

Energy Market Monitoring

Annual Report 2022-23 – Appendix

November 2023

How this appendix is structured

01

Electricity

- Prices and cost drivers
- Market structure
- Customer behaviour

02

Gas

- Prices and cost drivers
- Market structure
- Customer behaviour

03

Customer outcomes in the energy markets

04

Solar feed-in tariffs

05

Current and previous energy reviews



Electricity

Residential electricity prices in NSW increased by around 20% in 2022-23

- Median market offers were stable throughout 2021-22, only increasing \$71 (5%) (nominal, including GST) in that period.
- Prices increased between June and August 2022 by \$293 (22%) (nominal, including GST).
- Prices then stabilised, remaining largely flat over the remainder of 2022-23.
- Between June 2023 and November 2023 prices have increased by a further 14%.

Residential electricity price changes between key months (Market offers, 4,215 kWh p.a.)

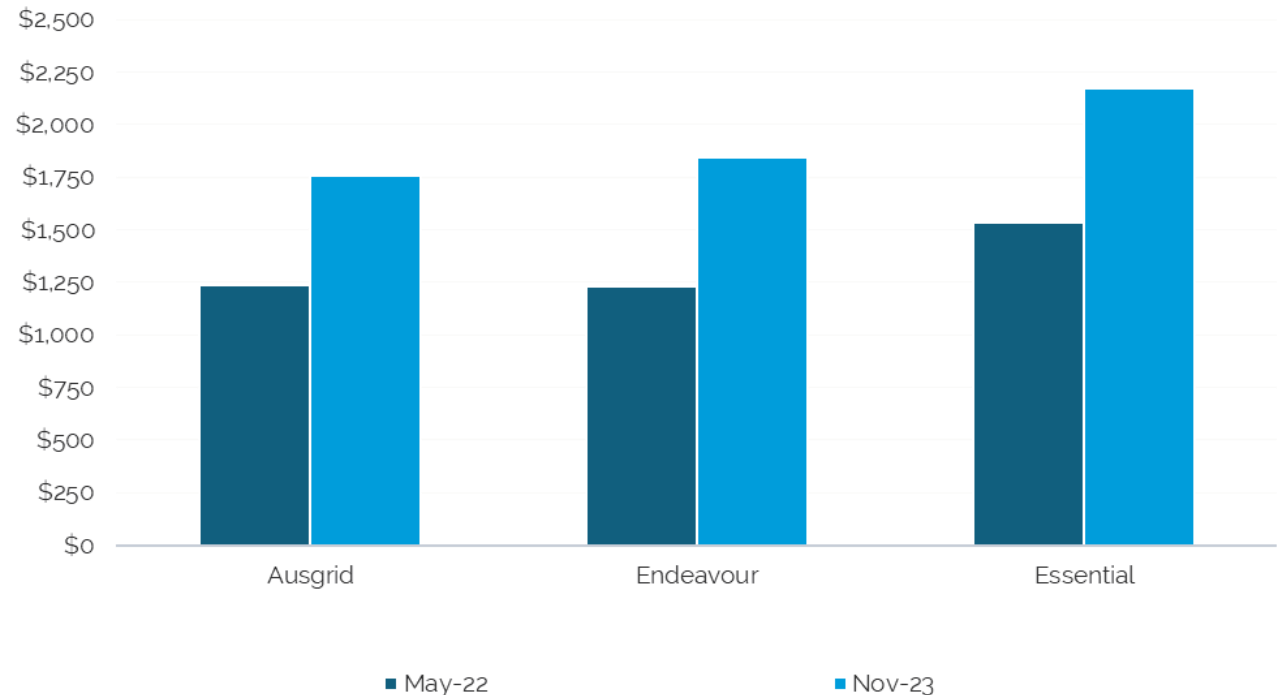
Financial year	Price change (June-on-June)	Price movements in key months	
2021-22	5%	June 2021 to May 2022	0%
		May 2022 to June 2022	6%
2022-23	20%	June 2022 to August 2022	22%
		August 2022 to June 2023	-1%
2023-24 YTD		June 2023 to November 2023	14%

Source: AEMO, [NEM data dashboard](#) and IPART analysis

Electricity bills have risen by \$500-\$600 for a typical residential customer since May 2022

- Retail electricity prices reached historic highs in 2023
- From May 2022 to November 2023 the median market offers across the 3 networks in NSW increased by around 45%.
- For a typical customer, this was equal to a price increase of around \$500 in the Ausgrid network, and around \$600 in the Essential and Endeavour networks (nominal, including GST).

Comparison of median market offer - May 2022 and November 2023 (4,215 kWh p.a.) (nominal, including GST)

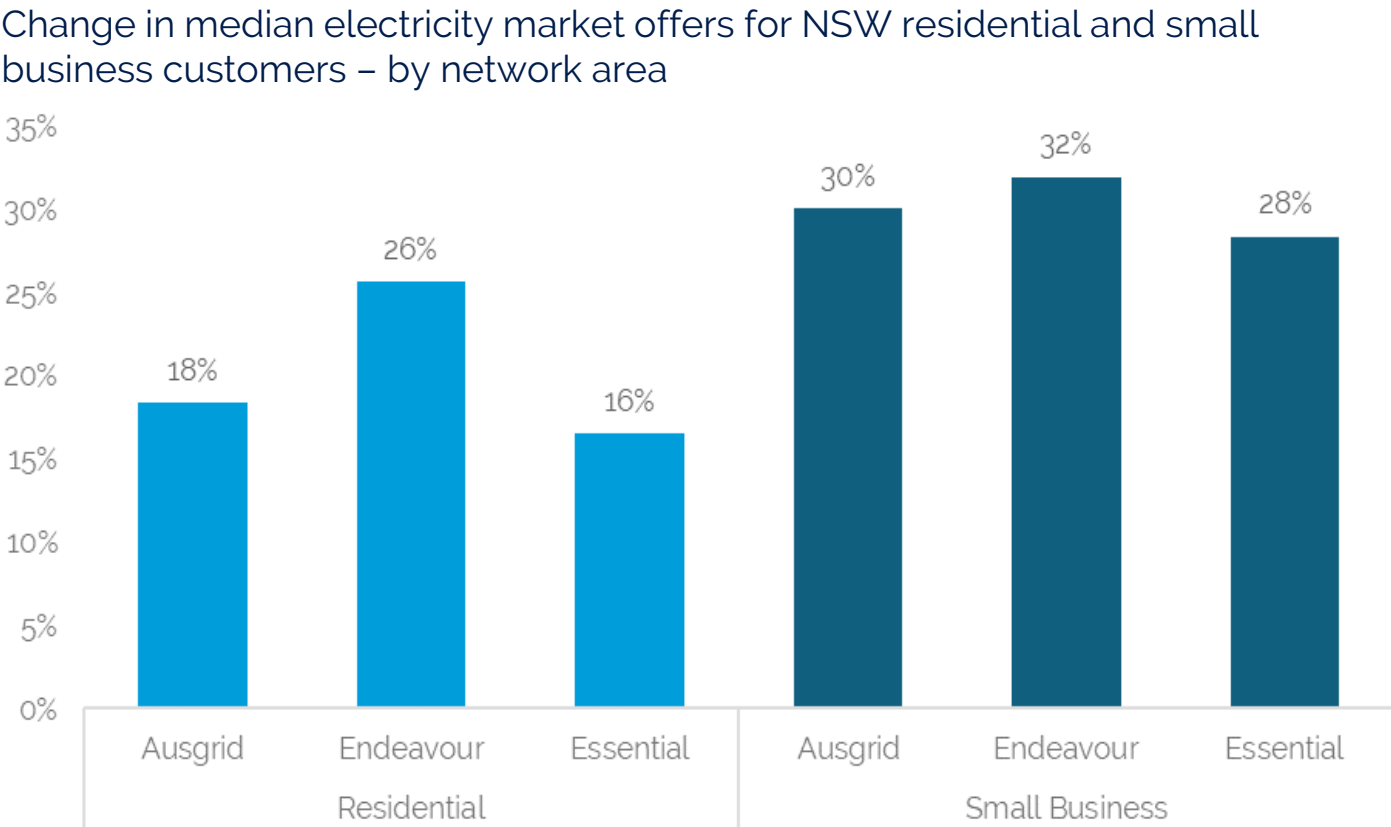


a. Changes June 2022 to June 2023. Based on 4,215 kWh of residential electricity purchased, including GST, nominal

Source: AEMO, [NEM data dashboard](#) and IPART analysis

Small business prices increased by more than residential prices in 2022-23

- Electricity prices increased significantly in 2022-23 for both residential and small business customers.
- The median market offer increased in each of the three network areas:
 - by around 30% for small businesses
 - between 16% and 26% for residential.
- The larger increase for small business customers is unlike previous years, where price increases were broadly similar for both customer groups.

