	2021-22	2022-23
Tasmanian Gas Pipeline			
Annual gas flow (TJ)	7 537	7 330	7 678
Tas Gas Networks			
Annual gas flow (TJ) ⁸	3 692	3 594	3 520
Aurora Energy			
Residential customers	4 662	4 674	4 681
Business customers	139	140	119
Tas Gas Retail ⁹			
Residential customers	8 957	8 987	9 093
Business customers	991	952	1 005

⁷ Customer numbers in this table include those on regulated contracts with standing offer prices and market contracts in the fourth quarter of each year. Due to the AER's requirement that electricity entities report connection numbers (including deemed customers) rather than the number of customers with a contract with the entity, customer numbers may vary from those reported in the entities' annual reports.

⁸ The data from 2020-21 onwards includes one large customer who receives gas via a transmission pipeline.

⁹ Tas Gas Retail changed its company name to Solstice Energy Retail on 12 December 2023.

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 2022-23, there were 12 companies licensed to generate electricity. There was one licensed network business (TasNetworks Pty Ltd) and 10 authorised retailers with at least one customer in Tasmania at the end of 2022-23.

For the BSI, Hydro Tasmania was solely responsible for electricity generation, network services and, through its subsidiary Momentum, retail services during 2022-23.

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 embedded¹⁰ generators. Hydro-electric generation continues to provide the majority of the State's generation, producing 80.8 per cent of the total electricity generated on mainland Tasmania in 2022-23, down from 83.3 per cent in 2021-22.

Wind was the next largest contributor to generation, producing 17.0 per cent of output in 2022-23, up from 15.2 per cent in 2021-22. Gas-fired generation's share of total electricity generation increased marginally during 2022-23, rising from 0.27 per cent in 2021-22 to 0.7 per cent. There were net imports of 891 GWh across Basslink in 2022-23.

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 over 50 per cent of electricity consumption¹¹, while small business and residential customers account for a much smaller share of total consumption than in other regions of the NEM.

¹⁰ Embedded generators are small generation units connected directly to the electricity distribution network.

¹¹ TasNetworks' Revised Proposal to the AER for the 2024-29 Regulatory Period - Customer Snapshot - November 2023, page 4.

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.

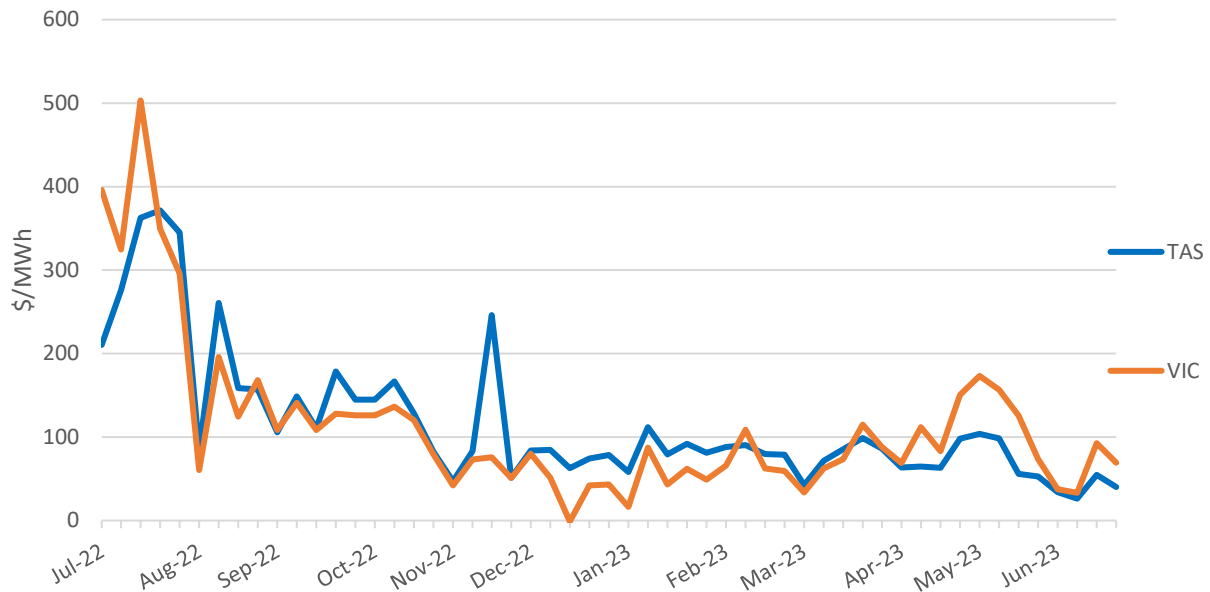
The Australian Energy Market Commission (AEMC) and the AER are responsible for overseeing and regulating the NEM. The AEMC is responsible for rule-making and responding to requests for rule changes, which are usually proposed by NEM participants. The AER is responsible for enforcing and monitoring compliance 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 constraints apply do spot prices between the two regions diverge significantly.

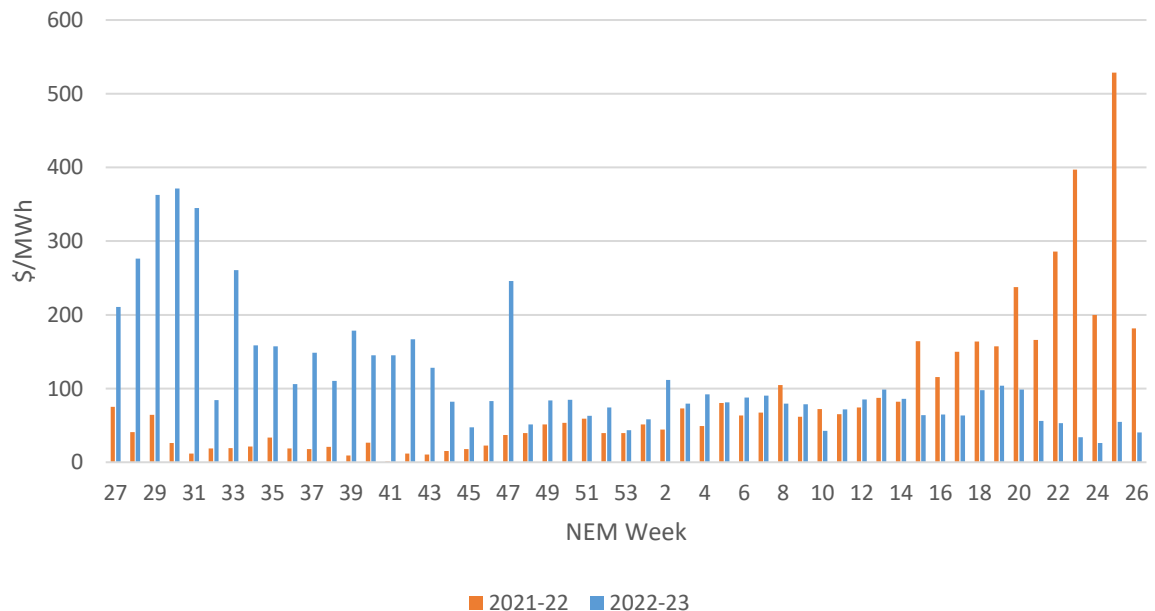
Spot prices in Tasmania generally tracked Victorian spot prices closely during 2022-23. Weekly average volume-weighted prices in Tasmania ranged from \$26.28 to \$371.57 per MWh during 2022-23, while Victorian average volume-weighted prices ranged from \$16.36 to \$503.20 per MWh. Prices were marginally higher in Tasmania throughout 2022-23, with a median price of \$85.39 per MWh in Tasmania, compared to a median price of \$82.94 in Victoria. Tasmanian prices were less volatile throughout the majority of the year when compared to Victoria, except for November 2022, where Tasmanian prices were quite volatile (Figure 2.1).

Figure 2.1 Tasmanian and Victorian volume-weighted weekly average electricity spot prices: 2022-23



Tasmanian average volume-weighted prices in the first half of 2022-23 were higher than at the same period in 2021-22. However, prices moderated in the second half of 2022-23. Median prices were \$85.39 per MWh in 2022-23 compared to \$56.17 per MWh in 2021-22, an increase of \$29.22 per MWh or 52 per cent. Prices in 2022-23 were high from June 2022 to November 2022 before declining, which can be partly attributed to higher gas prices during this period (Figure 2.2).

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 well below average in 2022-23, with the yield into Hydro Tasmania's storages being 11.3 per cent below the average of the previous four years.

The contribution of rooftop solar has steadily increased over the past five years. Wind generation increased significantly in 2020-21, although future growth will depend on construction of new wind farms in the pipeline, while gas generation is at much lower levels than five years ago.

Table 2.1 Tasmanian electricity demand and generation (GWh)

	2018-19	2019-20	2020-21	2021-22	2022-23
Mainland Tasmanian Consumption ¹²	10 843	10 683	10 747	11 225	11 082
Mainland Tasmanian Generation					
Hydro-electric	9 681	9 697	8 177	9 560	8 232
Gas	465	87	76	31	71
Wind	1 105	1 312	1 770	1 743	1 729
Rooftop PV generation ¹³	98	109	122 ¹⁴	138	160
Interconnector					
Basslink exports	1 496	1 376	1 022	1 406	773
Basslink imports	991	867	1 612	1 159	1 664

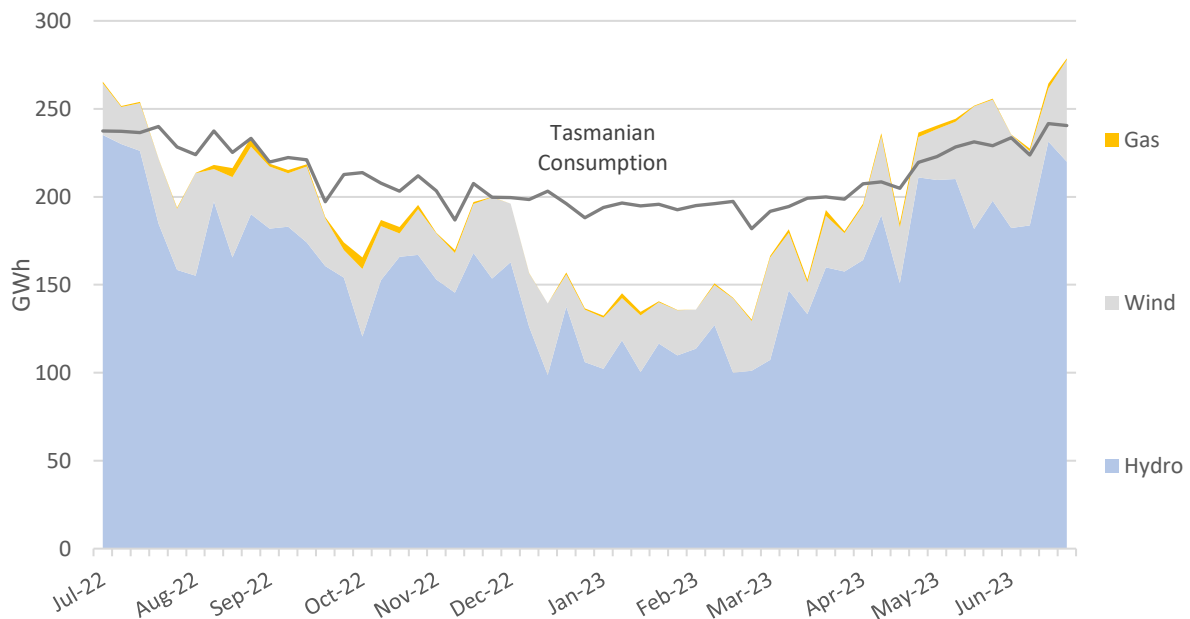
In the autumn and winter months of 2022-23, on-island electricity generation generally exceeded consumption. In summer and spring, by contrast, consumption in Tasmania was greater than on-island generation (Figure 2.3).

