Australian Government

AUSTRALIAN ENERGY REGULATOR

State of the energy market

# Wholesale gas performance report 2026

Methods and assumptions

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# Contents

# 1 Background

Under the National Gas Law (NGL), we are required to regularly and systematically monitor and review the performance, effective competition and efficient functioning of AEMO-administrated wholesale gas markets (the 'facilitated markets'). These include:

- **The downstream wholesale spot markets** – the **Victorian Declared Wholesale Gas Market (DWGM)** and the **Short Term Trading Market (STTM)** hubs in Sydney, Adelaide and Brisbane.
- **the upstream Gas Supply Hubs (GSH)** at Wallumbilla, Moomba, Culcairn and Wilton.
- **the Day Ahead Auction (DAA)**, which provides a mechanism for spare pipeline capacity and compression services to be made available.

In doing so we are required to outline the monitoring methodology applied. This document details key aspects of our methodology for all figures in the report that utilised data analysis. Data sources are included underneath figures in the report.

# 2 Context of the gas market

## 2.3 Eastern Australian gas market prices

### What is this figure?

This figure shows average quarterly gas market prices in the Victorian DWGM, Adelaide, Brisbane and Sydney STTM hubs, and the Wallumbilla GSH trading location.

## 2.4 Eastern Australian gas demand by state

### What is this figure?

This figure shows the composition of domestic gas demand across Australia's east coast (excluding the Northern Territory), split by Residential and Commercial, Industrial, and Gas-powered generation market segments in each state.

## 2.5 Quarterly gas demand for gas-powered generation – January 2020 to December 2025

### What is this figure?

This figure shows gas demand from gas-powered electricity generation sources in the National Electricity Market (NEM) for each east coast state.

### How is it calculated?

Estimates of gas usage are derived using National Electricity Market (NEM) generation output (megawatt hours) converted using implied heat rates for each gas fired generator (gigajoules per megawatt hour).

### Limitations and interpretation

Heat rate conversions closely align with actual gas usage reported for electricity generators on AEMO's Gas Bulletin Board and allow for wide-ranging historical data comparisons. Differences can occur between gas usage and actual electricity output for some generators able to store gas supply on pipelines supplying the generators.

## 2.6 Increasing alignment between GPG demand and other gas demand

### What is this figure?

This figure compares GPG demand to total gas demand in the downstream markets.

### Limitations and interpretation

While participant nominations to transport and supply gas to generators occurs ahead of time in gas markets based on gas usage forecasts, there may be differences between ex ante scheduled gas demand and actual daily gas usage recorded in metered allocation data. Heat rate conversions for gas generation closely align with actual gas usage reported for electricity generators on AEMO's Gas Bulletin Board.

# 3 Structure of the facilitated markets

## 3.1 Market share of total offers in downstream spot markets

### What is this figure?

This figure shows a market participant's share of total offers over a given period.

### How is it calculated?

The volume of total offers is the sum of daily offers for each hub, over the year for each participant.

### Limitations and interpretation

The figure does not account for market participants' ability to shift offers and make more capacity available in response to sustained price signals, so may under or overstate levels of concentration in a market.

Furthermore, some participants utilise gentailer or trader trading rights numbers to offer and withdraw gas. As a result, some offers may appear under trading entities rather than the underlying producers or suppliers.

Accordingly, the measured level of concentration in downstream spot markets, and therefore the potential ability of participants to exercise market power, may in practice be lower than shown in the figure.

## 3.2 Concentration measured using annual HHI by total offers

### What is this figure?

This figure shows market concentration in downstream spot markets using the Herfindahl–Hirschman Index (HHI) based on participants' shares of total offers.

Higher HHI values indicate greater market concentration, while lower values indicate a market where offers are more evenly distributed across participants.

### How is it calculated?

1. Each participant's total volume of offers is calculated for each downstream spot market in each year of the reporting period.
2. Each participant's market share of total offers is calculated by dividing that participant's total offers by the total volume of offers submitted by all participants in the same market and year.
3. The HHI is calculated for each market and year by summing the squared market shares of all participants in that market.

The HHI ranges from 0 to 10,000, with higher values indicating greater market concentration and lower values indicating a more competitive market structure.

## 3.3 Proportion of time offers from the largest one or two participants were needed to meet demand (2020–2025)

### What is this figure?

This figure shows the proportion of days in a year which offers from the largest one or two market participants were required to meet market demand in downstream spot markets.

The figure provides an indication of the extent to which the market depends on the participation of the largest suppliers to meet minimum demand.

A higher proportion of days suggests that the market may be more reliant on large participants, which may increase the potential for market power.

### How is it calculated?

For each trading day (for each hub):

1. Sum up the amount of price taker bids or uncontrollable demand amongst participants.
2. Sum up the amount of filled and unfilled offers from participants
3. If offers from the largest one or two participants are required to meet demand, the supplier(s) are pivotal on that day.

Results are reported for the period 2020 to 2025.

### Assumptions

When a participant has an over-the-counter (OTC) contract on one of the three STTMs, they bid for the gas at an arbitrary price rather than as a price taker. This means that the minimum demand in the STTMs is higher than measured, and therefore that participant(s) are pivotal suppliers for greater proportion of the year than measured.

The figure also assumes that offers submitted to the market represent the available supply that could be used to meet demand. However, participants may have additional gas available that is not offered at a given time. Offer strategies may vary in response to price signals and commercial considerations. This is especially the case for suppliers, who can ramp up their production on short notice.

As a result, the figure may not fully capture the total physical supply available in the market.

## 3.4 Total trade (offset and net trade) in downstream spot markets

### What is this figure?

This figure shows the total amount of gas traded by each hub per year and is broken down into offset trades and net trades.

Calculating the HHI for each market and year allows comparison of concentration levels across downstream spot markets and over time.

Higher HHI values indicate greater market concentration, while lower values indicate a market where offers are more evenly distributed across participants.