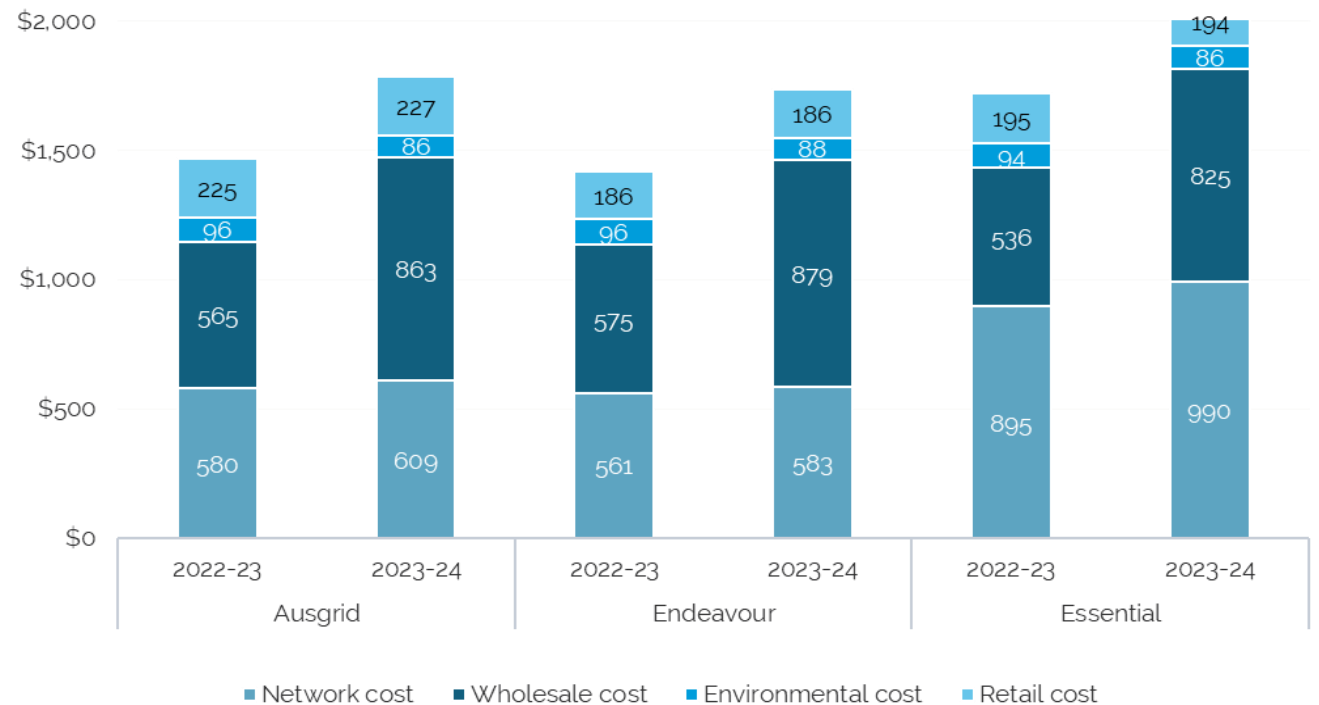


Source: AEMO, [NEM data dashboard](#) and IPART analysis a. Changes June 2022 to June 2023. Based on 4,215 kWh of residential and 20 MWh of business electricity purchased, including GST, nominal

High wholesale costs are having a large effect on residential bills

- High wholesale costs during 2022 are being passed onto customers in 2023-24. Wholesale costs now comprise nearly half of the Default Market Offer (DMO) cost build up, an increase from approximately a third in the 2022-23 period.
- We have presented the costs of supplying electricity based on the AER's default market offers.
- In setting the Default Market Offer, the AER is required to consider what would be a reasonable annual price for customers, having regard to the costs of supply and enabling retailers to make a reasonable profit.

Cost stack for residential customers in NSW 2022-23 and 2023-24, (Based on the Default Market Offer cost build up) (4,215 kWh consumption p.a.) (nominal)

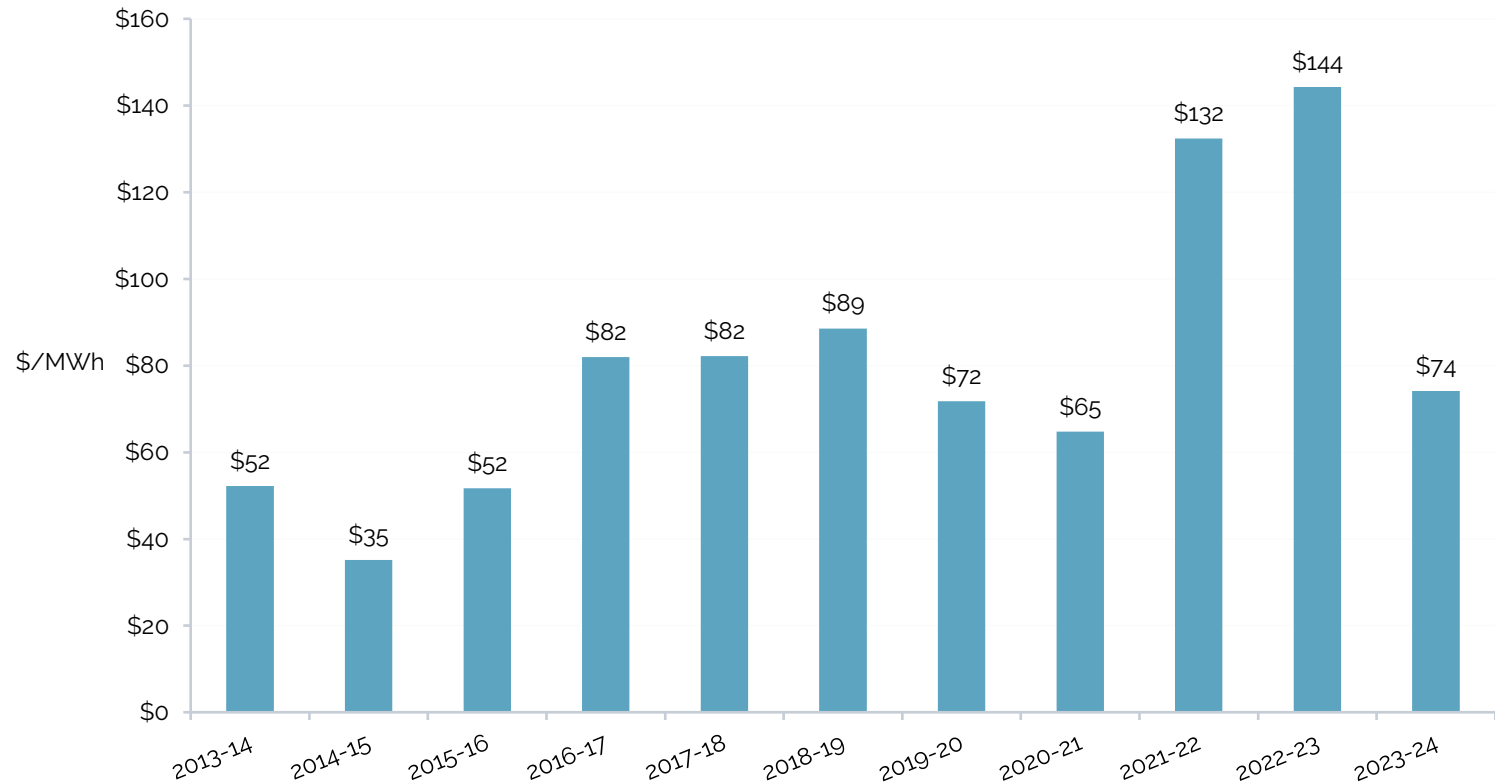


Source: AER, [Default Market Offer Prices 2023-24](#), Final Determination, May 2023 and IPART analysis

Average wholesale electricity spot prices peaked in 2022-23

- Wholesale prices more than doubled in 2021-22 and increased by a further 9% in 2022-23.
- Wholesale prices have fallen almost 50% from an average of \$144 in 2022-23 down to \$74 in 2023-24 (YTD to November 2023) (nominal).
- The change in wholesale prices has not yet been reflected in retail prices. This in part reflects that high contract prices were locked in for 2022 and 2023 (see next slide).

Average annual wholesale electricity spot prices in NSW (nominal)

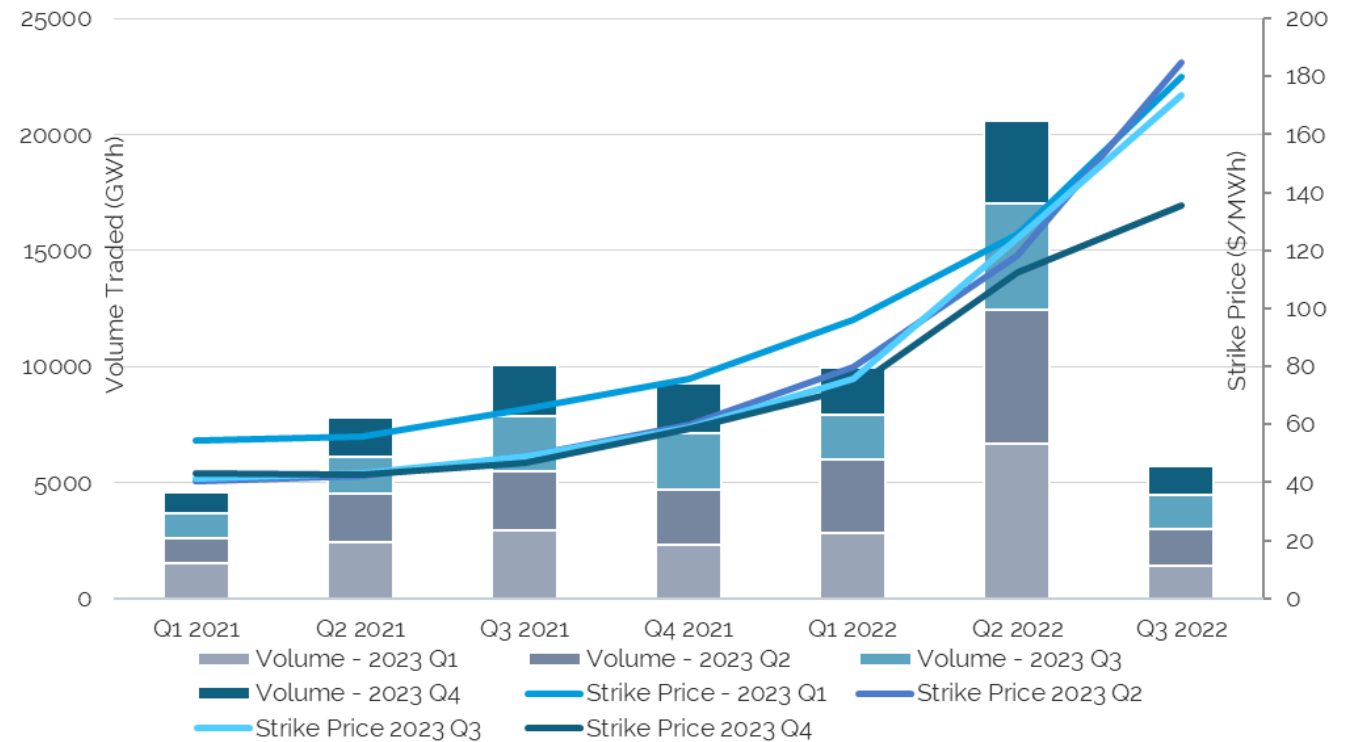


Source: AEMO, [NEM data dashboard](#) and IPART analysis

High electricity contract prices were locked in for 2022 and 2023

- Retailers purchased a high volume of contracts for 2023 during the high price period (in the March to June quarter 2022). This increased trading volume on the futures market was due to domestic supply issues, global commodity prices and a particularly cold start to winter.
- We note that the AER wholesale markets quarterly report for Q2 2023 indicated that electricity price expectations for 2024 increased in NSW but remained below levels observed in 2022.
- A relatively small volume of contracts was purchased for 2023 during 2021, when futures contracts traded at less than \$80/MWh.

