Gas Market Report

AUSTRALIAN ENERGY REGULATOR

5 – 11 September 2021

Weekly Summary

Average gas market prices were relatively stable from last week, decreasing slightly in southern regions where demand was also steady. In Brisbane, demand was up by 13% from the previous week.

GPG decreased slightly from last week, largely due to lower generation in South Australia.

Northern export pipeline flows have remained strong, increasing from 1 September.

In the south, despite falling from late August, Longford production has been high relative to lower Victorian market demand leading to consistent flows of gas north out of the Victorian market into NSW.

Reflecting changing north-south dynamics, average daily flows through the QSN this week were 130 TJ north (see Bulletin Board map in Section 5). This value measures whether flows were north and south on the South West Queensland Pipeline at a location near to its connection to southern pipelines. Previous daily flows were 109 TJ southwards in the week commencing 22 August and 34 TJ north in the week commencing 29 August with this week's flow north the highest since the week commencing 4 April.

In Sydney, significant MOS requirements led to service payments exceeding $50,000 across three days this week (figure 2.4). Counteracting MOS (CMOS) allocations occurred from 6 September, with large decrease requirements on the Moomba to Sydney Pipeline (MSP) over 6-8 September (23.9-29.6 TJ). Weekday increase requirements on the Eastern Gas Pipeline (EGP) averaged 8.6 TJ, reaching a high of 13.5 TJ on 7 September.[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

[1] On 6 September, MSP decrease allocations occurred despite reduced MSP supply (4.3 TJ), with hub demand more than 22 TJ below the scheduled forecast. On 7 September, hub demand was only 6.3 TJ below forecast and changes to pipeline flow saw a slight increase to MSP net supply nominations (2.4 TJ), indicating the main driver of counteracting MOS was likely the result of higher demand in the Wollongong distribution network. On 8 September, hub demand was over forecast by 15.6 TJ, with a 5.1 TJ net reduction in scheduled EGP supply and 4.7 TJ net increase in MSP supply slightly pushing up the significant allocation of CMOS. Resulting daily service payments on the three consecutive days were: 6 Sep ($59,809), 7 Sep ($87,676), 8 Sep ($62,403).

Market **(VGM or Victorian gas market)** 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
05 Sep - 11 Sep 2021	7.04	618	8.08	257	8.52	62	8.47	92
% change from previous week	-1	0	-3	0	-1	-2	1	13
21-22 financial YTD	10.82	840	11.98	284	12.32	72	11.25	95
% change from previous financial YTD	132	-5	173	-8	119	-6	177	-11

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

Figure 2: Average prices and total quantity – Gas supply hub ($/GJ, TJ)[3]

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
05 Sep - 11 Sep 2021	-	-	8.16	13	8.33	216
% change from previous week	-	-	-3	-24	-1	-24
21-22 financial YTD	18.25	5	11.30	1192	11.33	3367
% change from previous financial YTD	635	-98	219	-24	218	-3

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

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

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

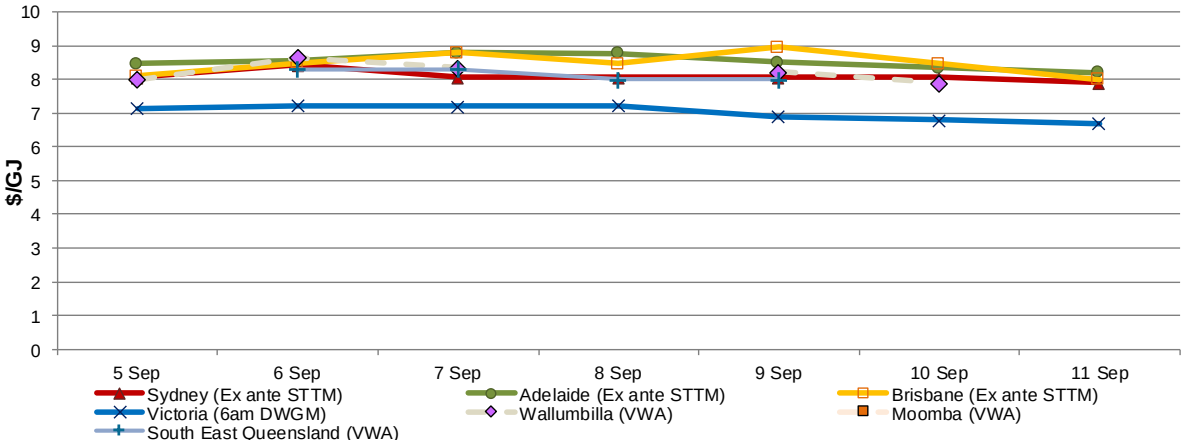


Figure 4 compares average ancillary market payments (VGM) and balancing gas service payments (STTM) against historical averages.

