Gas Market Report

AUSTRALIAN ENERGY REGULATOR

4 – 10 September 2022

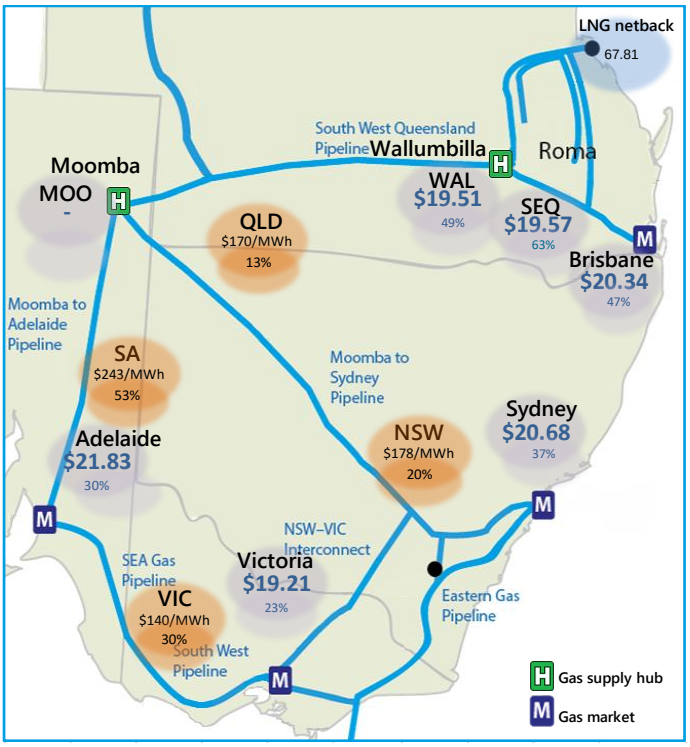
Weekly Summary

Average prices increased above $20/GJ this week. Iona storage levels have started to decrease again after a month of stable storage levels.

Downstream wholesale gas market prices (marked M on the map below) increased significantly in all four markets (percentage change from previous week shown on map).

At the Wallumbilla upstream supply hub (marked H), the average price increased significantly at the WAL and SEQ trading points. The map also includes National Electricity Market (NEM) prices for comparison across gas and electricity markets.

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



Note: The LNG netback price is the 31 August 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 long-term deliveries for products at WAL (1,094 TJ) this week, for delivery over Sep – Oct 2022 and Jan – Mar 2023 (see section 6). Shorter term trades also occurred at WAL (40 TJ) and SEQ (22 TJ).

Mainland gas powered generation decreased from the previous week, most significantly in South Australis and Victoria. This week, LNG export pipeline flows increased above an average of 3,800 TJ per day (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)[1]

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
04 Sep - 10 Sep 2022	19.21	699	20.68	284	21.83	60	20.34	94
% change from previous week	23	-8	37	2	30	-16	47	7
22-23 financial YTD	25.80	893	28.63	317	28.63	72	26.99	89
% change from previous financial YTD	137	5	138	11	131	-1	139	-6

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)[2]

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
04 Sep - 10 Sep 2022	-	-	19.57	22	19.51	1407
% change from previous week	-	-	63	-58	49	178
22-23 financial YTD	28.89	226	28.10	598	25.71	8318
% change from previous financial YTD	58	4420	149	-50	127	147

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

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

[2] 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 3: Daily gas market prices ($/GJ)

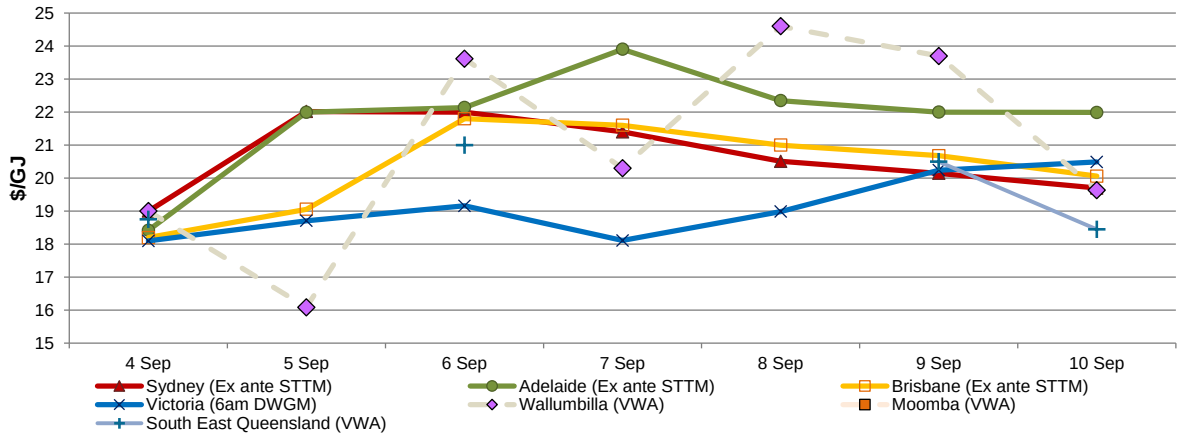


Figure 4 compares average ancillary market payments (for the VGM) and balancing gas service payments (STTM) against historical averages.

