

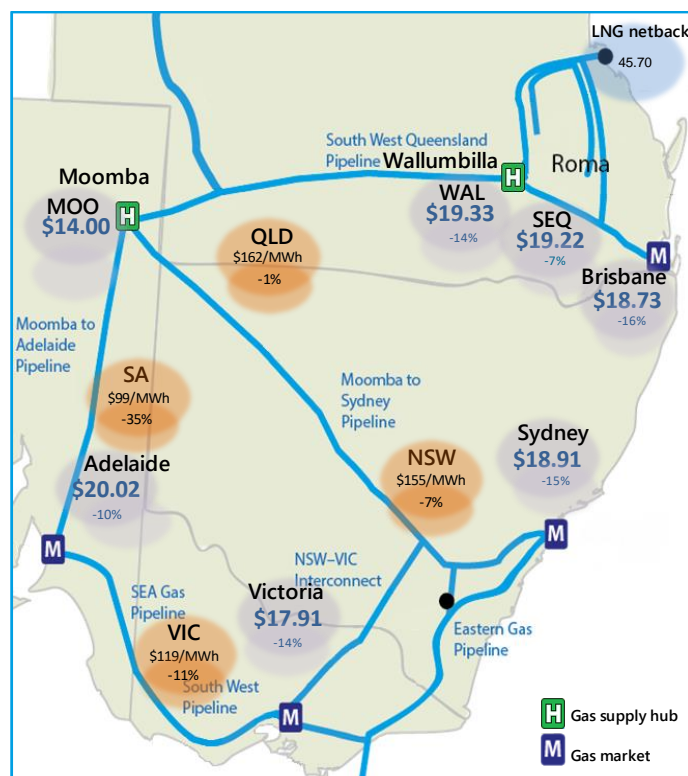
16 – 22 October 2022

Weekly Summary

Downstream wholesale gas market prices (marked M on the map below) decreased in all four markets (percentage change from previous week shown on map) following a significant increase in prices in the previous week. Prices dropped significantly from an average of \$22.87/GJ on 16 October to an average of \$14.30/GJ by the end of the week. In comparison to the previous week, Victorian and Adelaide demand dropped by 14% and 10% respectively.

At the Wallumbilla upstream supply hub (marked H), the average price increased at the WAL trading point and more significantly at the SEQ trading point. The map also includes equivalent National Electricity Market (NEM) prices.

Map: Gas Market Prices, LNG netback price (\$/GJ)*, NEM prices (\$/MWh)



Note: The LNG netback price is the 14 October 2022 assessment for the front month (November) forward LNG netback price assessed: <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/lng-netback-price-series>

The prices on the map for SEQ, WAL and MOO reflect only trades day ahead, to highlight price differentials between market and arbitrage opportunities.

Trading in the Wallumbilla gas supply hub was concentrated around longer-term deliveries for products at WAL (404.5 TJ) this week (see section 6). These included a short delivery

period in October (34.5 TJ), November deliveries (100 TJ of shorter-period strip products¹ and a 30 TJ monthly delivery), a 112 TJ monthly delivery across February, an 8 TJ short term delivery in March, and 60 TJ deliveries across June and across July. There was also a 7 TJ monthly trade (October) at Wilton (Sydney), while trading at SEQ consisted of 27 TJ of short-term trades and 20 TJ for delivery in mid-November.

Gas powered generation decreased in South Australia, Victoria and New South Wales but increased significantly in Queensland compared to the previous week. The level of generation was flat in Tasmania. LNG export pipeline flows were lower this week, decreasing to 3664 TJ/day on average (see more detailed map and table at figure 5.1).

Long term statistics and explanatory material

The AER has published an [explanatory note](#) to assist with interpreting the data presented in its weekly gas market reports. The AER also publish a range of [longer term statistics](#) on the performance of the gas sector including gas prices, production, pipeline flows and consumer demand.

Market overview

Figure 1 sets out the average daily prices (\$/GJ) for the current week, and demand levels, compared to historical averages. Regions shown include the Victorian Declared Wholesale Market (or Victorian Gas Market - VGM) and for the Sydney (SYD), Adelaide (ADL) and Brisbane (BRI) Short Term Trading Market hubs (STTM).

Figure 1: Average daily prices and demand – all markets (\$/GJ, TJ)²

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
16 Oct - 22 Oct 2022	17.91	417	18.91	264	20.02	51	18.73	112
% change from previous week	-14	-14	-15	-2	-10	-11	-16	8
22-23 financial YTD	23.38	764	25.68	301	26.01	67	24.81	93
% change from previous financial YTD	144	2	144	11	139	-1	144	-2

Figure 2 sets out price and demand information for the voluntary Wallumbilla, South East Queensland and Moomba Gas Supply Hubs (GSH).

¹ Daily products chained together across multiple delivery days.

² Average daily quantities are displayed for each region. The weighted average daily imbalance price applies for Victoria.

Figure 2: Average prices and total quantity – Gas Supply Hubs (\$/GJ, TJ)³

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
16 Oct - 22 Oct 2022	14.00	12	19.22	47	19.33	684
% change from previous week	-	-	-7	-43	-14	-1
22-23 financial YTD	29.06	1054	25.53	1001	24.55	11637
% change from previous financial YTD	254	346	141	-42	139	103

Figure 3 illustrates the daily prices in each gas market, as defined in figures 1 and 2.