### How is it calculated?

1. For each downstream spot market (hub) and each trading day, identify all filled bids and filled offers.
2. For each participant at each hub on each day, calculate:

- Total sales = sum of all filled offers
- Total purchases = sum of all filled bids

3. Calculate daily net trade for each participant at each hub:

Net trade = total sales − total purchases

4. Separate daily trade volumes:

- Net trade volume is the sum of positive net trade values (net sellers) for that hub on that day.
- Offset trade volume represents trades where purchases and sales offset each other.

5. Aggregate daily values over the year to calculate annual net trade and offset trade volumes for each hub.

## 3.5 Annual HHI concentration of net sellers

### What is this figure?

This figure shows market concentration in downstream spot markets using the Herfindahl–Hirschman Index (HHI) based on participants' shares of net sell volumes.

Calculating the HHI for each market and year allows comparison of concentration levels across downstream spot markets and over time.

Higher HHI values indicate greater market concentration, while lower values indicate a market where net volumes sold are more evenly distributed across participants.

### How is it calculated?

1. The total amount of net seller trade is calculated daily and summed up by each participant, for the year, for each hub.
2. Each participant's market share of annualised net selling is calculated by dividing it by the total net sell for the hub, each year.
3. The HHI is calculated for each market and year by summing the squared market shares of all participants in that market.

The HHI ranges from 0 to 10,000, with higher values indicating greater market concentration and lower values indicating a more competitive market structure.

## 3.6 Market share of net sellers in the east coast gas markets

### What is this figure?

This figure shows the share of net seller trade volumes accounted for by individual market participants when added together.

It provides an indication of the relative importance of different participants as net sellers of gas in the market and therefore the dominance of larger participants in this market over time.

Dominance of larger participants in this market may provide the ability to incentive to use market power.

### How is it calculated?

1. Net sales for each participant are calculated on a daily basis before aggregation as:

- Net sales = total sales − total purchases

2. The total amount of net trade calculated daily are aggregated where the net sales is positive (sales is greater than purchases) for a participant, for each year across the four hubs.
3. Each participant's market share of annualised net selling is calculated by dividing it by the total amount of net trade across the four hubs each year.

### Assumptions

The net-sellers calculation assumes that participants with positive net seller trades on days throughout the year are acting as suppliers to the market on those days in the year.

While this is usually the case, participants may switch between being net buyers and net sellers across different time periods, which may affect the interpretation of market shares.

## 3.7 Market share of total offers and net sales by participant type

### What is this figure?

This figure shows the share of total offers and net sales accounted for by different participant types in downstream spot markets over the reporting period.

It provides an indication of the relative role of different categories of participants, such as producers, retailers, gentailers and traders, in supplying gas into each hub, and also to net market.

### How is it calculated?

1. Total offers are calculated as the sum of filled offers (ex-post) submitted by each participant over the reporting period.
2. Net sales for each participant are calculated on a daily basis before aggregation as:

- Net sales = total sales − total purchases

3. Participants are grouped by participant type (for example producers, retailers, gentailers or traders).

4. For each participant type, the total offers and net sales of all participants in that category are summed.
5. The market share of each participant type is then calculated as:

- Market share = participant type volume ÷ total market volume
- Market shares are calculated separately for total offers and net sales.

### Assumptions

Participant types are assigned based on publicly available information and may not fully reflect underlying commercial arrangements. As discussed above, traders and gentailers offer gas on behalf of other participants, which may distort the patterns of use presented.

# 4 Conduct in the facilitated markets

## 4.1 Total offers, by price band and quarter

### What is this figure?

This figure shows the volume of offers for each price band, for each year from 2019 – 2025, across the four downstream spot markets.

### How is it calculated?

The volume of all offers within each price band is summed over the year, for each downstream spot market.

### Limitations and interpretation

This figure shows all offers that are made by market participants, including offers that do not end up being scheduled into the markets.

As GPG gentailers offer the largest volume of gas in the downstream spot markets, the total offer stacks tend to be more representative of GPG gentailer activity than of all participants. It is best to view offers by the different participant groups to understand participant behaviour.

## 4.2 Victorian DWGM - Offers at the Longford and Iona injection facilities

### What is this figure?

This figure shows the total volume of offers into the DWGM at the Longford and Iona injection points, for each price band, and for each year from 2019 – 2025.

### How is it calculated?

Volume of all offers within each price band is summed over the year, for each injection point.

### Limitations and interpretation

The figure does not account for the decrease in demand for gas in the DWGM in the last few years.

## 4.3 GPG gentailer total offers, by price band and quarter

### What is this figure?

This figure shows the volume of GPG gentailer offers for each price band, for each quarter from 2019 – 2025, across the four downstream spot markets.

### How is it calculated?

Volume of all offers made by GPG gentailers within each price band is summed over each quarter, for each downstream spot market.

### Limitations and interpretation

Only participant offers priced below the clearing price are scheduled, and all participants who made such offers are all paid the same market clearing price. For example, GPG gentailers often make $0 offers to ensure their contracted supply is scheduled into the market, but they will be paid the market clearing price for that supply.

## 4.4 GPG gentailer offer behaviour at Iona and flows to GPG-gentailer-owned generators in Victoria and NSW

### What is this figure?

This figure shows the total volume of $0-2 and $50+ offers into the DWGM at Iona injection point by GPG gentailers, for each day in winter of 2024 and 2025. It overlays the volume of pipeline flows to GPG gentailer owned generators in Victoria and New South Wales.

### How is it calculated?

The total volume of offers at the Iona injection point in the DWGM is split into price bands and offers in the $0 - $2 and $50+ price bands are filtered for.

Pipeline flows to generators in Victoria and New South Wales are aggregated and filtered for only generators owned by GPG gentailers.

### Limitations and interpretation

The flows to GPG gentailer owned generators are across all pipelines. Flows are not strictly coming from Iona storage.