Figure 4: Average daily ancillary payments ($000)

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
04 Sep - 10 Sep 2022	-	41.22	33.93	1.07
% change from previous week	-	53	245	16
22-23 financial YTD		38.89	12.44	1.35
% change from previous financial YTD		26	171	81

* 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)[3]

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	-	-	20.09	5.0	19.52	152.3
Daily	-	-	-	-	18.40	1014.0
Day ahead	-	-	19.41	17.0	20.82	86.0
Weekly	-	-	-	-	-	-
Monthly	-	-	-	-	26.00	155.0
Total	**-**	**-**	**19.57**	**22.0**	**19.51**	**1407.3**

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

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

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	922	1656	4101
Export Pipeline Flows	1622	877	1388	3887
% change from previous week (pipeline flows)	53	-16	-9	7
22-23 financial YTD flows	1208	1026	1224	3457

* 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.

Detailed market analysis

Table 1: Key events this week

Date	Event	Market Affected	Description
11 Jul – 30 Sep (or until AEMO removes)	Threat to System Security	Victoria	Reduction in Iona supply capacity and the risk of supply shortfalls due to Iona inventory depletion this winter.
19 Jul – 30 Sep	Gas Supply Guarantee	NSW, VIC, SA & TAS	Projected shortfall event in NSW, VIC, SA & TAS.
5, 7 Sep	High MOS payments	Sydney	MOS service payments exceeded $50,000 – increase MOS on MSP (5th) and counteracting MOS on EGP and MSP (7th).
7, 8 Sep	High MOS payments	Adelaide	MOS service payments exceeded $50,000 – counteracting MOS on MAP and SEAGas.

Threat to System Security in Victoria

The Threat to System Security (TTSS) event on 11 July due to unsustainable storage inventory depletion at Iona continued to be in effect. AEMO has previously issued updates to this TTSS event on 11, 18 July and 2, 10 August.[4]

Based on improved Iona inventory, increased gas supply from Queensland and reduced gas generation demand, AEMO is undertaking a gradual easing of the request to cease purchasing gas from the declared wholesale gas market (DWGM) that are not supported by gas supply into the declared transmission system (DTS). The last change to restrictions occurred on 10 August.

East Coast Gas Supply Guarantee event continues

The Gas Supply Guarantee event continues for NSW, VIC, SA and TAS regions this week.

High MOS service payments in Sydney and Adelaide market

In the Sydney STTM on 5 and 7 September, there were high MOS service payments of $90,396 and $87,849 respectively. On 5 September, under forecast demand by industrials and retailers drove an increase MOS requirement of 25 TJ on the MSP. On 7 September, counteracting MOS was driven by a significant increase MOS requirement on the EGP of 17 TJ and a decrease MOS requirement on the MSP of 9 TJ.

In the Adelaide STTM on 7 and 8 September, there were high MOS service payments of $51,544 and $59,960 respectively. Retail participant under forecasting demand pushed up the net increase requirement in addition to counteracting MOS driving MAP increase allocations (8 and 7 TJ respectively) and SEAGAS decrease allocations (6 and 7 TJ respectively).

[4] See 10 – 16 July weekly, 17 – 23 July weekly, 31 July – 6 August weekly and 7 – 13 August weekly respectively.

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 price[5] which is the schedule at which most gas is traded.

The main drivers[6] 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 forecasts[7], 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)

