

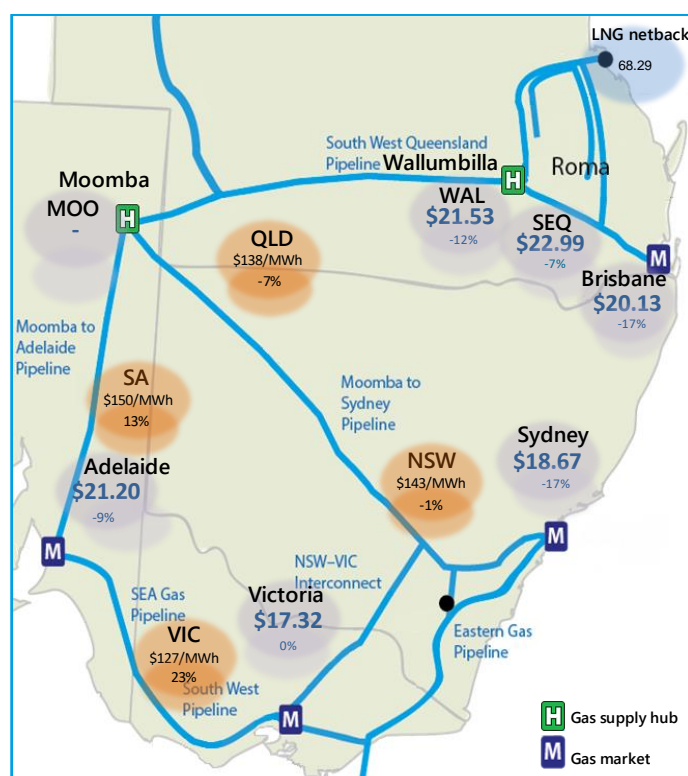
25 September – 1 October 2022

Weekly Summary

Downstream wholesale gas market prices (marked M on the map below) decreased in three markets but remained flat in Victoria (percentage change from previous week shown on map).

At the Wallumbilla upstream supply hub (marked H), the average price decreased at both the WAL and SEQ trading points. 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 15 September 2022 assessment for the front month (October) 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 SEQ (159 TJ) and WAL (238 TJ) this week, with 186 TJ of shorter-term deliveries at WAL (see section 6).¹ Longer term strip product² trades at WAL included 188 TJ

² Daily products chained together across multiple delivery days.

for delivery across October and 50 TJ for delivery across November, with 159 TJ traded at SEQ for delivery across October.

Gas powered generation decreased in all states apart from Victoria and Tasmania, compared to the previous week. LNG export pipeline flows were lower this week, decreasing to nearly 3754 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)³

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
25 Sep - 01 Oct 2022	17.32	581	18.67	289	21.20	63	20.13	106
% change from previous week	0	-1	-17	0	-9	-1	-17	20
22-23 financial YTD	24.32	832	26.96	310	27.23	70	25.91	91
% change from previous financial YTD	141	4	142	12	137	0	144	-4

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

Figure 2: Average prices and total quantity – Gas Supply Hubs (\$/GJ, TJ)⁴

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
25 Sep - 01 Oct 2022	-	-	22.99	161	21.53	424
% change from previous week	-	-	-7	1689	-12	-29

³ Average daily quantities are displayed for each region. The weighted average daily imbalance price applies for Victoria.

⁴ 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).

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
22-23 financial YTD	29.23	1042	26.75	818	25.32	9731
% change from previous financial YTD	60	20730	147	-48	140	95

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

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

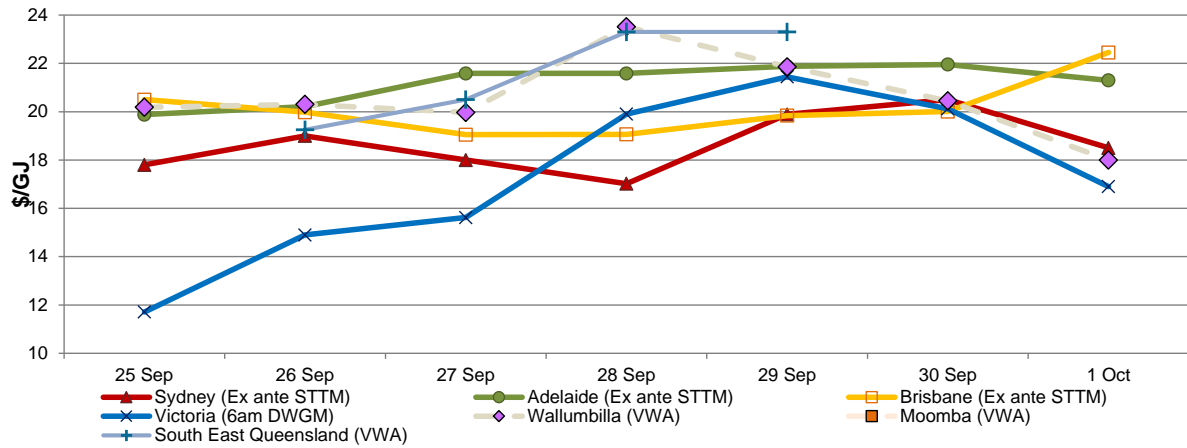


Figure 4 compares average ancillary market payments (for the VGM) and balancing gas service payments (STTM) against historical averages.

