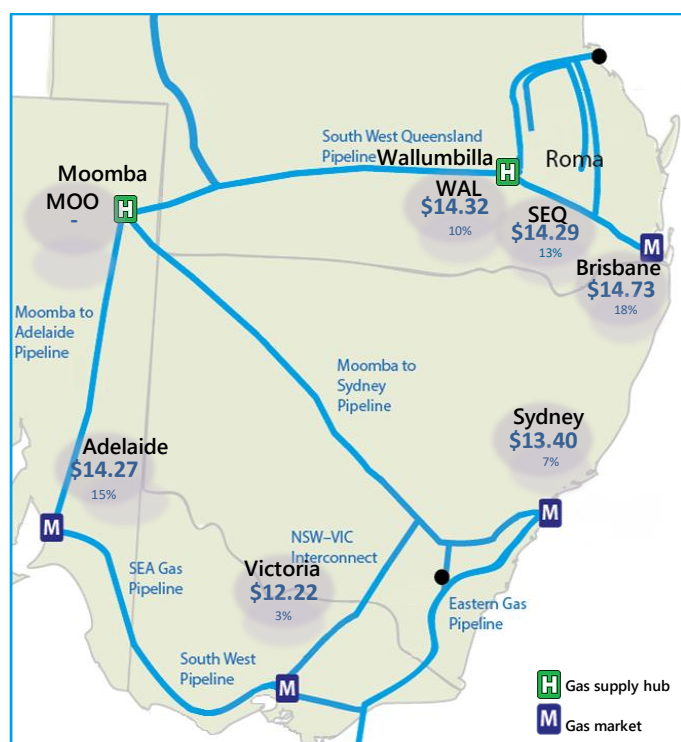


## 12 – 18 December 2021

### Weekly Summary

Downstream wholesale gas market prices (marked M on the map below) rose this week, with the strongest increases in Brisbane and Adelaide (percentage change from previous week shown on map). From 13 December, daily market prices in Brisbane settled around \$15/GJ or more, with the daily price in Adelaide reaching \$15/GJ on 15 December.<sup>1</sup>

At the Wallumbilla upstream supply production hubs (marked H), the average price increased at both the WAL and SEQ trading points.



Trading in the Wallumbilla gas supply hub was concentrated around short term products (see section 6). Products were largely traded at the WAL location (370 TJ), with deliveries also traded at SEQ (38 TJ) and VIC (40 TJ) this week.<sup>2</sup> At the WAL trading location, 93 TJ was traded through strip products<sup>3</sup>, with 38 TJ of these transactions for delivery out to the end of December.

<sup>1</sup> Brisbane prices ranged from \$14.94/GJ to \$16.30/GJ over 3 days. Prices were elevated across the 3 short term trading markets (Adelaide, Brisbane and Sydney STTMs) for the same period, while Victorian prices were \$13.20/GJ or lower across the week.

<sup>2</sup> The South East Queensland (SEQ) trading point in the Wallumbilla (WAL) Gas Supply Hub (GSH) supplies gas to an in-pipe notional delivery point on the Roma to Brisbane Pipeline (RBP), located in close proximity to a number of large production facilities in the Roma region. The WAL product location covers the remaining gas deliveries between the South West Queensland Pipeline (SWQP), Roma to Brisbane Pipeline (RBP), Queensland Gas Pipeline (QGP) and other interconnected pipelines in Queensland. VIC products are traded for deliveries at or around Culcairn (CUL).

<sup>3</sup> Daily products chained together across multiple delivery days.

Mainland gas powered generation increased this week, most significantly in South Australia and NSW. These increases have offset the decrease in gas powered generation in Queensland. Export pipeline flows were overall lower this week, with decreased flows on the GLNG pipelines and the QCLNG pipelines (see more detailed map and table at figure 5.1).

In the Adelaide STTM on 13 and 15 December, significant counteracting Market Operator Service (MOS) allocations resulted in high MOS payments (see figure 3.4).<sup>4</sup> Further details are provided in the detailed market analysis section.

## 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)<sup>5</sup>**

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
12 Dec - 18 Dec 2021	12.22	307	13.40	234	14.27	46	14.73	85
% change from previous week	3	-14	7	4	15	-6	18	14
21-22 financial YTD	10.12	639	10.96	257	11.22	62	10.79	92
% change from previous financial YTD	102	2	114	-2	97	-2	111	-10

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

<sup>4</sup> 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 increase and decrease MOS allocation quantities offset each other on different pipelines. In this instance, increase MOS on the Moomba to Adelaide Pipeline (MAP) was counteracted by decrease MOS allocations on the SEAGas pipeline. This also resulted in unusual net MAP supply allocations (see figure 3.3 and associated footnote)

<sup>5</sup> 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)<sup>6</sup>**

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
12 Dec - 18 Dec 2021	-	-	14.29	38	14.32	370
% change from previous week	-	-	13	-27	10	155
21-22 financial YTD	8.29	241	10.78	2124	10.81	8041
% change from previous financial YTD	176	-28	147	-11	136	21