Figure 3: Daily gas market prices (\$/GJ)

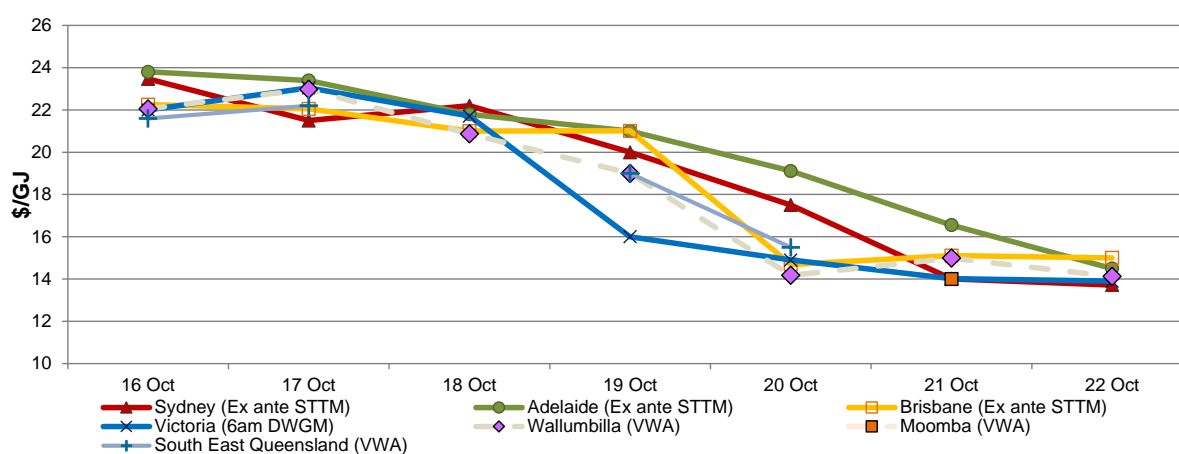


Figure 4 compares average ancillary market payments (for the VGM) and balancing gas service payments (STTM) against historical averages.

Figure 4: Average daily ancillary payments (\$000)

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
16 Oct - 22 Oct 2022	-	36.24	10.95	0.58
% change from previous week	-	83	-8	-91
22-23 financial YTD		34.69	12.24	1.51
% change from previous financial YTD		30	172	89

* Ancillary payments reflect the compensation costs for any additional injections offered at a price higher than the market price. Note: only positive ancillary payments, reflecting system constraints will be shown here.

More detailed analysis on the VGM is provided in section 1.

³ The prices shown for the GSH in Moomba, South East Queensland and Wallumbilla are volume weighted average (VWA) prices for all products traded across the period. The total quantity contributing to the weighted price is displayed for these GSH. Reported values for Moomba are the aggregate of trades on the Moomba to Adelaide Pipeline (MAP) and the Moomba to Sydney Pipeline (MSP). Historic trades for RBP and SWQP are grouped under WAL, (including in-pipe trades on the RBP).

Figure 5 shows the quantity and volume weighted prices of products traded in the Gas Supply Hub locations at Moomba, South East Queensland and Wallumbilla.

Figure 5: Gas Supply Hub products total traded for the current week (\$/GJ, TJ)⁴

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	14.00	7.0	17.41	7.0	15.44	165.0
Daily	-	-	20.11	35.0	19.94	233.0
Day ahead	14.00	5.0	15.50	5.0	17.11	59.0
Weekly	-	-	-	-	21.06	24.5
Monthly	-	-	-	-	22.24	202.0
Total	14.00	12.0	19.22	47.0	19.33	683.5

* includes non-netted (off-market) trades.

Figure 6 shows Bulletin Board pipeline flows for the three LNG export pipeline facilities and the production output at related production facilities in the Roma region.

Figure 6: Average daily LNG export pipeline and production flows (TJ)*

	APLNG	GLNG	QCLNG	Total
Production	1523	934	1552	4009
Export Pipeline Flows	1628	1140	896	3664
% change from previous week (pipeline flows)	1	18	-34	-7
22-23 financial YTD flows	1335	1000	1251	3586

* Production quantities represent flows from facilities operated by APLNG, Santos and QGC. Gas from individual facilities may also supply the domestic market, other LNG projects or storage facilities.

⁴ Further information about new product trading locations in Victoria (Culcairn) and Sydney (Wilton) is available in section 6. Gas Supply Hub).

Detailed market analysis

Table 1: Key events this week

Date	Event	Market Affected	Description
17 Oct – 13 Nov	QCLNG ½ - 1 LNG train outage	East Coast (Supply)	Creates greater available domestic supply if production maintained.
21 Oct	High MOS payment	Sydney	MOS payment exceeded \$50,000 – decrease MOS on MSP and EGP.

QCLNG ½ - 1 LNG train outage commenced 17 October

QCLNG's ½ - 1 LNG train commenced on 17 October and is scheduled for completion on 13 November.⁵ The outage creates greater available domestic supply if forecasted production levels continue. Pipeline flows on the Wallumbilla Gas Pipeline connected to the LNG facility at Curtis Island dropped to average 896 TJ per day this week, in comparison to a daily average of 1353 TJ per day in the previous week.

High MOS service payment in Sydney market

In the Sydney STTM on 21 October, decrease MOS allocations of 17.5 TJ on the Eastern Gas Pipeline and 14.4 TJ on the Moomba to Sydney Pipeline resulted in a high MOS service payment of \$126,135. The decrease MOS allocations were driven by retailer over forecasted demand at the Sydney hub.

⁵ Australian Energy Market Operator. [LNG Maintenance Notice – QCLNG update](#). October 2022.

1. Victorian Declared Wholesale Market

In the Victorian gas market, gas is priced five times daily at 6 am, 10 am, 2 pm, 6 pm and 10 pm. The imbalance weighted price on a gas day tends towards the 6 am price⁶ which is the schedule at which most gas is traded.

The main drivers⁷ of price are demand forecasts and bids to inject or withdraw gas from the market. Figures 1.1 to 1.4 below show the daily prices, demand forecasts⁸, and injection/withdrawal bids for each of the five pricing schedules. Figure 1.5 provides information on which system injection points were used to deliver gas, in turn indicating the location and relative quantity of gas injection bids cleared through the market.

Ancillary payments for gas injected above the market price are shown above in figure 4.