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

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
25 Sep - 01 Oct 2022	-	28.19	11.48	0.67
% change from previous week	-	19	22	-41
22-23 financial YTD		36.28	12.29	1.23
% change from previous financial YTD		28	158	49

* 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.

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)⁵

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	-	-	-	-	19.56	50.0
Daily	-	-	23.04	159.0	22.05	325.0
Day ahead	-	-	19.25	2.0	20.10	49.0
Weekly	-	-	-	-	-	-
Monthly	-	-	-	-	-	-
Total	-	-	22.99	161.0	21.53	424.0

* 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	Production	1394	924	1696
Export Pipeline Flows	Export Pipeline Flows	1362	967	1425
% change from previous week (pipeline flows)	% change from previous week (pipeline flows)	-16	17	4
21-22 financial YTD flows	22-23 financial YTD flows	1284	994	1262

* 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.

⁵ 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
25 Sep	Pipeline Flow Direction Constraint on the Moomba to Sydney Pipeline (MSP)	Sydney	There was a flow direction constraint price in the Sydney STTM on the MSP pipeline of \$2.20/GJ. This facilitated an additional 1 TJ of as available backhaul being scheduled.
30 Sep	End of Threat to System Security	Victoria	Reduction in Iona supply capacity and the risk of supply shortfalls due to Iona inventory depletion this winter.
30 Sep	End of Gas Supply Guarantee	NSW, VIC, SA & TAS	Projected shortfall event in NSW, VIC, SA & TAS.

Sydney STTM pipeline flow direction constraint

On 25 September, an irregular pricing outcome occurred because of a pipeline flow direction constraint (PFDC) on the Moomba to Sydney Pipeline (MSP), allowing for economic scheduling of gas.⁶

The market ex ante price of \$17.80/GJ was set by a partially cleared offer on the Eastern Gas Pipeline (EGP).⁷ There were 76 TJ of bids on the MSP to purchase gas priced above the ex ante price of \$17.80/GJ but some of these bids could not be scheduled through the normal ex ante price schedule as it would have caused scheduled pipeline flows on the MSP to be negative. This led to the 29th instance of PFDC pricing in the Sydney STTM.

At the ex ante price of \$17.80/GJ, the MSP has zero net flow scheduled into the distribution system, with 58 TJ of MSP supply offers matching 58 TJ of backhaul. However, additional gas supply on the MSP was still available (at \$19/GJ), allowing more gas to be scheduled economically (1 TJ).

The PFDC price was set at \$2.20/GJ, representing the premium paid by participants backhauling on the MSP to participants supplying gas on the MSP (\$17.80/GJ + \$2.20/GJ represents the cost of the additional supply scheduled at \$20/GJ). All 17 participants who placed scheduled offers and bids for gas via the MSP were impacted, paying an additional \$2.20/GJ.

⁶ Refer to [AER Gas Report 26 December 2021 – 1 January 2022](#) Box 1 for further information.

⁷ Additional EGP supply could not be scheduled to meet additional MSP backhaul demand because gas cannot physically be delivered to the MSP from the Sydney hub (distribution network).

East Coast Gas Supply Guarantee event and Threat to System Security

On 30 September, the East Coast Gas Supply Guarantee and the Threat to System Security ended. The threat was identified by AEMO on 11 July 2022 due to low Iona underground gas storage (UGS) inventory and the risk of supply shortfalls.

AEMO announced that they will continue to monitor Iona UGS inventory and the refilling of storage accounts by market participants. Additionally, AEMO has sent information requests to Registered Participants for the Victorian Gas Planning Report that includes the requirement to provide a storage refilling forecast.

AEMO has committed to take the necessary action to support Iona UGS refilling ahead of winter 2023 if the inventory replenishment is not increasing in line with forecasts.

STTM Decrease MOS Allocation⁸

On 25 September in the Sydney market, decrease MOS requirements resulted in MOS payments totalling \$79,601 (figure 2.4). Decrease MOS allocations of 12.17 TJ on the Eastern Gas Pipeline (EGP) and 5.99 TJ on the Moomba to Sydney Pipeline (MSP) were driven by over forecasted demand (12.97 TJ), predominantly from gas retailers and industrial customers.

⁸ MOS is an ancillary service providing balancing gas on a pipeline where there is a difference between scheduled/nominated supply/demand and actual delivered gas quantities. Counteracting MOS occurs when one pipeline facility provides increase MOS services (additional supply to the hub) offsetting another pipeline providing decrease services (parking gas not delivered to the hub).

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 price⁹ which is the schedule at which most gas is traded.