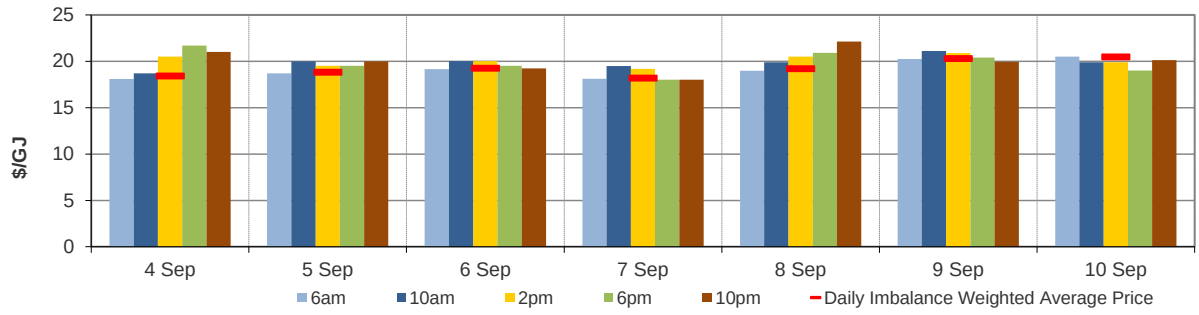
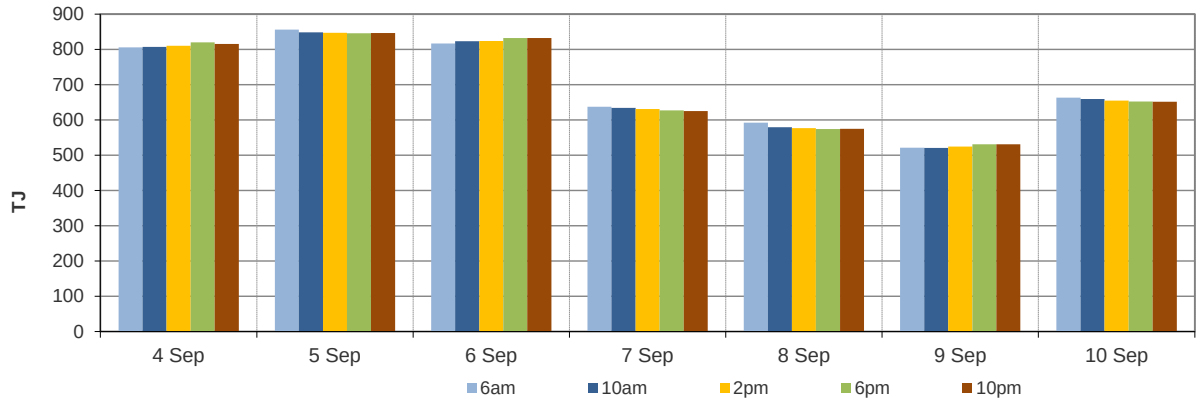


Figure 1.2: Demand forecasts (TJ)



5 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.

6 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.

7 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)

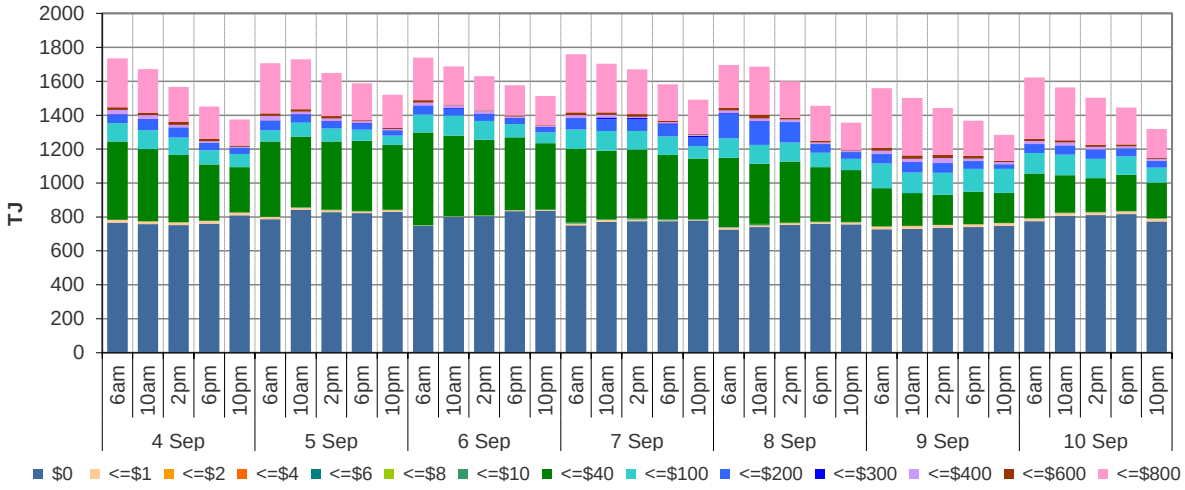


Figure 1.4: Withdrawal bids by price bands (TJ)