## 4.5 Retailer total offers, by price band and year

### What is this figure?

This figure shows the volume of offers made by retailers per each price band, for each year from 2019 – 2025, in both the Sydney STTM and DWGM.

### How is it calculated?

Volume of all offers made by retailers within each price band is summed over each year, for each downstream spot market retailers are active (the DWGM and Sydney STTM).

### Limitations and interpretation

Some retailers may be purchasing gas under wholesale aggregators, rather than directly from the spot market.

## 4.6 Industrial total offers, by price band and year

### What is this figure?

This figure shows the volume of offers made by industrials for each price band and year, from 2019 – 2025, across the four downstream spot markets.

### How is it calculated?

Volume of all offers made by industrials within each price band is summed over each year, for each downstream spot market.

### Limitations and interpretation

Some industrials may be purchasing gas from retailers, rather than directly from the spot market.

## 4.7 Producer total offers, by price band and year

### What is this figure?

This figure shows the volume of offers made by producers in each price band, for each year from 2019 – 2025, across the four downstream spot markets.

### How is it calculated?

Volume of all offers made by producers within each price band is summed over each year, for each downstream spot market.

### Limitations and interpretation

Producers typically sell gas through gas supply agreements rather than the downstream spot markets. Producer offers are more indicative of excess gas that they have not managed to contract to buyers and therefore will offer into the spot market near the clearing price.

## 4.8 Trader total offers by price band and year

### What is this figure?

This figure shows the volume of offers made by traders in each price band, for each year from 2019 – 2025, across the four downstream spot markets.

### How is it calculated?

Volume of all offers made by traders within each price band is summed over each year, for each downstream spot market.

### Limitations and interpretation

Some of the offers by traders are a result of them acting on behalf of smaller participants, therefore their offer behaviour may be more indicative of the participants they are representing.

## 4.9 High price events in the downstream wholesale gas markets

### What is this figure?

This figure shows downstream spot prices at a quarterly level between 2023 and 2025. High price periods are indicated with bubbles.

### How is it calculated?

Daily spot prices are aggregated across a quarter for each market. For the DWGM, the daily imbalance price is used.

### Limitations and interpretation

Prices may peak in one month but be reflected in the quarterly average price. For example, prices peaked in May in Q2 2023, rather than being elevated evenly throughout the whole quarter.

## 4.10 High price drivers in May 2023

### What is this figure?

This figure shows the drivers of high prices in May 2023, including Longford production constraints, flow-on effects to offers made on the Eastern Gas Pipeline (EGP), and coinciding pipeline constraints on the Moomba to Sydney Pipeline (MSP).

### How is it calculated?

1. Longford offer volumes – the volume of total offers in each price band for Longford are calculated and then summed over each day between 25 April to 31 May. Actual and planned maintenance capacity is overlayed through the secondary axis.
2. EGP offer volumes – the volume of total offers in each price band for the EGP are calculated and then summed over each day between 25 April to 31 May.
3. MSP scheduled supply vs actual capacity – The scheduled supply on the MSP is calculated by summing the forward haul, ex-ante schedule quantity, for each day between 25 April to 31 May. The actual capacity of the MSP is then plotted on the same figure.
4. MSP offer volumes – the volume of total offers in each price band for the MSP are calculated and then summed over each day between 25 April to 31 May.

### Limitations and interpretation

The figures focus on Longford, the EGP and the MSP, but market participants may have additionally adjusted their behaviour at other injection points or on other pipelines.

## 4.11 Brisbane GPG offer stacks by price band - 2024

### What is this figure?

This figure shows GPG gentailers' total offer volumes into the Brisbane STTM, by price band, throughout 2024.

### How is it calculated?

GPG gentailer offer volumes - the volume of total offers in each price band made by GPG gentailers are summed over each month in 2024.

### Limitations and interpretation

The figure shows total offers by Brisbane GPG gentailers, including offers that are priced above the market clearing price and do not get scheduled.

# 4.12 Victorian DWGM offer stacks, by price band - 2024

### What is this figure?

This figure shows the volume of offers in different price bands across each month of 2024. The price band of $0 - $2 and >$50 offers have been removed so that the shift in other price bands is clearer.

### How is it calculated?

Volume of offers made in the DWGM, within each price band between $2 - $50, are summed for each month in 2024.

### Limitations and interpretation

The figure does not capture all offers made across 2024 as offer volumes in the $0 - $2 and >$50 price bands have been removed as they tend to reflect either (1) offers to meet downstream demand or (2) participants preserving supply in storage.

# 5 Efficiency in the facilitated markets

## 5.1 Average downstream gas market spot prices and long-term GSA prices

### What is this figure?

This figure shows average daily downstream spot market prices with long-term gas supply agreement prices.

Average spot prices are for the DWGM and Brisbane, Sydney and Adelaide STTM's. Long-term gas supply agreement (GSA) prices are producer and retailer volume weighted average (VWA) prices.

### How is it calculated?

The average downstream spot price is a simple average across Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM. Brisbane, Sydney and Adelaide prices are ex-ante. The Victorian price is the average daily weighted imbalance price.

Long term GSA prices are producer and retailer contract prices. GSA prices for delivery between 2018 and 2020 are a simple average for producer and retailer VWA prices. All contracts are for quantities of at least 0.5 PJ per annum and a contract term of at least 12 months. The GSAs in this analysis have an execution date that is within 2 years of commencement of the supply year for delivery between 2018 to 2020 and execution within 1 year of commencement of the supply year for delivery between 2021 to 2025.

### Limitations and interpretation

Long-term GSA prices are wholesale gas commodity prices and do not include separate charges for transporting gas to the user's location or other ancillary charges. Individual transactions are not necessarily directly comparable due to differences in non-price aspects such as flexibility, quantity, contract term and delivery point. More information on the parameters used to report these prices can be found in ACCC's Gas Inquiry 2017–2030.[1]

## 5.2 Daily downstream spot prices and delivered contract prices

### What is this figure?

This figure compares the daily spot price in each downstream spot market (Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM) with the price to deliver contracted gas into the market.