The main drivers¹⁰ 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 forecasts¹¹, 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)

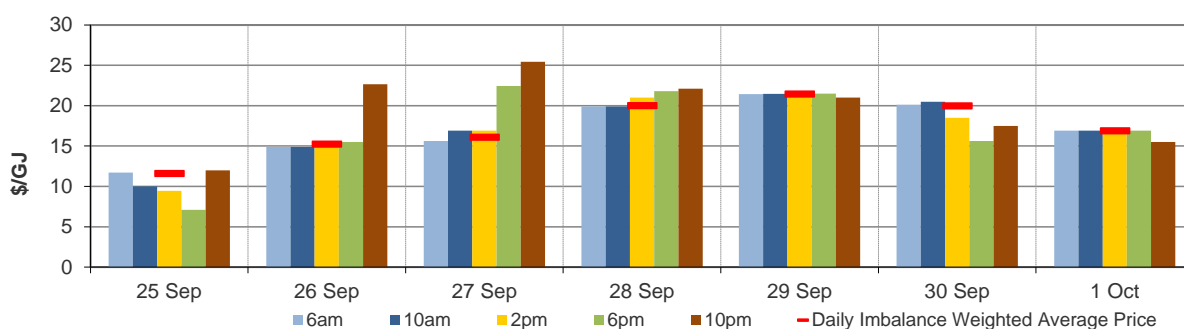
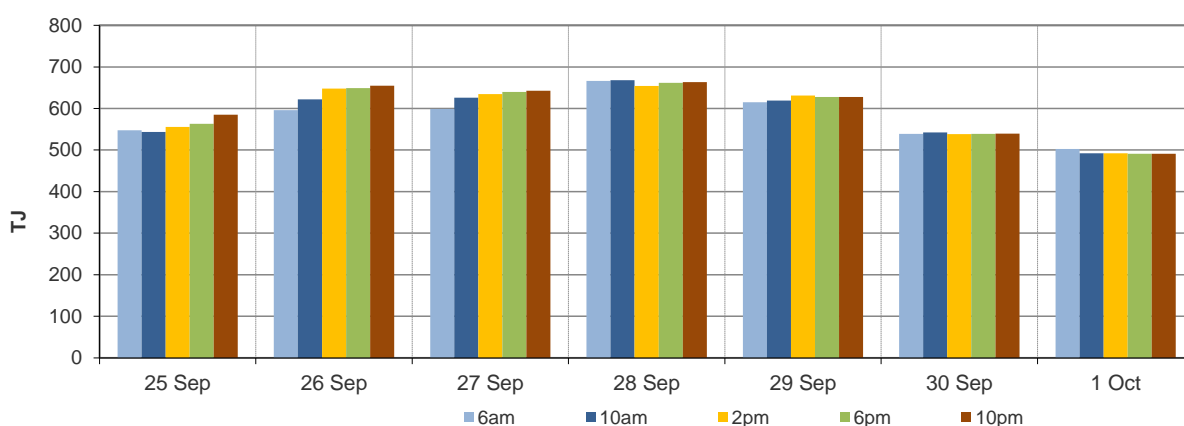


Figure 1.2: Demand forecasts (TJ)



⁹ 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.

¹⁰ 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.

¹¹ 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)

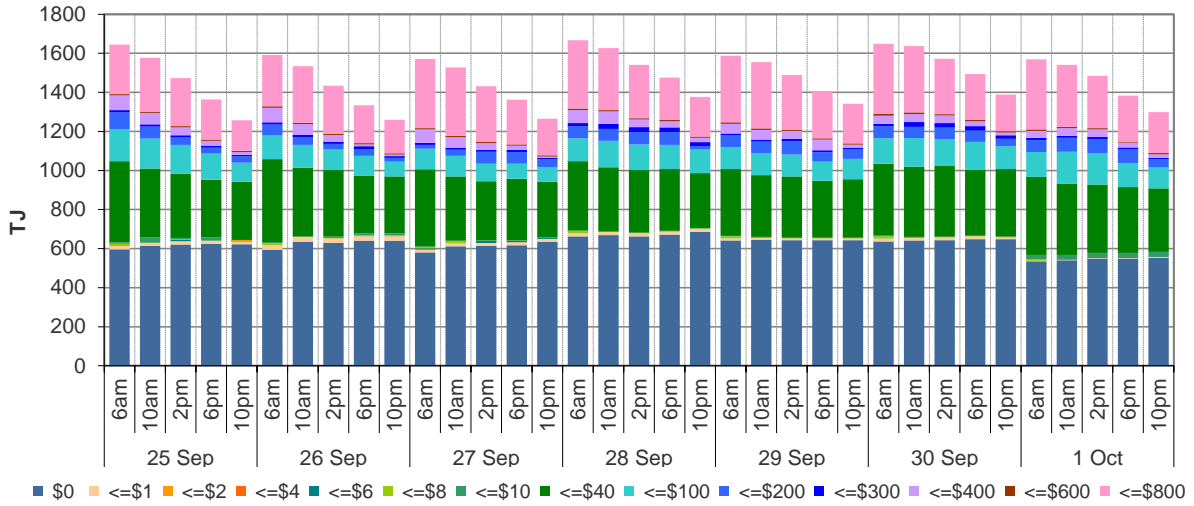


Figure 1.4: Withdrawal bids by price bands (TJ)