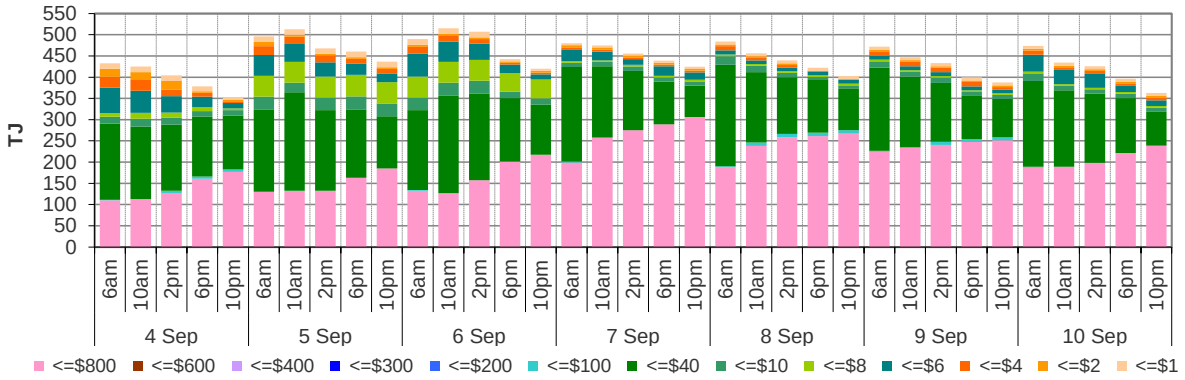
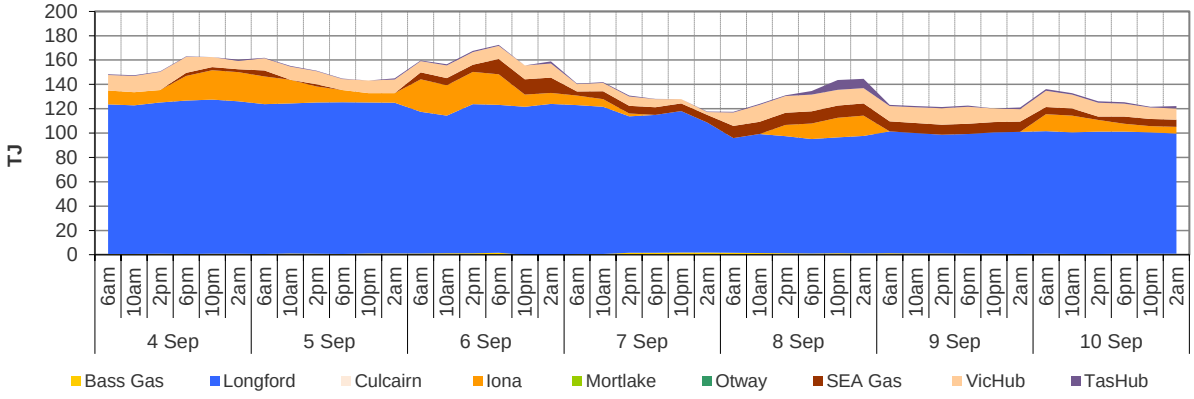


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.[8] 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.

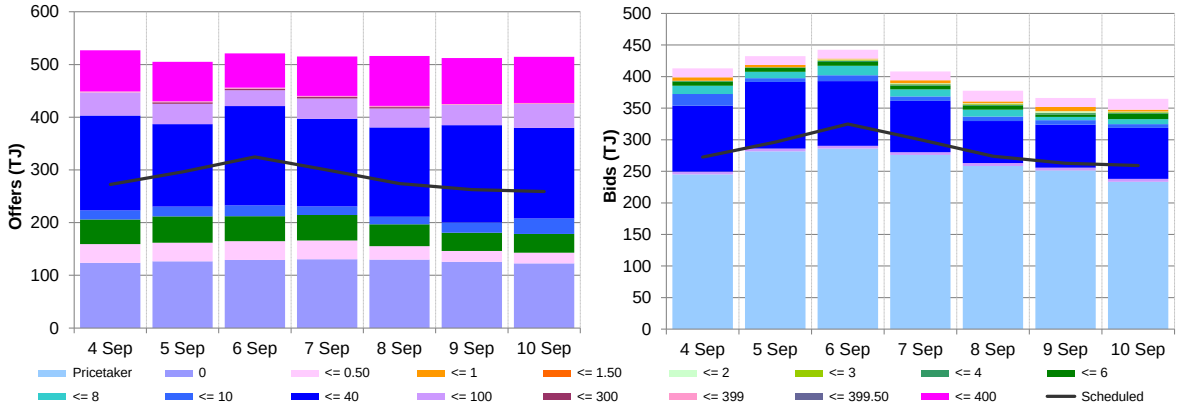
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.[9]

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 ($/GJ)	19.00	22.02	22.00	21.40	20.51	20.15	19.70
Ex ante quantity (TJ)	272	296	325	300	274	263	259
Ex post price ($/GJ)	20.10	22.02	22.00	23.22	20.60	20.15	19.70
Ex post quantity (TJ)	291	303	323	323	279	263	261

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



8 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.