Figure 1.1: Prices by schedule (\$/GJ)

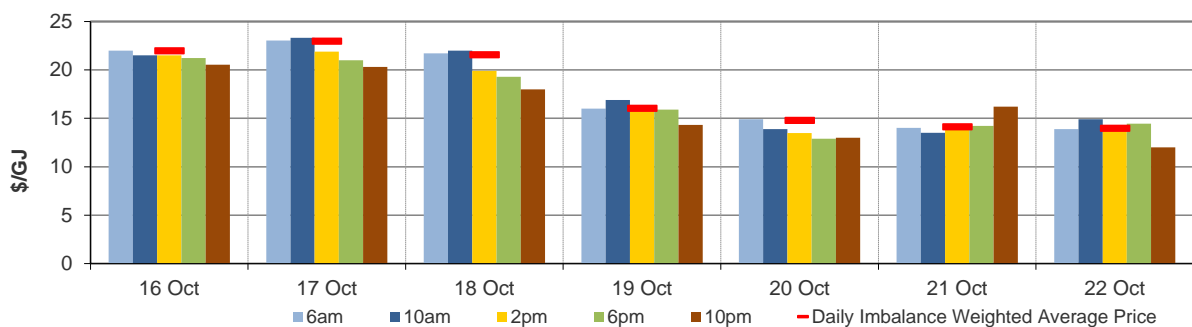
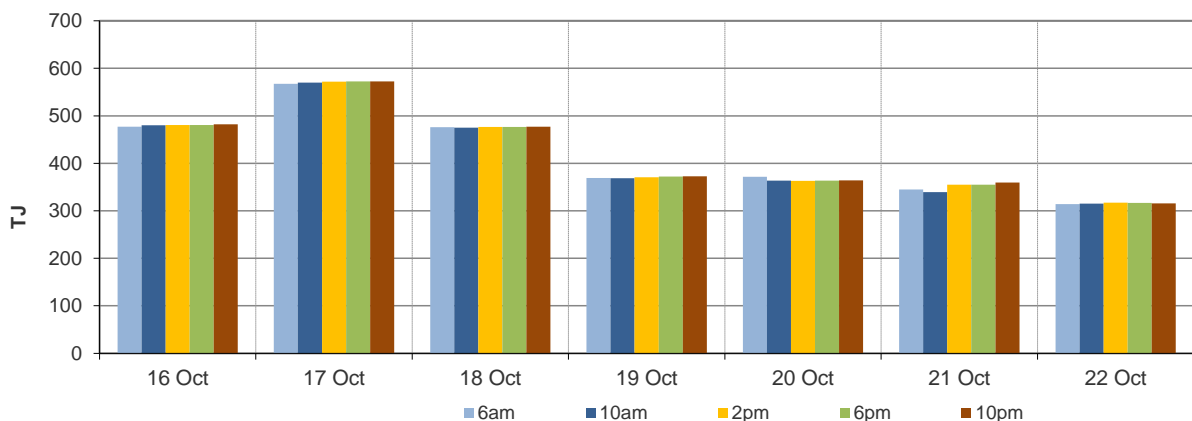


Figure 1.2: Demand forecasts (TJ)



⁶ Prices for subsequent schedules are applied only to the differences in scheduled quantities (imbalances) to calculate the weighted price. The 6 am price applies to the entire scheduled quantity in the initial schedule.

⁷ The price might also be affected by transmission or production (contractual) constraints limiting how much gas can be delivered from a locale or System Injection Point (SIP) from time to time.

⁸ These are market participants' aggregate demand forecasts adjusted for any override as applied by AEMO from time to time. These forecasts must be scheduled and cannot respond to price like withdrawal bids.

Figure 1.3: Injection bids by price bands (TJ)

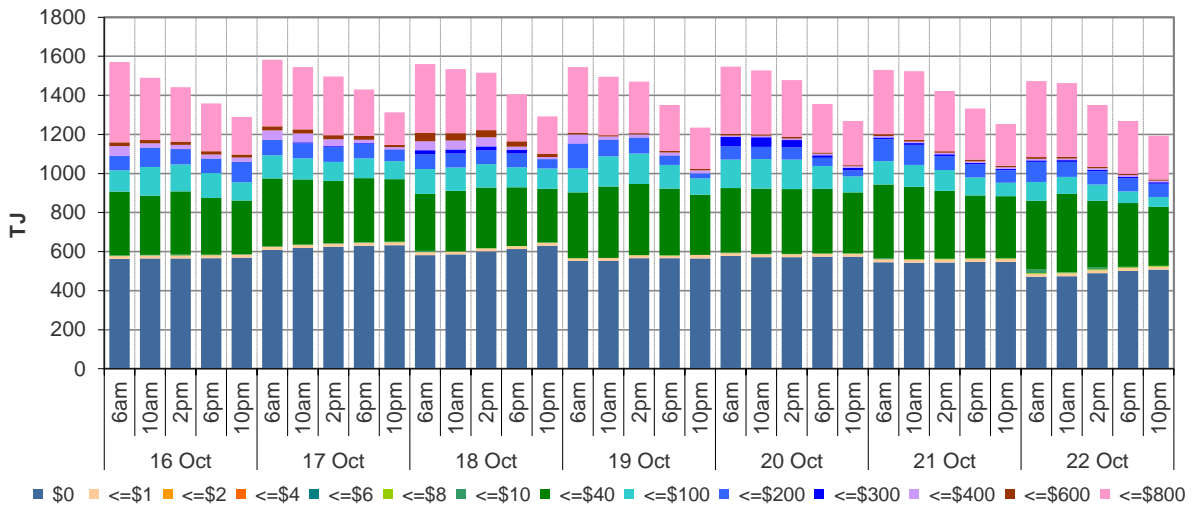


Figure 1.4: Withdrawal bids by price bands (TJ)