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

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

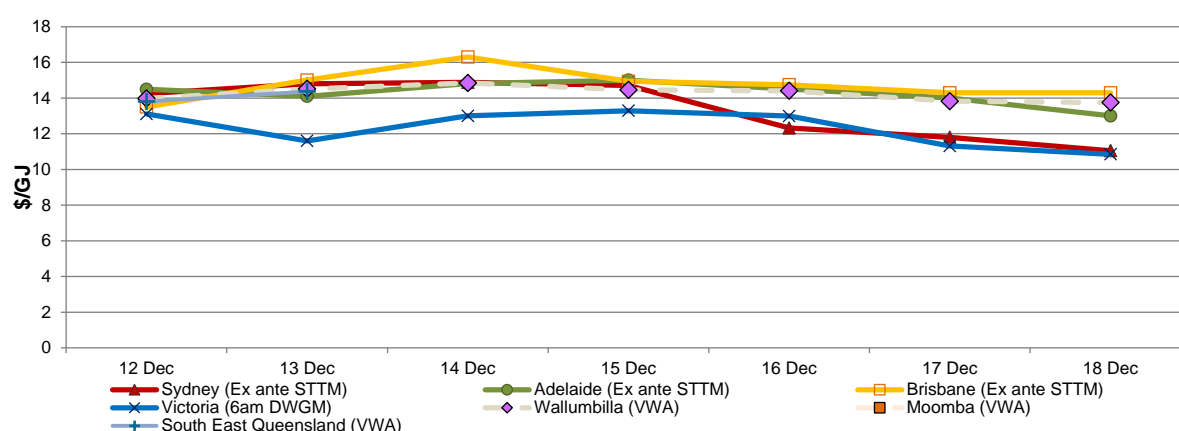


Figure 4 compares average ancillary market payments (for the VGM) and balancing gas service payments (STTM) against historical averages.

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

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
12 Dec - 18 Dec 2021	-	13.48	59.59	0.70
% change from previous week	-	-47	728	-60
21-22 financial YTD		23.37	8.13	0.84
% change from previous financial YTD		10	-17	-87

\* 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.

<sup>6</sup> 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)<sup>7</sup>**

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
<b>Balance of day</b>	-	-	14.85	1.0	14.44	126.0
<b>Daily</b>	-	-	14.15	20.0	14.31	134.0
<b>Day ahead</b>	-	-	14.43	17.0	14.19	110.0
<b>Weekly</b>	-	-	-	-	-	-
<b>Monthly</b>	-	-	-	-	-	-
<b>Total</b>	-	-	<b>14.29</b>	<b>38.0</b>	<b>14.32</b>	<b>370.0</b>

\* 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	1535	893	1748	4176
Export Pipeline Flows	1625	891	1399	3915
% change from previous week (pipeline flows)	3	-18	6	-2
21-22 financial YTD flows	1425	1115	1331	3871

\* 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.

<sup>7</sup> Further information about new product trading locations in Victoria (Culcairn) and Sydney (Wilton) is available in section 6. Gas Supply Hub).

## Detailed market analysis

### **Average prices remain high**

Demand increased in Brisbane this week with prices peaking towards the start of the week. Prices in the downstream wholesale gas markets continue to remain high, sitting around \$10.36-16.30/GJ.

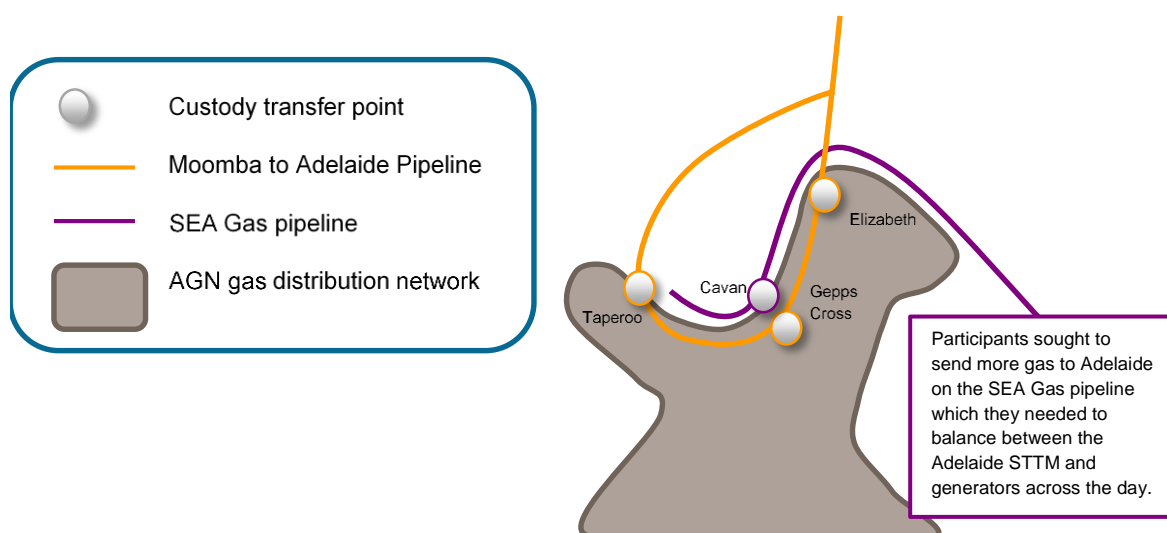
There is reduced supply availability at Longford this week due to continuing onshore maintenance, with short term capacity dropping to 700 TJ.

### **Counteracting MOS in Adelaide**

From 12 December, gas processing issues related to a trip at the Moomba gas plant constrained production capacity coming south towards Adelaide via the Moomba to Adelaide Pipeline (MAP).

Downstream in the Adelaide STTM on 13 and 15 December, significant counteracting MOS allocations occurred in line with renominations affecting gas supply redistribution and backhaul requirements. The renominations coincided with upstream gas power generation demand rising above forecast levels on the MAP. It appears because of reduced gas supply from Moomba, participants sought to send more gas to Adelaide on the SEAGas pipeline and to backhaul more gas from Adelaide to generators.

While the intra-day renominations were apparently trying to divert more market supply to Adelaide on SEAGas, actual physical deliveries saw more gas supply allocated on the MAP than nominated (i.e. increase MOS taken from MAP line pack). It is likely this occurred because nominations and renominations to inject gas into the Adelaide network on SEAGas were sought by participants in large volumes overnight. The dynamics of the network and connecting MAP and SEAGas pipelines is that when demand is low in the network (i.e. overnight) relatively large nominations overnight on SEAGas will not be delivered and result in gas being allocated as decrease MOS (parked on the pipeline).