Average strike price and volume traded for contracts (National electricity market) (nominal)

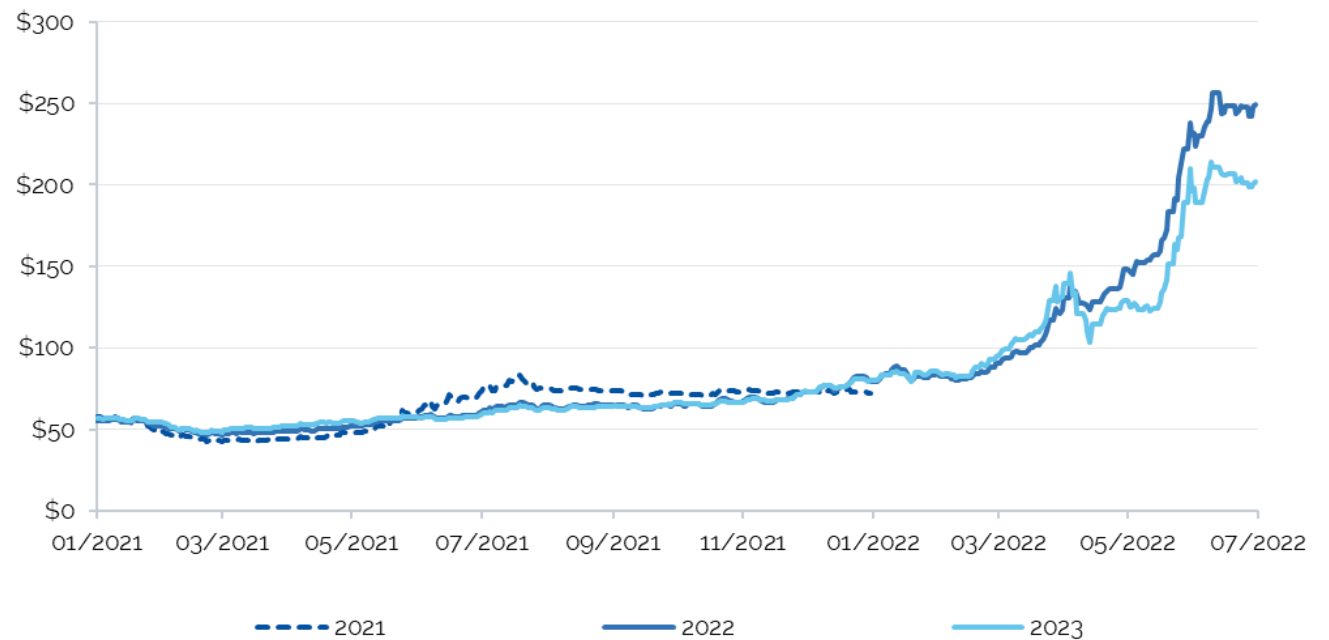


Source: ACCC, [Inquiry into the National Electricity Market](#), November 2022 and AER, [Wholesale Markets Quarterly Report](#) – Q2 2023.

High electricity contract prices were locked in for 2022 and 2023

- Retailers can purchase financial contracts to manage their exposure to volatile spot prices. These hedging contracts 'lock in' the cost of wholesale electricity.
- Daily prices for wholesale electricity futures contracts in calendar years 2022 and 2023 exceeded \$200 MWh in the second quarter of last year (nominal). This is a 350% increase from January 2021 for calendar year 2022 and a 250% increase for calendar year 2023.
- The sharp increase in price for futures contracts coincided with the sharp increase in the wholesale spot price.

Daily prices for calendar year base futures contracts in NSW 2021 to 2023 (\$/MWh) (nominal)

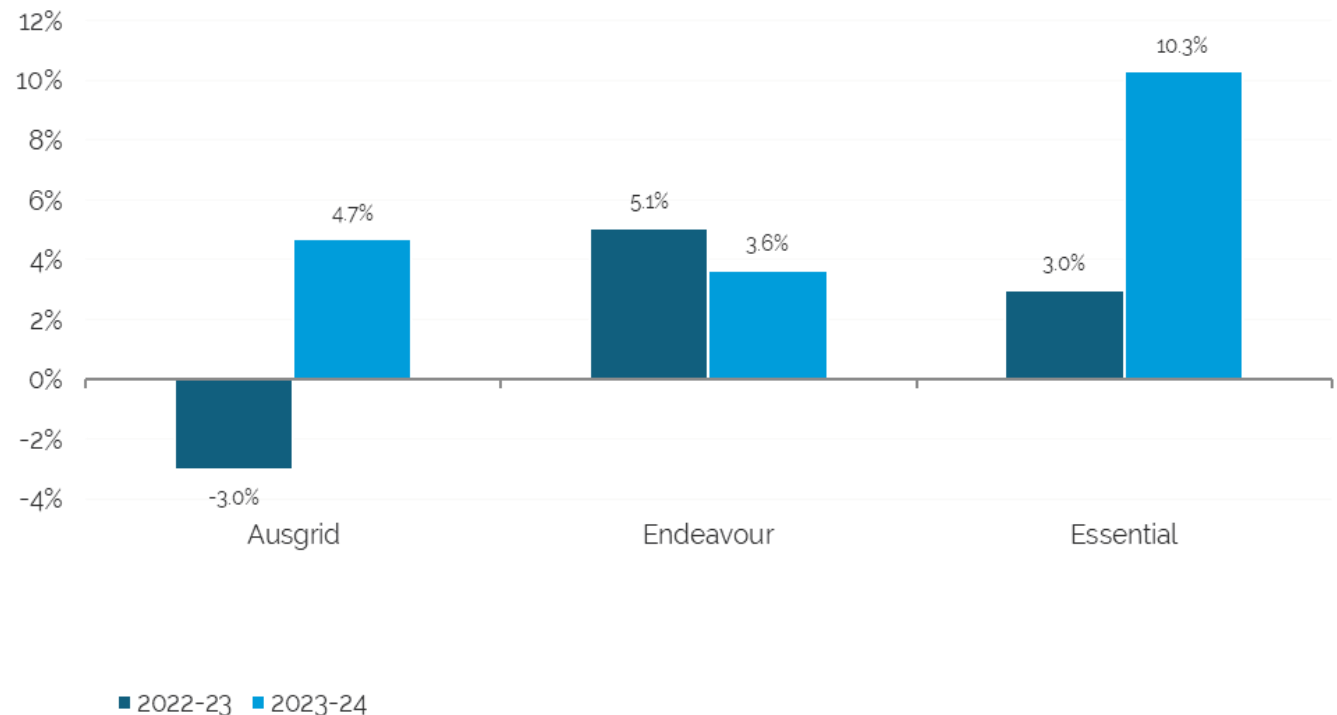


Source: AER, [State of the Energy Market 2022](#), September 2022

Electricity network charges increased in 2023-24

- Ausgrid: network charges decreased slightly by 3% from 2021-22 to 2022-23 and then increased by almost 5% from 2022-23 to 2023-24.
- Endeavor Energy and Essential Energy: network charges increased for both networks in 2022-23 and 2023-24.
- Essential Energy: network charges had the highest increase, rising by more than 10%, from 2022-23 to 2023-24.

Change in network charges 2022-23 and 2023-24 (anytime tariff)

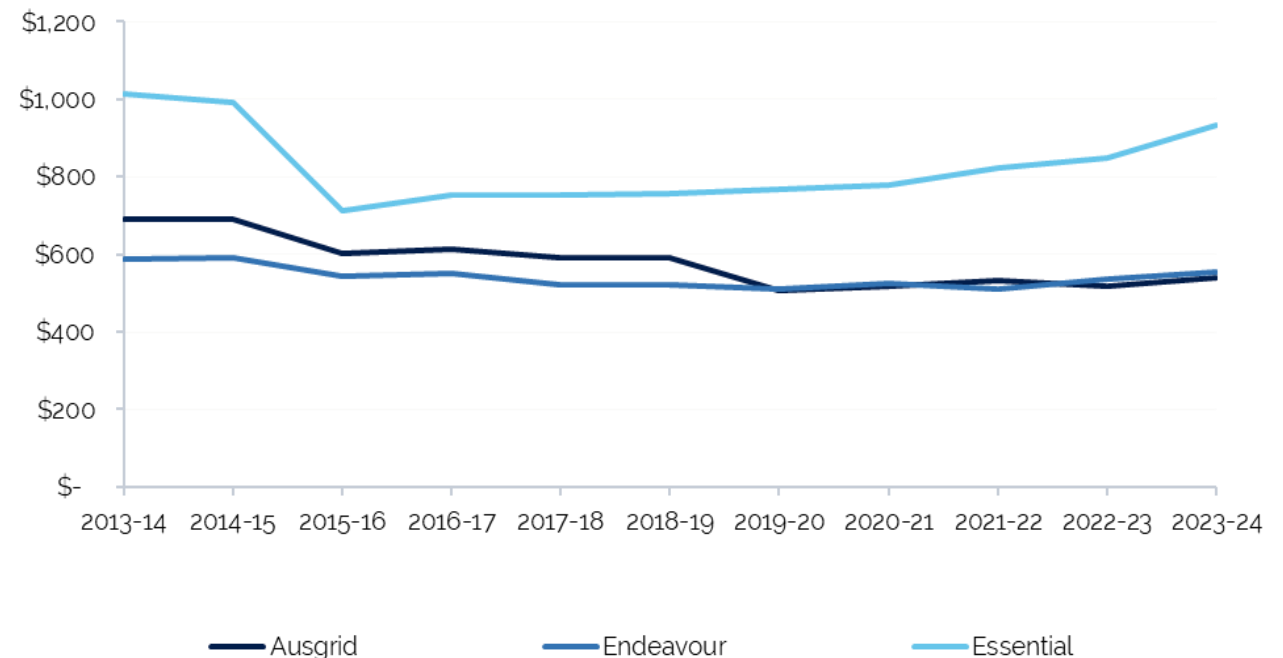


Source: Network price lists and IPART analysis.

Electricity network charges are higher in regional areas

- Network charges in regional areas are higher than metropolitan areas because the poles and wires cover a larger geographical area due to the more dispersed population.
- Network charges in regional areas have increased steadily since the sharp drop in 2015-16. This can be seen from the trend line for Essential Energy's network charges.
- Between 2019-20 to 2023-24, network charges in metropolitan areas have been more stable, as represented by the trend lines for the Ausgrid and Endeavour network charges.