[1] See Appendix B in ACCC's Gas Inquiry 2017–2030, December 2025.

### How is it calculated?

The delivered contract price is calculated as the VWA long term GSA price plus the standing price for firm transportation service to the relevant spot market.

GSA prices are the long-term GSA VWA prices reported in the ACCC Gas Inquiry. All contracts are for quantities of at least 0.5 PJ per annum and a contract term of at least 12 months. The GSAs in this analysis have an execution date that is within 2 years of the supply year for delivery. The average downstream spot price is a simple average across Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM.

Prices for contracted gas delivered into each downstream spot market are calculated for each combination of possible variables based on year of contract struck, location (northern or southern supply) and supplier type (retailer or producer). Prices are reported as the minimum and maximum price within each set of possible prices for each downstream spot market. To calculate the relevant firm transportation service, northern supply is assumed to come from Wallumbilla and southern supply is assumed to come from Longford.

Standing prices are as at 1 January each year where possible. The Victorian Transmission System (VTS) charge is taken as the annual average per GJ price for a participant that is offering 10 TJ net supply a day. There is no multi-asset standing price offered by APA for Culcairn to Wallumbilla, so this is assumed to be the same price as the Wallumbilla to Wilton multi-asset service.

| Spot market | Supply location | Pipeline service/s |
|---|---|---|
| Sydney STTM | Queensland | Wallumbilla to Wilton (multi-asset service) |
| | Southern State | VTS & EGP (Area 3) |
| Brisbane STTM | Queensland | RBP Eastern haul |
| | Southern State | VTS & Culcairn to Wallumbilla (multi-asset service) & RBP Eastern haul |
| Adelaide STTM | Queensland | Wallumbilla to Moomba (Western haul) & MAPS |
| | Southern State | VTS & PCA |
| DWGM | Queensland | Wallumbilla to Culcairn (multi-asset service) & VTS |
| | Southern State | VTS |

### Limitations and interpretation

Delivered contract prices only capture an indicative price for the major pipeline and supply costs that are based on publicly reported data and standing terms for pipeline services.

It is assumed that VWA average prices for northern supply reasonably reflects a GSA price for gas delivered at Wallumbilla and the southern supply reasonably reflects a GSA price for gas delivered at Longford. Actual contract prices paid by a participant will also vary considerably depending on non-price aspects such as flexibility, quantity, contract term and injection and delivery points.

Standing prices for pipeline services also only incorporate the base tariff for the year of gas supply trade and does not include additional charges that may be incurred (such as compression) or other terms and escalations that may apply, so effective delivered prices paid by a market participant may differ.

Contract data reported by the ACCC for 2023 and 2024 is missing final quarter trades for VWA prices because this data was either not reported or did not distinguish prices for Queensland and southern states.

Long-term GSA prices are wholesale gas commodity prices and do not include separate charges for transporting gas to the user's location or other ancillary charges. Individual transactions are not necessarily directly comparable due to differences in non-price aspects such as flexibility, quantity, contract term and delivery point. More information on the parameters used to report these prices can be found in ACCC's Gas Inquiry 2017–2030.[2]

## 5.3 Average downstream spot prices and quarterly short-term contract prices

### What is this figure?

This figure compares average daily downstream spot market prices with quarterly volume weighted short-term gas supply agreement prices.

### How is it calculated?

The volume-weighted average contract price for STTs includes all transactions for supply in the quarter. These prices exclude pricing structures linked to the STTM or DWGM, prices that are index linked or where the transaction was between related parties. North STT prices only include transactions for delivery at the Wallumbilla hub (Wallumbilla or Roma to Brisbane pipeline in-pipe trade locations) and the South STT price only includes transactions for delivery at the Moomba or Longford hubs.

### Limitations and interpretation

This figure only includes trades for delivery at major supply locations and does not incorporate additional transportation costs for delivery to downstream spot markets.

## 5.4 Monthly average downstream spot prices

### What is this figure?

This figure shows the monthly average of downstream spot prices in the Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM.

### How is it calculated?

The downstream spot price is a simple average of daily prices across the quarter for the Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM. Brisbane, Sydney and Adelaide prices are ex-ante. The Victorian price is the average daily weighted imbalance price.

[2] See Appendix B in ACCC's Gas Inquiry 2017–2030, December 2025.

### Limitations and interpretation

Monthly averages may conceal high price events or within-month volatility.

## 5.5 Total scheduled supply by price band

### What is this figure?

This figure shows the total volume of scheduled gas by price band for each downstream spot market.

### How is it calculated?

The volume is summed over each quarter including all scheduled offers made within each price band, for each downstream spot market.

## 5.6 Gas Supply Hub price differential with downstream spot markets

### What is this figure?

This figure shows the difference between Gas Supply Hub (GSH) spot prices and downstream spot market prices.

### How is it calculated?

The average downstream spot price is a simple average across Brisbane, Sydney and Adelaide STTM's and the Victorian DWGM. The Wallumbilla price is on-the-day and day-ahead prices for on-screen and off-screen trades at the Wallumbilla hub.

The price differential is calculated on a daily basis as the average downstream spot price minus the GSH spot price.

Swap trades have been removed from GSH volumes reported. Swap trades include supply transactions identified as swaps by our analysis or use of the GSH swap product.

# 6 Broader performance of the facilitated markets

## 6.1 Net trade in downstream spot markets by season

### What is this figure?

This figure shows net traded volumes in downstream spot markets, by season of the delivery period.

### How is it calculated?

First, net trade for each participant is calculated on the buy side on a daily basis before aggregation as:

- Net trade = total purchases − total sales

Then the total amount of net trade calculated daily are aggregated where the net demand is positive (purchases are greater than sales) for a participant, for each year across the four hubs.