Figure 4: Average daily ancillary payments ($000)

	Victoria Ancillary Payments*	**Sydney** MOS	**Adelaide** MOS	**Brisbane** MOS
05 Sep - 11 Sep 2021	-	41.74	4.25	0.36
% change from previous week	-	83	-23	-14
21-22 financial YTD		30.54	4.62	0.74
% change from previous financial YTD		36	-58	-32

* 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)[4]

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	-	-	8.16	13.0	8.23	80.0
Daily	-	-	-	-	8.51	111.0
Day ahead	-	-	-	-	7.86	25.0
Weekly	-	-	-	-	-	-
Monthly	-	-	-	-	-	-
Total	**-**	**-**	**8.16**	**13.0**	**8.33**	**216.0**

* 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	1533	1009	1779	4321
Export Pipeline Flows	1504	1097	1368	3969
% change from previous week (pipeline flows)	0	8	0	2
21-22 financial YTD flows	1258	1171	1240	3668

* 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).

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 3.

Figure 1.1: Prices by schedule ($/GJ)

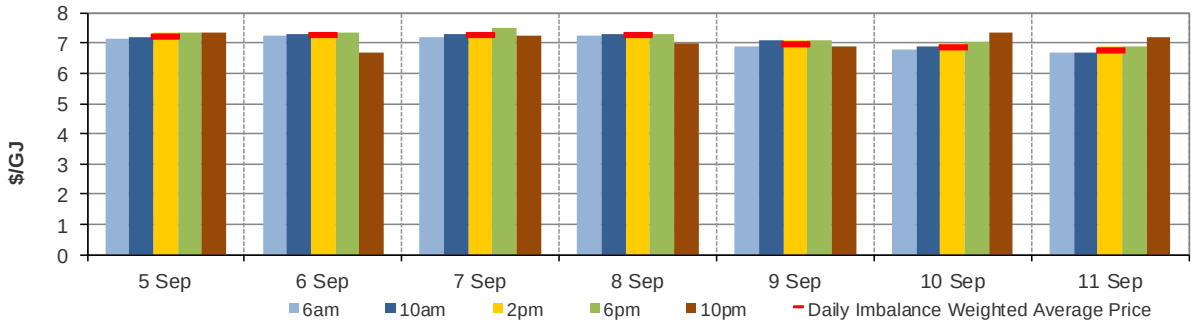
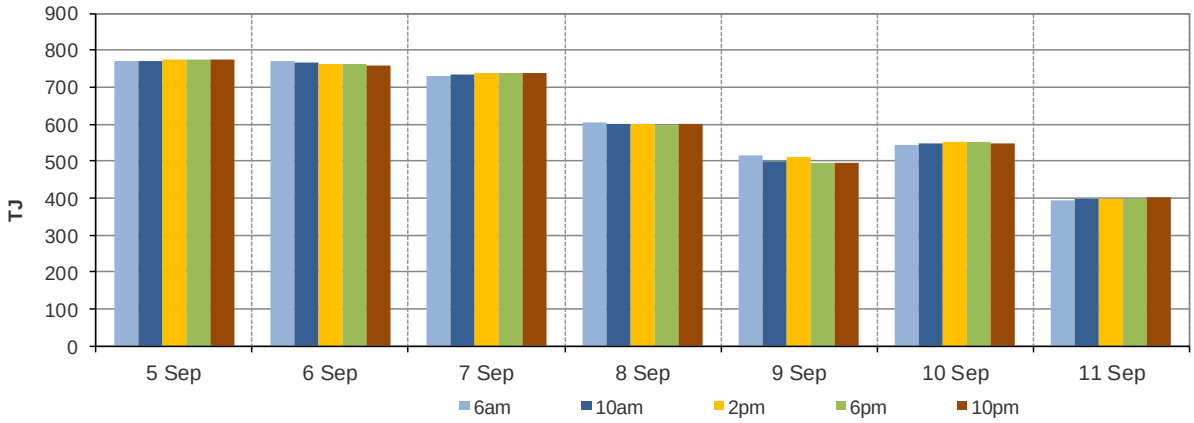