With negligible difference in supply and demand levels outside these changes and minimal net MOS requirements, the majority of the ancillary service payments were attributable to the counteracting allocation quantities. These costs accrued to \$233,019 and \$122,447 on 13 and 15 December respectively.

The high cost on 13 December came close to exceeding a significant price variation (SPV) reporting threshold. Outcomes that constitute a SPV event include when the daily cost of Market Operator Services (MOS), at a STTM hub, exceeds \$250,000.<sup>8</sup>

### ***Sydney STTM***

In the Sydney STTM on 18 December, the ex post price increased by \$1.35/GJ due to a demand increase of approximately 25 TJ. More supply was nominated in line with the higher demand, mitigating potential MOS requirements (refer to Figure 2.4).

### ***Athena gas plant project***

Gas production commenced at Athena from 15 December. The Cooper Energy facility replaces the Minerva gas plant in the Otway basin in Victoria, processing gas from the Casino, Henry and Netherby (CHN) fields. The changeover impacted production previously processed at Iona from Casino, with the processing of offshore supply at the underground storage facility ceasing from 13 November.

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<sup>8</sup> In accordance with the National Gas Rules, the AER is required to publish a report whenever there is a significant price variation (SPV) in the Victorian gas market or Short Term Trading Markets (STTM) – The obligation is set out in the National Gas Rules. Rule 498(3)(b) relates to SPVs in the Short Term Trading Markets, and rule 355(1)(b) relates to SPVs in the Victorian market. The AER has established thresholds that, when breached, trigger an SPV report in the [Victorian market](#) and [STTMs](#).

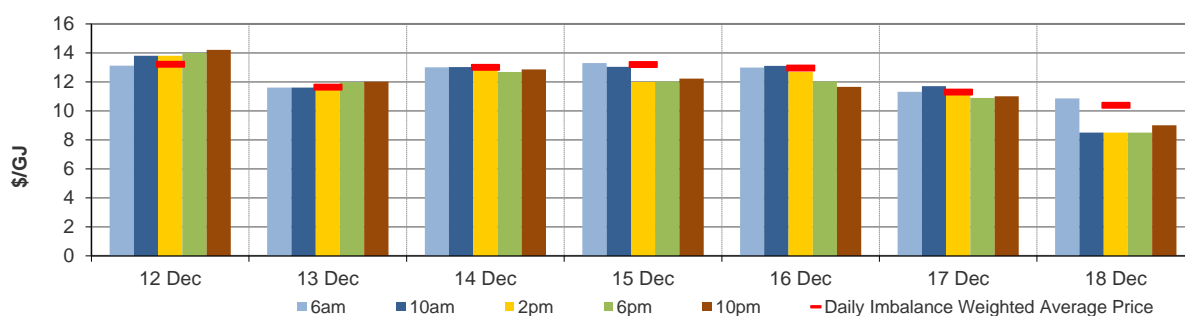
## 1. Victorian Declared Wholesale Market

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<sup>9</sup> which is the schedule at which most gas is traded.

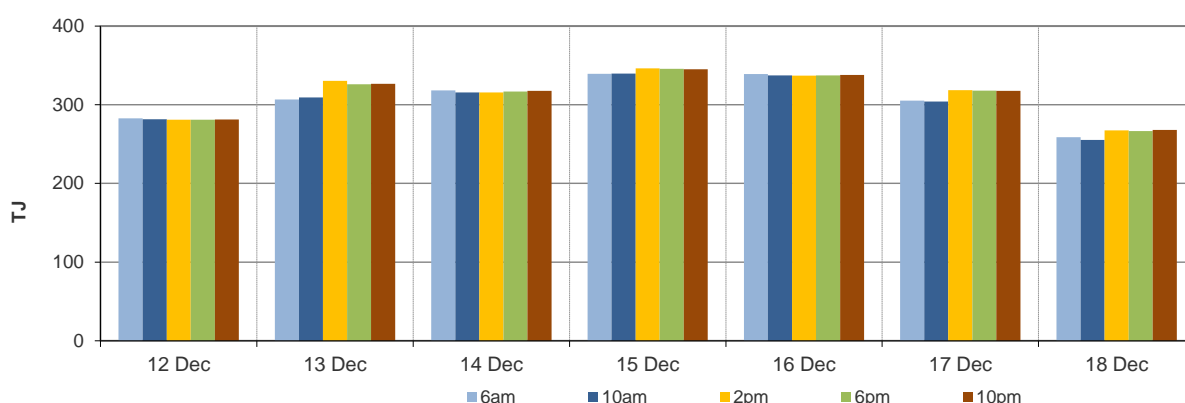
The main drivers<sup>10</sup> of price are demand forecasts and bids to inject or withdraw gas from the market. Figures 1.1 to 1.4 below show the daily prices, demand forecasts<sup>11</sup>, and injection/withdrawal bids for each of the five pricing schedules. Figure 1.5 provides information on which 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)**