## 6.2 Total delivered GSH trade by season

### What is this figure?

This figure shows total traded volumes in the GSH, by season of the delivery period.

### How is it calculated?

Traded volumes are aggregated by the year and season they were delivered.

Swap trades have been removed from GSH volumes reported. Swap trades include supply transactions identified as swaps by our analysis or use of the GSH swap product.

## 6.3 Price structures reported in short-term contracts

### What is this figure?

This figure shows short-term contracts traded in each quarter by the proportion of each type of pricing structure used. These are Fixed, Index-linked (for example an oil index like Brent, or LNG index like JKM or another index), spot market linked or other price structure. Other price structure captures pricing structures that do not clearly fit the other three categories, either because they follow a different pricing mechanism or not enough information was provided in the data.

### How is it calculated?

Short-term contracts are classified by pricing structure, and the proportion of each type is calculated for each quarter of trade.

## 6.4 Net trade as a proportion of total trade by hub location

### What is this figure?

This figure shows net trade as a proportion of total trade for each downstream spot market by year.

### How is it calculated?

First, net trade for each participant is calculated on the buy side on a daily basis before aggregation as:

- Net trade = total purchases − total sales

Then the total amount of net trade calculated daily are aggregated where the net demand is positive (purchases are greater than sales) for a participant, for each year across the four hubs.

Total net trade volumes are divided by total trade volumes (measured by total scheduled demand) each year by downstream spot market.

## 6.5 Gas Supply Hub and short-term contracts in Queensland by forward trade length

### What is this figure?

This figure compares Gas Supply Hub trades at Wallumbilla and short-term contracts traded in Queensland by forward trade length. Forward trade length refers to the time between trade and first day of delivery. Trades are categorised by whether forward trade length was a week or less, or more than a week.

### How is it calculated?

GSH trades and short-term contracts are grouped by the time between trade execution and first day of delivery and then aggregated by quarter.

Swap trades have been removed from GSH volumes reported. Swap trades include supply transactions identified as swaps by our analysis or use of the GSH swap product.

# 7 Transportation and storage

## 7.1 Contracted capacity and actual flows on the SWQP to Moomba

### What is this figure?

This figure compares nameplate capacity, contracted capacity and actual gas flows on the South West Queensland Pipeline route to Moomba.

### How is it calculated?

Contracted capacity is based on the identified delivery location (DeliveryLocation) and calculated as nameplate capacity (capacityquantity) less uncontracted capacity (OutlookQuantity).

Actual flow is based on the LocationID for the identified delivery location and calculated as Supply + TransferIn – Demand – TransferOut.

### Limitations and interpretation

Maximum and minimum daily values may be higher or lower than represented by the monthly average figure. The figure does not show all capacity contracted or that flowed on the pipeline but only to a specific delivery point.

## 7.2 Contracted capacity and actual flows on the MSP to Sydney

### What is this figure?

This figure compares nameplate capacity, contracted capacity and actual gas flows on the Moomba to Sydney Pipeline route to Sydney.

### How is it calculated?

Contracted capacity is based on the DeliveryLocation for the identified delivery location and calculated as nameplate capacity (capacityquantity) less uncontracted capacity (OutlookQuantity).

Actual flow is based on the LocationID for the identified delivery location and calculated as Supply + TransferIn – Demand – TransferOut.

### Limitations and interpretation

Maximum and minimum daily values may be higher or lower than represented by the monthly average figure. The figure does not show all capacity contracted or that flowed on the pipeline but only to a specific delivery point.

## 7.3 Contracted capacity and actual flows on the MAPS to Adelaide

### What is this figure?

This figure compares nameplate capacity, contracted capacity and actual gas flows on the Moomba to Adelaide Pipeline System route to Adelaide.

### How is it calculated?

Contracted capacity is based on the DeliveryLocation for the identified delivery location and calculated as nameplate capacity (capacityquantity) less uncontracted capacity (OutlookQuantity).

Actual flow is based on the LocationID for the identified delivery location and calculated as Supply + TransferIn – Demand – TransferOut.

### Limitations and interpretation

Maximum and minimum daily values may be higher or lower than represented by the monthly average figure. The figure does not show all capacity contracted or that flowed on the pipeline but only to a specific delivery point.

## 7.4 Iona storage levels

### What is this figure?

This figure shows gas storage inventory levels at the Iona storage facility.

### How is it calculated?

Reported storage inventory levels are plotted over time to show the accumulation and withdrawal of gas from the storage facility. Storage range prior to 2021 is based on the relevant data from 2016 to 2020.

### Limitations and interpretation

Storage inventory levels may not fully reflect commercial availability of gas for withdrawal at all times.

## 7.5 Iona contracted capacity

### What is this figure?

This figure measures contracted capacity at the Iona underground storage facility.

### How is it calculated?

The contracted quantity for storage capacity services is presented per unique contract identifier over the relevant period.

### Limitations and interpretation

Contracted capacity does not necessarily indicate actual usage or available spare storage capacity. The figure does not represent capacity that is yet to be contracted nor contracted capacity that rolled off prior to 2023.

## 7.6 Dandenong contracted storage capacity

### What is this figure?

This figure measures contracted capacity at the Dandenong LNG storage facility.

### How is it calculated?

The contracted quantity for storage capacity services is presented per unique contract identifier over the relevant period.

### Limitations and interpretation

Contracted capacity does not necessarily indicate actual usage or available spare storage capacity. The figure does not represent capacity that is yet to be contracted nor contracted capacity that rolled off prior to 2023.

# 8 Alternatives to transportation

## 8.1 Pipeline capacity won via the DAA on auction routes to downstream spot markets

### What is this figure?

This figure shows the overall quantities of pipeline capacity allocated through the Day Ahead Auction (DAA) on auction routes to the downstream spot markets (STTMs and the DWGM) compared to the volume of pipeline capacity allocated through the DAA on auction routes not directly linked to the downstream spot markets.