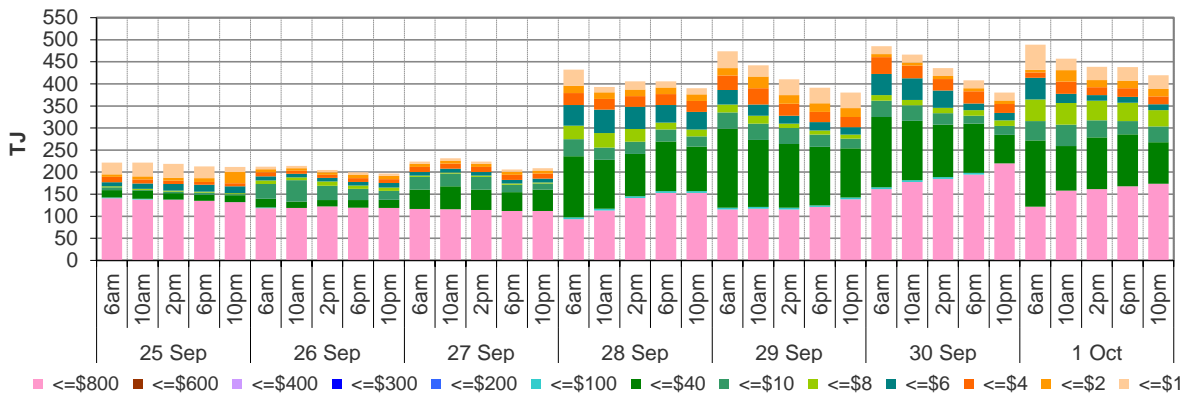
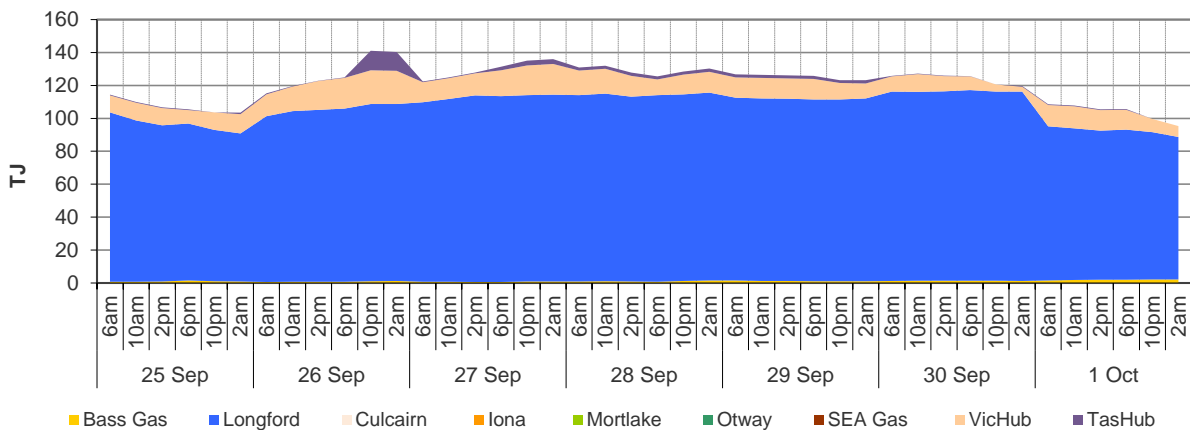


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.¹² 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](#).

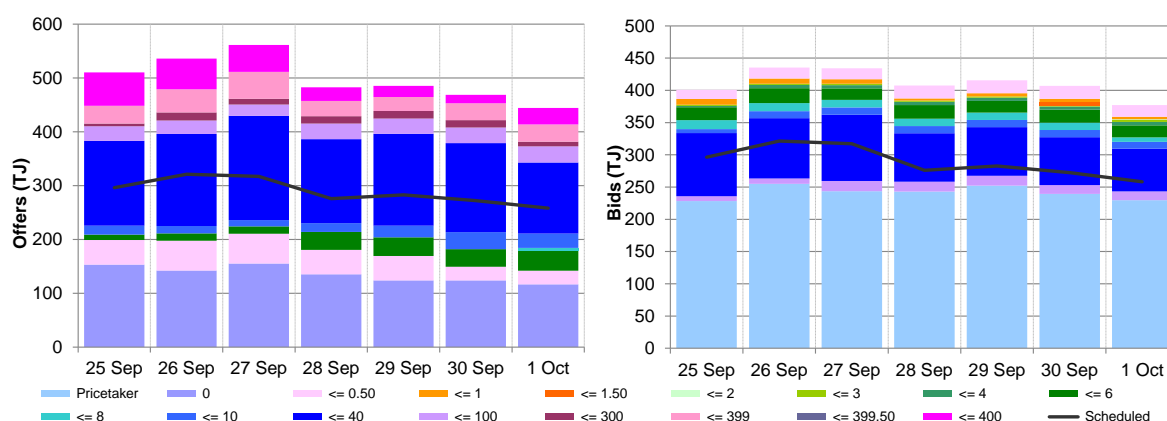
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.¹³

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)	17.80	19.00	18.00	17.02	19.89	20.50	18.50
Ex ante quantity (TJ)	296	321	317	276	283	272	258
Ex post price (\$/GJ)	17.02	18.80	18.00	17.02	20.50	21.01	17.00
Ex post quantity (TJ)	277	316	318	272	299	292	242

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



¹² 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.

¹³ 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.