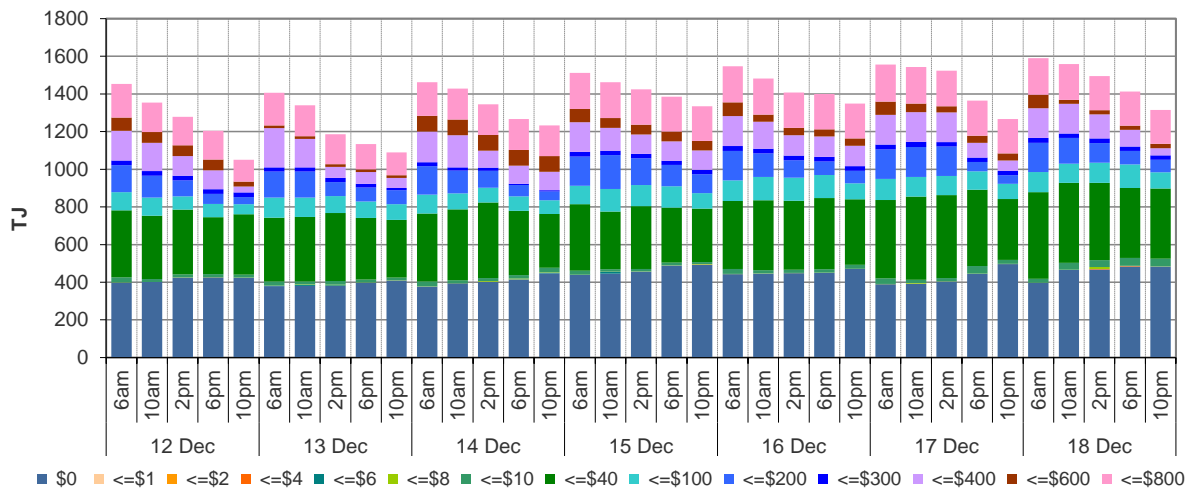


<sup>9</sup> Prices for subsequent schedules are applied only to the differences in scheduled quantities (imbalances) to calculate the weighted price. The 6 am price applies to the entire scheduled quantity in the initial schedule.

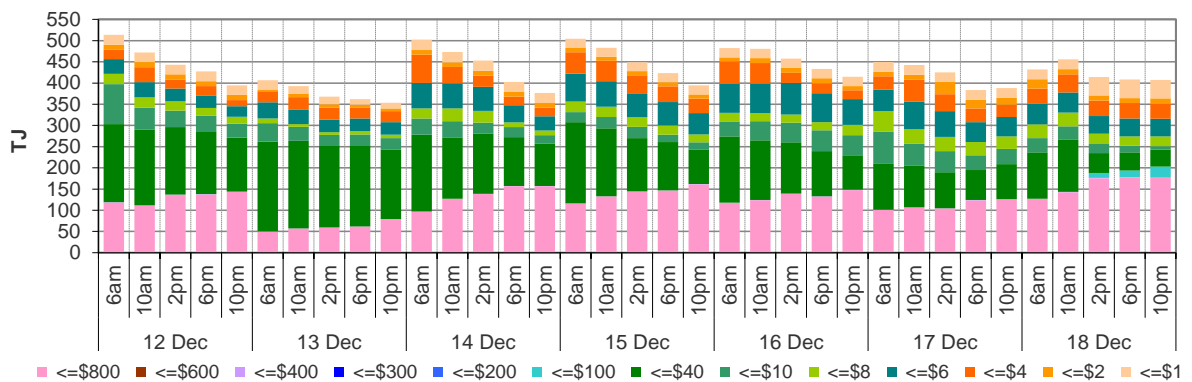
<sup>10</sup> The price might also be affected by transmission or production (contractual) constraints limiting how much gas can be delivered from a locale or System Injection Point (SIP) from time to time.

<sup>11</sup> 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.

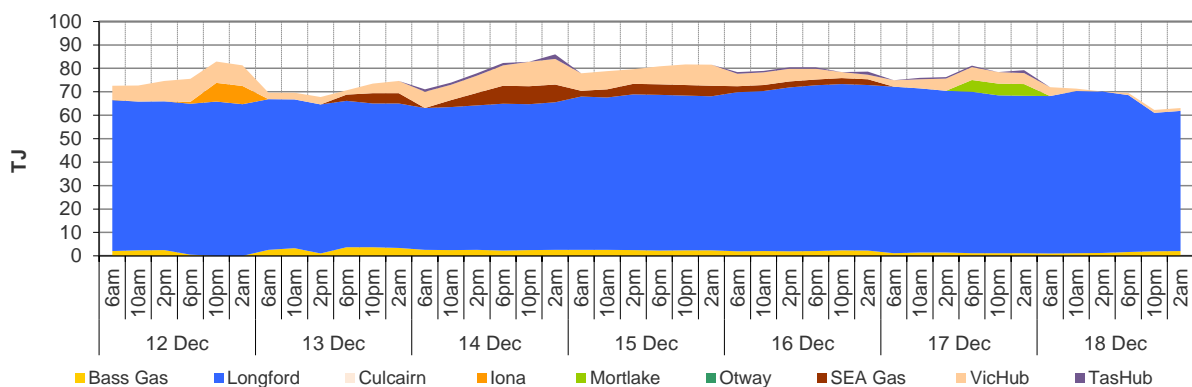
**Figure 1.3: Injection bids by price bands (TJ)**



**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.<sup>12</sup> 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](#).

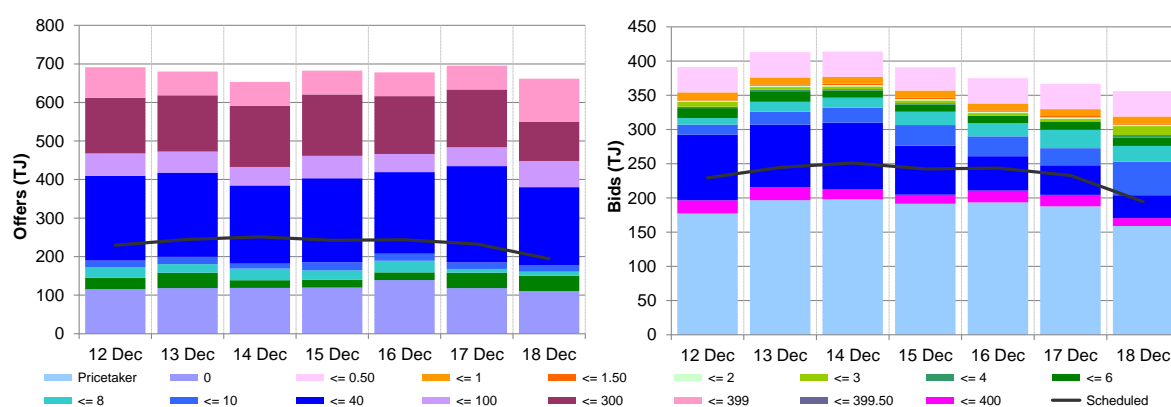
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing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