Network charges for residential customers since 2013-24 (4,215 kWh purchased, by network area) (nominal, excluding GST)



Source: Network price lists and IPART analysis.

Why was the wholesale electricity market so volatile in 2022?



In 2022 there were high international prices for coal and gas, partly due to the war in Ukraine which created an international energy shortage. The domestic price of gas increased to compete with higher international prices.



There were several coal fired power generation outages, which reduced generation capacity and elevated the demand for gas by gas-powered generators



The increase demand for gas in NSW occurred at the same time as gas was being used to cover the higher demand winter period in other domestic markets.



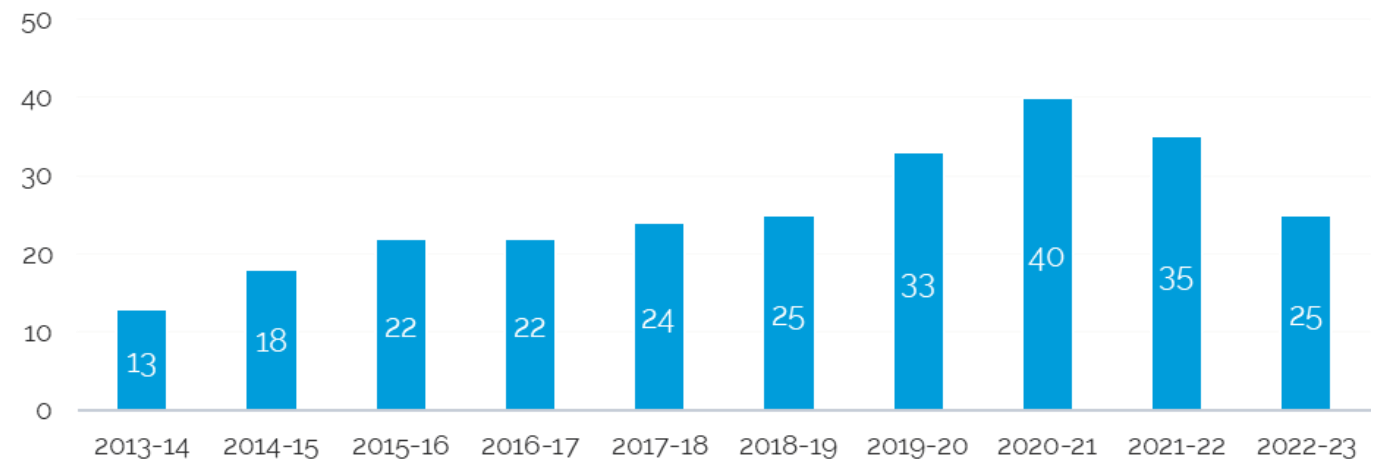
During this period there was a lower-than-expected output of wind and solar, placing more pressure on other generators.

Source: AEMO, [Quarterly Energy Dynamics Report for Q2 2022](#) and AER, [Wholesale electricity market performance report 2022](#), December 2022.

There were fewer electricity retailers in 2023 than in 2022

- As of June 2023, there were 10 fewer retailers in the market, compared to June 2022.
- The following electricity retailers exited the market (i.e. no longer had NSW retail customers):
 - Elysian Energy
 - Enova Energy
 - Mojo Power
 - People Energy
 - Powerclub
 - QEnergy
 - Social Energy
- The following retailers ceased being active in the market (i.e. no longer making new offers):
 - Arc Energy Group
 - Circular Energy
 - Discover Energy
 - Future X Power
 - Glow Power
- Two electricity retailers (Arcstream and Nectr) started offering.

Number of electricity retailers with active offers in the market

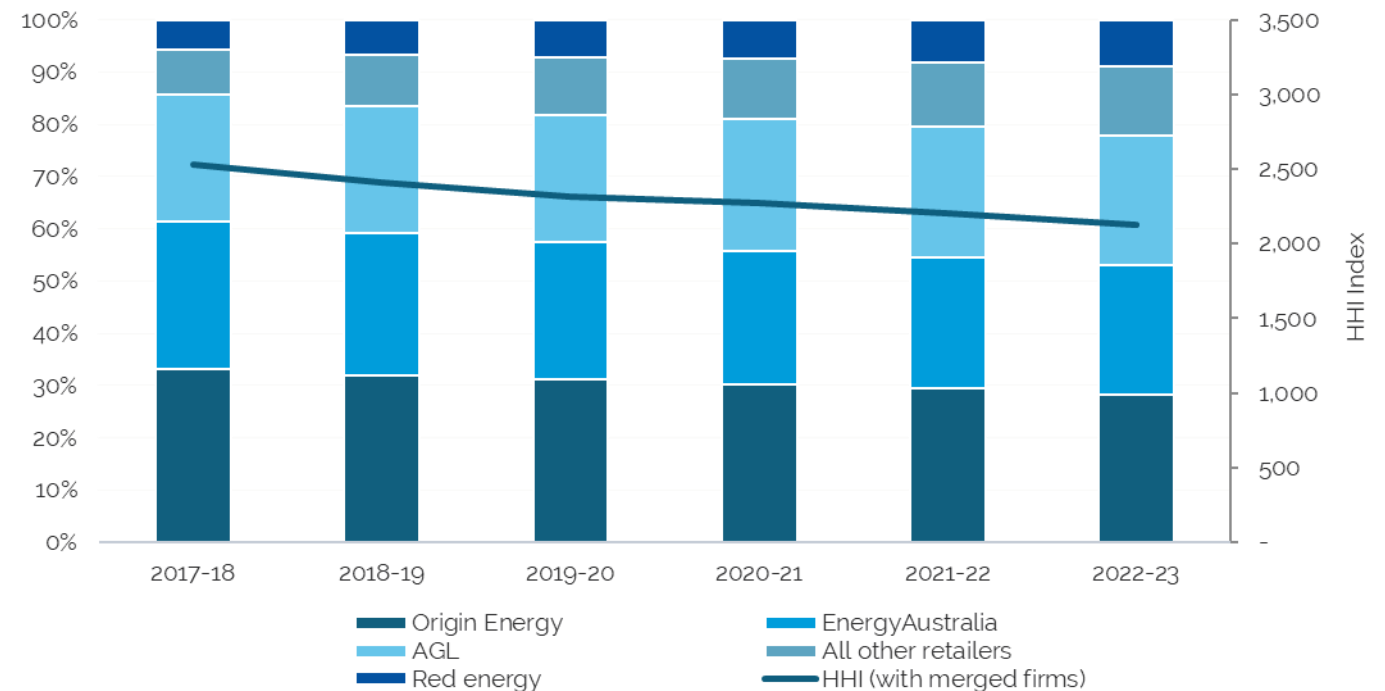


Source: EME data. Number of retailers with active offers in June 2023.

Market concentration has fallen slightly over time

- The electricity retail market remains relatively concentrated.
- Since 2017-18, the combined market share of the 3 largest retailers in NSW has fallen slightly from 86% to 78% in 2022-23. Around 2% of this loss of market share occurred in 2022-23.
- The Herfindahl-Hirshman Index (HHI) is a measure of market concentration. A value close to zero represents a highly competitive market, whereas 10,000 represents a monopoly market. Since 2017-18, the HHI has fallen from 2,528 to 2,128, indicating a small increase in competitiveness. This trend continued in the most recent financial year.

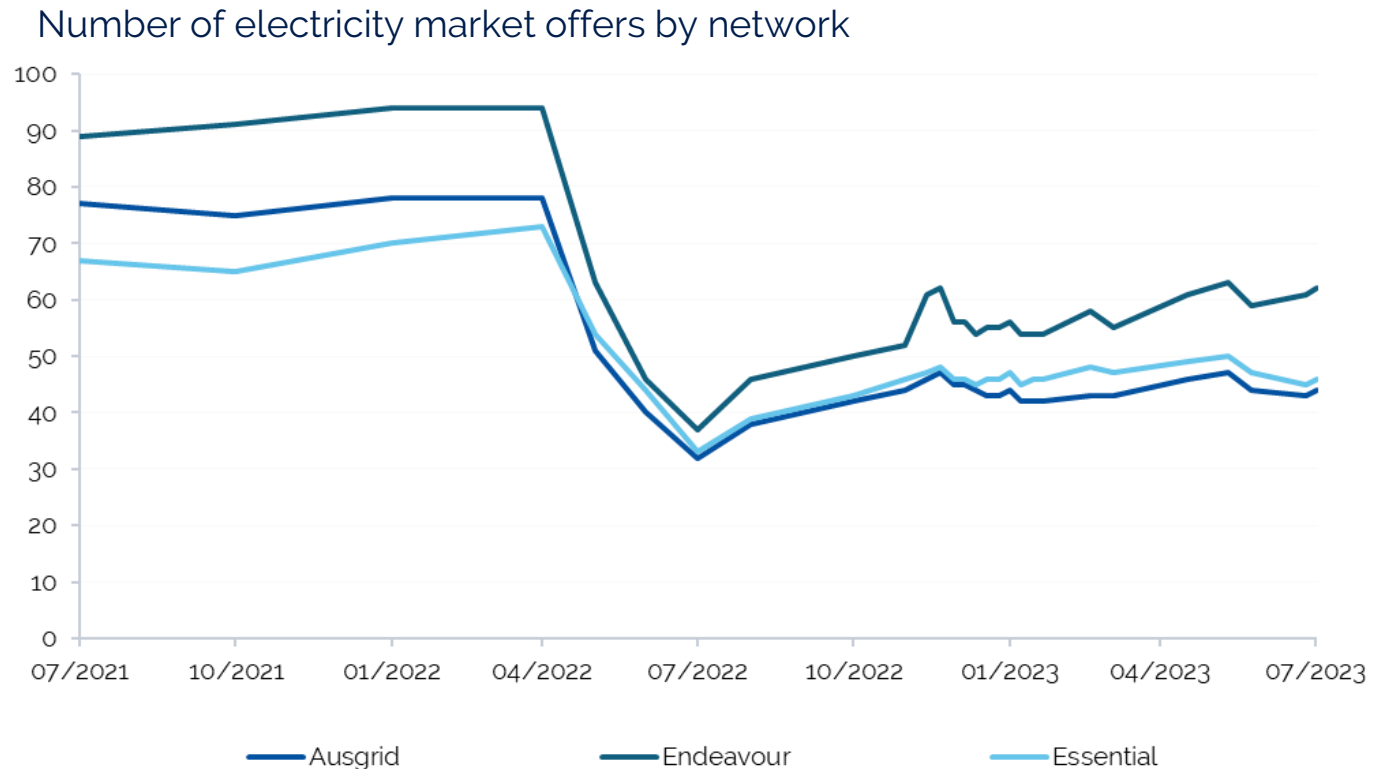
Market concentration for small electricity customers



Source: AER, [Quarterly performance data Q3 2022-23](#), Schedule 2, June 2023.