Figure 1.2: Demand forecasts (TJ)



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)

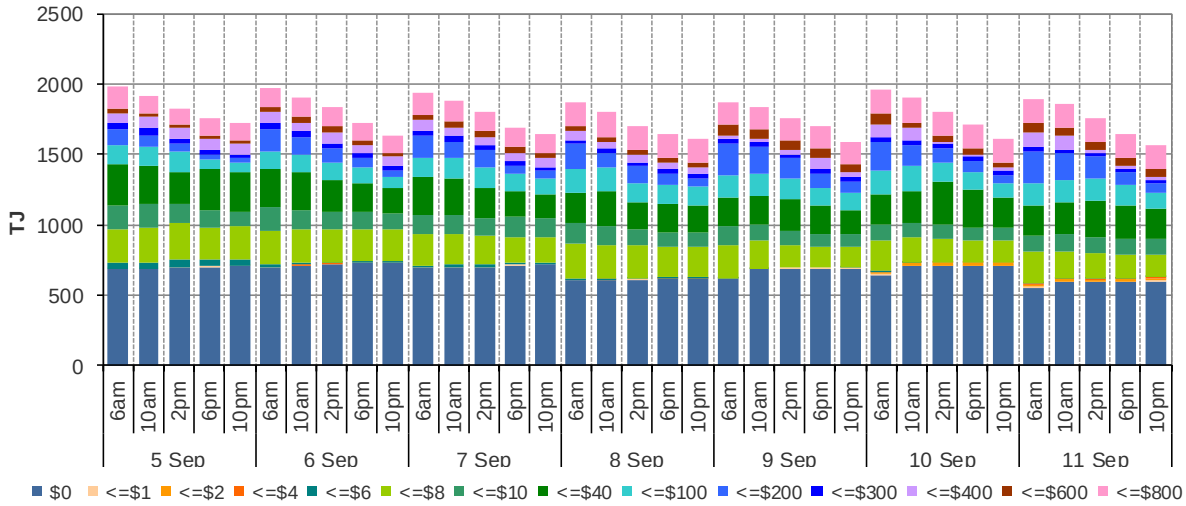


Figure 1.4: Withdrawal bids by price bands (TJ)

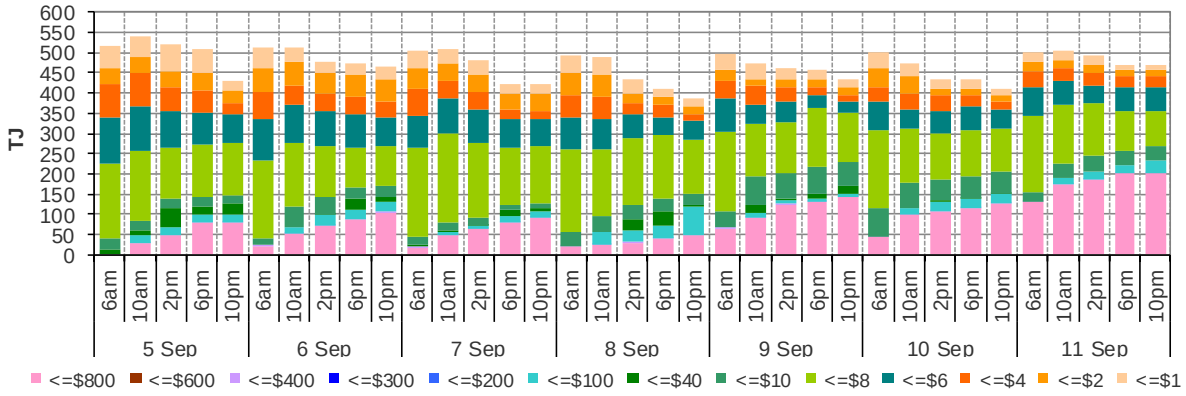
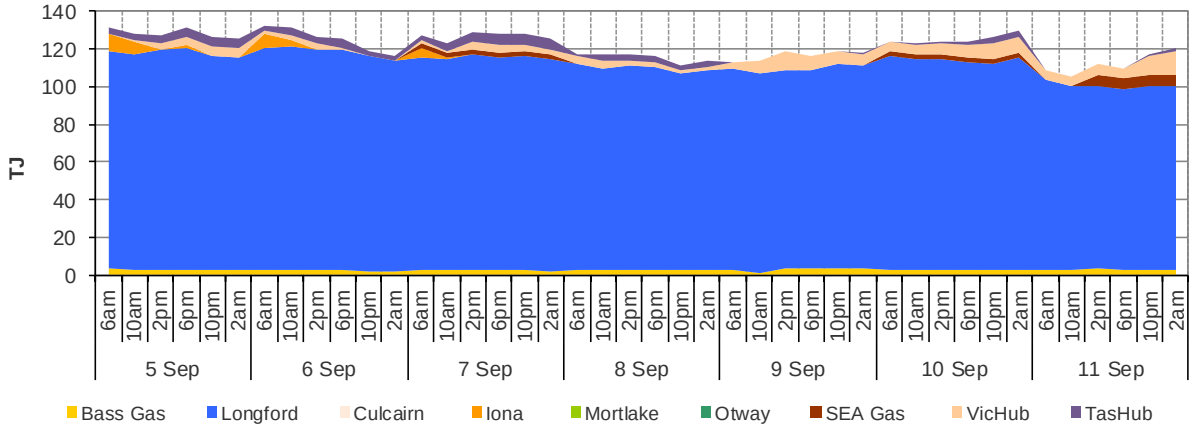