¹² These values refer to the level of electricity generation required to meet annual consumption and therefore include transmission and distribution network losses.

¹³ Rooftop PV generation is the amount of energy that is exported to the network and does not include onsite consumption.

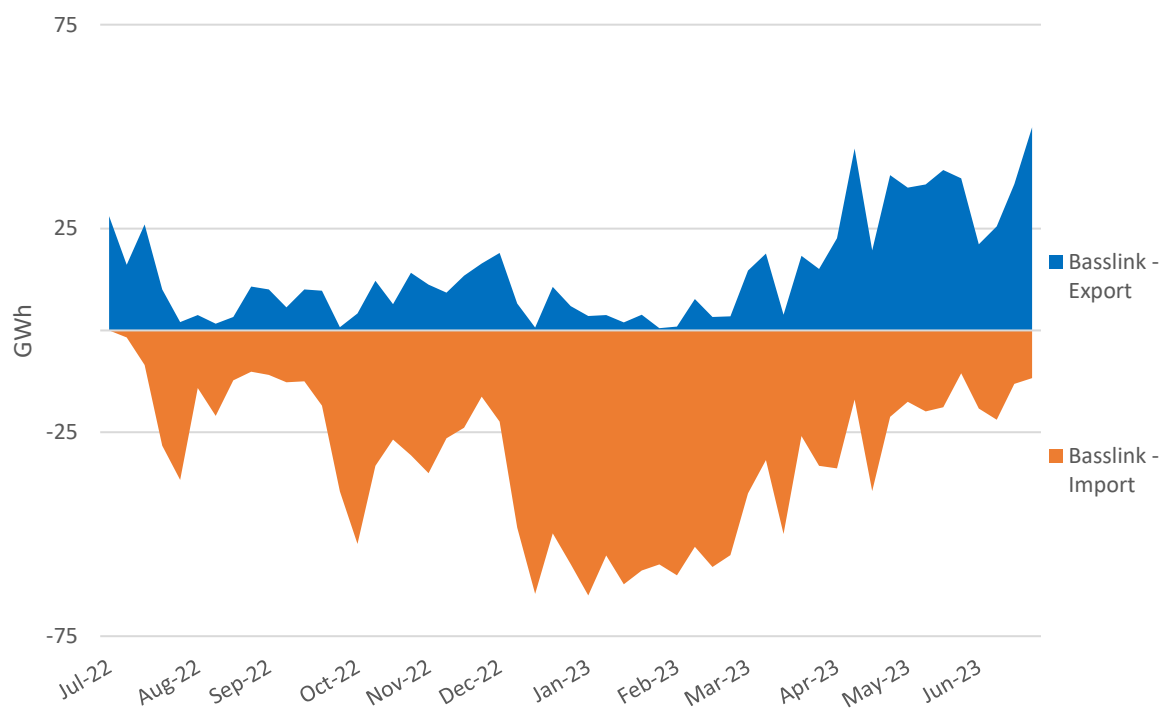
¹⁴ The 2019-20 and 2020-21 solar PV generation figures published in the Energy in Tasmania Report 2020-21 were incorrect due to meter reading policies during the COVID-19 pandemic. These figures have been corrected.

Figure 2.3 Tasmanian electricity consumption and on-island generation (excluding solar PV generation): 2022-23



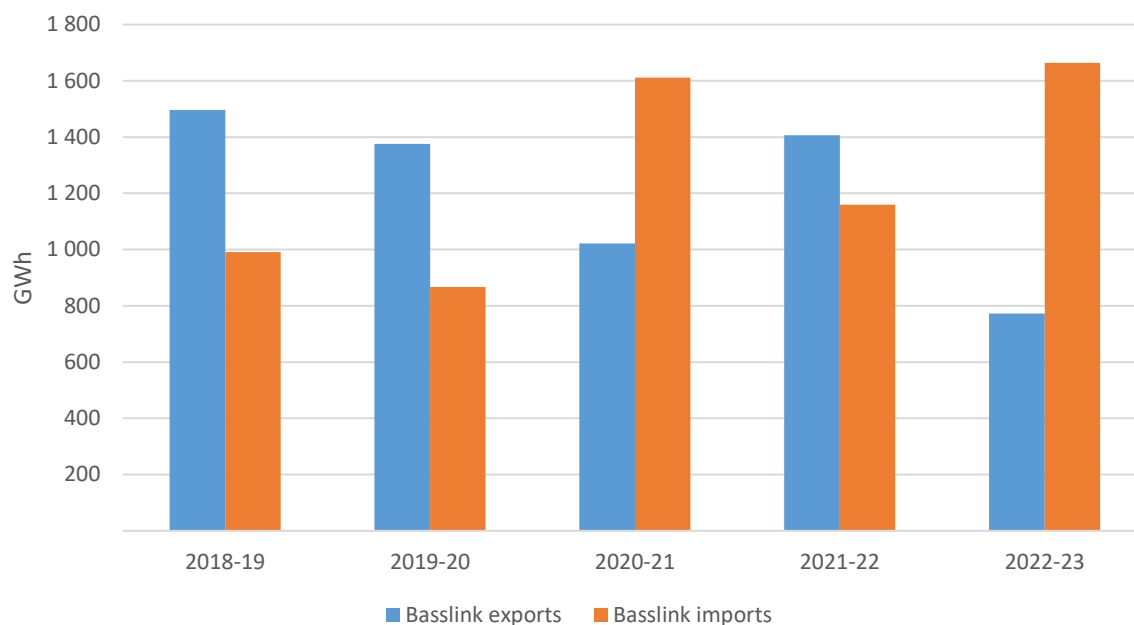
Any difference between generation and consumption is met by imports or exports through Basslink. Tasmania was a net importer during 2022-23, importing 891 GWh more than it exported. Weekly electricity flows across Basslink during 2022-23 are presented in Figure 2.4 below.

Figure 2.4 Basslink flows: 2022-23



There has been some variation in the annual level of imports and exports over the past five years, with Tasmania changing between being a net importer and net exporter of energy. Annual electricity flows (both import and export) across Basslink for the past five years are presented in Figure 2.5. Net imports for 2022-23 were at their highest level for the past five years.

Figure 2.5 Basslink annual imports and exports: 2018-19 to 2022-23



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.

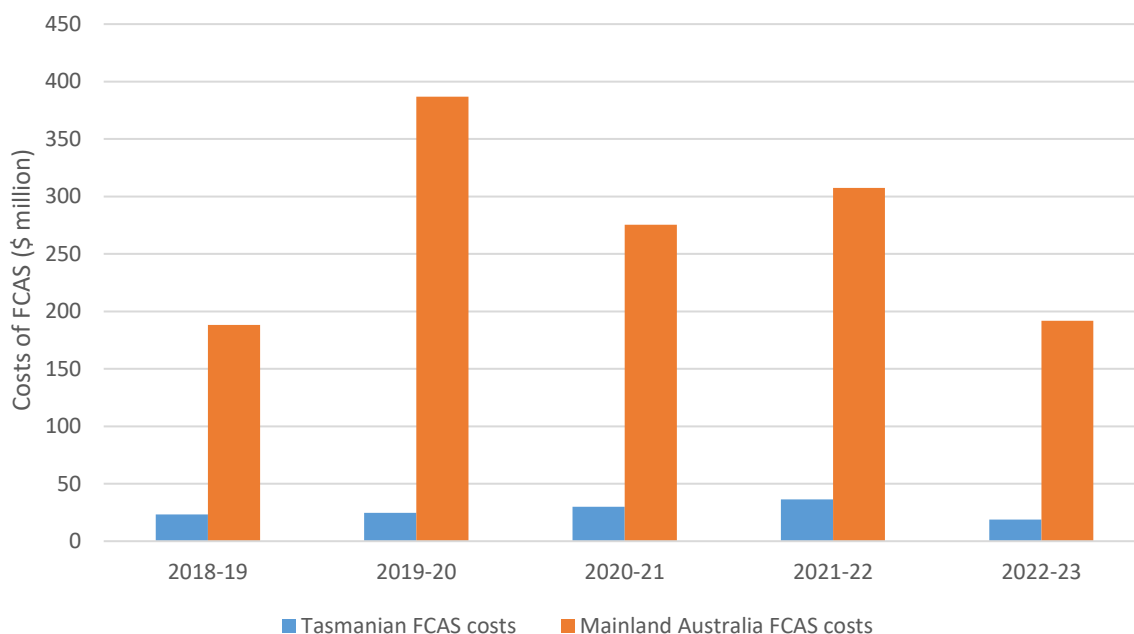
AEMO notes that the FCAS market is undergoing increasingly rapid changes in the number and nature of its participants as older, larger-scale synchronous generators, which have traditionally provided FCAS, are being decommissioned with renewable, non-synchronous generation units replacing them, and new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

In 2022-23, there were three registered FCAS providers in Tasmania: Hydro Tasmania, Firmus (Firmus Infrastructure Pty Ltd and Firmus Grid Pty Ltd) and VIOTAS Australia 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 Scheme¹⁵ (AUFLS 2);
- Firmus is a cloud infrastructure provider located in Launceston and is registered to provide three types of raise contingency FCAS, by varying its electricity demand in response to measured frequency in the network; and
- VIOTAS is an international smart grid technology and services company located in Victoria and is registered to provide all four types of raise contingency FCAS, balancing grid frequency by providing fast injections or reductions of energy in the NEM.