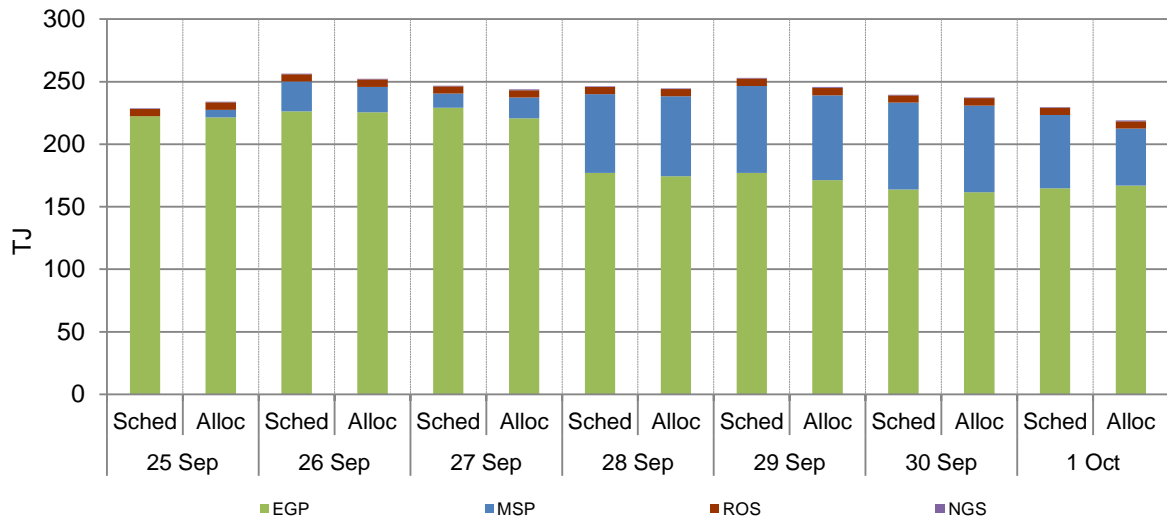
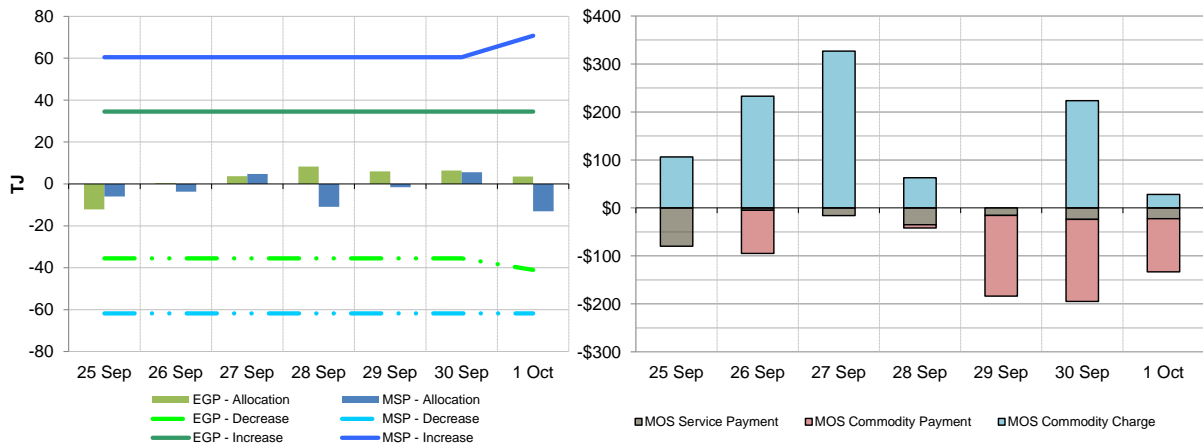


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$000)¹⁴



¹⁴ 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)	19.88	20.21	21.58	21.58	21.88	21.95	21.30
Ex ante quantity (TJ)	59	65	70	68	68	62	46
Ex post price (\$/GJ)	21.21	21.00	21.67	21.99	21.58	21.50	21.00
Ex post quantity (TJ)	65	67	74	71	67	58	44