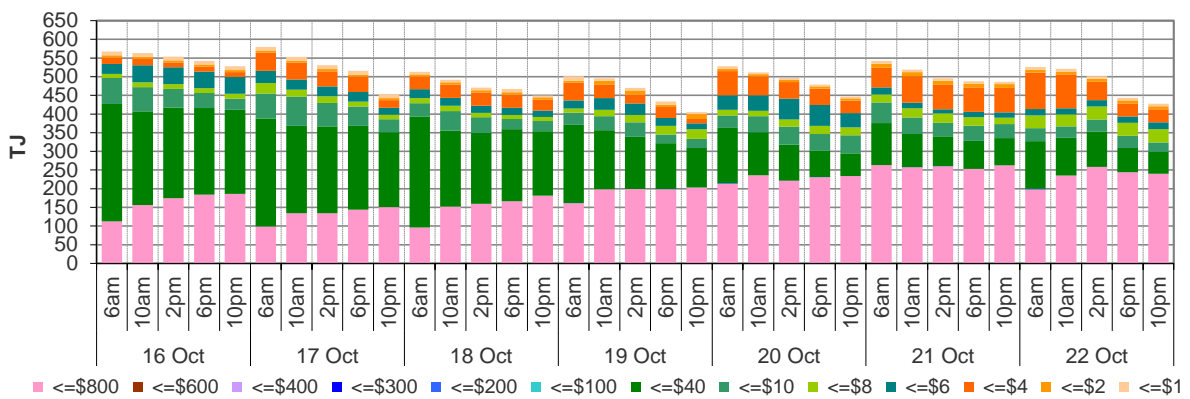
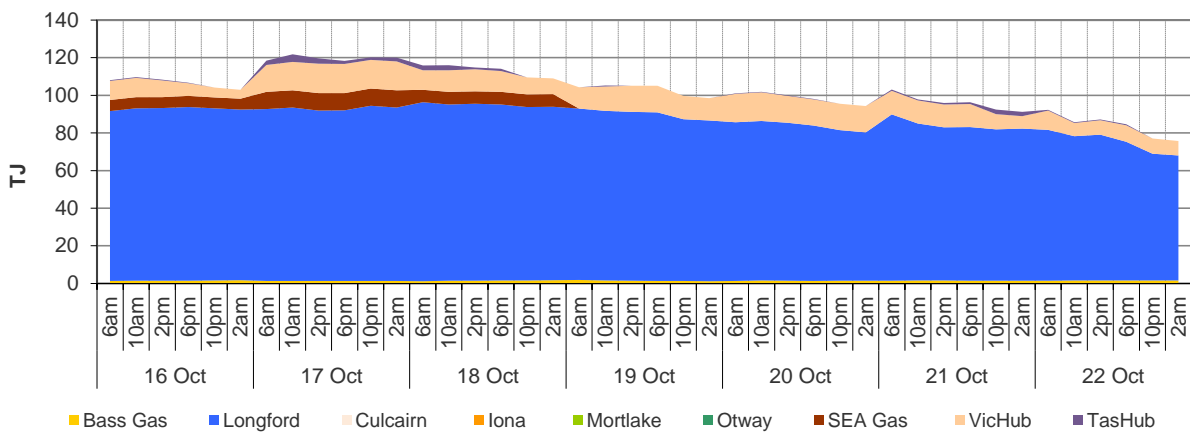


Figure 1.5: Metered Injections by System Injection Point (TJ)



Note that in figure 1.5, the last 8-hour schedule from 10 pm has been separated into two 4-hour blocks to provide a consistent comparison with earlier scheduled injection volumes.

2. Sydney STTM

In each STTM hub, a daily gas price is calculated before the gas day (the ex ante price) and after the gas day (the ex post price). The main drivers of these prices are participant demand forecasts and offers to inject or bids to withdraw gas traded at the hub.⁹ Divergences in ex ante and ex post prices for a gas day may occur due to differences in scheduled (forecast) and allocated (actual) quantities. Pipeline acronyms are defined in the [user guide](#).

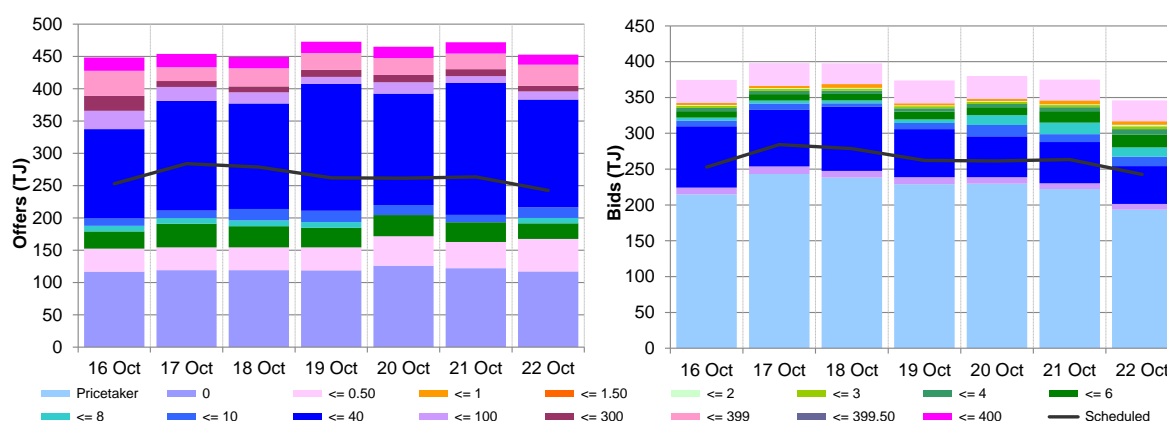
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.¹⁰

Figures 2.1 and 2.2 show daily prices, demand, offers and bids. Figures 2.3 and 2.4 show gas scheduled and allocated on pipelines to supply the hub, indicating the location and relative quantity of gas offers across pipelines and also the amount of MOS allocated for each pipeline.

Figure 2.1: SYD STTM daily ex ante and ex post prices and quantities

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	23.47	21.50	22.20	20.00	17.50	14.01	13.72
Ex ante quantity (TJ)	253	284	279	262	261	263	243
Ex post price (\$/GJ)	22.00	21.00	22.20	18.60	16.95	12.75	12.85
Ex post quantity (TJ)	236	273	281	247	254	240	234

Figure 2.2: SYD daily hub offers and bids in price bands (\$/GJ)



⁹ The main driver of the amount of gas scheduled on a gas day is the 'price-taker' bid, which is forecast hub demand that cannot respond to price and which must be delivered, regardless of the price.

¹⁰ MOS service payments involve a payment for a MOS increase service when the actual quantity delivered exceeds final gas nominations for delivery to a hub, and a payment for a MOS decrease service when the actual quantity delivered is less than final nominations. As well as a MOS 'service' payment, as shown in figure 2.4, MOS providers are paid for or pay for the quantity of MOS sold into the market or bought from the market (MOS 'commodity' payments/charges).