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)	14.25	14.80	14.88	14.71	12.32	11.80	11.05
Ex ante quantity (TJ)	230	245	251	243	244	233	195
Ex post price (\$/GJ)	14.50	15.44	14.95	14.60	12.55	12.25	12.40
Ex post quantity (TJ)	247	258	254	236	247	240	219

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

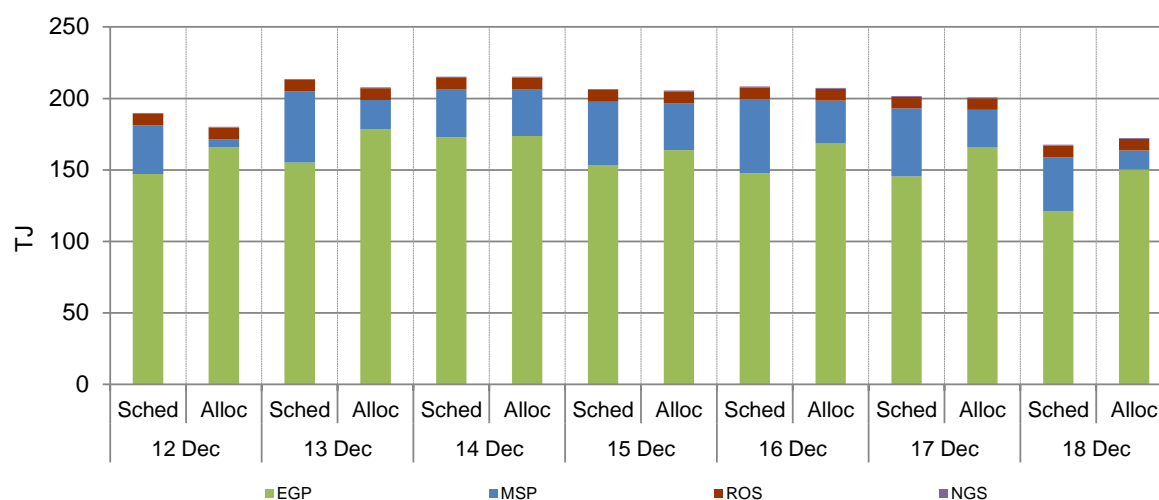


<sup>12</sup> The main driver of the amount of gas scheduled on a gas day is the 'price-taker' bid, which is forecast hub demand that cannot respond to price and which must be delivered, regardless of the price.

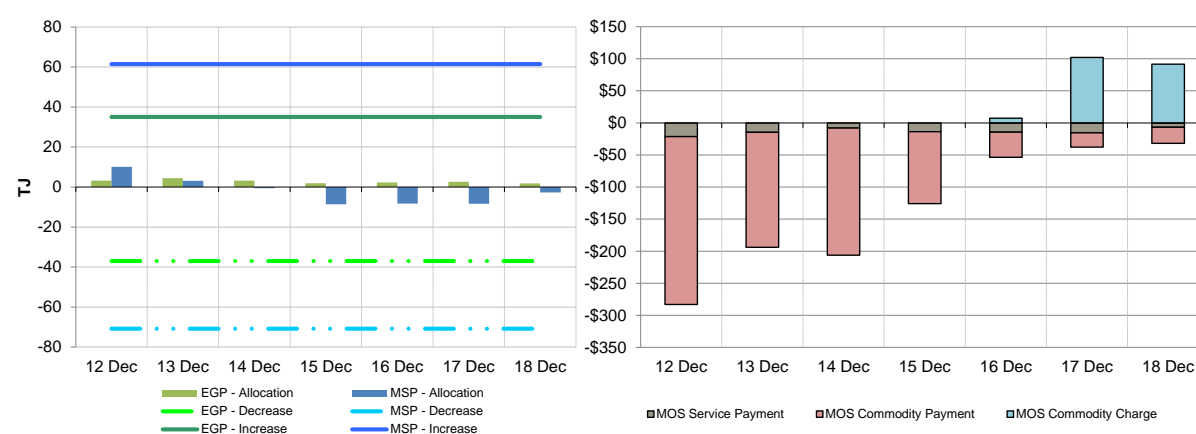
<sup>13</sup> MOS service payments involve a payment for a MOS increase service when the actual quantity delivered exceeds final gas nominations for delivery to a hub, and a payment for a MOS decrease service when the actual quantity delivered is less than final nominations. As well as a MOS 'service' 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)<sup>14</sup>**



<sup>14</sup> 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.

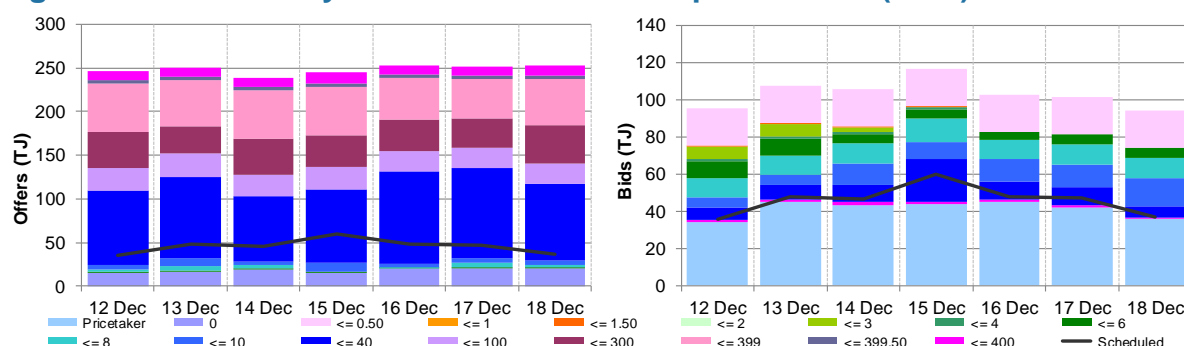
### 3. Adelaide STTM

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.