There are fewer electricity offers in the market

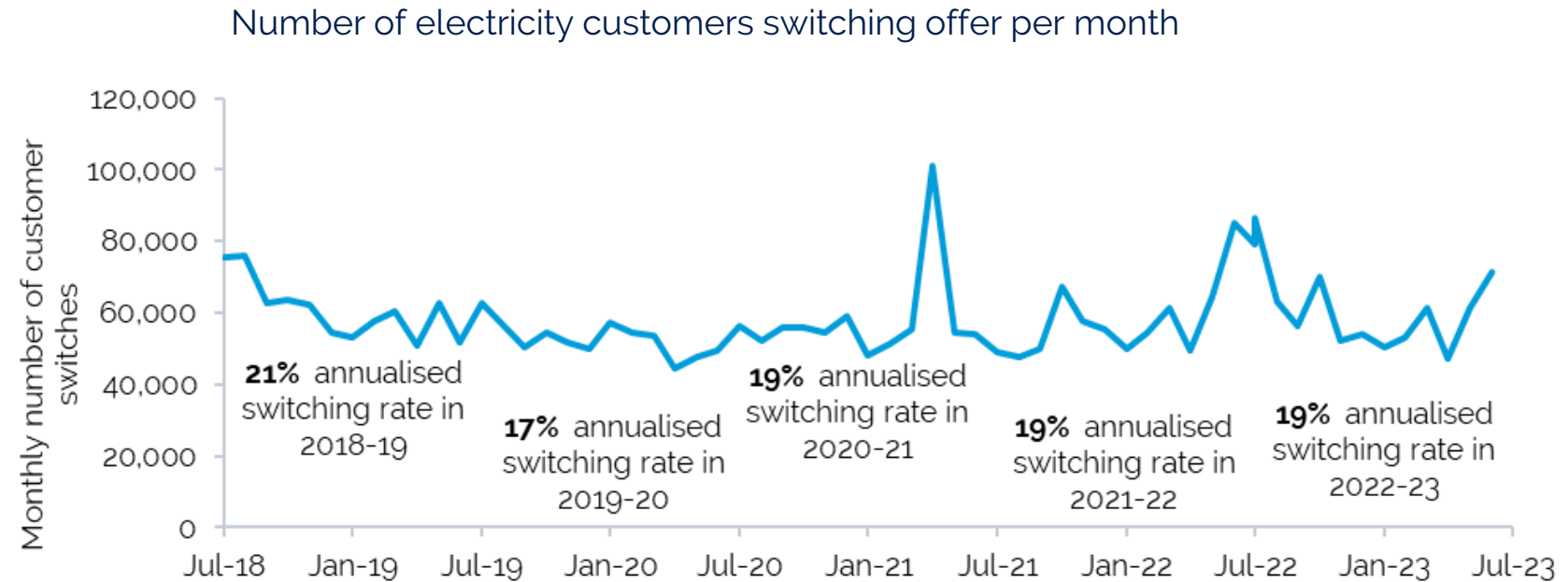
- There are fewer retail electricity offers in the National Electricity Market (NEM):
 - The number of electricity offers available in the market in 2022-23 has been well below historical levels. From July 2021 to July 2023 the number of electricity market offers fell by around 36%.
 - In the second half of 2022-23, there was an upturn in the amount of market offers available. Since July 2022, offers in the NEM have increased by 38%.
- High wholesale costs impacted competition in the NEM:
 - Electricity market offers declined sharply during the wholesale market volatility experienced in the middle of 2022.



Source: Energy Made Easy Data; ACCC, [Inquiry into the National Energy Market](#), June 2023; IPART analysis

Electricity switching rates are in line with historic trends

- Annualised switching rates remained fairly consistent (18.8% last year to 19.4%).
- Switching rates are broadly in line with past rates and remain below the peak in 2018-19.



Source: AER, [Quarterly performance data Q3 2022-23](#), Schedule 2, June 2023.

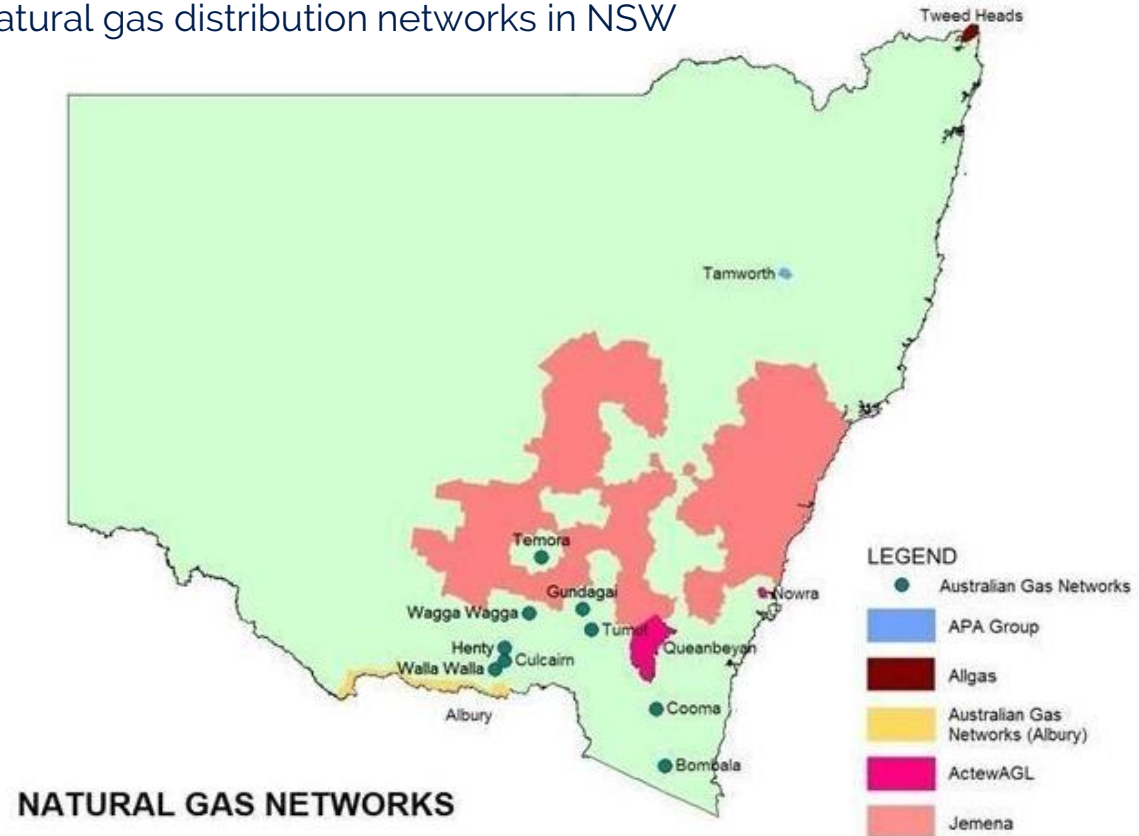


Gas

Retail gas in NSW

- There are around 1.5 million residential gas customers and 50,000 small business gas customers in NSW.
- Just under half of the households in NSW are connected to natural gas networks.
- Consumption of gas by residential and small business customers in NSW represents 39% (50 PJ) of total gas consumption in NSW (130 PJ).
- Most residential and small business gas consumers in NSW are located in Jemena's gas distribution network area.
- There are 6 authorised natural gas network operators in NSW. Natural gas supply networks are not available in most regional areas.

Natural gas distribution networks in NSW

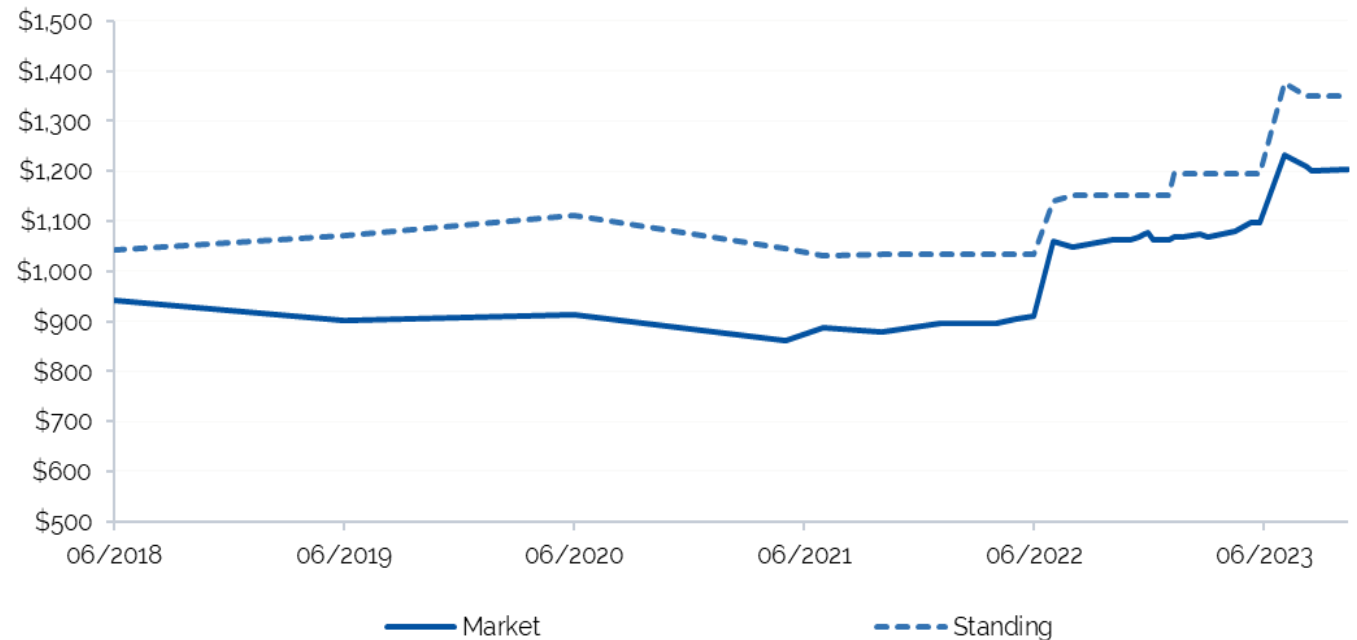


Source: NSW Government, [Gas network operators](#), accessed 25 August 2023, AER, [Quarterly performance data Q3 2022-23](#), Schedule 2, June 2023, AER, [Gas network performance report 2022](#), December 2022, AEMO 2023 GSOO Publication, version 21/4/2023.