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.

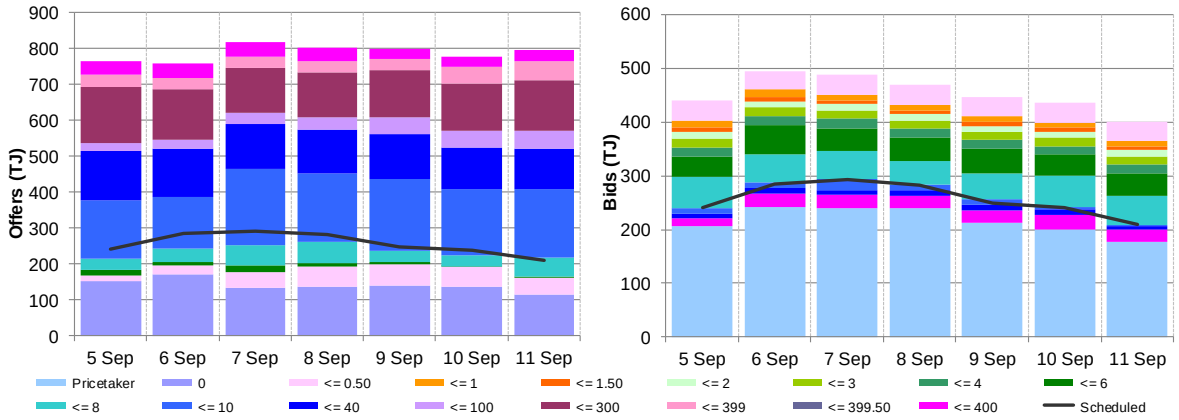
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing 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 ($/GJ)	8.05	8.43	8.05	8.05	8.05	8.05	7.90
Ex ante quantity (TJ)	240	284	293	282	249	240	209
Ex post price ($/GJ)	8.20	8.19	8.05	8.05	8.05	8.05	8.04
Ex post quantity (TJ)	253	262	293	267	250	241	223

Figure 2.2: SYD daily hub offers and daily hub 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.