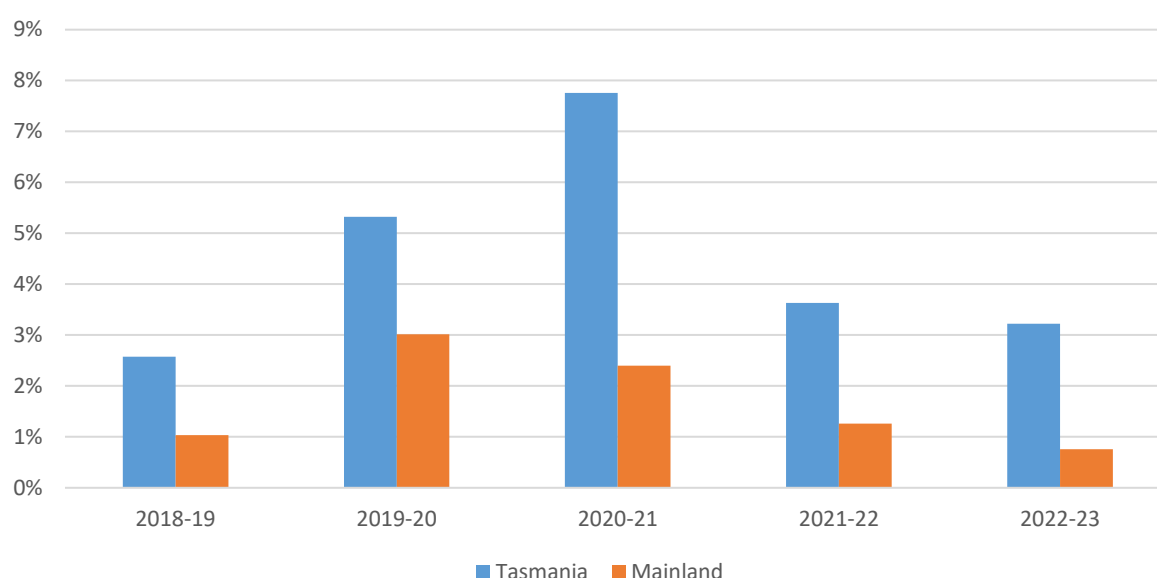
Total FCAS costs in mainland Australia are in a downward trend after a peak occurred in 2019-20. FCAS costs can vary significantly from week to week but, annually, Tasmanian costs have been comparatively stable, averaging \$26.6 million per year over the past five years (Figure 2.6).

Figure 2.6 FCAS costs: 2018-19 to 2022-23



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 4.30 per cent of Tasmanian market turnover, compared to 1.51 per cent on the mainland over the past five years (Figure 2.7).

¹⁵ 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: 2018-19 to 2022-23

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)

	2018-19	2019-20	2020-21	2021-22	2022-23
Tasmania	9.37	9.25	9.48	10.46	9.20
Mainland NEM	11.81	18.41	8.36	10.99	7.51

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 2022-23, Tasmania's volume-weighted price was 22.5 per cent higher than the mainland price. The mainland NEM had a five year low for the price per MWh, down 31.6 per cent from 2021-22.

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 2022-23, eight electricity retailers (Aurora Energy, 1st Energy, Energy Locals, Elysian Energy, CovaU, Smart Energy, Local Volts and Energy in a Box) supplied electricity to residential customers. Elysian Energy ceased trading in September 2022 and Smart Energy did not have any Tasmanian customers by the end of the year.

Ten electricity retailers (Aurora Energy, 1st Energy, Shell Power (ERM), CovaU, Energy Locals, Flow Power (Progressive Green), Elysian Energy, Delta Electricity, GEE Power and Gas and MTA Energy) supplied electricity to business customers.

Given that they did not have any Tasmanian customers at the end of 2022-23, data on Elysian Energy, Smart Energy and GEE Power and Gas are not included in this report. Furthermore, due to low customer numbers, Energy in a Box, Local Volts, Delta Electricity and Flow Power (Progressive Green) do not have their own chapters in this report.

Aurora Energy is the dominant retailer in the State, with market shares of 94.1 per cent of residential customers and 94.0 per cent of business customers as at 30 June 2023. This represents a decrease in residential customers and business customers of 1.1 percentage points and 0.5 percentage points respectively, compared to 30 June 2022.

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 increased over the past five years, to just under 254 000 in 2022-23, 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. The number of large business customers has fallen each year over the same period.

Table 2.3 Number of Tasmanian electricity customers by customer type¹⁶

	2018-19	2019-20	2020-21	2021-22	2022-23
Total Tasmanian electricity customers (Excluding BSI)	282 686	286 233	287 790	289 923	291 272
Total residential customers	244 662	248 244	250 448	252 150	253 831
Total business customers (small)	35 661	35 793	35 233	35 760	35 771
Total business customers (large)	2 362	2 176	2 109	2 011	1 668

¹⁶ 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 15 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 18.7 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)

	2018-19	2019-20	2020-21	2021-22	2022-23
Energy supplied - Hydro (mainland Tasmania)	9 681	9 697	8 177	9 560	8 232
Energy supplied (BSI)	17	18	19	21	22

Table 3.2 summarises Hydro Tasmania's performance in terms of availability, forced outages and planned outages. Hydro Tasmania comfortably met its performance targets for availability and planned outage factor during 2022-23. However, its forced outage factor was above the target level, due to several machines experiencing long outages during this period.

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 (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Availability factor	86.30	85.13	83.37	87.72	89.33	>80.00
Forced Outage factor	0.81	2.16	2.15	1.10	2.29	<2.00
Planned Outage factor	12.90	12.71	14.48	11.18	8.37	<18.00

3.1.1 Water storages

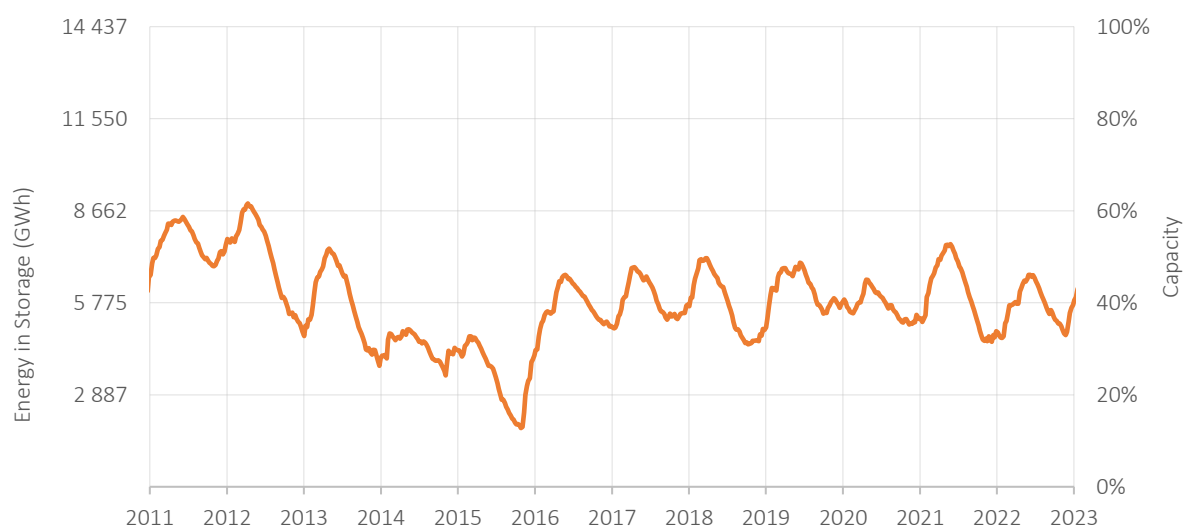
Hydro Tasmania's total water storage capacity is 14 437 GWh.¹⁷ As hydro-electric generation is the major source of electricity in Tasmania, maintaining an appropriate level of water storage is crucial for energy security in the State. Hydro Tasmania's water storage levels as at 30 June each year have ranged between 33.8 per cent and 40.5 per cent during the past five years (Table 3.3). There was a substantial increase from 2021-22 to 2022-23, with actual water storage well above the Prudent Storage Level prescribed in the *Energy Co-ordination and Planning Order 2021* at the end of 2022-23.

Table 3.3 Water storages as at 30 June (%)

	2018-19	2019-20	2020-21	2021-22	2022-23
Water storages	34.7	40.1	36.2	33.8	40.5

Figure 3.1 shows Hydro Tasmania's historical water storage levels from July 2011 to June 2023. 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 2022-23, published in December 2023, which covers the period from 1 November 2022 to 31 October 2023, the Regulator found that Tasmania's energy supply remained above the Prudent Storage Level for the entirety of the period. The Regulator also found that there was a very 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.¹⁸

¹⁷ Excludes Lakes Gardiner, Margaret and Plimsoll. Hydro Tasmania reports against this value for historical consistency.

¹⁸ <http://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/>

4 AETV PTY LTD

AETV operates the Tamar Valley Power Station (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. Table 4.1 summarises the TVPS's generation output for the past five years.

Table 4.1 Gas generation summary (GWh)

	2018-19	2019-20	2020-21	2021-22	2022-23
Energy Supplied (GWh)	465	87	76	31	71

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 (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	Target
Availability Factor	48.2	39.2	44.0	32.9	31.0	43.2
Forced Outage Factor	1.3	0.4	0.2	0.5	4.6	<1.08
Planned Outage Factor	50.5	60.4	55.8	66.7	64.3	55.7

TVPS did not meet the target standards for its availability factor, forced outage factor or planned outage factor. Hydro Tasmania advised that the targets were not met due to the CCGT being in dry storage for the entirety of the 2022-23 period.

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 2022-23 was 0.75 per cent above the level in 2021-22 (Table 5.1). Woolnorth's combined output of 941 GWh accounted for 9.2 per cent of electricity generated in Tasmania during 2022-23, an increase from 8.1 per cent in 2021-22.

Table 5.1 Woolnorth generation (GWh)

	2018-19	2019-20	2020-21	2021-22	2022-23
Bluff Point	245	251	203	141	216
Musselroe	598	649	543	551	497
Studland Bay	261	266	249	242	228
Total	1 105	1 166	995	934	941

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 2022-23 (Table 5.2). The Bluff Point windfarm did not meet its generator availability target for 2022-23 predominately due to 12 asset failures which required replacements. Meanwhile, Studland Bay wind farm was impacted by an outage from 1 February 2023 to 17 February 2023.