Figure 2.3: SYD net scheduled and allocated gas hub supply (excluding MOS)

Figure 2.3 shows the daily scheduled and allocated quantities sorted by facility for Sydney this week. For a more detailed description of this figure, please refer to the user guide.

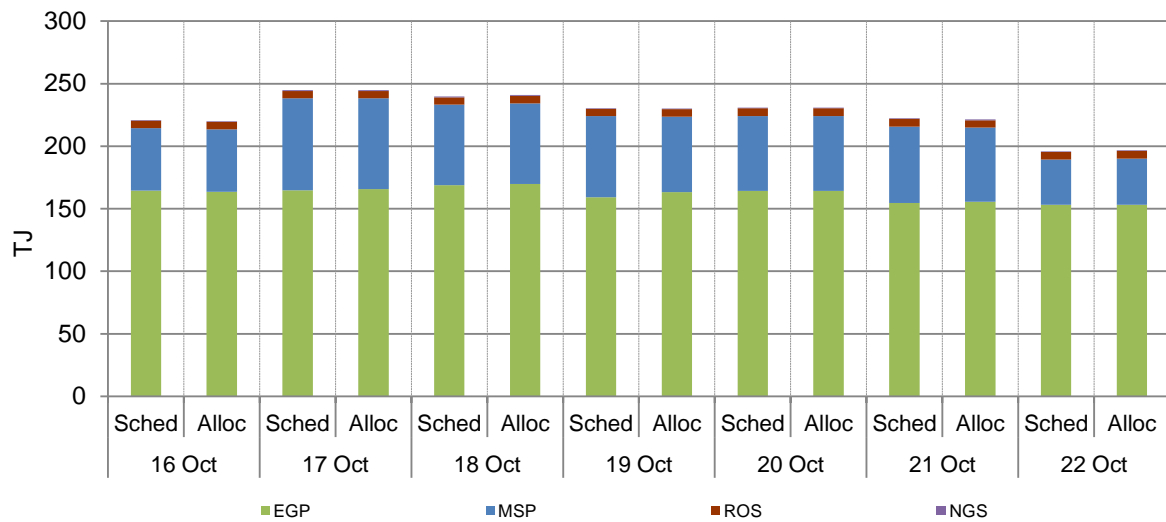
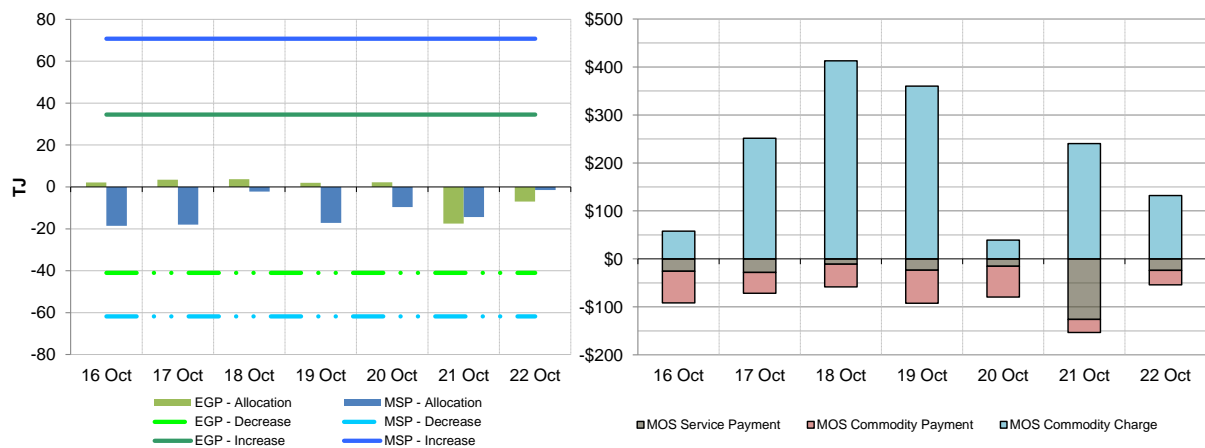


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$000)¹¹



¹¹ The commodity cost of MOS illustrated on the right of the figure represents the commodity quantity at the D+2 ex ante price. Commodity payments and charges for a given gas day relate to quantities traded two days earlier. That is, the commodity cost for services provided on Sunday will appear in the chart for Tuesday, when the D+2 price is set. In contrast, service payments are shown alongside the day they occurred.

3. Adelaide STTM

The Adelaide STTM hub functions in the same way as the Sydney STTM hub. The same data that was presented for the Sydney hub is presented for the Adelaide hub in the figures below.

Figure 3.1: ADL STTM daily ex ante and ex post prices and quantities

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	23.80	23.39	21.79	21.00	19.11	16.55	14.50
Ex ante quantity (TJ)	47	52	48	52	57	56	45
Ex post price (\$/GJ)	23.80	22.61	19.10	19.10	19.06	16.30	13.22
Ex post quantity (TJ)	47	50	41	46	55	52	40

Figure 3.2: ADL daily hub offers and bids in price bands (\$/GJ)