Retail gas prices increased in the metro area

- Retail gas prices have remained relatively stable for most of the last 5 years but increased sharply in June 2022.
- By June 2023, the median market offer was around \$155 (around 16%) more expensive than it was 5 years ago, with the standing offer also being around \$151 (around 15%) more expensive (nominal, including GST).
- Retail gas prices increased sharply again in August 2023.

Median gas market and standing offers 2018 to 2023 – Jemena network (nominal, including GST)

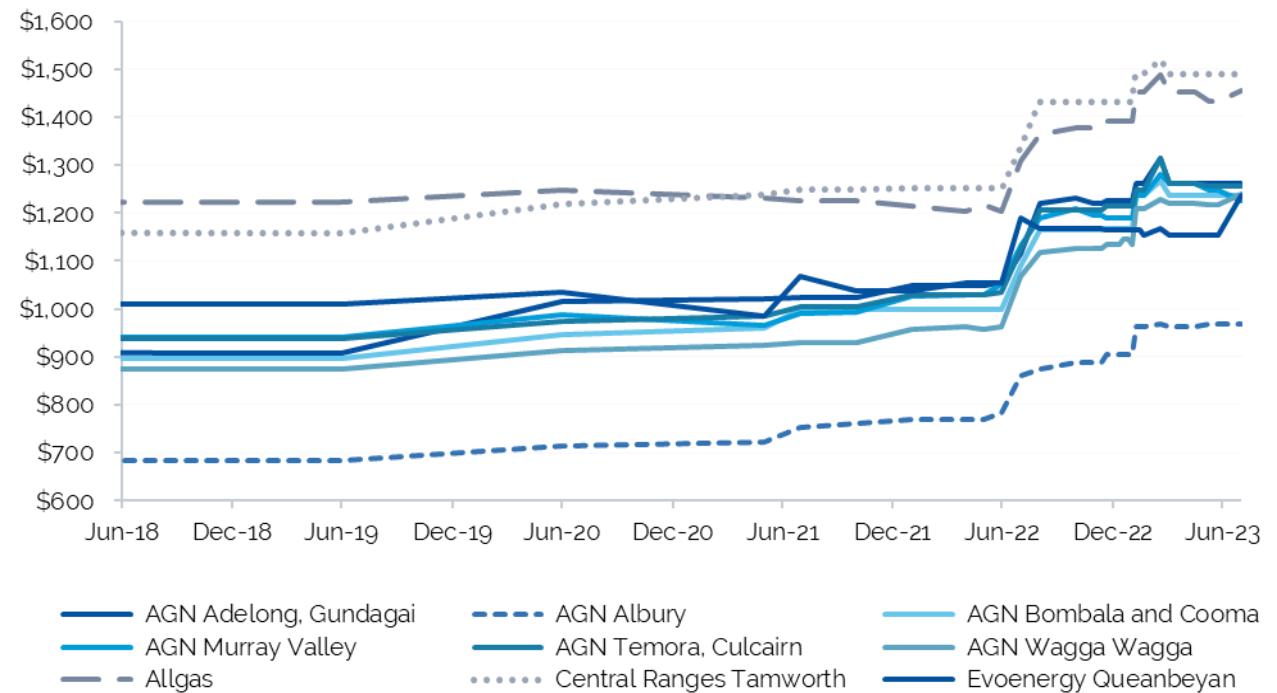


Source: Energy Made Easy data and IPART analysis

Retail gas prices are also increasing in regional areas

- Similar to the metro area, retail gas prices in regional areas have remained relatively stable for most of the last 5 years but increased in June 2022 and in early 2023.
- As of June 2023, market offers have increased by about 26% on average over the last 5 years, while standing offers increased by 20%.
- The difference between median market offers and standing offers for residential customers can range up to \$171 per year, depending on the retailer in each region (nominal including GST).

Median gas market offers in regional areas 2018 to 2023 – residential, market offers (nominal, including GST)



Source: Energy Made Easy data and IPART analysis Note: Gas 5-yearly price changes are compared between June 2018 and August 2023.

Residential gas prices increased by around 21% in 2022-23

- Median market offers were stable throughout 2021-22, only increasing \$21 (2%) in that period (nominal, including GST).*
- Prices increased between June and August 2022 by \$137 (15%) and increased a total of 21% over 2022-23 (nominal, including GST).
- Between June 2023 and November 2023 prices have increased by a further 10%.

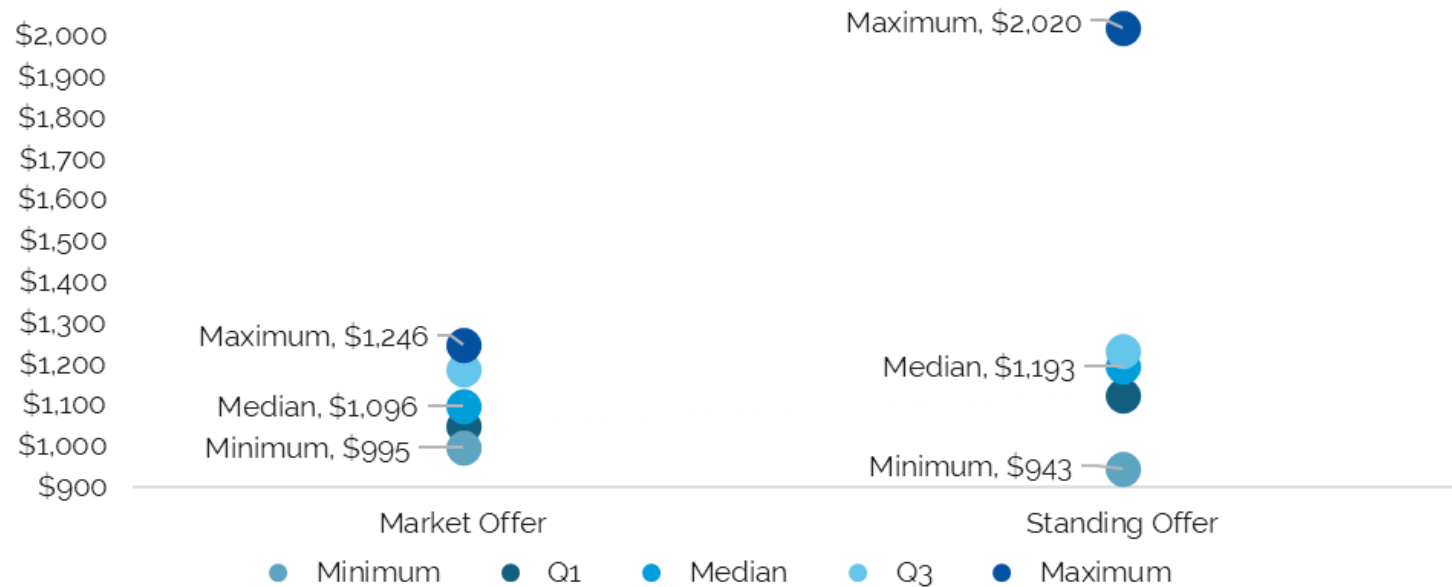
Residential gas price changes between key months – market offers)

Financial year	Price change (June-on-June)*	Price movements in key months	
2021-22	2%	June 2021 to May 2022	2%
		May 2022 to June 2022	1%
2022-23	21%	June 2022 to August 2022	15%
		August 2022 to June 2023	5%
2023-24		June 2023 to November 2023	10%

Gas standing offers have a wider range than market offers

- As at June 2023, the minimum market and standing offers in the Jemena network were comparable at \$995 and \$943, respectively (nominal, including GST).
- However, the median standing offer was \$97 higher than the median market offer.
- The maximum market offer of \$1,246 was significantly less expensive than the maximum standing offer of \$2,020.

Distribution of residential gas offers in the Jemena network as at June 2023 – market and standing offers (nominal, including GST)

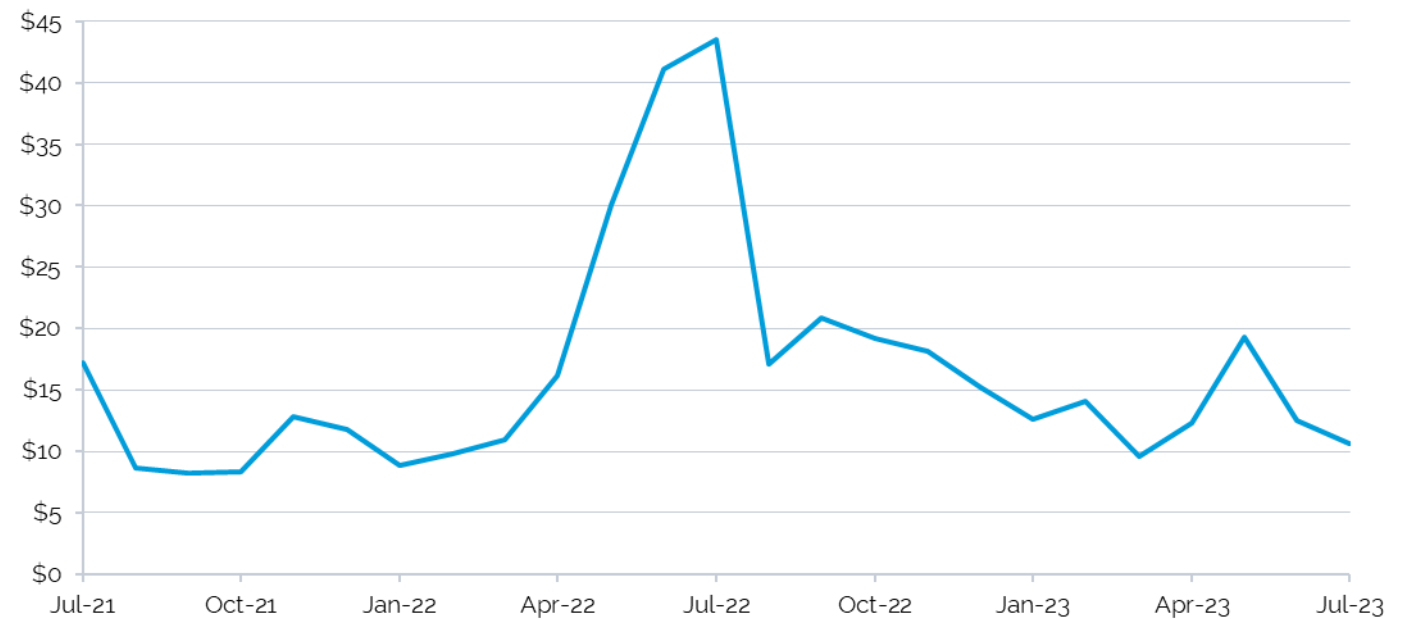


Source: Energy Made Easy data and IPART analysis a. Based on 24400MJ of gas purchased.