### How is it calculated?

Capacity won through the auction is aggregated across relevant routes and reporting periods. The DAA on auction routes to the downstream spot markets are provided in the table below:

| Pipeline | DAA route |
|---|---|
| EGP | Longford >>> Horsley Park |
| EGP | Longford >>> Port Kembla |
| EGP | Longford >>> Wilton Jemena Gas Networks |
| EGP | Orbost >>> Horsley Park |
| EGP | Longford (EGP) >>> Horsley Park |
| MAPS | Moomba Injection >>> Adelaide metro delivery point |
| MAPS | QSN Injection >>> Adelaide metro delivery point |
| MAPS | Adelaide metro >>> Adelaide metro delivery point |
| MAPS | MAPS In-Pipe Trade Point >>> Adelaide metro delivery point |
| MSP | Culcairn North >>> Wilton |
| MSP | Culcairn Trade Point >>> Culcairn South |
| MSP | Culcairn Trade Point >>> Wilton |
| MSP | Wilton Trade Point >>> Culcairn South |
| MSP | Wilton Trade Point >>> Wilton |
| MSP | MSP Inlet >>> Culcairn South |
| MSP | MSP Inlet >>> Wilton |
| PCA | Minerva - PCA >>> Cavan |

| | |
|---|---|
| PCA | Iona >>> Cavan |
| RBP | Condamine >>> Ellen Grove |
| RBP | Condamine >>> Redbank |
| RBP | Condamine >>> Toowoomba |
| RBP | Wallumbilla Run 1 >>> Ellen Grove |
| RBP | Wallumbilla Run 2 >>> Ellen Grove |
| RBP | Wallumbilla Run 3 >>> Ellen Grove |
| RBP | Wallumbilla Run 3 >>> Murarrie |
| RBP | Wallumbilla Run 3 >>> Swanbank PS |
| RBP | Wallumbilla Run 4 >>> Ellen Grove |
| RBP | Wallumbilla Run 4 >>> RBP Trade Point (IPT) |
| RBP | Wallumbilla Run 7 >>> Tingalpa |
| RBP | RBP Trade Point (IPT) >>> Ellen Grove |
| RBP | RBP Trade Point (IPT) >>> Lytton |
| RBP | RBP Trade Point (IPT) >>> Murarrie |
| RBP | RBP Trade Point (IPT) >>> Redbank |
| RBP | RBP Trade Point (IPT) >>> Runcorn |
| RBP | RBP Trade Point (IPT) >>> Riverview |
| RBP | RBP Trade Point (IPT) >>> Swanbank PS |
| RBP | RBP Trade Point (IPT) >>> Tingalpa |
| RBP | RBP Trade Point (IPT) >>> Toowoomba |
| VICHUB | Eastern Gas Pipeline >>> Declared Transmission System |

### Limitations and interpretation

Auction capacity won may not always be fully utilised by successful bidders.

## 8.2 Capacity won on the EGP compared with surplus demand and capacity

### What is this figure?

This figure compares the monthly average capacity won on the Eastern Gas Pipeline (EGP) through the DAA with the monthly average surplus demand and the monthly average surplus capacity available.

Surplus demand indicates the volume of auction bids which were unsuccessful because the total bids exceeded the available auction quantity, the Auction Quantity Limit (AQL), or a bid was unsuccessful due to a paired bid with another constrained facility. Surplus demand is calculated on auction routes where auction capacity was bid on. Surplus capacity indicates the volume of capacity that was still available on days that the auction was not constrained. Surplus capacity is calculated on auction routes where auction capacity was bid on.

### How is it calculated?

Surplus demand is calculated on a daily basis for each auction route where auction capacity was bid on as follows:

- Total auction demand = Calculating the total capacity bid on by participants on the gas day by auction route.
- Total auction capacity won = Calculating the total capacity on by participants on the gas day by auction route.
- Surplus Demand = Total auction demand – Total auction capacity won.

The average surplus demand is then calculated on a monthly basis over the period.

Surplus capacity is calculated on a daily basis for each auction route where auction capacity was bid on as follows:

- Total auction capacity available = The AQL limit for the auction route on the gas day.
- Total auction capacity won = Calculating the total capacity on by participants on the gas day by auction route.
- Surplus Capacity = Total auction capacity available – Total auction capacity won.

The average surplus capacity is then calculated on a monthly basis over the period.

### Limitations and interpretation

The actual daily values may be lower or higher than represented by the monthly average values figured.

## 8.3 Price bids for the DAA capacity on the EGP auction route to Sydney

### What is this figure?

This figure shows the volume of the EGP capacity bid for by price bands by auction participants on the EGP auction route to Sydney, aggregated and displayed on a monthly basis.

### How is it calculated?

Bid prices submitted for DAA capacity on the EGP are aggregated over the reporting period.

### Limitations and interpretation

Bid prices may reflect strategic bidding, operational urgency or local market conditions rather than broader transport values.

## 8.4 Prices paid at the EGP auction route to Sydney

### What is this figure?

This figure shows the prices paid for the DAA capacity won on the EGP auction route to Sydney.

### How is it calculated?

Clearing prices for awarded DAA capacity are aggregated over the reporting period.

### Limitations and interpretation

Prices paid may differ from bid prices depending on auction outcomes and available capacity.

## 8.5 Indicative impact of DAA capacity on prices in the Sydney STTM

### What is this figure?

This figure shows the potential impact of the DAA on the spot prices in the Sydney STTM. The figure shows hypothetical price difference between the actual Sydney STTM clearing price on a given day (bottom of orange bars), and the clearing price if incremental gas transported via the DAA capacity was not offered into the Sydney STTM (top of orange bars).

We focused on potential downstream impacts in the Sydney STTM because New South Wales has relatively high gas demand and no domestic gas supply. This means that market outcomes in the Sydney STTM are highly dependent on transportation south from Queensland via the MSP and north from Victoria via the EGP.