Table 5.2 Wind turbine generator availability factor (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Bluff Point	96.69	97.09	96.75 ¹⁹	96.32	95.74	>97.00
Musselroe	99.37	99.13	98.57	98.86	98.22	>97.00
Studland Bay	98.00	97.00	97.00	95.74	95.93	>97.00

¹⁹ 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. In 2022-23, wind generation fell marginally to 428 down from 433 in 2021-22 (Table 6.1). Cattle Hill's contribution to total Tasmanian generation increased from 3.8 per cent in 2021-22 to 4.2 per cent in 2022-23.

Table 6.1 Wind generation summary (GWh)

	2018-19	2019-20	2020-21	2021-22	2022-23
Energy supplied	-	78	442	433	428

Wild Cattle Hill did not meet its wind turbine availability factor target for 2022-23. Table 6.2 shows the wind turbine generator availability factor since the windfarm's inception.

Table 6.2 Wind turbine generator availability factor (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Availability factor	-	14.69	97.78	97.55	97.55	>98.50

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 Atmos Renewables (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 2022-23 was 359 GWh, 17 GWh less than in 2021-22 (Table 7.1). Granville Harbour contributed 3.5 per cent of Tasmania's total energy generation, an increase from 3.3 per cent in 2021-22.

Table 7.1 Wind generation summary (GWh)

	2018-19	2019-20	2020-21	2021-22	2022-23
Energy Supplied (GWh)	0	68	333	376	359

Wind turbine generator availability was below target in 2022-23 (Table 7.2). This was due to two gearbox failures resulting in low turbine availability between December 2022 and March 2023. However, outside of these periods, the generation availability factor was above the 2022-23 target.

Table 7.2 Wind turbine generator availability factor (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	Target
Availability Factor	0	96.90	92.60	96.10	97.00	98.00

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 45 terminal substations throughout Tasmania and supplies electricity to 301 553 installations, as at 30 June 2023.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
System peak demand for period (MW)	1 728	1 618	1 697	1 735	1 690
Unserved energy (%) ²⁰	0.0003	0.0009	0.0010	0.0027	0.00004
Total system minutes off supply	0.98	3.39	3.60	10.50	0.14

System peak demand was lower in 2022-23 compared to 2021-22. Both unserved energy and total minutes off supply were significantly lower in 2022-23 than in 2021-22 and were also the lowest levels in the past five years.

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.

On 14 October 2022, a landslide (resulting from heavy rainfall) damaged a transmission tower and caused an extended outage on the 220kV transmission line between Waddamana and Palmerston. This transmission line is the primary transmission line linking networks in the north and south of the state, with some redundancy provided by a parallel 110kV transmission line. The damaged transmission line was returned to service on 2 December 2022. This incident was classified as a force majeure event by the AER and therefore was not included as a LOS event for 2022-23.

²⁰ 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)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
> 0.1 system minute	2	3	8	7	1	≤15
> 1.0 system minute	0	1	0	3	0	≤2

TasNetworks recorded only one LOS event of greater than 0.1 system minute during 2022-23, which was well below the STPIS performance target for 2022-23. This event occurred at Derwent Bridge and lasted for 0.11 system minutes. It was caused by adverse weather that damaged conductors.

TasNetworks did not record any LOS events of greater than 1.0 system minute, which was also below 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 2022-23 targets.

Table 8.3 Performance against TasNetworks' targets (%)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Transmission line circuit availability (critical)	98.97	99.91	99.76	99.80	99.95	>99.13
Transmission line circuit availability (non-critical)	99.72	99.80	98.81	98.25	98.74	>98.87
Transformer circuit	98.93	99.56	99.66	98.40	99.85	>99.28
Capacitor bank	96.29	93.67	98.63	99.87	97.59	>99.00

TasNetworks achieved two of its four circuit availability targets in 2022-23. The availability of critical transmission line circuits and transformer circuit availability was above target for the period, while non-critical transmission line circuit and capacitor bank did not meet their respective minimum availability targets.

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 2022-23, which have remained unchanged in the last five years.

Table 8.4 Average unplanned outage duration (minutes)

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Transmission lines	105 ²¹	523	116	126	514	<326
Transformers	220	41	124	17	5	<712

TasNetworks' average unplanned outage duration for transmission lines increased significantly compared to 2021-22 and was well above its target. This was due to a loss of supply event at Derwent Bridge, which lasted for an extended period. The average unplanned outage duration for transformers in 2022-23 was below the 2021-22 figure and well 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 Total distribution customer consumption

	2018-19	2019-20	2020-21	2021-22	2022-23
Customer consumption at point of supply (GWh)	4 321	4 387	4 483	4 581	4 631
Maximum demand (MW)	973	973	984	985	1 005

Total customer consumption in 2022-23 was marginally higher than in 2021-22. The maximum demand for electricity from the distribution network also increased marginally.

Despite growth in population and the number of households and economic growth in Tasmania since 2018-19, total consumer consumption from the distribution system (consumption at point of supply) has only increased by 7.2 per cent over this period.

²¹ 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 2022-23 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 2022-23 was approximately the same as in 2021-22. While the frequency and duration of planned and unplanned interruptions remained similar to 2021-22, there was a substantial decrease in the frequency and duration of major event days.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Planned interruptions	0.22	0.27	0.28	0.24	0.24
Unplanned interruptions (excl. major event day)	1.46	1.40	1.54 ²²	1.58	1.56
Major event days	0.10	0.09	0.11	0.20	0.12

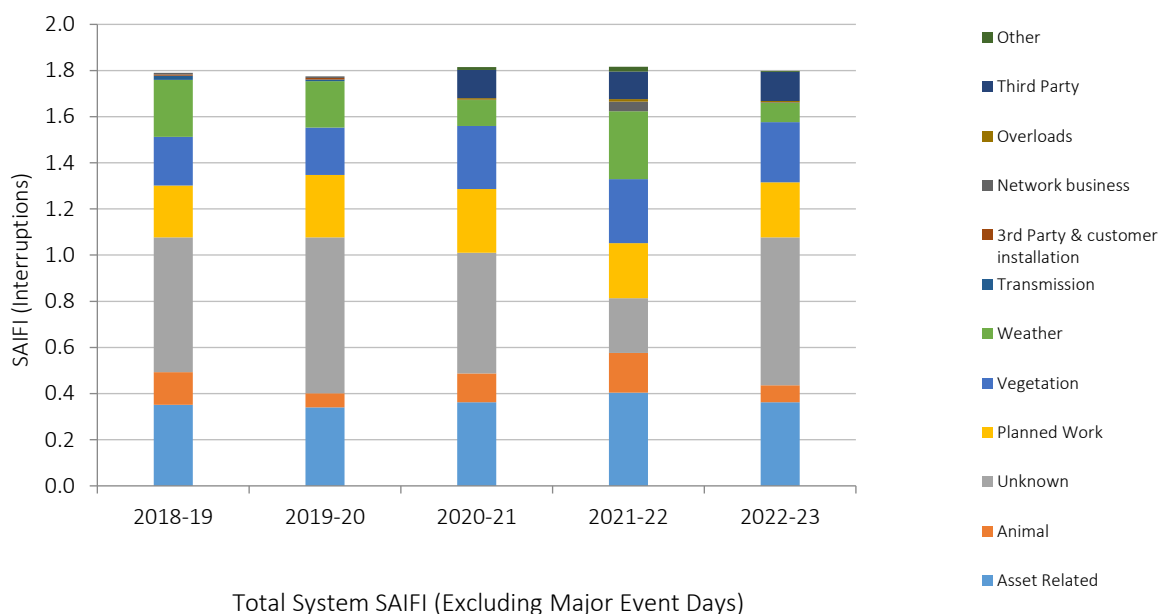
Table 8.7 TasNetworks' overall performance (SAIDI): average duration of interruptions (minutes) per customer

	2018-19	2019-20	2020-21	2021-22	2022-23
Planned interruptions	54	69	77	62	63
Unplanned interruptions (excl. major event day)	146	142	160 ²²	181	158
Major event days	23	24	33	132	31

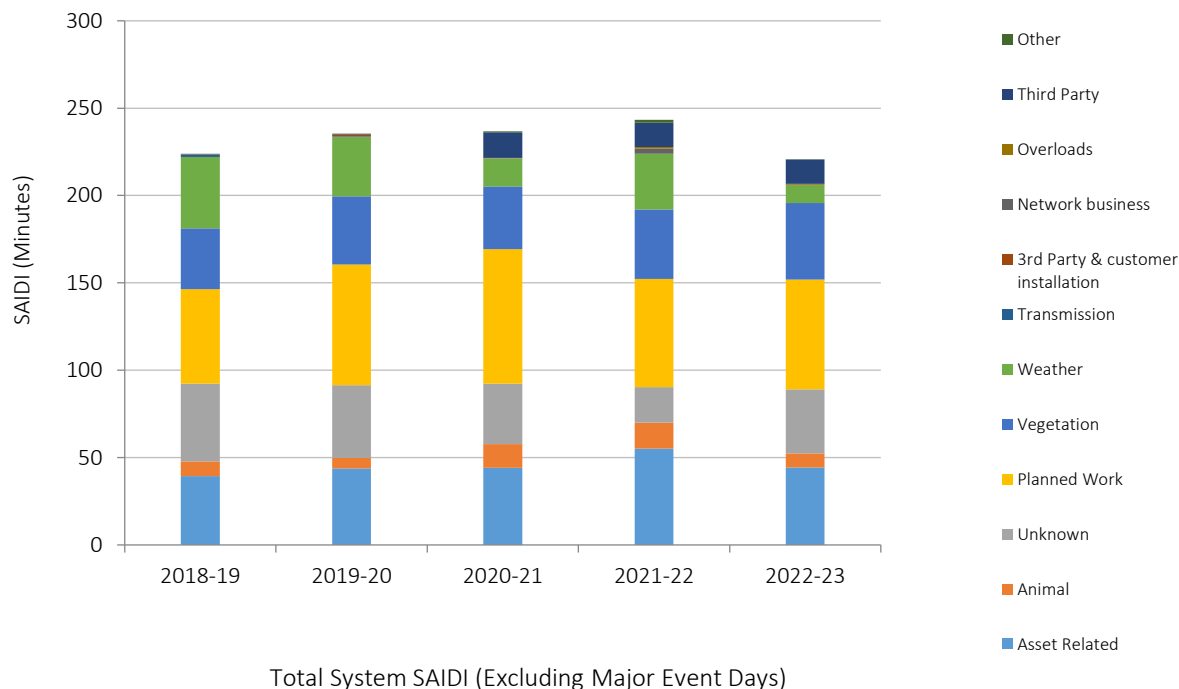
8.2.2 Cause of supply interruptions

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.