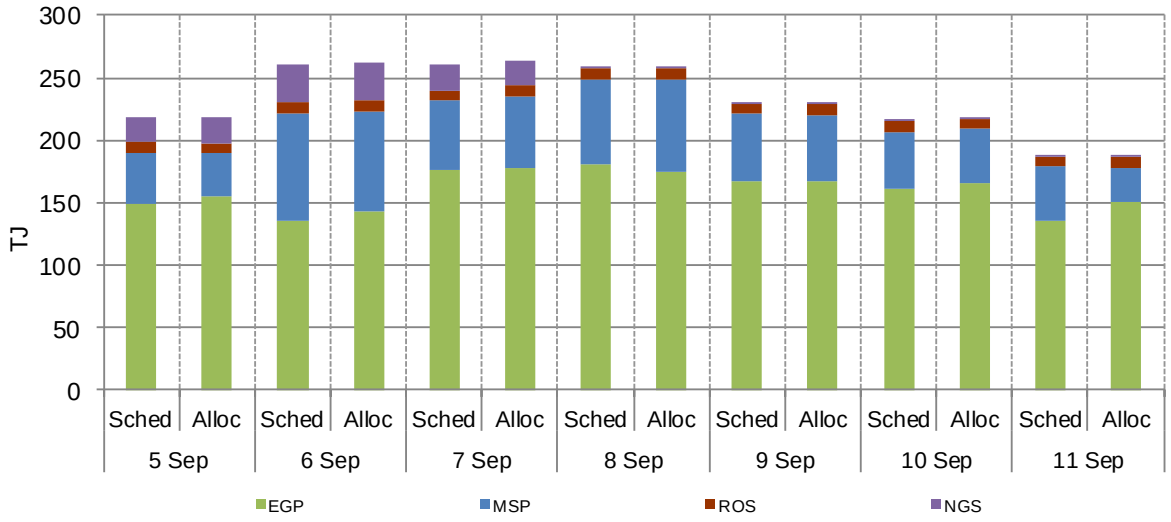
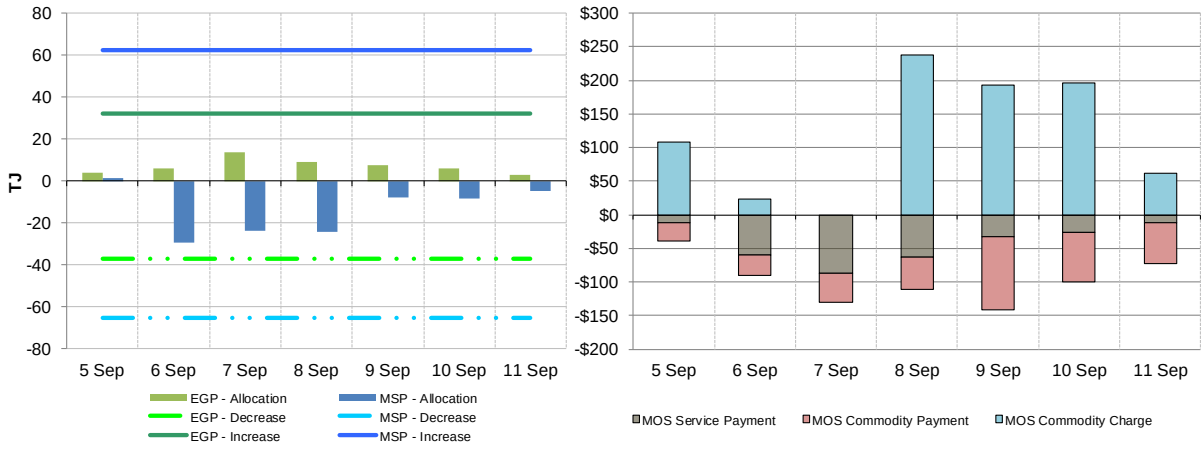


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges ($000)[10]



[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 ($/GJ)	8.47	8.55	8.80	8.78	8.51	8.34	8.20
Ex ante quantity (TJ)	65	69	70	63	59	53	55
Ex post price ($/GJ)	8.35	8.49	8.56	8.78	8.54	8.14	8.11
Ex post quantity (TJ)	63	68	64	63	60	46	52