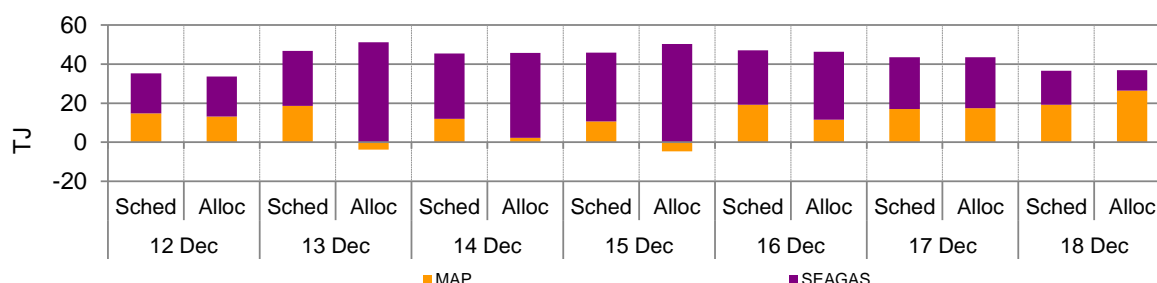
**Figure 3.1: ADL STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	14.49	14.10	14.81	15.00	14.51	14.00	13.00
Ex ante quantity (TJ)	36	48	46	60	48	47	37
Ex post price (\$/GJ)	14.77	15.15	16.00	15.44	14.48	13.88	12.90
Ex post quantity (TJ)	38	61	57	65	45	45	36

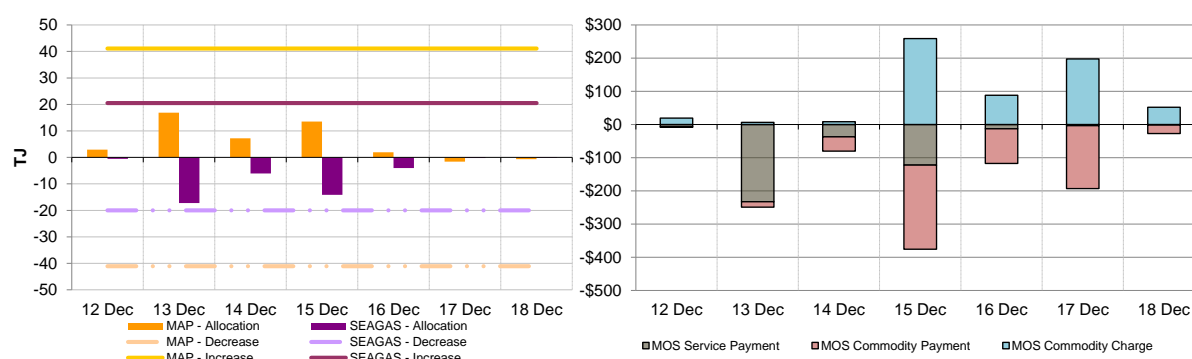
**Figure 3.2: ADL daily hub offers and bids in price bands (\$/GJ)**



**Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)<sup>15</sup>**



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



<sup>15</sup> Renominations resulting in large increase MOS requirements on the Moomba to Adelaide Pipeline (MAP). As a result, the majority of MAP supply was allocated as an ancillary service and the net supply (excluding MOS) was negative.

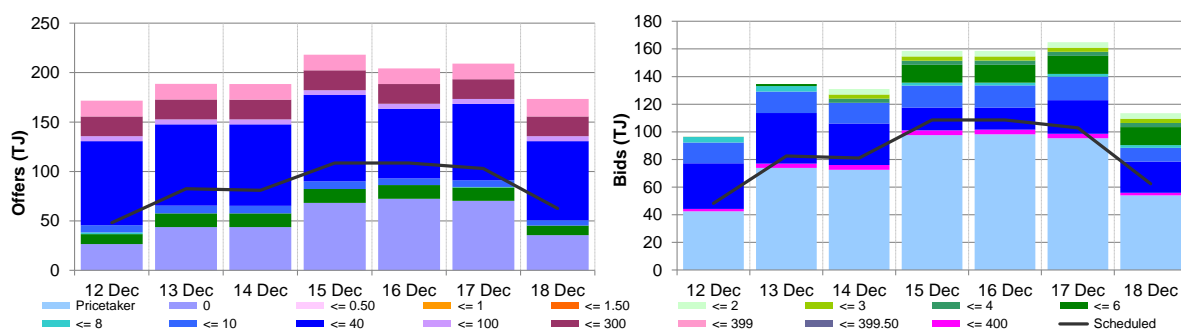
## 4. Brisbane STTM

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.