²² 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 cause²³

Weather events made a smaller contribution to both SAIFI and SAIDI in 2022-23, while outages with “unknown” causes were responsible for a much greater proportion of unplanned outages in 2022-23.

Figure 8.2 Contributions to system SAIDI by cause²³

²³ 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.

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

	2019-20	2020-21	2021-22	2022-23	Standards
Critical Infrastructure					
SAIFI (interruptions)	0.25	0.15	0.25	0.11	<0.20
SAIDI (minutes)	27	15	70	28	<30
High Density Commercial					
SAIFI (interruptions)	0.33	0.46	0.76	0.35	<1
SAIDI (minutes)	56	62	88	43	<60
Urban and Regional Centres					
SAIFI (interruptions)	1.29	1.40	1.19	1.14	<2
SAIDI (minutes)	149	169	145	126	<120
High Density Rural					
SAIFI (interruptions)	2.56	2.36	2.57	2.84	<4
SAIDI (minutes)	323	305	351	342	<480
Lower Density Rural					
SAIFI (interruptions)	3.26	3.26	3.92	3.79	<6
SAIDI (minutes)	545	490	585	536	<600

During 2022-23, TasNetworks met the performance standard for the number of interruptions (SAIFI) in all supply reliability categories and met the performance standard for the duration of interruptions (SAIDI) in all supply reliability categories apart from urban and regional centres.

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 2022-23

	SAIFI limit	Non-complying areas	SAIDI limit	Non-complying areas	Non-compliant in both measures
Critical Infrastructure (1)	0.2	0	30	0	0
High Density Commercial (8)	2	0	120	1	0
Urban and Regional Centres (32)	4	3	240	7	3
High Density Rural (33)	6	5	600	6	4
Lower Density Rural (27)	8	0	720	6	0

A summary of TasNetworks' performance since 2018-19, across the 101 areas, is presented in Table 8.10.

Table 8.10 Areas with non-compliance by TasNetworks

	2018-19	2019-20	2020-21	2021-22	2022-23
Non-complying with SAIFI standards	6	6	3	5	8
Non-complying with SAIDI standards	21	25	19	23	20
Non-complying with both measures	5	4	3	5	7

Instances of non-compliance were higher in 2022-23 when compared to 2021-22. Individual area performance reports are available in the 2022-23 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 2022-23

	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

	2018-19	2019-20	2020-21	2021-22	2022-23
Late restoration payments >8 or >12 hours					
Number of payments made	8 704	9 322	10 337	6 648	17 930
Total paid (\$)	696 320	745 760	826 960	531 840	1 434 400
Late restoration payments >16 or > 24 hours					
Number of payments made	3 010	1 572	2 224	2 859	9 389
Total paid (\$)	481 600	251 520	355 840	457 600	1 502 240
Outage frequency payments > 10 outages					
Number of payments made	998	341	998	223	761
Total paid (\$)	53 440	27 280	79 840	17 840	60 880
Outage frequency payments > 13 outages					
Number of payments made	1 647	448	972	634	1 019
Total paid (\$)	131 760	35 840	77 760	50 720	81 520
Outage frequency payments > 16 outages					
Number of payments made	544	209	211	383	1 177
Total paid (\$)	43 520	16 720	16 880	30 640 ²⁴	94 160
Total					
Number of payments made	14 573	11 892	14 742	10 747	30 276
Total paid (\$)	1 406 640	1 077 120	1 357 280	1 088 640 ²⁵	3 173 680

The number and amount of GSL payments can vary significantly from year to year. The number of payments and the amount paid in 2022-23 increased in all categories relative to 2021-22, resulting in an increase in the total number of payments made of nearly 20 000 payments. The value of GSL payments increased by \$2.1 million compared to 2021-22. TasNetworks attributed the increase in GSL payments to extreme weather events and reported that extensive network damage in June 2022 resulted in a substantial increase in GSL payments in the 2022-23 financial year, due to the standard delay in calculating and processing payments.

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 15.4 per cent in 2022-23 and was considerably lower than any of the past five years (Table 8.13).

Table 8.13 Complaints regarding the quality and reliability of supply

	2018-19	2019-20	2020-21	2021-22	2022-23
Complaints	321	240	204	175	148

²⁴ Amended after correspondence with TasNetworks.

²⁵ Amended after correspondence with TasNetworks.

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 marginally increased in 2022-23, after a five year low in 2021-22 (Table 8.14). The number of over-voltage events due to lightning fell sharply to below the average range. There were no instances of over-voltage events due to voltage regulation in 2022-23.

Table 8.14 TasNetworks' distribution performance - quality of supply indicators

	2018-19	2019-20	2020-21	2021-22	2022-23
Over-voltage events due to high voltage injection events ²⁶	3	4	10	1	3
Customers with premises receiving over-voltage due to high voltage injection ²⁷	65	26	71	2	4
Over-voltage events due to lightning ²⁸	16	20	6	29	10
Customers with premises receiving over-voltage due to lightning ²⁹	25	24	6	47	9
Over-voltage events due to voltage regulation or other causes ³⁰	34	4	4	6	0

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.

The number of calls answered by TasNetworks' fault centre team decreased in 2022-23, after an increase in 2021-22 (Table 8.15).

Table 8.15 Number of calls answered at TasNetworks' fault centre

	2018-19	2019-20	2020-21	2021-22	2022-23
Calls answered	37 433	33 653	33 563	38 035	28 608

²⁶ High voltage injection events relate to reported incidents involving contact between HV and LV lines and pass-through of transmission over-voltage events.

²⁷ 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.

²⁸ Over-voltage events due to lightning relates to the number of reported interruptions where the reported cause was lightning.

²⁹ 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.

³⁰ 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.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
New Connections³¹					
Total	2 703	2 689	2 922	2 876	2 348
Completed by scheduled date	2 144	1 973	2 444	2 437	2 051
Completed by scheduled date (%)	79.32	73.37	83.64	84.74	87.35
Customer Charter payments	599	184	160	208	118
Total payment value (\$)	33 930	18 330	15 180	19 680	11 760
Alterations³²					
Total	5 214	3 170	3 082	1 912	2 139
Completed by scheduled date	4 192	2 356	2 371	1 584	1 821
Completed by scheduled date (%)	80.40	74.32	76.93	82.85	85.13
Customer Charter payments	172	130	68	50	19
Total payment value (\$)	20 550	15 600	6 510	4 770	1 890
Planned interruptions					
Total	2 301	2 389	3 450	2 170	2 556
Customer Charter payments	40	66	51	16	17
Total payment value (\$)	2 000	3 400	2 550	800	850

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 payment. TasNetworks' Customer Charter payments can vary considerably from year to year, with a slight increase to both the number of planned interruptions and alterations in 2022-23. However, there was a significant decline in the total payment value for both alterations and new connections compared to 2021-22, reaching a five year low, whilst planned interruptions experienced a marginal increase.

8.8 Photovoltaic generation

As at 30 June 2023, there were 44 481 photovoltaic (PV) generation units connected to the Tasmanian distribution network with a total generating capacity of approximately 220 MW. This represents a

³¹ 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, values from 2020-21 are not comparable with those reported in previous years.

³² Alterations is a new metric that 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.

10.2 per cent increase in the number of units since 2021-22 and an increase of 15.6 per cent in total generating capacity. This equates to an additional 4 121 units with a combined 29.71 MW of generating capacity (Table 8.17).

Data is 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 of electricity generated and exported by customers with solar photovoltaic micro-generation in Tasmania. Solar generation typically peaks in December, with a five-year average of approximately 29 GWh for the month. By contrast average monthly exports for June are just 9 GWh.

Figure 8.3 Estimated solar generation in Tasmania³³: 2018-19 to 2022-23

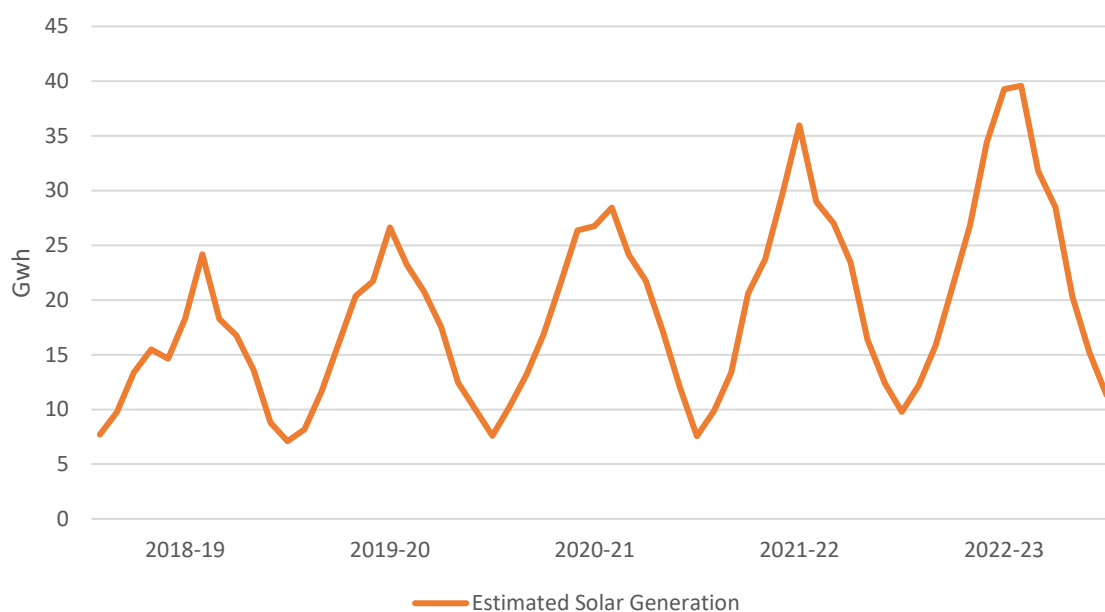


Table 8.17 summarises the details of embedded PV generation units connected to the mainland Tasmanian distribution network. The number of customers with PV generation units continued to increase in 2022-23. The average capacity of individual generation units has also been increasing steadily, from approximately 4.0 kW in 2018-19, to 5.0 kW in 2022-23.