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

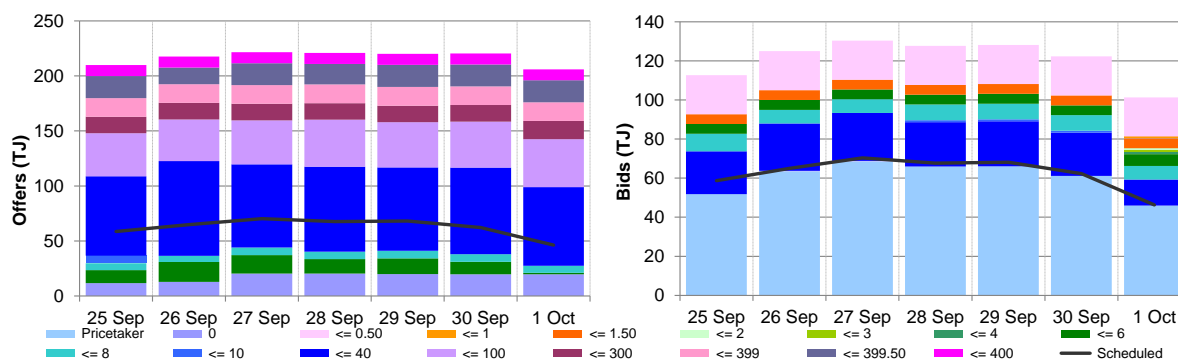


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

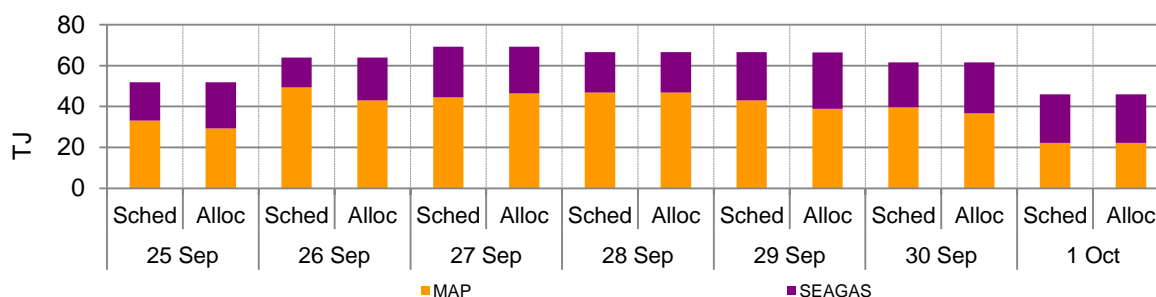
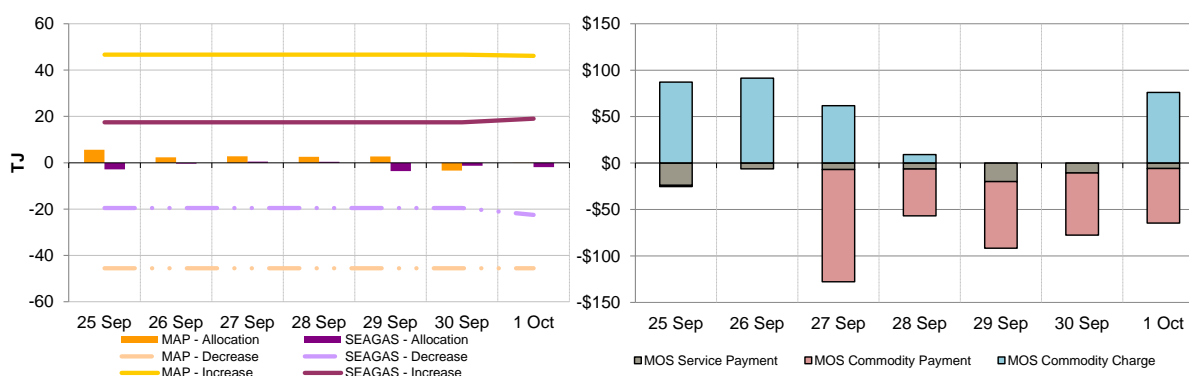


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	20.50	19.98	19.05	19.06	19.84	20.01	22.45
Ex ante quantity (TJ)	95	114	113	110	107	102	98
Ex post price (\$/GJ)	20.35	19.21	20.92	19.06	19.45	19.82	21.49
Ex post quantity (TJ)	93	109	121	109	107	100	95

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

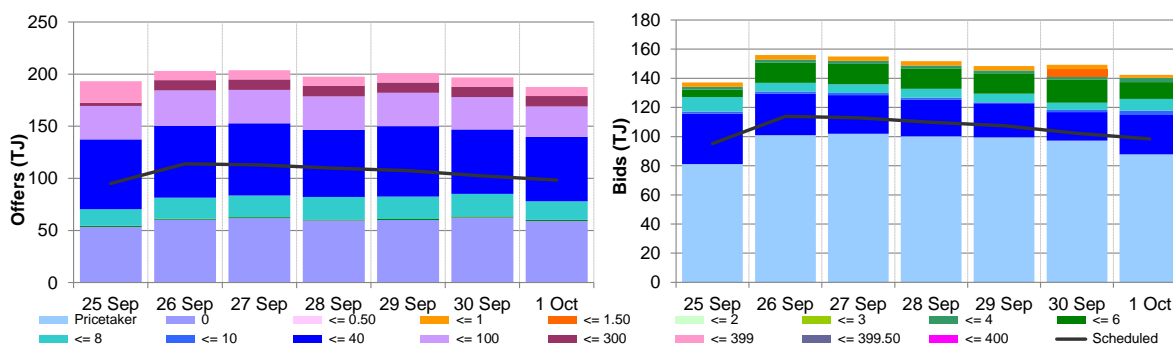


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

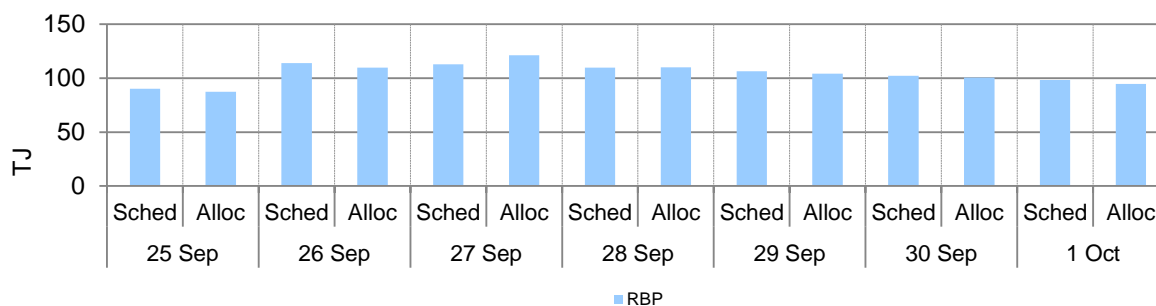
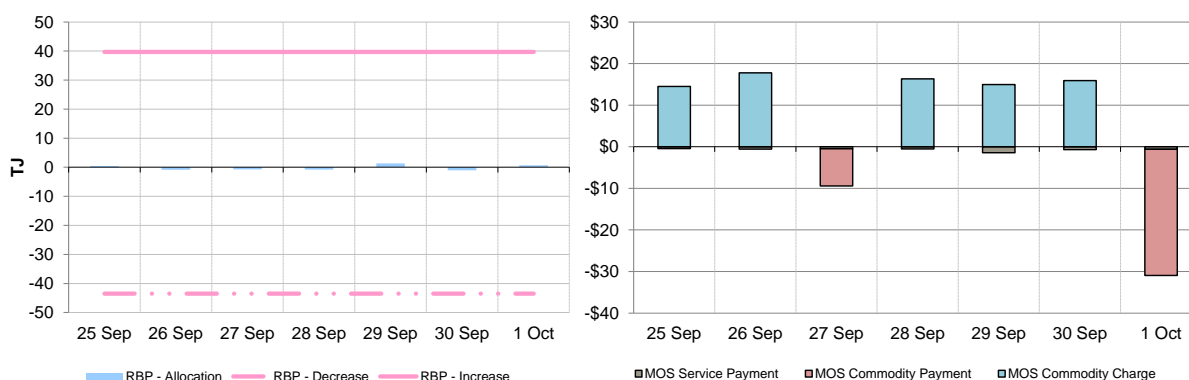