9 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.

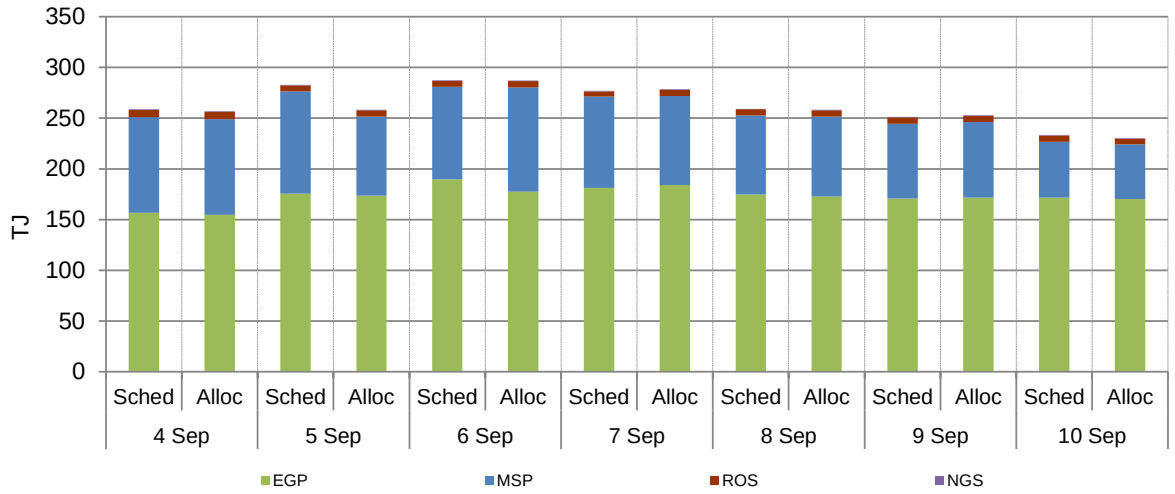
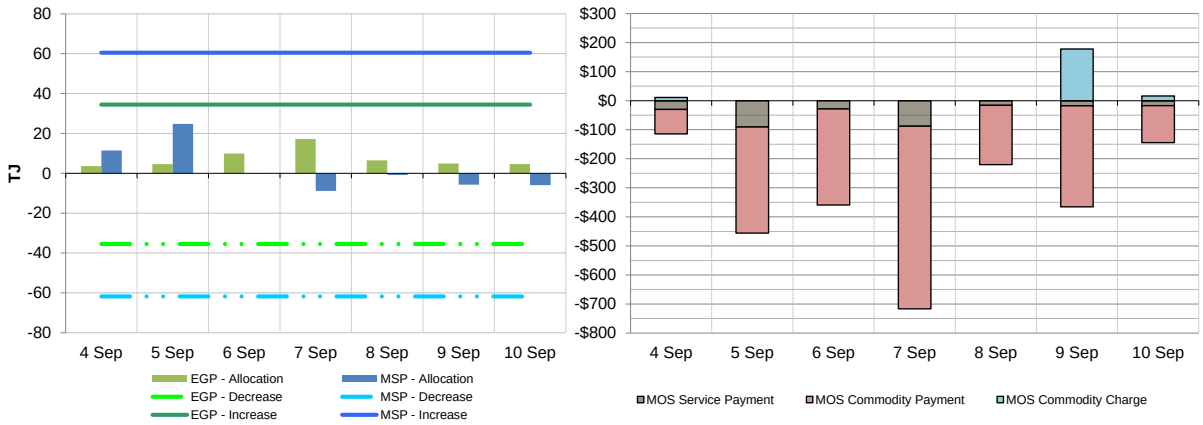


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges ($000)[10]



[10] 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 ($/GJ)	18.42	22.00	22.14	23.91	22.35	22.00	21.99
Ex ante quantity (TJ)	60	70	53	53	63	60	57
Ex post price ($/GJ)	18.57	20.03	22.80	24.97	21.37	22.63	22.00
Ex post quantity (TJ)	62	66	59	61	60	62	57