Wholesale gas prices peaked in June 2022

- The gas wholesale market also experienced a high degree of volatility in mid 2022.

Average monthly wholesale gas spot price NSW 2021 to 2023 – Jemena network (nominal)

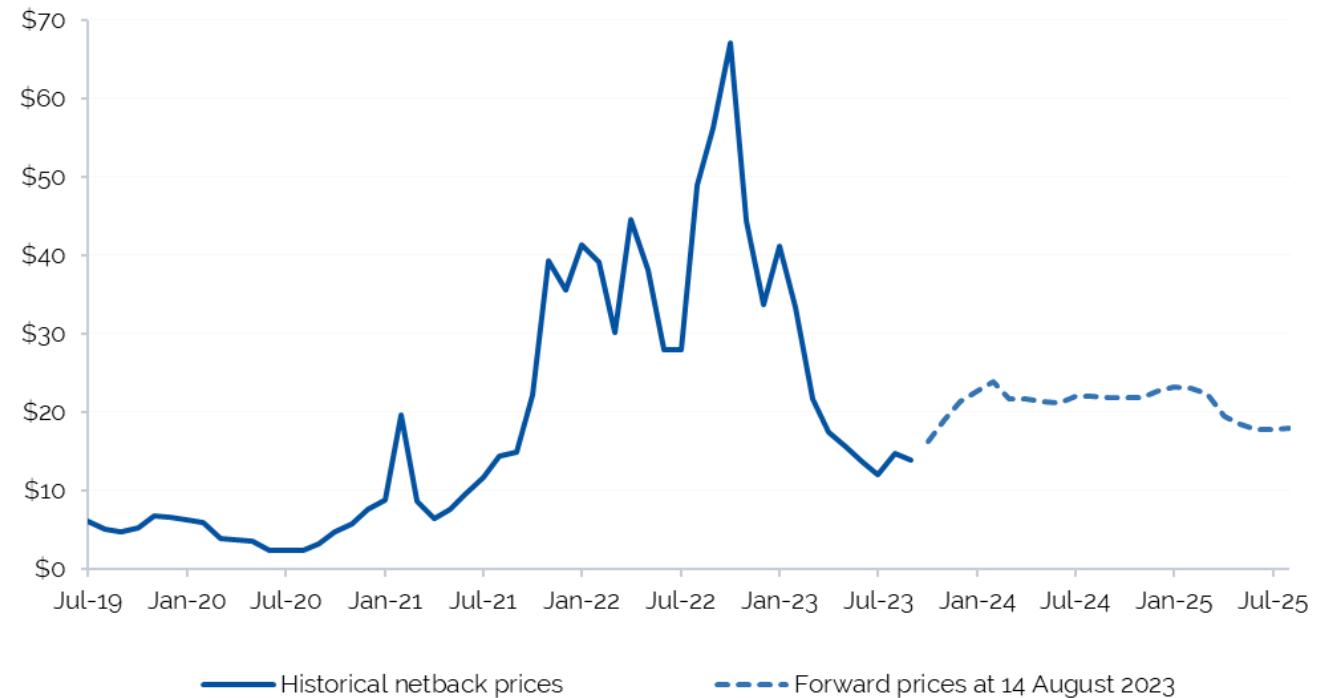


Source: AEMO, Short Term Trading Market data and IPART analysis

Gas prices are trending towards \$20/GJ

- The liquefied natural gas (LNG) netback prices have dropped from the peak of 67 \$/GJ in October 2022 to 14 \$/GJ in June 2023 (nominal).
- The forward short-term LNG netback price may increase, based on market expectations.
- An LNG netback price is a measure of an export parity price that a gas supplier can expect to receive for exporting its gas. It influences gas prices in the east coast gas market.

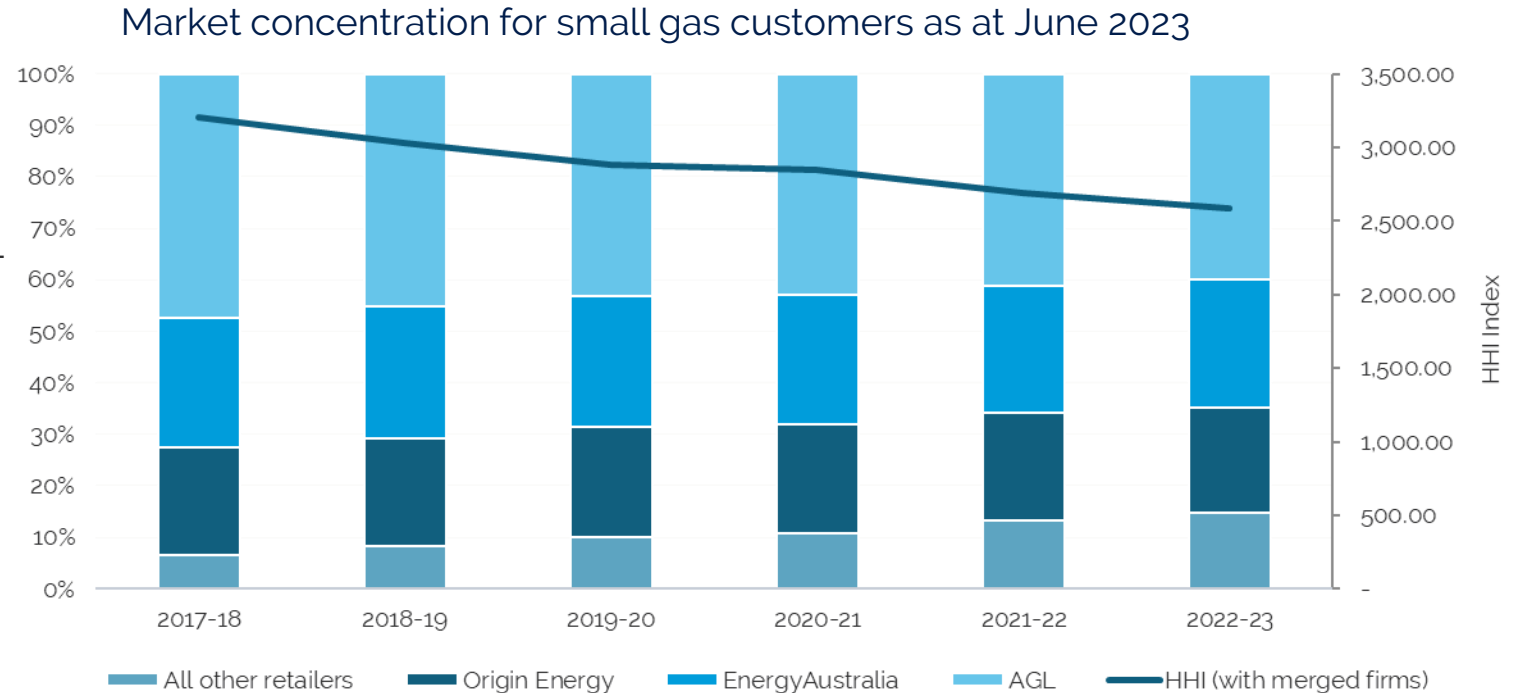
Historical and forward short-term LNG netback prices (nominal).



Source: ACCC, [LNG netback price series](#), August 2023 and IPART analysis

Gas market concentration has fallen over time

- The combined market share of the 3 largest retailers in NSW has fallen slightly from 87% in 2021-22 to 85% in 2022-23,
- The Herfindahl-Hirschman index (HHI)* fell from its 2021-22 value of 2,694 to 2,589 in 2022-23, indicating a slightly more competitive retail gas market.
- There is a trend of decreasing market concentration, which is consistent with our observations in the retail electricity market.

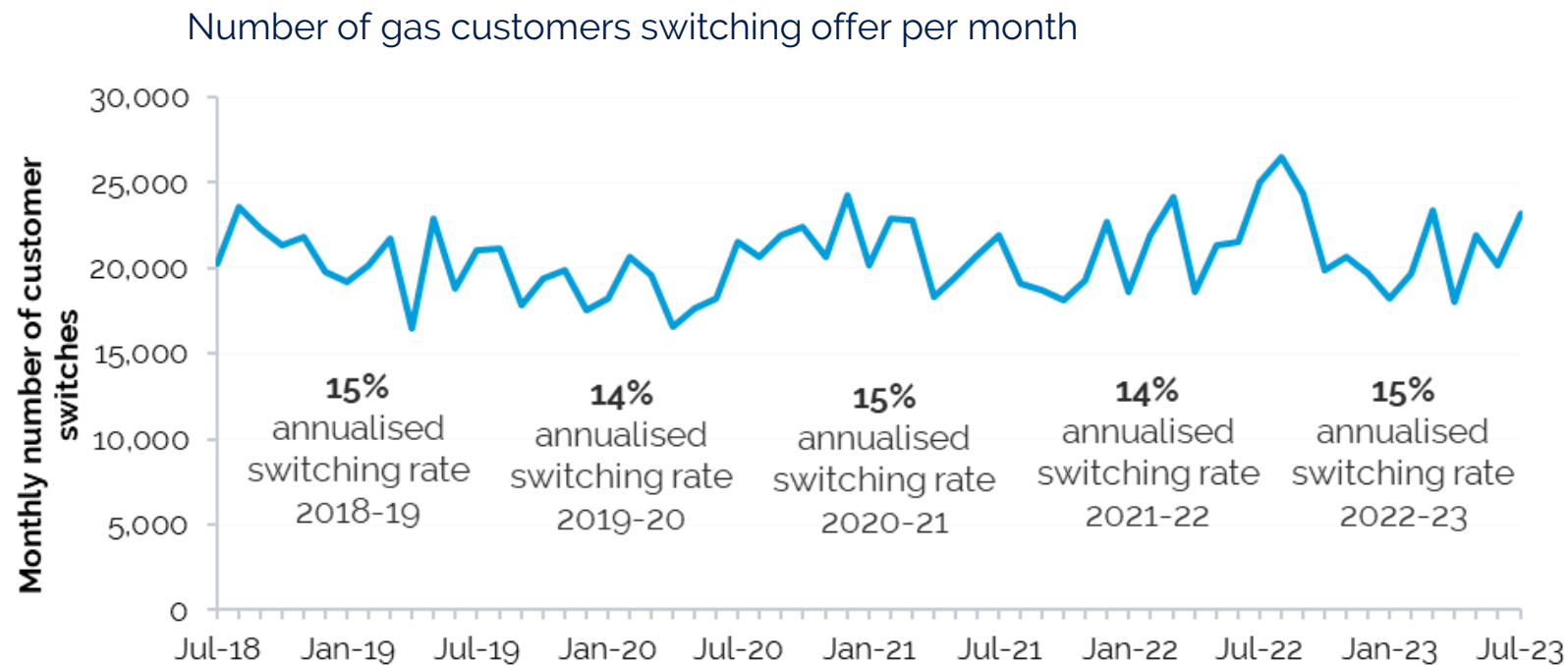


* Note: The Herfindahl-Hirschman Index is a common measure of market concentration that is used to determine market competitiveness.