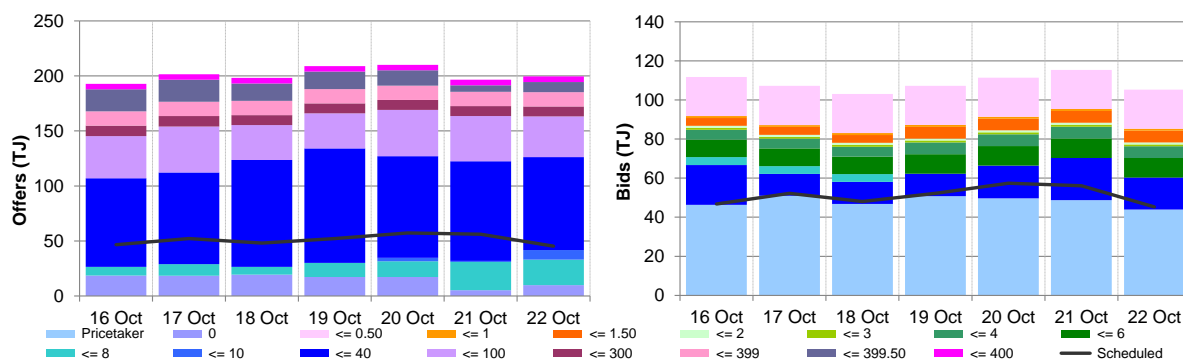
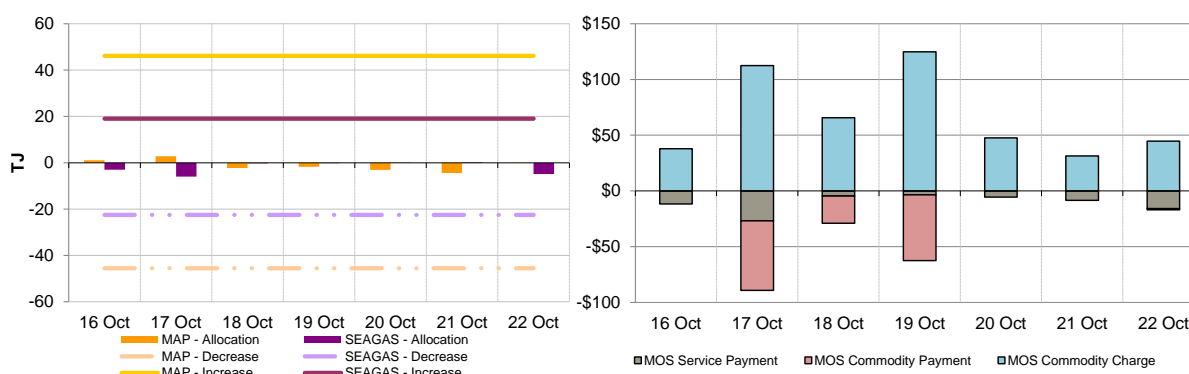


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)



Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



4. Brisbane STTM

The Brisbane STTM hub functions in the same way as the Sydney STTM hub. The same data that was presented for the Sydney hub is presented for the Brisbane hub in the figures below.

Figure 4.1: BRI STTM daily ex ante and ex post prices and quantities

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	22.25	22.05	21.00	21.01	14.69	15.11	15.00
Ex ante quantity (TJ)	96	107	118	118	118	114	112
Ex post price (\$/GJ)	22.31	22.05	20.75	21.61	19.00	18.13	15.11
Ex post quantity (TJ)	97	106	116	125	130	134	113

Figure 4.2: BRI daily hub offers bids in price bands (\$/GJ)

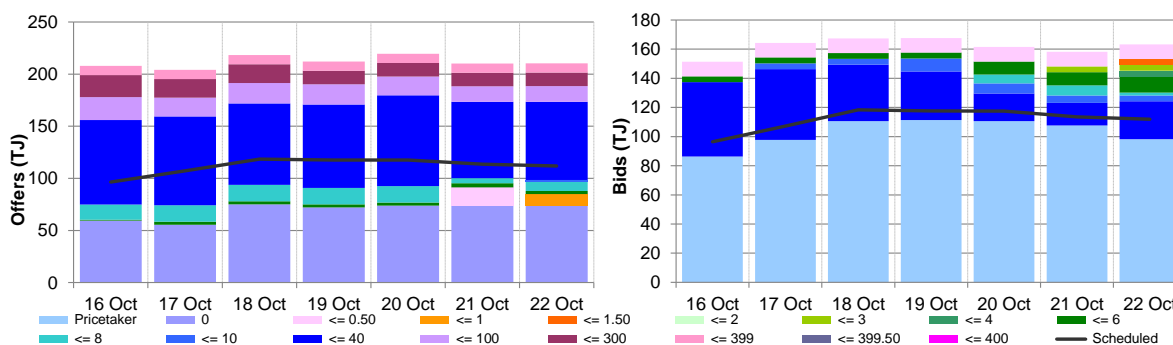


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

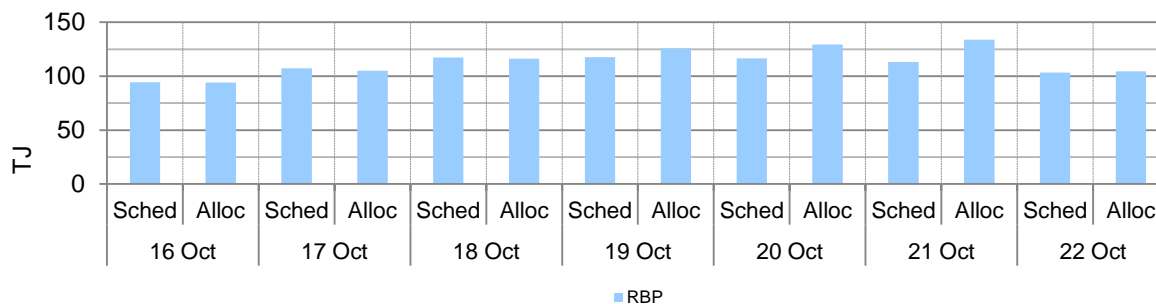
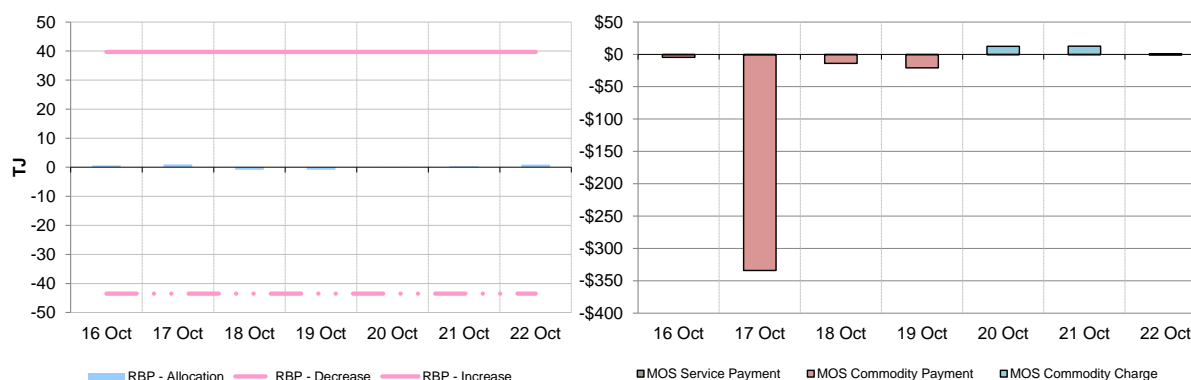