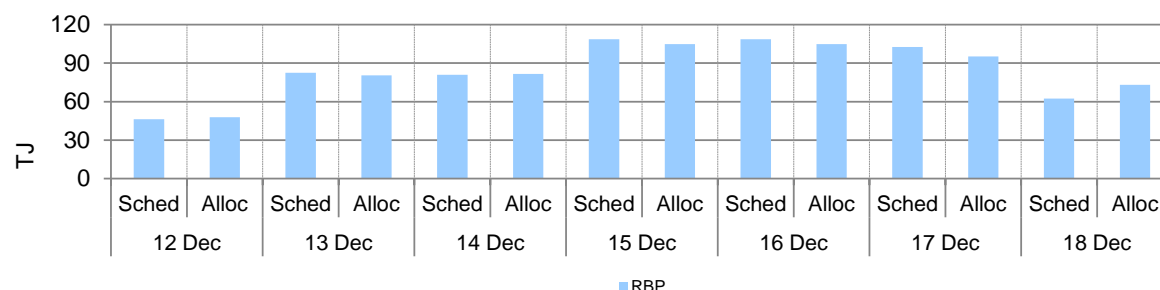
**Figure 4.1: BRI STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	13.50	15.01	16.30	14.94	14.75	14.29	14.29
Ex ante quantity (TJ)	48	83	81	109	109	103	62
Ex post price (\$/GJ)	14.01	15.01	16.50	14.60	14.75	13.50	14.99
Ex post quantity (TJ)	52	83	83	106	106	95	75

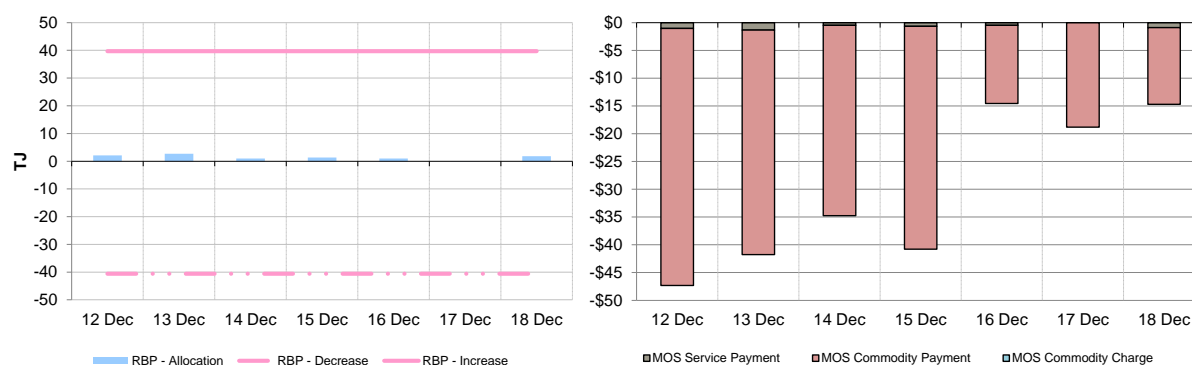
**Figure 4.2: BRI daily hub offers bids in price bands (\$/GJ)**



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



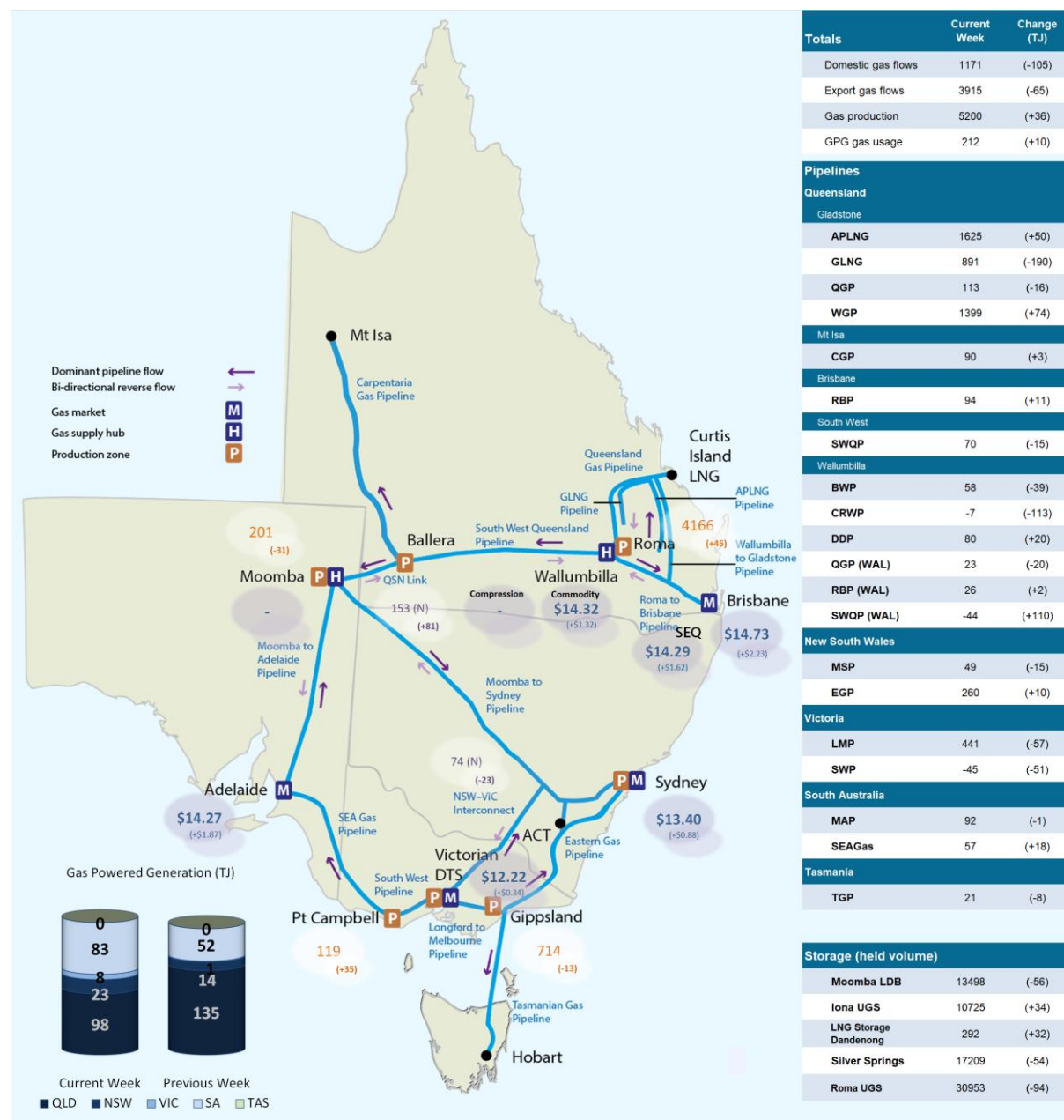
**Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)**



## 5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week<sup>16</sup> from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices<sup>17</sup> 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)<sup>18</sup>**



<sup>16</sup> 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.