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

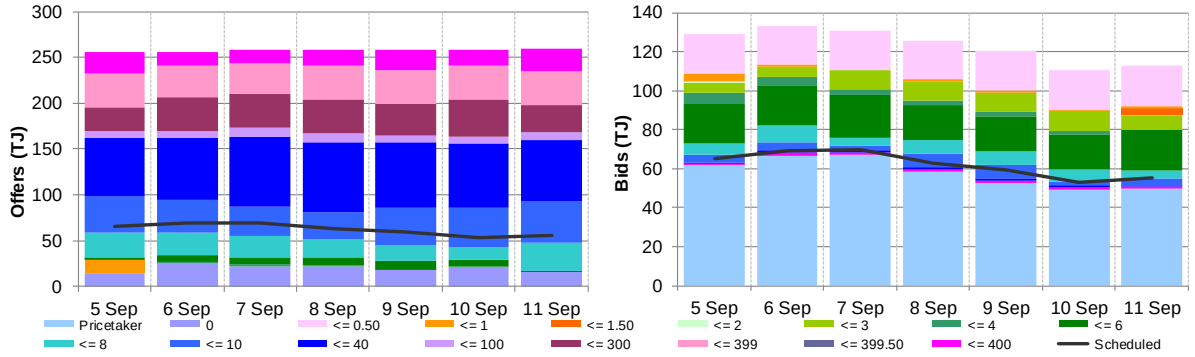


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

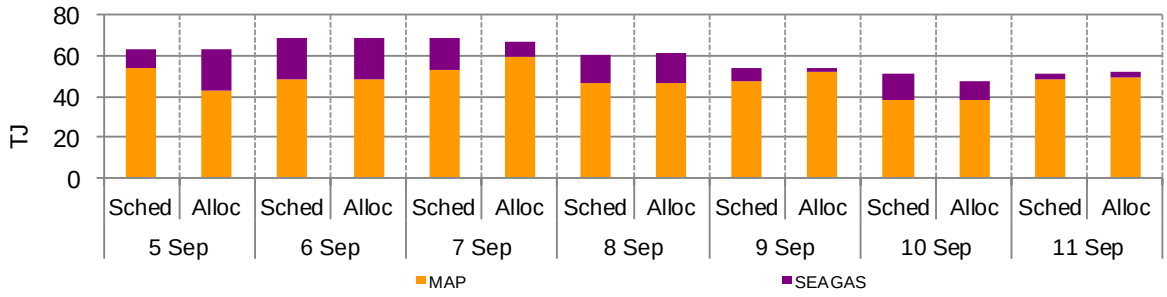
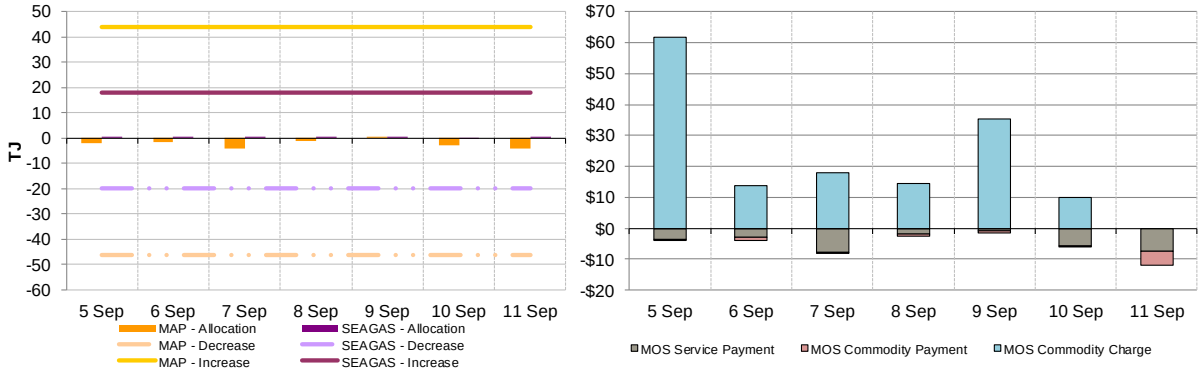


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges ($000)



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 ($/GJ)	8.10	8.48	8.79	8.48	8.95	8.47	8.00
Ex ante quantity (TJ)	74	88	95	102	112	99	72
Ex post price ($/GJ)	8.20	8.48	8.79	7.90	9.10	8.34	7.90
Ex post quantity (TJ)	76	87	96	94	119	96	70