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

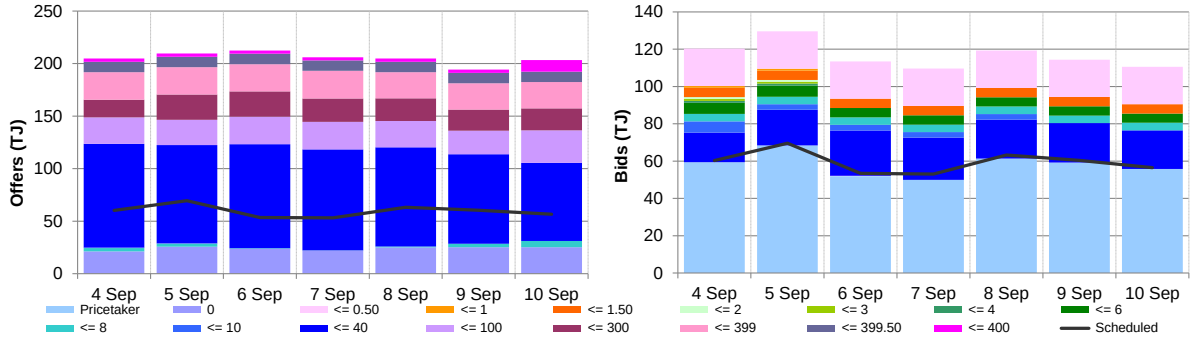


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

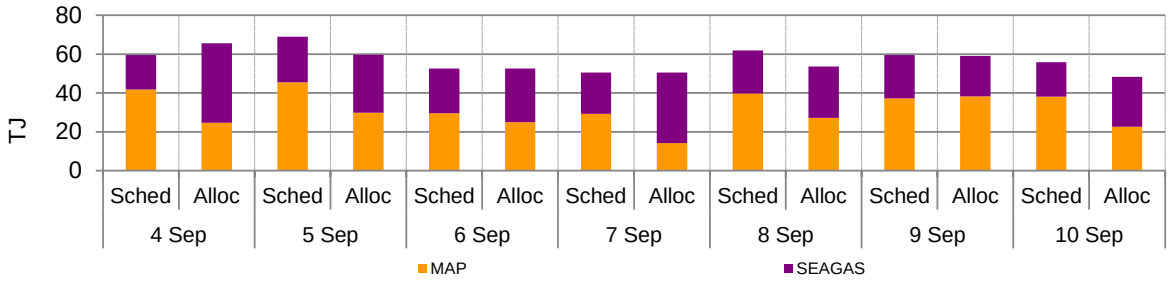
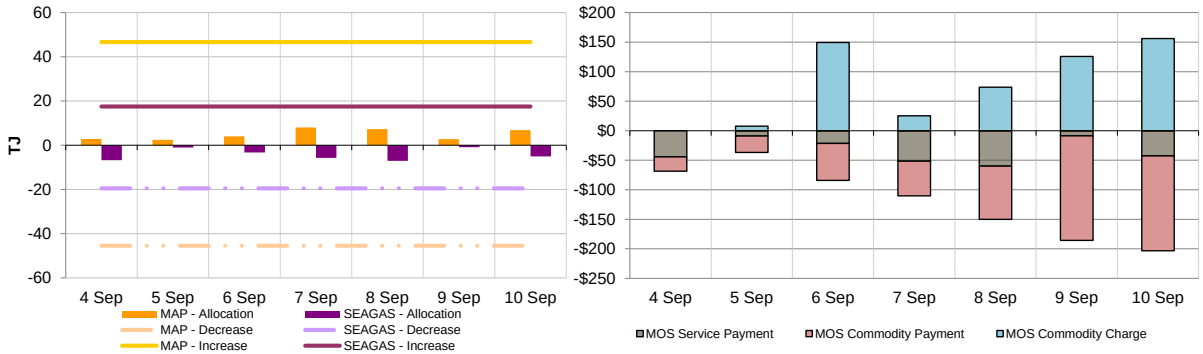


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges ($000)



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 ($/GJ)	18.20	19.06	21.80	21.60	21.00	20.68	20.06
Ex ante quantity (TJ)	79	93	101	99	103	105	79
Ex post price ($/GJ)	17.89	18.74	21.80	21.03	19.80	17.20	20.07
Ex post quantity (TJ)	77	88	102	95	93	87	79