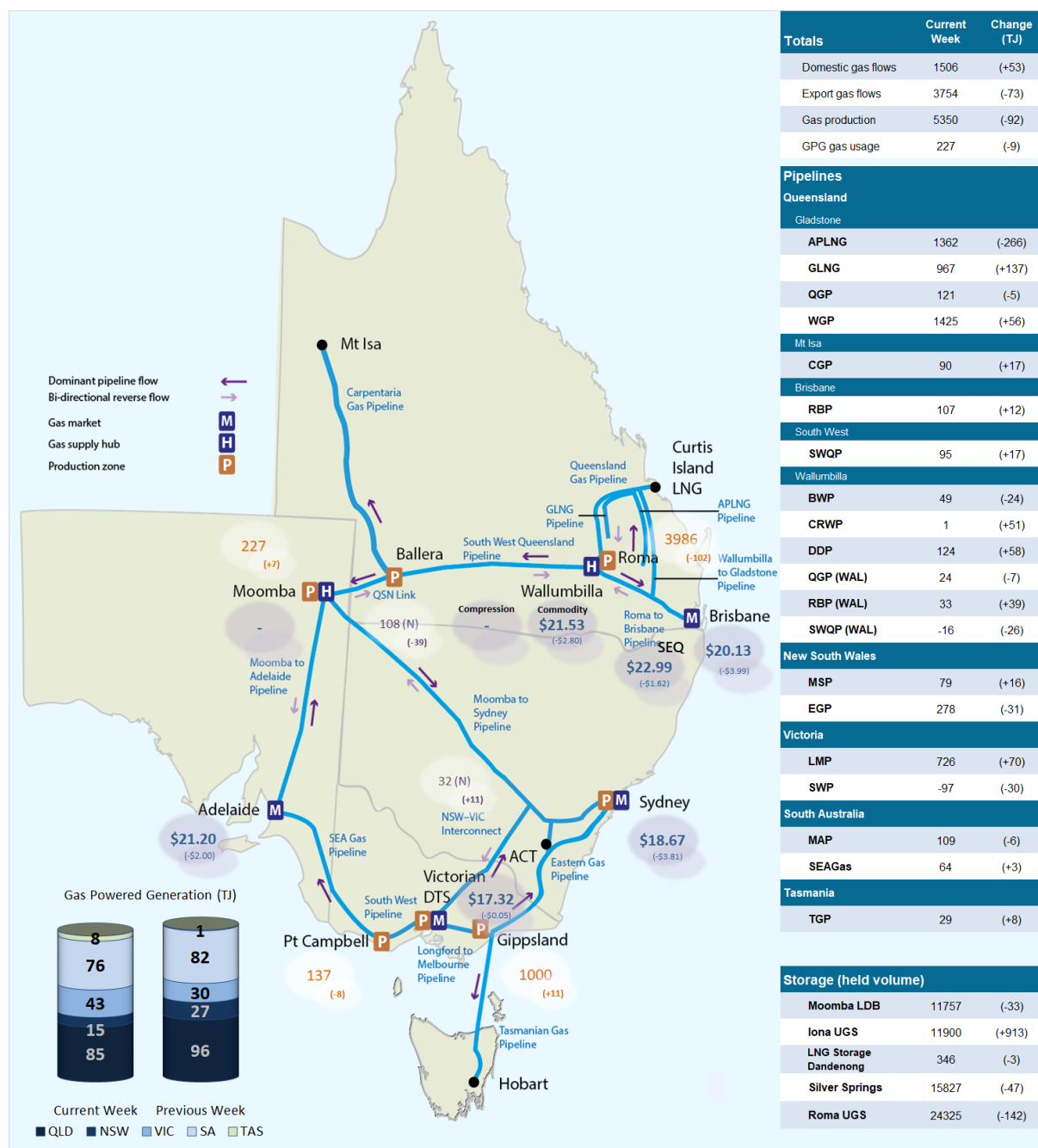
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week¹⁵ from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices¹⁶ 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)¹⁷



¹⁵ 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.

¹⁶ 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.