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.

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 31 December 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.

³³ Estimate data are sourced from the Australian PV Institute website, available at <https://pv-map.apvi.org.au/analyses>

Table 8.17 Solar PV connections

	2018-19	2019-20	2020-21	2021-22	2022-23
Total generating capacity (MW)	124.0	145.5	167.0	190.5	220.1
Electricity supplied (GWh)	97.9	109.0	121.9	138.3	159.5
Customers connected at end of year	31 202	34 050	37 045	40 360	44 481
New connections during year	2 244	2 867	3 025	3 330	4 120
Customers with transitional FiT rate	15 250	12 197	0 ³⁴	-	-
Amount paid to retailers for transitional FiT (\$m)	6.80	1.39	0.0004 ³⁵	-	-

³⁴ 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.

³⁵ 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.

The sale of Basslink Pty Ltd to APA Group Ltd (APA) was completed on 20 October 2022. Hydro Tasmania and Basslink Pty Ltd 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.

APA submitted an application to the AER on 19 May 2023 to convert the Basslink interconnector from a Market Network Service Provider to a prescribed Transmission Network Service Provider and to commence the process for making a revenue determination for the period 1 July 2025 to 30 June 2030. The AER has noted a decision on the conversion application and revenue determination is expected by December 2024. If APA's application is approved, the commercial arrangement with Hydro Tasmania providing for payment of a facility fee will be replaced with regulated revenues from 1 July 2025.

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 three unplanned outages during 2022-23. Two of these were attributed to AC failures, whilst another was due to the loss of thyristor redundancy. Table 9.1 shows Basslink performance data since 2018-19.

Table 9.1 Basslink performance

	2018-19	2019-20	2020-21	2021-22	2022-23
Basslink availability (%)	99.40	90.10	99.10	97.70	99.55
Minutes unavailable	3 379	52 034	4 736	12 080	2 375
Total unplanned outages	2	1	5	1	3

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 2022-23, Aurora Energy continued to provide retail services to the majority of customers in Tasmania, servicing 94.1 per cent of residential customers and 94.0 per cent of business customers, although its market share has declined 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 customers³⁶ as at 30 June

	2018-19	2019-20	2020-21	2021-22	2022-23
Customers on standard retail contracts on standing offer prices					
Residential customers	236 879	244 684	243 330	239 815	238 980
Business customers (small)	31 826	31 250	29 387	28 795	29 293
Business customers (large)	131	58	53	51	49
Customers on market contracts					
Residential customers (APAYG)	6 989	26	10	6	4
Business customers (small)	3 550	3 756	4 721	5 364	4 724
Business customers (large)	1 913	1 798	1 679	1 530	1 171
Total customers	281 288	281 572	279 180	275 561	274 221
Residential customers with a concession³⁷	93 126	96 177	94 337	89 493	89 003

Aurora Energy continues to experience a decrease in residential customers, as other electricity retailers enter the market, creating more competition. The amount of small business customers on standard retail contracts increased, but the number on market contracts decreased, which could reflect small businesses' concerns regarding market price volatility.

The Aurora Energy's Pay As You Go (APAYG) products were decommissioned over 2019-20 and APAYG customers were required to switch to other Aurora Energy tariffs or to tariffs offered by other retailers. Aurora Energy reported that, as of 30 September 2023, all APAYG customers have successfully moved to another tariff.

³⁶ Customer numbers in this table include those on regulated contracts with standing offer prices and market contracts in the fourth quarter of each year. Due to the AER's requirement that electricity entities report connection numbers (including deemed customers) rather than the number of customers with a contract with the entity, customer numbers may vary from those reported in the entities' annual reports.

³⁷ This value comprises residential customers on standard retail contracts and on market contracts.

10.1 Electricity retail performance

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

Table 10.2 Call centre performance (electricity)

	2018-19	2019-20	2020-21	2021-22	2022-23
Total calls	321 808	312 258	351 241 ³⁸	342 557	350 493
Calls answered in 30 seconds (%)	71.0	46.6	35.9	47.2	28.2
Average time to answer calls (seconds) ³⁹	24	70	242	158	348
Calls abandoned (%)	3.5	7.7	19.9	13.9	17.6

The number of customer calls received by Aurora's call centre increased by 2.3 per cent compared to 2021-22 and the average time to answer calls more than doubled.

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

Table 10.3 Complaints summary (electricity)

	2018-19	2019-20	2020-21	2021-22	2022-23
Billing complaints	12 014	7 729	6 039	5 193	3 133
Marketing	0	0	16	56	15
Customer transfer	0	0	2	24	66
Other ⁴⁰	8 395	4 468	3 851	3 677	2 884
Total	20 409	12 197	9 908	8 950	6 098

The total number of complaints in 2022-23 decreased by 31.9 percent compared to 2021-22. This result was driven by a 39.7 per cent decrease in billing complaints.

There was an increase in customer transfer complaints in 2022-23 as the number of electricity retailers servicing small customers in Tasmania continues to increase.

³⁸ Higher than usual call numbers in 2020-21 were partially due to the resumption of collection activities for non-payment of accounts in April 2021 after its suspension during the 2019-20 'AER COVID-19 Statement of Expectations' period.

³⁹ The annual average is an average of quarterly averages for each year.

⁴⁰ "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 and family and domestic violence support, which provide 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 28.0 per cent and the number of small business customers repaying a debt increased by 67.4 per cent in 2022-23 (Table 10.4). The average amount of debt for residential customers increased by \$103 or 10.6 per cent, whilst the average amount of debt for business customers decreased by \$497 or 30.9 per cent.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Centrepay customers (residential)	9 198	9 659	10 525	9 674	9 396
Residential customers (excluding YES customers) repaying a debt	4 292	7 655	8 672	11 252	14 406
Average amount of debt (\$)	892	889	1 366	972	1 075
Business customers (small) repaying a debt	172	404	425	264	442
Average amount of debt (\$)	1 014	1 542	2 033	1 610	1 113
Residential customers on payment plans ^{41,42}	2 725	5 983	5 018	4 896	4 441
Customers on the Your Energy Support (YES) program ⁴²	4 090	4 962	4 480	4 169	4 707
YES customers with concession ⁴²	2 949	3 578	3 219	2 953	3 191

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, continued to decrease in 2022-23 following a sharp increase in 2019-20 that was due to significant growth in concession customers during the COVID-19 pandemic.

⁴¹ 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.

⁴² 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.⁴³ 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. This may have contributed to the high level of disconnections in 2021-22. Disconnections of residential customers fell significantly in 2022-23, primarily as a result of a new 'Knock to Stay Connected' program that commenced in partnership with TasNetworks. Customers now receive a door knock and further opportunity to engage with Aurora Energy prior to disconnection. Aurora Energy also conducted a broader program of work to revise and update its disconnection processes and systems.

Table 10.5 Disconnections and reconnections

	2018-19	2019-20	2020-21	2021-22	2022-23
Disconnections					
Residential customers	598	471	0	652	100
Business customers (small)	33	18	0	25	11
Reconnections within seven days					
Residential customers	260	201	0	235	40
Business customers (small)	9	3	0	5	2
Customers disconnected more than once in the last 24 months	48	13	0	15	2

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 \$54.2 million from the Tasmanian Government to fund its CSOs during 2022-23. 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)

	2018-19	2019-20	2020-21	2021-22	2022-23
CSO payments	40.3	41.8	43.7	41.4	54.2

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.

⁴³ These numbers exclude any customers still using Aurora's now-discounted APAYG products.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Residential customers	4 381	4 582	4 662	4 674	4 681
Business customers	145	136	139	140	119

The number of residential gas customers in 2022-23 was comparable to 2021-22, whilst business gas customers fell by 15.0 per cent.

Table 10.8 summarises Aurora Energy's gas customer call centre performance and the number of complaints received. The number of complaints received more than doubled and the percentage of calls answered within 30 seconds decreased from 43.0 to 32.0 per cent.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Call Centre					
Total calls	672	892	635	273	251
Calls answered in 30 seconds (%)	72.0	45.9	33.2	43.0	32.0
Complaints	256	119	94	62	130

10.6 Gas customers on payment plans

The number of Aurora Energy customers on payment plans decreased to 21 in 2022-23, eight lower than in 2021-22 (Table 10.9). This excludes customers on Aurora Energy's YES hardship program, which increased in 2022-23. Those on payment plans, including the YES program, represented around 3.8 per cent of Aurora Energy's residential gas customers in 2022-23.

Table 10.9 Gas customers on payment plans (as at 30 June)⁴⁴

	2018-19	2019-20	2020-21	2021-22	2022-23
Residential customers (excluding YES program)	71	87	28	29	21
Residential customers on YES program	248	300	179	168	176

10.7 Gas disconnections and reconnections

The numbers of residential gas disconnections and reconnections under the same name in 2022-23 were comparable to the previous year (Table 10.10).

⁴⁴ 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

	2018-19	2019-20	2020-21	2021-22	2022-23
Disconnections					
Residential	24	10	0	25	21
Business	0	0	0	0	0
Due to suspected illegal use of gas	0	0	0	0	0
Reconnections – same name					
Residential	4	0	0	3	6
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 2022-23 (Table 11.1). Compared to 2021-22, residential customers on market retail contracts increased by approximately 28 per cent.

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Standard Retail Contract					
Residential customers	-	-	-	72	140
Small business customers	-	-	-	9	16
Market Retail Contract					
Residential customers	794	3 512	6 809	10 985	14 075
Residential customers with a concession	59	824	1 037	3 108	3 882
Business customers (small)	98	643	969	1 149	1 464
Business customers (large)	43	33	49	57	63
Total Customers	935	4 188	7 827	12 272	15 758

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 2022-23 (national)

	2018-19	2019-20	2020-21	2021-22	2022-23
Total calls	16 799	60 664	63 135	66 309	81 964
Calls answered in 30 seconds (%)	73	82	75	66	67
Average time to answer calls (seconds)	55	30	41	66	58
Calls abandoned (%)	5.2	7.0	6.8	5.8	4.7
Complaints (Tasmania)	3	68	288	317	209

1st Energy reported 209 complaints from Tasmanian customers during 2022-23, 34.0 per cent less than in 2021-22.