### How is it calculated?

Auction outcomes and market prices are compared over the same periods to assess whether changes in capacity access coincide with changes in prices.

### Limitations and interpretation

This analysis assumes all offers placed for specific participants are reliant on capacity won through the DAA. In practice, some offers may not be reliant on auction quantities clearing. This may be the case where shippers could use annual volumes under firm contract if they are unsuccessful in the auction and so the actual market price impact could be lower than the range shown. On the other hand, if a downstream bid is submitted on the basis of an arbitrage opportunity between markets (e.g. Wallumbilla to Sydney) it may be completely reliant on the auction outcomes.

This analysis provides only an indicative impact because it relies on an assumption that all capacity won on auction routes towards downstream markets is incremental gas supplied to the market and the gas would otherwise not have been transported to it. In practice this is unlikely to be precise for a range of reasons. For example, shippers are not bound to nominate volumes matching the capacity they win, and absent without that capacity the market may have responded differently to the same price events.

# 9 Financial risk management products

## 9.1 Volume of ASX-listed gas futures products by trade date

### What is this figure?

This figure shows trading volumes of ASX-listed gas futures products, which are the DWGM Quarterly product, and the Wallumbilla Monthly product.

### How is it calculated?

Traded futures contract volumes are summed across relevant products, trade types and reported periods.

### Limitations and interpretation

Volumes traded for both products are very low compared to the amount of physical gas traded.

## 9.2 DWGM futures forward traded prices and DWGM daily spot price

### What is this figure?

This figure compares forward traded prices for DWGM futures products with DWGM daily spot prices.

### How is it calculated?

Forward traded prices for DWGM futures use a volume weighted average of all trades in the relevant period and are compared with daily DWGM spot prices (the daily imbalance price) over the relevant period.

### Limitations and interpretation

Liquidity in the DWGM futures market is very low.

## 9.3 Traded and delivered volumes in OTC wholesale gas market swaps

### What is this figure?

This figure measures traded volumes in over-the-counter wholesale gas market swaps.

### How is it calculated?

Reported OTC traded swap volumes are summed over the reporting period.

### Limitations and interpretation

OTC data from only 7 retailers have been collected so the total volumes would be greater than volumes reported.

## 9.4 Volume-weighted average prices for OTC wholesale gas market swaps

### What is this figure?

This figure measures volume-weighted average prices for OTC gas swaps.

### How is it calculated?

For each reporting period, transaction prices are weighted by traded volume and averaged across reported OTC swap trades.

### Limitations and interpretation

The figure depends on the quality and completeness of participant-reported OTC trade data and may not capture all bilateral financial transactions.

# A Liquidity in the facilitated markets

## A.1 Total traded volumes across the facilitated gas markets

### What is this figure?

This figure shows the quantity of gas (in GJ) traded across the facilitated gas markets over a given period.

### How is it calculated?

Volumes are calculated by summing all physical gas transactions executed through each facilitated market over each year.

### Limitations and interpretation

- High volumes do not necessarily mean high competition if trading is concentrated among a small number of participants.
- Volumes reflect short term trading only and do not capture most gas traded under long term bilateral contracts.
- Seasonal demand (especially winter) can significantly affect volumes and should be considered when comparing across time.

## A.2 Number of active participants

### What is this figure?

This figure shows the number of participants that actively traded gas in a facilitated market during the period (as buyers and/or sellers).

### How is it calculated?

Participants are counted as “active” if they submit bids or offers that result in executed trades in the calendar year.

### Limitations and interpretation

- The figure does not distinguish between large and small participants.
- A participant trading small volumes is treated the same as a major trader.
- Participation can fluctuate due to conditions such as supply constraints or high prices.

## A.3 Number of trades per product - Gas Supply Hub (Wallumbilla)

### What is this figure?

This figure shows the number of on-screen trades per product on the Wallumbilla Gas Supply Hub.

### How is it calculated?

Number of on-screen trades at Wallumbilla GSH are summed up for each year.

### Limitations and interpretation

- This figure does not capture how much gas is traded on each day.
- Most of trade on the GSH happens off-screen especially weekly and monthly trades.

## A.4 Number of trades per product - Gas Supply Hub (Moomba)

### What is this figure?

This figure shows the number of on-screen trades per product on the Moomba Gas Supply Hub.

### How is it calculated?

Number of on-screen trades at Wallumbilla GSH are summed up for each year.

### Limitations and interpretation

- This figure does not capture how much gas is traded on each day.
- Most of trade on the GSH happens off-screen especially weekly and monthly trades.

## A.5 Numbers of trades by facility - Day Ahead Auction

### What is this figure?

This figure shows the number of successful bids on the Day Ahead Auction, per each facility and year.

### How is it calculated?

Number of successful bids on each DAA facility is summed up for each year.

### Limitations and interpretation

- This figure does not capture the volume of transport purchased on the DAA each day.
- This figure does not capture the cost of transport purchased on the DAA each day.
- Some DAA facilities (such as the EGP) have high demand, so number of trades is not an indicator of the level competition in each auction.

## A.6 Churn rates on the gas supply hubs

### What is this figure?

This figure shows the volume of trade in a market relative to the size of the market for the underlying asset.

### How is it calculated?

Amount of gas traded is divided by the total gas flow in the pipeline at that location.

### Limitations and interpretation

Note that our definition of churn rate differs from the standard definition used for financial products.

# A.7 Bid-offer spreads on the gas supply hubs

### What is this figure?

This figure shows the difference between the highest bids (buy) and lowest offers (sell) price of unmatched gas commodity/service products on-screen on Wallumbilla and Moomba hubs.

### How is it calculated?

Time weighted average of offers and bids in both Wallumbilla and Moomba Hubs is calculated quarterly, taken as a ratio of available orders over daily trading windows.

This figure shows the spread figure (the difference between the sum of time-weighted offer prices and the sum of the time-weighted bid prices, divided by the sum of time-weighted bid prices) on a quarterly basis for the Moomba to Adelaide Pipeline (MAP) trading location.