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

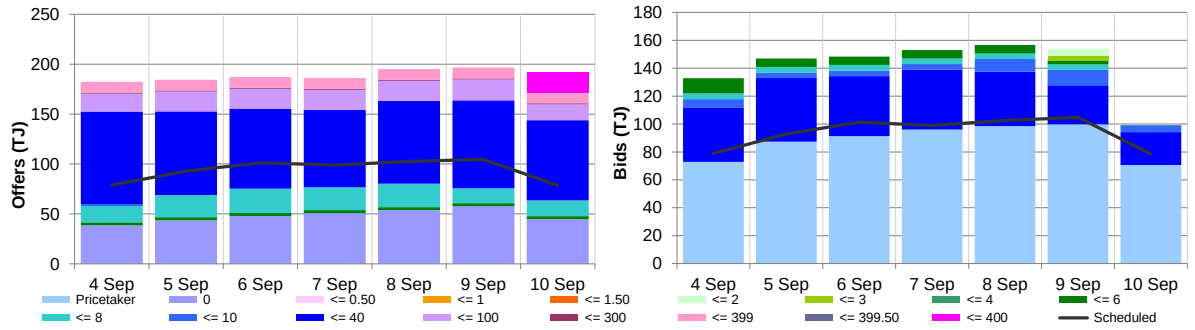


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

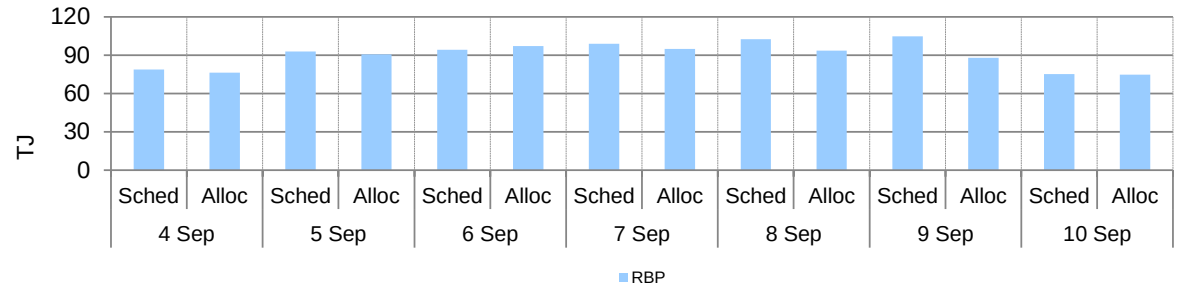
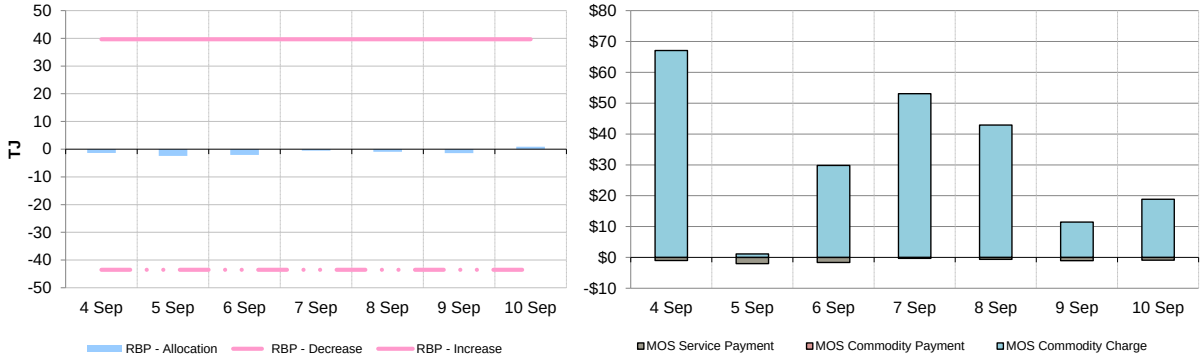


Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges ($000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week[11] from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices[12] 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)[13]

Totals	Current Week	Change (TJ)
Domestic gas flows	1771	(+67)
Export gas flows	3887	(+251)
Gas production	5462	(+46)
GPG gas usage	268	(-44)
Pipelines		
Queensland		
Gladstone		
APLNG	1622	(+563)
GLNG	877	(-168)
QGP	113	(+12)
WGP	1388	(-143)
Mt Isa		
CGP	83	(-3)
Brisbane		
RBP	98	(+2)
South West		
SWQP	79	(+9)
Wallumbilla		
BWP	49	(-17)
CRWP	-23	(-41)
DDP	72	(-60)
QGP (WAL)	27	(-10)
RBP (WAL)	-9	(-17)
SWQP (WAL)	-8	(-157)
New South Wales		
MSP	142	(-26)
EGP	275	(+51)
Victoria		
LMP	744	(-71)
SWP	92	(+154)
South Australia		
MAP	133	(-45)
SEAGas	65	(+21)
Tasmania		
TGP	26	(+1)

Storage (held volume)		
Moomba LDB	11858	(-35)
Iona UGS	12096	(-237)
LNG Storage Dandenong	356	(-5)
Silver Springs	15966	(-39)
Roma UGS	24794	(-157)

11 **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.

12 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.