11.2 Electricity customers experiencing payment difficulties

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

	2018-19	2019-20	2020-21	2021-22	2022-23
Centrepay customers (residential)	8	72	112	174	248
Residential customers (excluding hardship customers) repaying a debt	0	72	105	161	229
Average amount of debt (\$)	0	557	485	381	516
Business customers (small) repaying a debt	0	18	23	14	19
Average amount of debt (\$)	0	1 422	1 123	1 428	775
Residential customers on payment plans	3	107	98	135	164
Customers on the hardship program	0	6	36	73	98
Hardship customers with concession	0	4	12	60	80

The number of residential customers repaying a debt increased by approximately 42 per cent in 2022-23, with the average value of those debts also increasing by approximately 35 per cent compared to 2021-22. The number of small business customers repaying a debt increased by approximately 36 per cent, whilst the average amount of debt decreased by 45.7 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 2023, 98 customers were on its hardship program, a considerable increase from 2021-22.

11.3 Electricity disconnections and reconnections

Table 11.4 1st Energy disconnections and reconnections (Tasmania)

	2018-19	2019-20	2020-21	2021-22	2022-23
Disconnections					
Residential customers	0	11	78	122	238
Business customers (small)	0	4	7	15	31
Reconnections within seven days					
Residential customers	0	5	32	78	90
Business customers (small)	0	1	1	9	5
Customers disconnected more than once in the last 24 months	0	0	9	29	59

1st Energy disconnected 269 customers from TasNetworks' electricity distribution network during 2022-23, with 95 customers, or 35.3 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 2023, Energy Locals had 538 customers, 97 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

	2018-19	2019-20	2020-21	2021-22	2022-23
Standard Retail Contract					
Residential customers	-	-	-	4	12
Small business customers	-	-	-	1	4
Market Retail Customers					
Residential customers	-	22	299	487	480
Residential customers with a concession	-	0	31	39	42
Business customers (small)	-	39	38	59	42
Business customers (large)	-	0	0	0	0
Total Customers	-	61	337	551	538

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)

	2018-19	2019-20	2020-21	2021-22 ⁴⁵	2022-23
Total calls	-	48 905	62 157	39 637	70 416
Calls answered in 30 seconds (%)	-	82	64	55	55
Average time to answer calls (seconds)	-	27	62	110	143
Calls abandoned (%)	-	3.7	5.8	6.6	8.5
Complaints (Tasmania)	-	0	5	2	4

Energy Locals reported four complaints from Tasmanian residential customers during 2022-23 and no complaints from small business customers.

⁴⁵ 2021-22 call centre performance data for 2021-22 has been revised on the advice of Energy Locals.

12.2 Electricity customers experiencing payment difficulties

Table 12.3 Energy Locals electricity customers in Tasmania experiencing payment difficulties

	2018-19	2019-20	2020-21	2021-22	2022-23
Centrepay customers (residential)	-	0	1	1	3
Residential customers on payment plans	-	0	0	0	12

12.3 Electricity disconnections and reconnections

One Energy Locals customer was disconnected from TasNetworks' electricity distribution network during 2022-23.

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, with a decrease of approximately 59 per cent of market retail residential customers, resulting in a decrease of approximately 62 per cent of total customers from 2021-22.

Table 13.1 CovaU electricity customers in Tasmania as at 30 June

	2018-19	2019-20	2020-21	2021-22	2022-23
Standard Retail Contract					
Residential customers	-	-	-	1	2
Small business customers	-	-	-	0	0
Large business customers	-	-	-	0	0
Market Retail Contract					
Residential customers	-	-	-	338	138
Residential customers with a concession	-	-	-	16	17
Small business customers	-	-	-	273	97
Large business customers	-	-	-	5	0
Total Customers	-	-	-	617	237

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)

	2018-19	2019-20	2020-21	2021-22	2022-23
Total calls	-	-	-	27 083	19 617
Calls answered in 30 seconds (%)	-	-	-	94.5	91.3
Average time to answer calls (seconds)	-	-	-	12.3	20.75
Calls abandoned (%)	-	-	-	0.8	1.6

13.2 Electricity customers experiencing payment difficulties

Table 13.3 CovaU electricity customers in Tasmania experiencing payment difficulties

	2018-19	2019-20	2020-21	2021-22	2022-23
Residential customers repaying a debt	-	-	-	31	27
Average amount of debt (\$)	-	-	-	236	1 874
Small business customers repaying a debt	-	-	-	26	22
Average amount of debt (\$)	-	-	-	628	1 592

Although the number of residential and business customers repaying a debt in 2022-23 was comparable to the previous year, the average amount of debt increased significantly.

13.3 Electricity disconnections and reconnections

CovaU disconnected 14 residential customers during 2022-2023. Thirteen of these customers were subsequently reconnected.

14 SHELL ENERGY PTY LTD

Shell Energy Pty Ltd 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 14.1 Shell Energy electricity customers in Tasmania as at 30 June

	2018-19	2019-20	2020-21	2021-22	2022-23
Customers on standard retail contracts					
Business customers (small)	21	44	48	48	84
Business customers (large)	0	0	0	0	0
Customers on market contracts					
Business customers (small)	166	61	70	61	47
Business customers (large)	270	283	377	424	448
Total Customers	457	388	495	533	579

The total number of customers with Shell Energy increased by 8.6 per cent during 2022-23, driven by a 75 per cent increase in the number of small business customers on standard retail contracts. This continues a recent trend of growth in customer numbers.

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, Shell Energy provides the total number of calls it receives at its national call centre. Table 14.2 presents a summary of Shell Energy's national call centre performance.

Table 14.2 Shell Energy call centre performance (National)

	2018-19	2019-20	2020-21	2021-22	2022-23
Total calls	4 598	2 988	3 243	2 508	1 275
Calls answered in 30 seconds (%)	72.4	97.0	94.5	90.4	85.3
Average time to answer calls (seconds)	15.3	8.5	12.0	15.7	19.3
Calls abandoned (%)	0.5	1.6	3.4	1.7	2.4

14.2 Electricity customers experiencing payment difficulties

Table 14.3 Shell Energy customers in Tasmania experiencing payment difficulties

	2018-19	2019-20	2020-21	2021-22	2022-23
Business customers (small) repaying a debt	13	0	10	14	2
Average amount of debt (\$)	2 216	0	2 700	1 955	537

14.3 Electricity disconnections and reconnections

No Shell Energy customers were disconnected from, or reconnected to, TasNetworks' electricity distribution network during 2022-23.

15 BASS STRAIT ISLANDS

Hydro Tasmania provides electricity generation, distribution and retail services on the BSI.⁴⁶ There is no transmission network on the BSI.

Hydro Tasmania's electricity generation on King Island is provided by a combination of:

- ❑ five diesel generators (7.8 MW);
- ❑ two uninterrupted power supply diesel generators (1.7 MW);
- ❑ five wind turbines (25 MW); and
- ❑ solar generation (1.9 MW).

Hydro Tasmania's electricity generation on Flinders Island is provided by a combination of:

- ❑ four diesel generators (2.9 MW);
- ❑ one uninterrupted power supply diesel generator (0.85 MW);
- ❑ one wind turbine (0.9 MW); and
- ❑ solar generation (0.18 MW).

Hydro Tasmania's generation on each island is supplemented by private rooftop solar and, on Flinders Island, a small private wind generator (0.30 MW).

Table 15.1 shows customer information for Hydro Tasmania's BSI operations.

⁴⁶ 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 15.1 Bass Strait Island customer information⁴⁷

	2018-19	2019-20	2020-21	2021-22	2022-23
Flinders Island					
Residential customers	587	595	590	618	612
Business customers	165	165	184	194	194
Annual consumption (MWh)	4 579	4 834	5 116	6 186	6 037
Connected kVA	6 350	8 820	9 956	10 633	10 948
King Island					
Residential customers	961	945	962	969	925
Business customers	299	306	326	349	349
Annual consumption (MWh)	11 532	12 274	13 985	14 412	13 949
Connected kVA	16 703	18 627	19 155	21 524	22 165

The number of residential customers on Flinders Island and King Island decreased in 2022-23, by 1.0 per cent and 4.5 per cent respectively. The number of business customers on both Flinders Island and King Island did not change.

15.1 BSI generation performance

Table 15.2 shows the generation performance on Flinders and King Islands.

Table 15.2 Bass Strait Islands generation performance

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target ⁴⁸
Flinders Island						
System blackout events	3	1	0	0	0	<20
Average restoration time (minutes)	38	52	0	0	0	<30 ⁴⁹
King Island						
System blackout events	0	1	2	0	0	<8
Average restoration time (minutes)	0	21	11	0	0	<30 ⁵⁰

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 each year from 2020-21 onwards.

⁴⁷ 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.

⁴⁸ Average restoration time performance standards for Flinders Island and King Island were updated in Proposed amendments to the Tasmanian Electricity Code Consultation Paper - July 2023.

⁴⁹ 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 60 minutes.

⁵⁰ 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 60 minutes.

There were also no system blackout events on King Island during 2022-23, for the second year in a row.

15.2 BSI distribution system performance

15.2.1 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 15.3 summarises the performance of the King Island distribution network.

Table 15.3 King Island distribution performance

	2018-19	2019-20	2020-21 ⁵¹	2021-22	2022-23	Target
SAIFI (interruptions)	4.40	5.71	5.43	4.34	3.71	<8
SAIDI (minutes)	1 061	970	419	757	380	<720

SAIFI was comfortably within the target in 2022-23. SAIDI experienced a significant decrease of approximately 50 per cent from 2021-22, falling well below the target.

15.2.2 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 15.4 summarises the performance of the Flinders Island distribution network.

Table 15.4 Flinders Island distribution performance

	2018-19	2019-20	2020-21 ⁵¹	2021-22	2022-23	Target
SAIFI (interruptions)	6.40	2.91	4.35	4.76	4.12	<8
SAIDI (minutes)	707	352	400	243	820	<720

In 2022-23, SAIFI on Flinders Island was well below the target. However, SAIDI was considerably over the target due to the impact of lightning storms in January 2023.

15.3 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 15.5 summarises Hydro Tasmania's BSI retail performance.

⁵¹ 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.