$TWAP(Bid) = \sum_j B_j * T_j / \sum_j T_j$

$TWAP(Offer) = \sum_j O_j * T_j / \sum_j T_j$

Where:

$T_j$ = time weighting of quote j.

The figure is calculated over each quarter as

$Bid\text{-}Offer\ Liquidity\ Spread = (\sum_j TWAP(Offer) - \sum_j TWAP(Bid)) / \sum_j TWAP(Bid)$

A lower spread amount (i.e. the closer the figure is to zero) indicates a higher level of liquidity.

### Limitations and interpretation

- Bid-offer spreads only take into account on-screen trade, not off-screen trades, therefore the spread may only be indication of liquidity of small purchases.
- Moomba hub's liquidity by most other figures lag behind the Wallumbilla hub, therefore bid offer spread needs to be looked at with other figures to determine level of liquidity.
- Ratios are used to remove differences resulting from changes to trading window timeframes. As such, the figure represents a ratio of differences relative to the time weighted average bid price, as opposed to a dollar value for each quarter.

# A.8 HHI of net-trade (sell-side)

### What is this figure?

This figure shows market concentration in downstream spot markets using the Herfindahl–Hirschman Index (HHI) based on participants' shares of total offers.

Higher HHI values indicate greater market concentration, while lower values indicate a market where offers are more evenly distributed across participants.

### How is it calculated?

1. Each participant's total volume of offers is calculated for each downstream spot market in each year of the reporting period.

2. Each participant's market share of total offers is calculated by dividing that participant's total offers by the total volume of offers submitted by all participants in the same market and year.
3. The Herfindahl–Hirschman Index (HHI) is calculated for each market and year by summing the squared market shares of all participants in that market.

The HHI ranges from 0 to 10,000, with higher values indicating greater market concentration and lower values indicating a more competitive market structure.

# A.9 HHI of net-trade (buy-side)

### What is this figure?

This figure shows market concentration in facilitated markets using the Herfindahl–Hirschman Index (HHI) based on participants' shares of total bids.

Higher HHI values indicate greater market concentration, while lower values indicate a market where bids are more evenly distributed across participants.

### How is it calculated?

1. Each participant's total volume of offers is calculated for each downstream spot market in each year of the reporting period.
2. Each participant's market share of total offers is calculated by dividing that participant's total offers by the total volume of offers submitted by all participants in the same market and year.
3. The Herfindahl–Hirschman Index (HHI) is calculated for each market and year by summing the squared market shares of all participants in that market.

The HHI ranges from 0 to 10,000, with higher values indicating greater market concentration and lower values indicating a more competitive market structure.

# B Pipeline behaviour and compliance

## B.1 Proportion of services with substantially similar to standard vs non-standard terms and conditions

### What is this figure?

This figure shows the proportion of pipeline services procured by shippers on terms 'substantially the same as' the pipeline's standing terms and conditions.

### How is it calculated?

Data is aggregated across the analysed pipelines over the reporting period.

### Limitations and interpretation

Only a subset of non-price terms and conditions are reported by service providers as part of the actual prices payable information for the analysed pipelines. It is possible that other non-price terms and conditions that are not included in the actual prices payable information may better reveal points of variation.

## B.2 Average service duration by service start date

### What is this figure?

This figure shows the mean and median duration of services offered by service providers to shippers under the existing gas transportation contracts.

### How is it calculated?

Data is aggregated and averaged across the analysed pipelines over the period 2009-2025 (inclusive).

### Limitations and interpretation

Only services in effect as of December 2023 were included in the actual prices payable information and so this analysis is not conclusive for the service duration between 2009 and 2022.

## B.3 Depreciation vs capital expenditure (CY2024 and FY2024-25)

### What is this figure?

This figure shows the total asset value of the analysed pipelines' assets under the Depreciated Book Value Method (DBVM) for non-scheme pipelines and the Regulated Asset Base (RAB) for scheme pipelines compared to capital expenditure and depreciation.

### How is it calculated?

The total asset value (DBVM and RAB) of the analysed pipelines excludes 'other non-depreciable pipeline assets and shared assets.

## B.4 Composition of asset base into categories (CY2024 and FY2024-25)

### What is this figure?

This figure shows the composition of total capital expenditure of the reported pipelines' assets by major categories such as 'pipelines', 'compressors', 'other non-depreciable pipeline assets', 'other assets' (e.g., shared pipeline assets) and 'other' (e.g., city gates, supply regulators and valve stations, metering, odorant plants, SCADA etc.).

### How is it calculated?

The reported total operating expenses for the analysed pipelines (excluding depreciation) is aggregated on a year-on-year basis and categorised by expense type.

## B.5 Operating expenses (excluding depreciation) (CY2024 and FY2024-25)

### What is this figure?

This figure shows the composition of total operating expenses for the pipelines incurred in providing pipeline services by major categories (excluding depreciation) such as 'repairs and maintenance', 'wages', 'shared expenses', etc.

### How is it calculated?

The reported total operating expenses for the analysed pipelines (excluding depreciation) is aggregated on a year-on-year basis and categorised by expense type.

# C Approach to participant groupings

We classified individual participants into groups to avoid the disclosure of commercially sensitive information. The groups typically are:

- exporters and producers
- GPG gentailers (gas retailers with gas-powered generation assets)
- traders
- industrials
- retailers.

Broadly, the 5 groups represent participants with the greatest similarity in operations and possible incentives. However, trends at the group level are not always consistent between participants within that group. For example, producers with access to export facilities may exhibit different strategies to those that only supply domestic markets. Where possible and relevant, we describe diversity within each group without reporting specific data or information that would allow precise analysis or recognition of individual participant activities or outcomes.

For analysis of the downstream spot markets, only producers are currently included in analysis because the three LNG exporters are not active in the downstream spot markets.