13 Net flows are shown for Bulletin Board facilities, as outlined in the user guide.

6. Gas Supply Hub

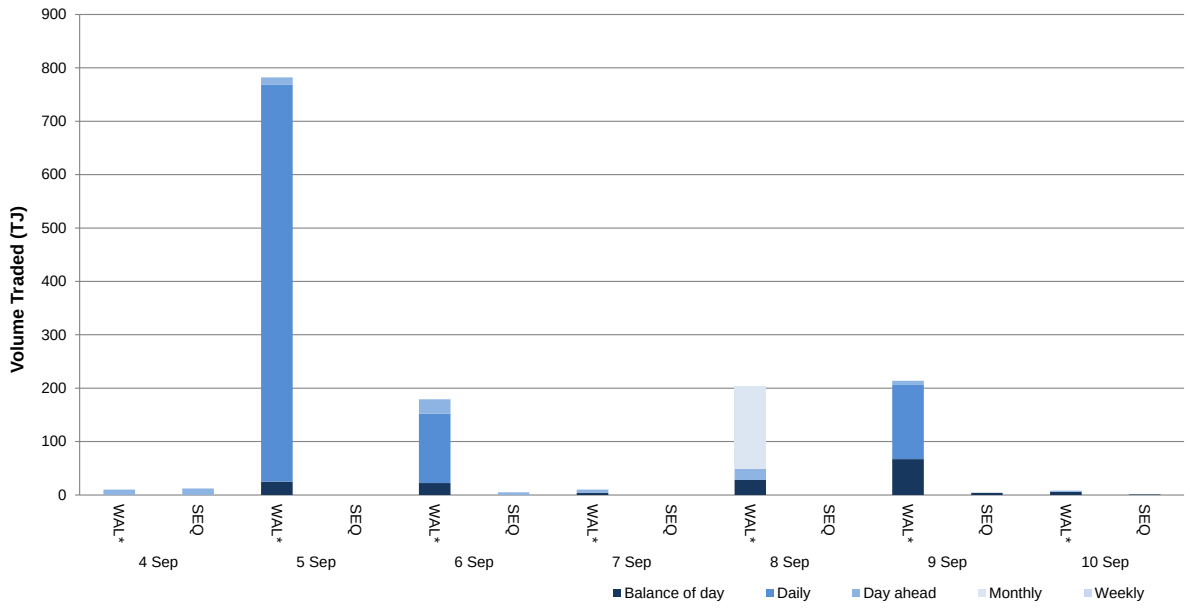
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).[14]

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 78 trades for 1,429 TJ of gas at a volume weighted price of $19.51/GJ. These consisted of 73 trades at WAL (1407.3 TJ at $19.51/GJ) and 5 trades at SEQ (22 TJ at $19.57/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.[15]

Figure 6.1: GSH traded quantities



14 Additional information on trading locations and available products is detailed in the user guide.

15 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.

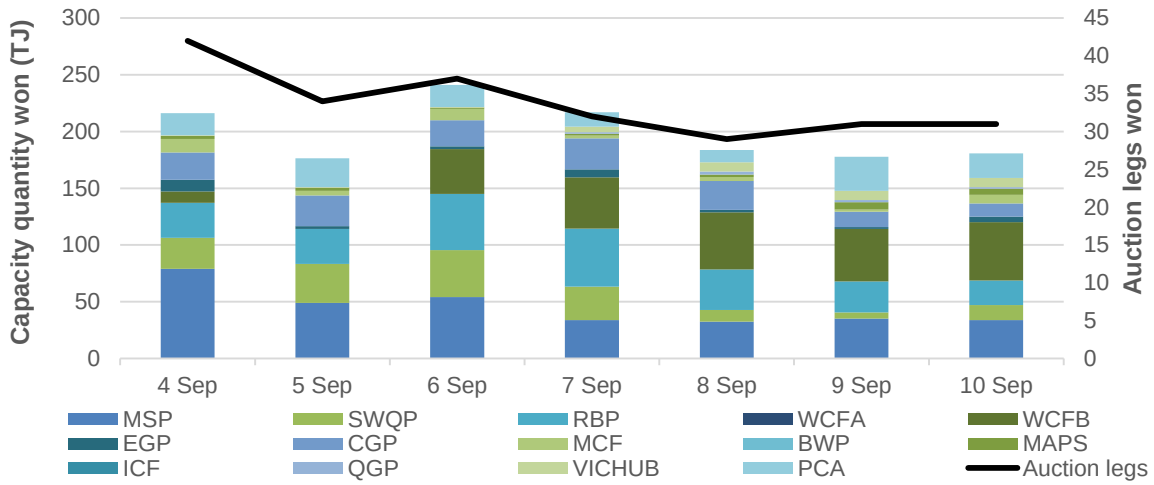
Participants may bid in to the DAA in order to procure the following services:

- 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 1,392 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.[16]

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



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[16] Additional information is available in the user guide to the AER gas weekly report.