Source: AER, [Quarterly performance data Q3 2022-23](#), Schedule 2, June 2023.

Gas switching rates are in line with historic trends

- Annualised switching rates for gas has remained fairly stable since July 2018, fluctuating between 14% and 15%.



Source: AER, [Quarterly performance data Q3 2022-23](#), Schedule 2, June 2023.



Customer experience

Customers have less confidence in the energy market

- Energy Consumers Australia provides research on consumer satisfaction, experiences, trust and confidence in the electricity and gas markets in Australia through its Sentiment and Behaviour research.
- Its June 2023 Survey provides qualitative and quantitative insights into a range of topics.



Value for money

More customers in NSW are finding less overall value for money for the products and services they receive from their electricity and gas providers.



Level of competition

Most customers in NSW are happy with the level of competition in the retail electricity and gas markets. This has fallen slightly in the last 6 months.



Provision of services

More customers in NSW are satisfied with how their electricity and gas services are provided.



Confidence in the market

Most customers in NSW are not confident that the energy industry and energy regulators are working in their long-term interests.

Source: ecss.energyconsumersaustralia.com.au/sentiment-survey-june-2023/electricity-sentiment-household-sentiment-june-2023/

More customers are entering hardship programs

- Customers in hardship programs grew between 2021 and 2022. The total number of hardship customers in NSW grew by around 11,000 (31%) for electricity customers and about 2,250 (27%) for gas customers.
- More customers entering hardship programs are staying on them between 1 and 2 years, though there has been a fall in customers in hardship programs for more than 2 years.
- Electricity customers who are staying on hardship over 1 year but under 2 grew by more than 4,400 (101%).
- In the gas market, customers who are staying on hardship over 1 year but under 2 grew by 850 (95%).

35,594

Electricity customers on
hardship programs in 2021-22

46,611

Electricity customers on
hardship programs in 2022-23

8,334

Gas customers on hardship
programs in 2021-22

10,586

Gas customers on hardship
programs in 2022-23

Source: ACCC, [Inquiry into the National Energy Market](#), June 2023; AER, [Retail Market Performance Data Q3 2022-23](#), Schedule 4.

Hardship and payment plan customers pay higher median bills

- The average level of debt customers have while on hardship programs has increased in 2022-23. For electricity customers it increased from \$1,648 to \$1,811 (10%) since Q3 2021-22 to Q3 2022-23 (nominal).
- As more customers enter hardship programs, these customers are entering into higher levels of debt.
- Payment plan and hardship customers have higher median electricity bills than other customer groups. For Q3 2022 their quarterly bills were \$671 and \$614 respectively (nominal, GST inclusive).
- Customers with payment plan and in hardship programs also have higher median usage than other customer groups. This may be due to factors such as:
 - having more people per household
 - the energy efficiency of their homes and appliances.

\$1,648

**Average level of debt
during hardship program –
third quarter 2021-22**



\$1,811

**Average level of debt
during hardship program –
third quarter 2022-23**

Customers who receive a concession on their electricity bills pay the lowest median bills, of \$325 per quarter for Q3 2022 (nominal, GST inclusive).

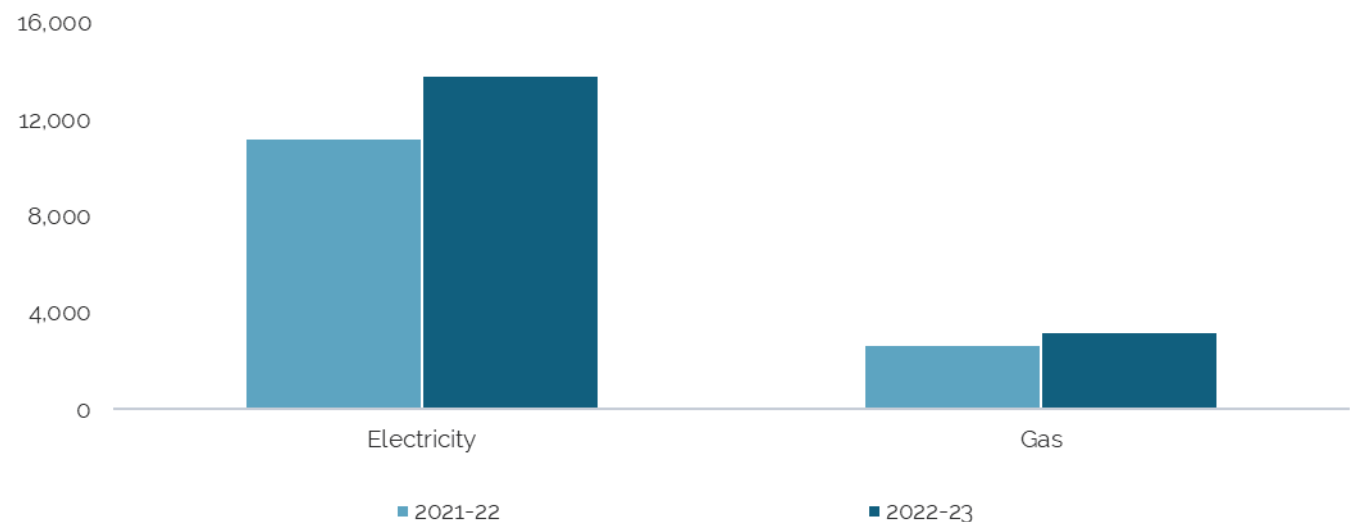
The NSW Government provides rebates to help consumers reduce their energy bills. See the [NSW Government website](#) to know if you are eligible.

Source: ACCC, [Inquiry into the National Energy Market – Appendix E](#), June 2023, AER, [Retail energy market performance update for Quarter 2 2022-23 – Schedule 4](#), June 2023.

There are more electricity complaints than last year

- The Energy & Water Ombudsman of NSW (EWON) received 23% (2,589) more complaints from electricity customers compared to 2022. Complaints from gas customers also increased by 20%, or by 524 complaints.
- The increase in electricity prices, alongside high bills and other affordability concerns are driving the increase in complaints to EWON.
- Billing disputes (e.g. high bills) and credit disputes (e.g. payment difficulty complaints) increased by 27% and 11% respectively from 2021-22 to 2022-23.

Electricity and Gas complaints to EWON from 2022 to 2023



Source: EWON, [Annual Report 2022-23](#), EWON, [Annual Report 2021-22](#).



Solar feed-in tariffs

Solar-feed in tariffs

- IPART tracks the solar feed-in tariffs offered by different retailers. At the end of March 2023, we compared the offers available to residential customers to our 2022-23 benchmark of 6.2 to 10.4 cents per kilowatt hour (kWh).
- 23 retailers in NSW were offering solar feed-in tariffs to residential customers as of 28 March 2023.
- The table shows offers that have the same feed-in tariff at all times. About half of these offers are within IPART's benchmark range.

Retailer all-day feed-in tariff offers as at 28 March 2023

Retailer	Feed-in tariff (c/kWh)	Retailer	Feed-in tariff (c/kWh)
Offers above or within IPART's 2022-23 range		Offers below IPART's 2022-23 range	
Powershop	13	1 st Energy	6
Simply Energy	12	Radian Energy	6
Origin Energy	9.3	Red Energy	6
ActewAGL	8	CovaU	5.5
Simply Energy	8	Sumo	5.5
Sumo	8	Tango Energy	5.5
EnergyAustralia	7.6	Diamond Energy	5.2
Momentum Energy	7	AGL	5
Next Business Energy	7	Globird Energy	5
OVO Energy	7	Origin Energy	5
Red Energy	7	Powershop	5
Alinta Energy	6.7	Nectr	4.4
Dodo Power & Gas	6.2	Origin Energy	2
		Globird Energy	1

Source: Energy Made Easy extracted 28 March 2023 and IPART analysis.



Current and previous energy reviews

Key retail market monitoring reviews

Organisation	Report	Comments
ACCC	Electricity market monitoring inquiry 2018-25	6 monthly report on prices, profits and margins for retail and wholesale sectors, cost changes and drivers, and barriers to entry.
AER	Annual retail markets report	Report on retailer performance: pricing & affordability, payment difficulties & hardship, customer service.
IPART	Retail energy market monitoring	The AER sets the DMO annually.

Reviews of retail energy prices and bills

Organisation	Report	Comments
AEMC	Billing data transparency	Review into methods to provide greater access and transparency of billing data.
AER	State of the energy market	Covers wholesale, transmission and distribution networks, energy retail markets.
AER	Default market offer (DMO) prices	The AER sets the DMO annually.

Reports focussed on consumer outcomes

Organisation	Report	Comments
AEMC	Review of the regulatory framework for metering services	Final report provides recommendations to accelerate deployment of smart meters in NEM.
AER	Towards Energy Equity Strategy	A 3-year plan to deliver 5 objectives, 15 actions for an inclusive energy market.
AER	Retail energy market performance update	Quarterly report on retailer performance: customer numbers, contract types, complaints, energy debt, payment plans, hardship programs, disconnections, and reconnections.
Energy Consumers Australia	Consumer Sentiment Survey	Survey's which provide statistics into consumer behaviours and sentiments in the retail energy market.
Energy & Water Ombudsman of NSW	Insights report	Quarterly reports providing statistical information on complaints and case studies on consumers' energy complaints.