<sup>17</sup> 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.

<sup>18</sup> Net flows are shown for Bulletin Board facilities, as outlined in the [user guide](#).

## 6. Gas Supply Hub

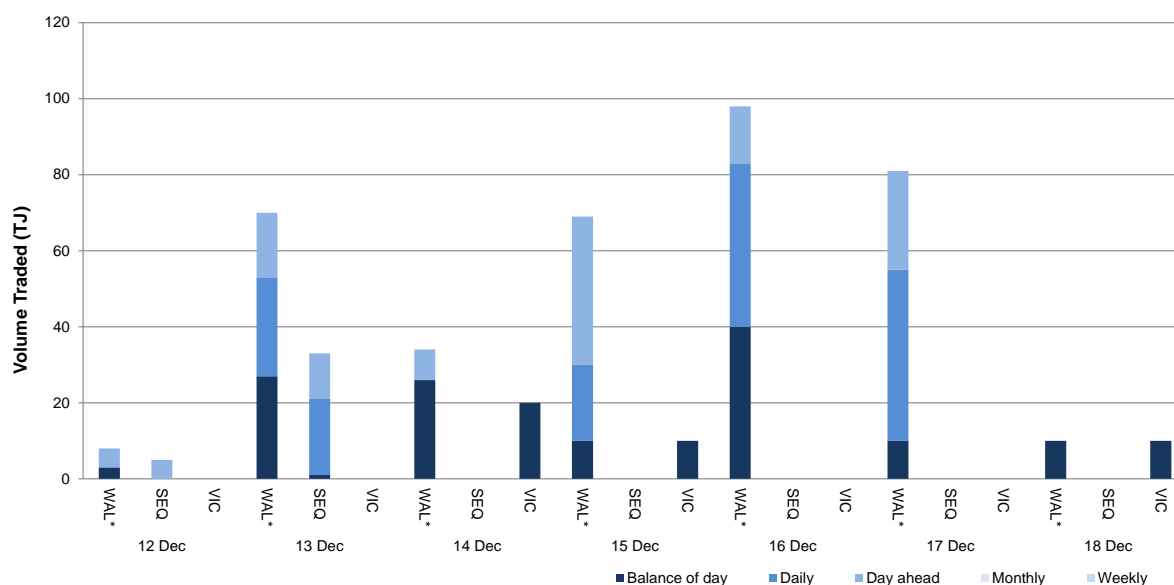
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).<sup>19</sup>

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 65 trades for 448 TJ of gas at a volume weighted price of \$14.33/GJ. These consisted of 52 trades at WAL (370 TJ at \$14.32/GJ), 10 trades at SEQ (38 TJ at \$14.29/GJ) and 3 trades at VIC (40 TJ at \$14.45/GJ). There were 4 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.<sup>20</sup>

**Figure 6.1: GSH traded quantities**



<sup>19</sup> Additional information on trading locations and available products is detailed in the [user guide](#).

<sup>20</sup> 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.

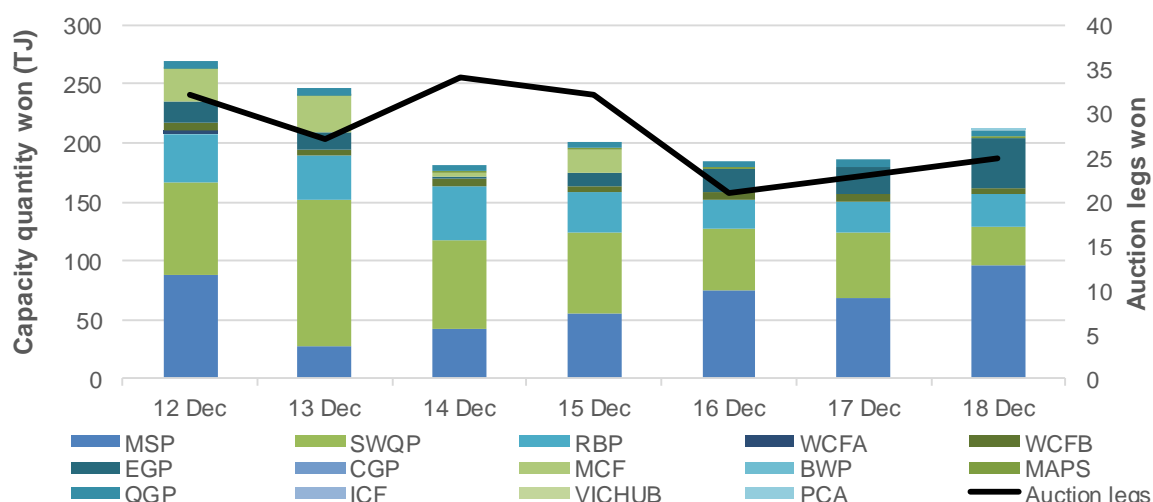
Participants may bid in to the DAA in order to procure the following services:

- 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 1481 TJ of capacity across 10 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.<sup>21</sup>

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



**Australian Energy Regulator**  
**March 2022**

<sup>21</sup> Additional information is available in the [user guide](#) to the AER gas weekly report.