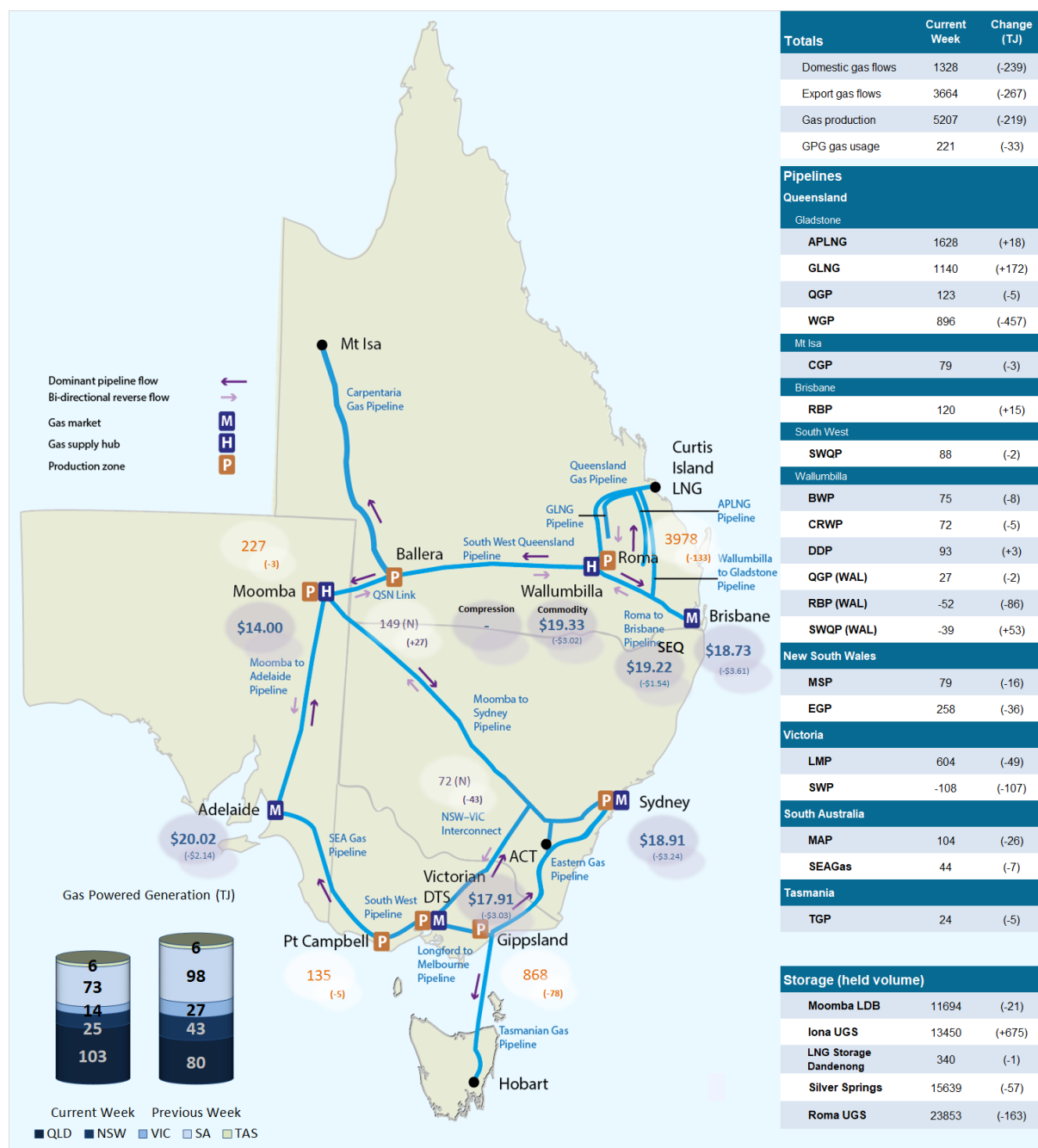
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week¹² from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices¹³ are provided for gas markets and gas supply hubs. Average daily quantities are provided for gas powered generation for each region.

Figure 5.1: Gas market data (\$/GJ, TJ/day); Bulletin Board flows (TJ/day)¹⁴



¹² Domestic gas flows are calculated as the total of: SA = MAP + SEAGAS; VIC = SWP + LMP + (flows towards Victoria on the 'NSW-VIC interconnect'); NSW/ACT = EGP + MSP; TAS = TGP; QLD (Brisbane) = RBP; QLD (Mt Isa) = CGP; and QLD (Gladstone) = QGP.

Export gas flows are calculated as the total of: the APLNG pipeline; the GLNG pipeline; and the Wallumbilla to Gladstone pipeline.

GPG volumes may include gas usage that does not show up on Bulletin Board pipeline flows.

¹³ GSH supply is the average daily volume of gas 'traded', while price is a volume weighted average. Optional hub services (for compression and redirection) are shown separately from commodity trades.

¹⁴ Net flows are shown for Bulletin Board facilities, as outlined in the [user guide](#).