Table 15.5 Bass Strait Islands retail performance

Performance measure	2018-19	2019-20	2020-21	2021-22	2022-23
Call centre					
Total calls	1 027	1 321	1 518	1 990	1 205
Calls answered in 30 seconds (%)	74	50	75	70	69
Average time to answer calls (seconds)	22	205	54	44	55
Calls abandoned (%)	2	15	3	2	3
Complaints					
Billing complaints	3	15	16	13	19
Other	3	12	9	6	5
Total	6	27	25	19	24
Residential customers experiencing payment difficulties (excludes hardship customers)					
Number repaying a debt	65	62	22	61	87
Average amount of debt (\$)	932	964	556	424	433
Business customers experiencing payment difficulties					
Number repaying a debt	18	4	6	48	27
Average amount of debt (\$)	417	198	83	807	336
Customers on hardship program	4	7	12	4	6

In 2022-23, the number of calls decreased by approximately 39 per cent, following an increase of almost 31 per cent in 2021-22. The average time to answer a call increased by 11 seconds or approximately 25 per cent compared to 2021-22.

The total number of residential customers experiencing payment difficulties on the BSI increased by 26 in 2022-23, reaching the highest number in the last five years. However, there was a reduction in the number of business customers experiencing payment difficulties, declining by approximately 44 per cent. The number of customers on the hardship program marginally increased in 2022-23.

Table 15.6 Disconnections and reconnections

	2018-19	2019-20	2020-21	2021-22	2022-23
Disconnections					
Residential customers	11	5	0	0	0
Business customers (small)	0	0	0	0	0
Reconnections within seven days – same name					
Residential	5	4	0	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 2022-23 (Table 15.6).

15.4 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. Hydro Tasmania provides the same concession to BSI customers as the concession eligible customers receive in mainland Tasmania.

During 2022-23, the net cost of the CSO to Hydro Tasmania was \$12.7 million, representing an increase of \$2.6 million from the previous year (Table 15.7).

Table 15.7 CSO cost incurred by Hydro Tasmania (\$million)

	2018-19	2019-20	2020-21	2021-22	2022-23
CSO costs	10.2	9.1	9.1	10.1	12.7 ⁵²

⁵² Hydro Tasmania 2022-23 Annual Report, page 101.

16 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 16.1 shows TGP's performance information against its targets in its performance plan.

Table 16.1 Performance data

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23 Target
Unplanned interruptions to supply	0	0	0	1	0	0
Third-party encroachments	4	3	3	6	2	<5
Unaccounted for gas losses (%)	1.27	1.39	1.56	1.07	1.20	<1.00
Environmental incidents	0	0	0	0	0	0
Maintenance plan compliance (%)	99.20	101.50	100.00	99.00	100	>90.00

TGP met four of its targets in 2022-23. Unaccounted gas losses was the only target TGP failed to meet. However, unaccounted for gas (as a percentage of total gas supplied) remained below the average of the previous four 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, that occurred during the period.

Table 16.2 Annual natural gas flow

	2018-19	2019-20	2020-21	2021-22	2022-23
Annual gas flow (TJ)	10 089	7 382	7 537	7 330	7 678

In 2022-23, 7 678 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 16.2). This was approximately 4.7 per cent higher than in 2021-22.

17 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 14 346 customers connected to TGN's distribution network as at 30 June 2023, of which 45 customers consumed more than 10 TJ of gas during the year. Table 17.1 shows the quantity of gas that TGN supplied to its customers.

Table 17.1 Gas consumption (GJ)

	2018-19	2019-20	2020-21	2021-22	2022-23
To customers consuming <10TJ	826 994 ⁵³	844 862	849 151	852 946	724 141
To customers consuming >10TJ ⁵⁴	1 781 159	2 694 273	2 842 504	2 741 165	2 795 616
Unaccounted for gas (%)	0.16	-0.18	-0.46	0.51	0.34

The quantity of gas consumed in 2022-23 decreased by 15.1 per cent for customers consuming less than 10 TJ but increased by 2 per cent for customers consuming more than 10 TJ. The percentage of unaccounted for gas (i.e. where the volume of gas sales to customers differs from the gas received into TGN's network) during 2022-23 was 0.34 per cent. This excludes the Ulverstone Transmission Pipeline and is attributable to meter accuracy differences between TGP and TGN.

17.1 Customer complaints and reports

Table 17.2 shows the number of gas distribution complaints and reports made directly to TGN.

Table 17.2 Customer complaints and reports⁵⁵ made directly to TGN

	2018-19	2019-20	2020-21	2021-22	2022-23
Detectability of gas by odour	227	233	216	210	209
Inadequate gas supply	40	134	156	154	189
Other	14	16	9	14	30

The number of customers reporting inadequate gas supply in 2022-23 increased by 22.7 per cent compared to 2021-22. TGN advised the main driver for this increase was consumer piping issues rather than issues with TGN assets.

⁵³ The reduction in consumption by customers in 2018-19 was attributed by TGN to weather-related factors and changing customer consumption patterns.

⁵⁴ The data from 2019-20 includes one customer who receives gas via TGN's transmission pipeline.

⁵⁵ 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.

17.2 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 17.3 provides details of TGN's reliability of supply performance. TGN advised that its reporting definitions for unplanned interruptions changed in 2022-23. This now includes a broader definition of unplanned interruptions to include third party interference and properties adjacent to faults that were isolated as a precaution. These changes were the primary driver of increased interruptions in 2022-23. The average interruption duration per customer increased by 20 minutes or 52.6 per cent in 2022-23, although still well under the four-hour target.

Table 17.3 Reliability of supply performance

	2018-19	2019-20	2020-21	2021-22	2022-23
Planned interruptions	0	0	4	2	173 ⁵⁶
Unplanned interruptions					
Affecting 1-5 customers	34	30	22	29	112
Duration (minutes)	635	3 000	1 158	1 109	7 103
Affecting 6-100 customers	1	0	0	0	0
Duration (minutes)	360	0	0	0	0
Average interruption duration per customer	9	45	53	38	58
Confirmed reports of no gas supply	40	21	11	14	146
Confirmed reports of no gas supply as a proportion of the number of connections (%)	0.3	0.2	0.1	0.1	0.01

⁵⁶ 15-year testing program conducted for meters installed during 2005, 2006 and 2007.

18 TAS GAS RETAIL PTY LTD

Tas Gas Retail Pty Ltd (TGR) is a licensed natural gas retailer in Tasmania and sells gas to approximately 67 per cent of Tasmanian gas customers.

Tas Gas Retail Pty Ltd changed its company name to Solstice Energy Pty Ltd on 12 December 2023.

Table 18.1 shows TGR's residential and business customer numbers.

Table 18.1 Tas Gas Retail customer numbers as at 30 June

	2018-19	2019-20	2020-21	2021-22	2022-23
Residential customers	8 639	8 693	8 957	8 987	9 093
Business customers	907	923	991	952	1 005

The number of business and residential customers increased slightly in 2022-23.

Table 18.2 presents a summary of TGR's gas customer call centre performance and the number of complaints received. The total number of calls received was lower in 2022-23 than in 2021-22, decreasing by 7.5 per cent, but still higher than the historical average.

The number of calls reported has increased from 2020-21 due, in part, to TGR's monitoring system no longer differentiating between calls relating to Tasmanian and mainland customers. The number of complaints also increased from previous years. TGR partly attributes the increase in complainants to the increase of the tariff rate. However, this is partly because the number of complaints reported now includes those made by mainland customers.

Table 18.2 Tas Gas Retail call centre and complaints performance

	2018-19	2019-20	2020-21	2021-22	2022-23
Call Centre performance					
Total calls	14 243	11 331	11 715	22 530	20 849
Calls answered in 30 seconds (%)	85%	90%	88%	87%	78%
Complaints	16	34	20	30	54

18.1 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 a slight decrease in the number of customers who entered into arrangements to help manage the payment of their accounts in 2022-23 (Table 18.3).⁵⁷ The number of residential customers on payment plans decreased by 3.0 per cent, while the number of business customers increased by 9.2 per cent.

⁵⁷ 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

Table 18.3 TGR Customers on payment plans

	2018-19	2019-20	2020-21	2021-22	2022-23
Residential customers	335	341	2 226	1 246	1 208
Business customers	37	61	156	76	83

18.2 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 18.4 shows the number of disconnections together with the number of reconnections.

Table 18.4 TGR customer disconnections and reconnections

	2018-19	2019-20	2020-21	2021-22	2022-23
Disconnections for bad debt					
Residential	110	61	66	45	75
Business	3	7	14	1	11
Due to suspected illegal use of gas	1	1	0	0	0
Reconnections – same name					
Residential	42	36	38	26	52
Business	2	4	9	0	9

The number of disconnections in 2022-23 increased for both residential and business customers. Due to the higher number of disconnections, there were also a higher number of reconnections than in previous years.

reported figures. TGR rectified this issue in its 2017-18 Performance Report to the Regulator. The data in Table 18.3 are therefore not comparable with estimates in earlier reports.

APPENDIX: LICENSED AND AUTHORISED ENERGY ENTITIES OPERATING IN TASMANIA 2022-23

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	
Grinkin Pty Ltd ⁵⁸	Retail Entities
Simplot Australia Pty Ltd	Aurora Energy Pty Ltd
ACEN Robbins Island Pty Ltd	Tas Gas Retail Pty Ltd ⁵⁹
Wild Cattle Hill Pty Ltd	Origin Energy Retail Pty Ltd
Granville Harbour Operations Pty Ltd	Globird Energy 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 Entities⁶⁰	
Aurora Energy Pty Ltd	
1st Energy Pty Ltd	
Shell Energy Pty Ltd	

⁵⁸ The generation licence issued to G7 Generation Pty Ltd was transferred to Grinkin Pty Ltd on 28 July 2023.

⁵⁹ Tas Gas Retail Pty Ltd changed its name to Solstice Energy Retail Pty Ltd on 12 December 2023.

⁶⁰ Retailers operating in Mainland Tasmania must receive authorisation from the AER.

Flow Power Pty Ltd	
Hydro Electric Corporation (BSI only)	
Energy Locals Pty Ltd	
Elysian Energy Pty Ltd ⁶¹	
Future X Power Pty Ltd	
Smart Energy Pty Ltd	
Glow Power Pty Ltd	
CovaU Pty Ltd	
Delta Electricity Pty Ltd	
MTA Energy Pty Ltd	
Localvolts Pty Ltd	
GEE Power & Gas Pty Ltd	
Energy in a Box Pty Ltd	

⁶¹ Elysian Energy Pty Ltd ceased trading on 2 September 2022.

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.
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	<i>Electricity Supply Industry Act 1995 (Tas)</i> . 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.
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.

Term	Meaning within the context of this report
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.
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.

Term	Meaning within the context of this report
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.
TGR	Tas Gas Retail Pty Ltd. TGR is a licensed retailer of natural gas in Tasmania.
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.
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.