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

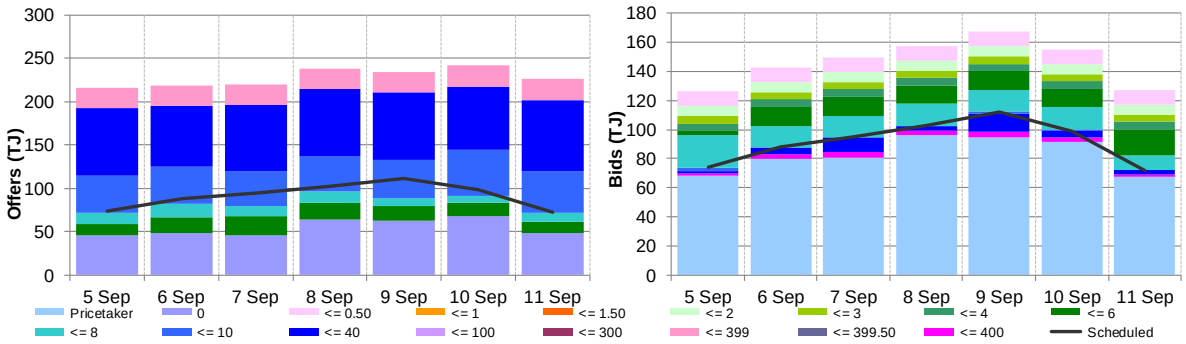


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

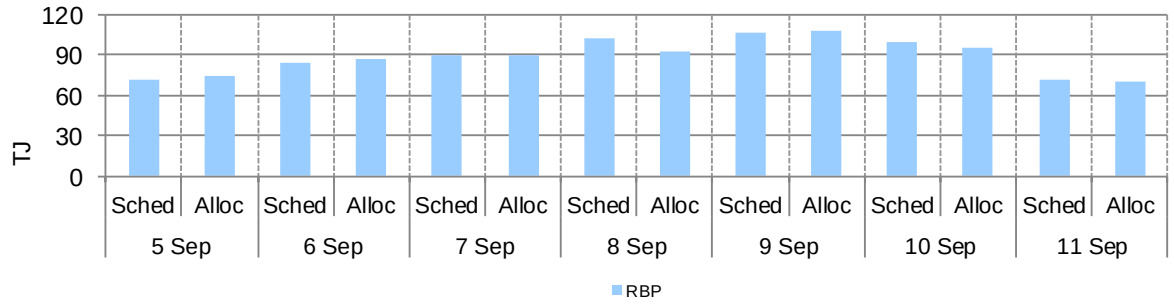
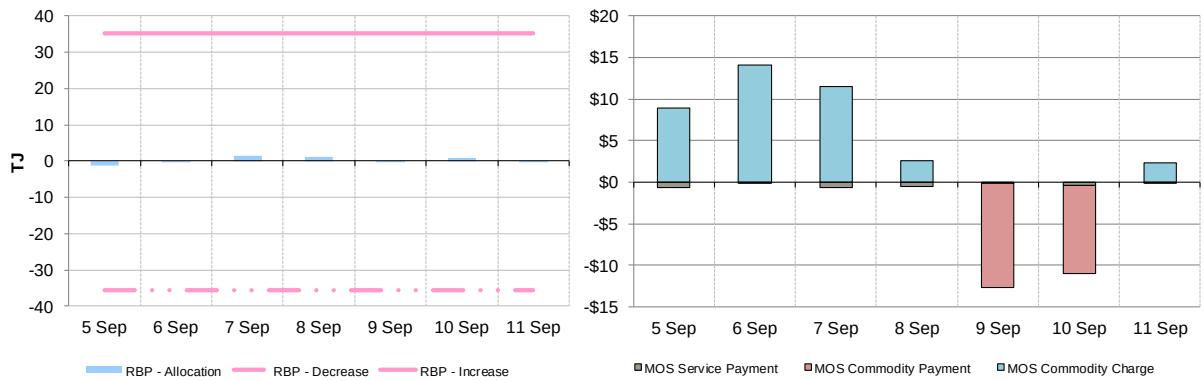


Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges ($000)



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); Bulletin Board flows (TJ)[13]

Totals	Current Week	Change (TJ)
Domestic gas flows	1533	(-6)
Export gas flows	3969	(+72)
Gas production	5534	(+27)
GPG gas usage	204	(-33)
Pipelines		
Queensland		
Gladstone		
APLNG	1504	(-7)
GLNG	1097	(+78)
QGP	130	(-2)
WGP	1368	(+1)
Mt Isa		
CGP	84	(-1)
Brisbane		
RBP	92	(+9)
South West		
SWQP	51	(+8)
Wallumbilla		
BWP	76	(-5)
CRWP	42	(+8)
DDP	98	(-19)
QGP (WAL)	30	(+3)
RBP (WAL)	5	(+9)
SWQP (WAL)	-51	(-69)
New South Wales		
MSP	102	(-10)
EGP	244	(-15)
Victoria		
LMP	716	(+15)
SWP	-52	(+2)
South Australia		
MAP	140	(-15)
SEAGas	45	(+3)
Tasmania		
TGP	33	(+7)

Storage (held volume)		
Moomba LDB	14602	(-84)
Iona UGS	11836	(+416)
LNG Storage Dandenong	293	(-5)
Silver Springs	18451	(-150)
Roma UGS	34272	(-358)