6. Gas Supply Hub

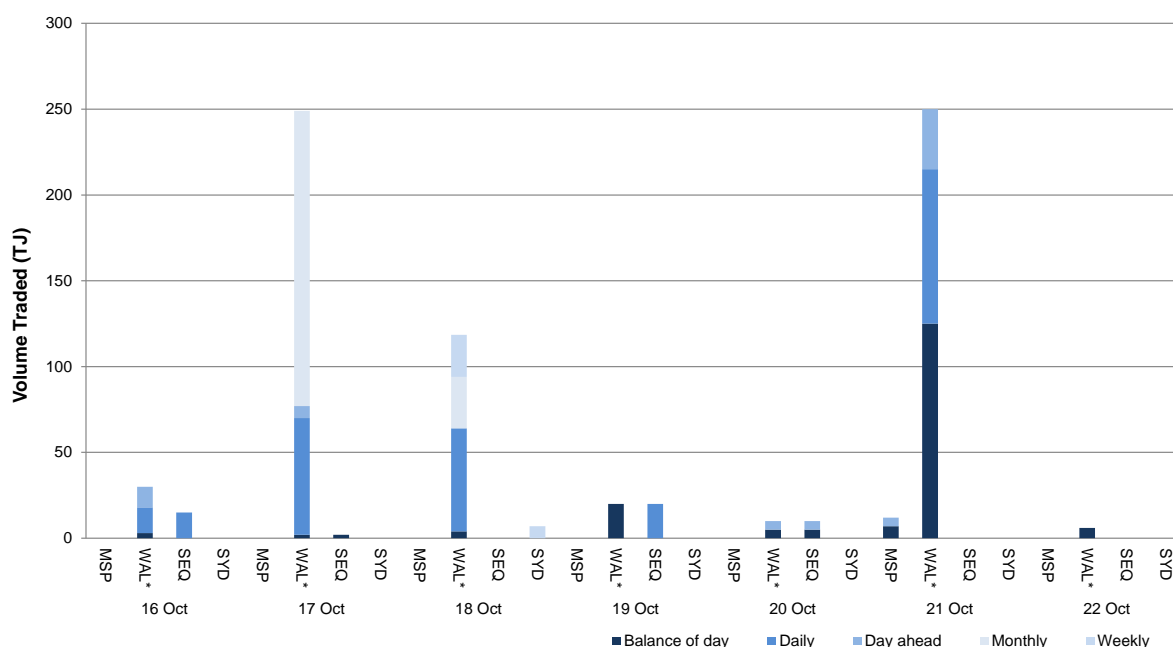
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).¹⁵

The Moomba hub commenced operation from June 2016 to further facilitate trading on the MAP and MSP, with trading between the two hubs on the SWQP via a spread product (representing the price differential between the hubs). From October 2016, the addition of a Wallumbilla Compression Product was introduced to facilitate the supply hub's transition from three different trading locations into one. From March 2017, Wallumbilla transitioned into an optional hub services model, replacing the three trading locations (QGP, SWQP and RBP) with a single product at Wallumbilla (WAL) and an in-pipe RBP trading location at South East Queensland (SEQ). On 28 January 2021, trading locations at Wilton (Sydney) and Culcairn (Victoria) were introduced.

This week there were 67 trades for 749.5 TJ of gas at a volume weighted price of \$19.25/GJ. These consisted of 58 trades at WAL (683.5 TJ at \$19.33/GJ), 6 trades at SEQ (47 TJ at \$19.22/GJ), 2 trades at MSP (12 TJ at \$14.00/GJ) and 1 trade at SYD (7 TJ at \$21.00/GJ). There were 2 spread trades this week between SEQ and WAL.

Figure 6.1 shows the quantity of gas traded by product type for each trading day on pipeline trading locations in the Wallumbilla and Moomba Gas Supply Hubs.¹⁶

Figure 6.1: GSH traded quantities



¹⁵ Additional information on trading locations and available products is detailed in the [user guide](#).

¹⁶ Non-netted (off-market) trades, allowing the selection of specific delivery point at a trading location, are included with other Wallumbilla trades (WAL*). Non-netted trades at Moomba are shown separately (MOO) from MAP and MSP.

7. Day Ahead Auction

The DAA is a centralised auction platform providing the release of contracted but un-nominated transportation capacity on designated pipelines and compression facilities across eastern Australia. The auction enables transportation facility users to procure residual capacity on a day-ahead basis after nomination cut-off, with a zero reserve price and compressor fuel provided.

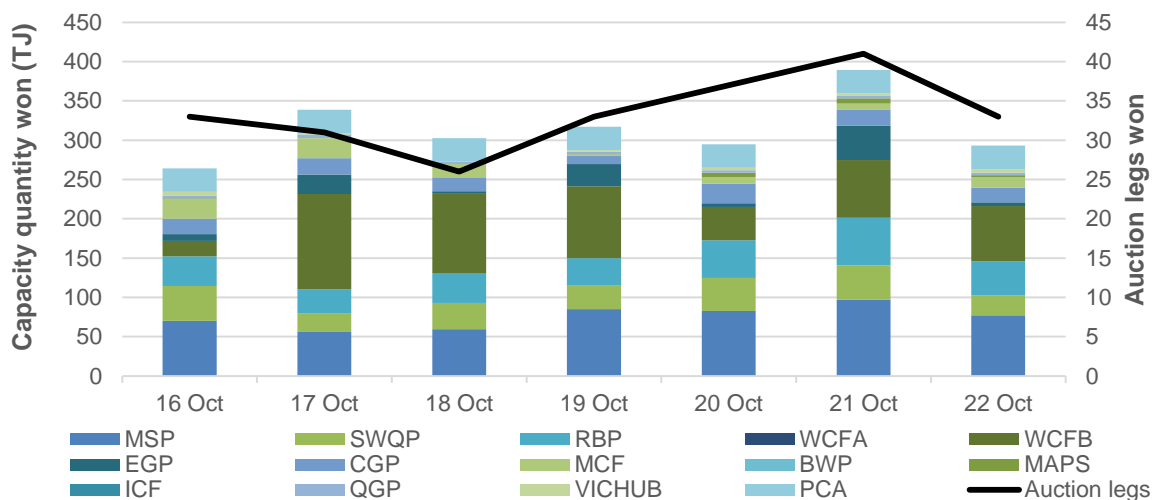
Participants may bid in to the DAA in order to procure the following services:

- park services;
- forward haul pipeline services with products offered in both directions on bi-directional pipelines;
- interruptible backhaul services; and
- stand-alone compression services.

This week, 17 participants took part in the DAA, winning 2200 TJ of capacity across 11 different facilities.

Figure 7.1 shows the quantities of gas and auction legs won through the DAA by gas date, with gas deliverable up to the level of capacity procured. Auction legs reflect each individual facility transaction.¹⁷

Figure 7.1: DAA traded quantities (TJ) and auction legs won



Australian Energy Regulator
December 2022

¹⁷ Additional information is available in the [user guide](#) to the AER gas weekly report.