¹⁷ Net flows are shown for Bulletin Board facilities, as outlined in the [user guide](#).

6. Gas Supply Hub

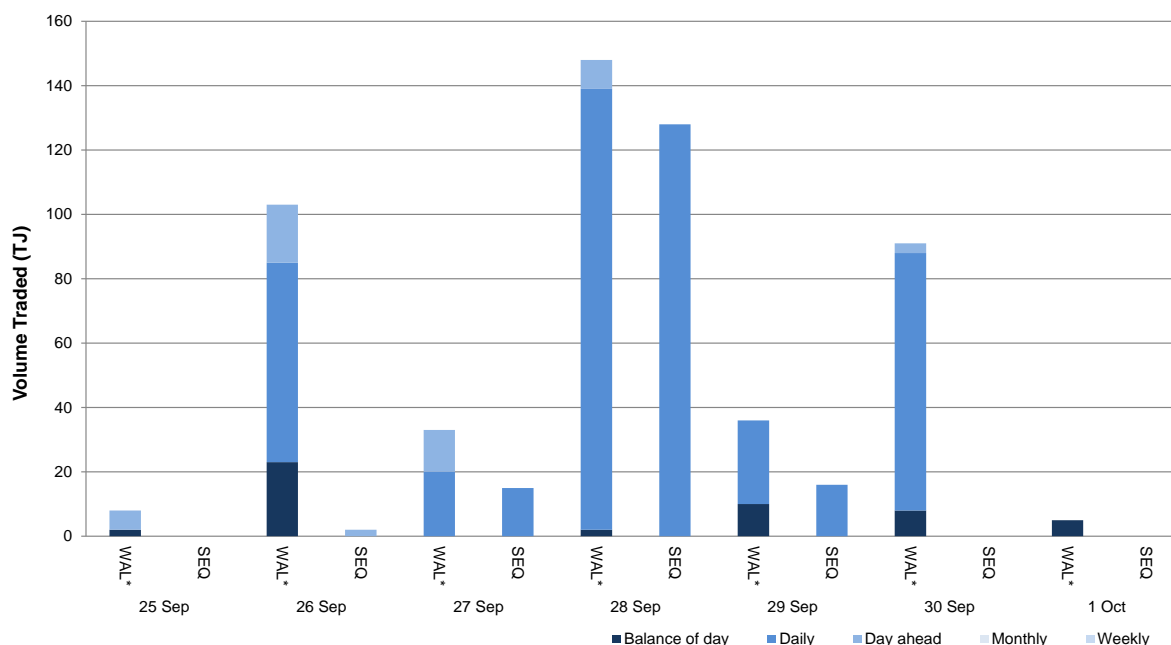
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).¹⁸

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 54 trades for 585 TJ of gas at a volume weighted price of \$21.93/GJ. These consisted of 48 trades at WAL (424 TJ at \$21.53/GJ) and 6 trades at SEQ (161 TJ at \$22.99/GJ). There were no spread products traded this week. 0 between SEQ and WAL and 0 between MSP 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.¹⁹

Figure 6.1: GSH traded quantities



¹⁸ Additional information on trading locations and available products is detailed in the [user guide](#).

¹⁹ 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.

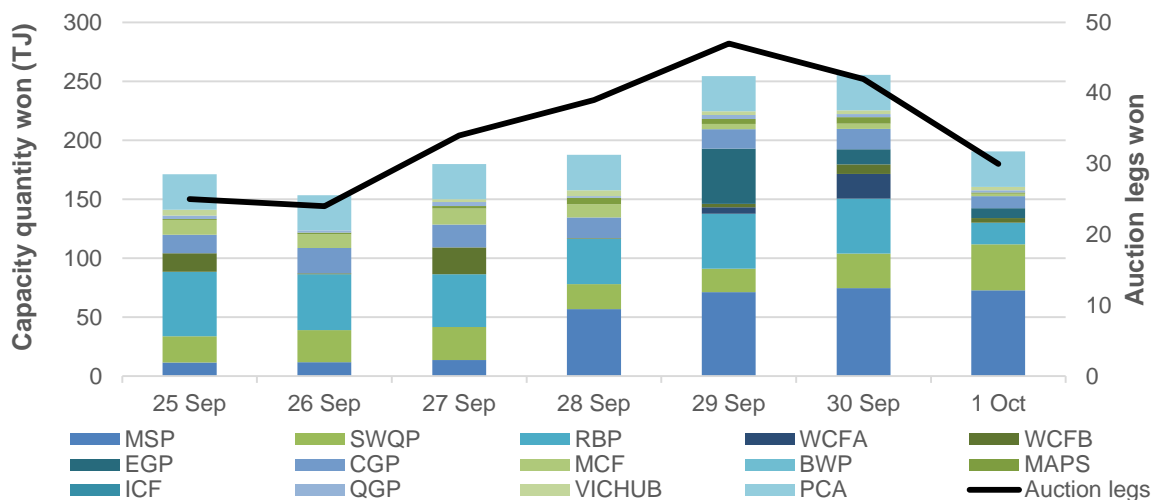
Participants may bid in to the DAA in order to procure the following services:

- 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, 15 participants took part in the DAA, winning 1392 TJ of capacity across 12 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.²⁰

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



Australian Energy Regulator
December 2022

²⁰ Additional information is available in the [user guide](#) to the AER gas weekly report.