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

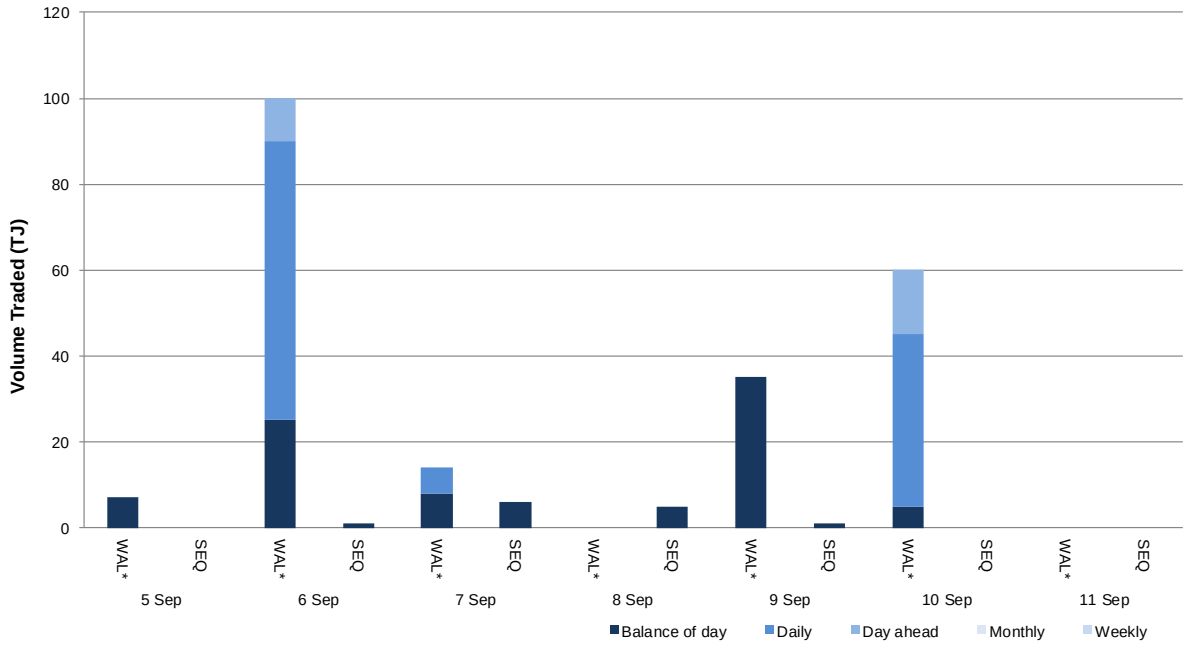
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (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 31 trades for 229 TJ of gas at a volume weighted price of $8.32/GJ. These consisted of 27 trades at WAL (216 TJ at $8.33/GJ) and 4 trades at SEQ (13 TJ at $8.16/GJ).

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.

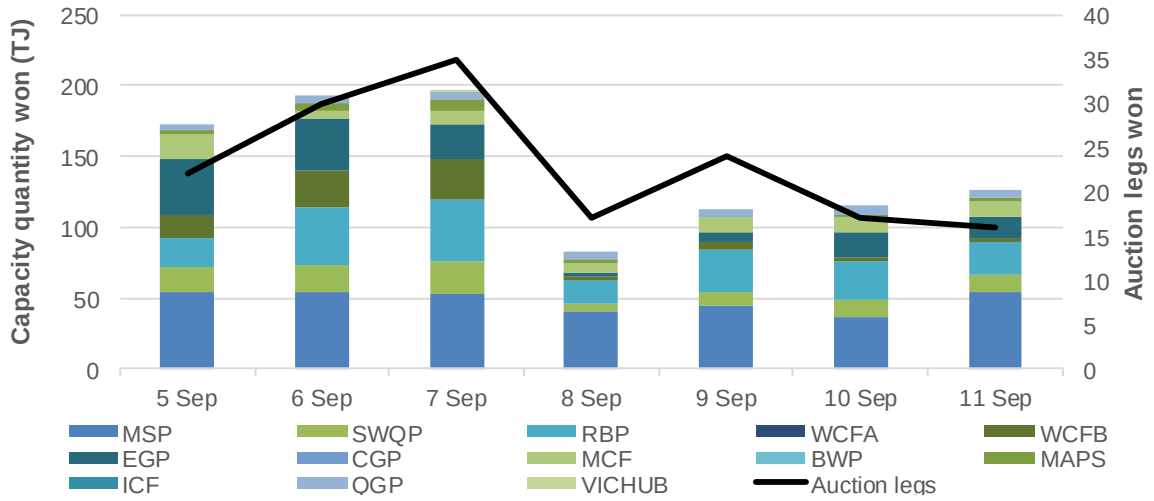
Participants may bid in to the DAA in order to procure the following services:

- 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, 13 participants took part in the DAA, winning 999 TJ of capacity across 9 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 and auction legs won



Australian Energy Regulator
September 2021

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