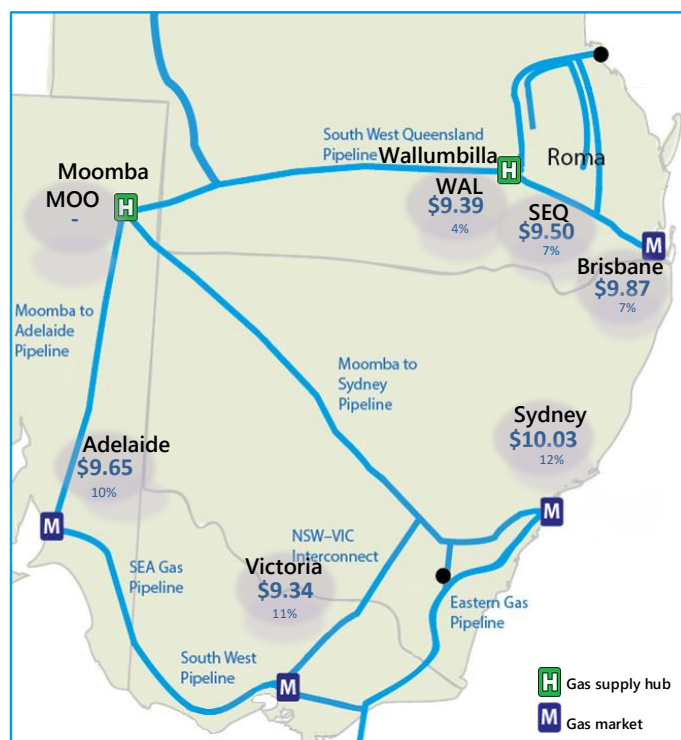


## 31 October – 6 November 2021

### Weekly Summary

Downstream wholesale gas market prices (marked M on the map below) exceeded \$10/GJ in all four markets from Thursday, with average prices 7-12% higher than the previous week. Prices at the upstream supply production hubs (marked H) also increased at Wallumbilla (WAL and SEQ trading points).



Trading in the Wallumbilla gas supply hub was concentrated around shorter-term products at SEQ and WAL this week, with no longer-term forward products traded (see section 6).<sup>1</sup>

Mainland gas powered generation decreased this week, driven by a reduction in Queensland. South Australia was the only state where gas powered generation increased.

LNG export pipeline flows were overall higher this week, with increased flows on the APLNG and GLNG pipelines and decreased flows on the QCLNG (WGP) pipeline (see more detailed map and table at figure 5.1).<sup>2</sup>

Longford commenced an outage on Friday as discussed in the *Detailed Market Analysis*.

<sup>1</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.

<sup>2</sup> APLNG refers to Australia Pacific Liquefied Natural Gas (LNG), GLNG refers to Gladstone LNG, and QCLNG refers to Queensland Curtis LNG (shipped on the Wallumbilla Gas Pipeline).

## 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 publishes 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>3</sup>**

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
31 Oct - 06 Nov 2021	9.34	359	10.03	236	9.65	46	9.87	88
% change from previous week	11	-31	12	-2	10	-11	7	-10
21-22 financial YTD	9.48	715	10.40	267	10.67	65	10.09	95
% change from previous financial YTD	102	-1	124	-2	95	-4	120	-9

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 Hubs (\$/GJ, TJ)<sup>4</sup>**

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
31 Oct - 06 Nov 2021	-	-	9.50	6	9.39	240
% change from previous week	-	-	7	-87	4	-9
21-22 financial YTD	8.22	236	10.55	1777	10.20	6235
% change from previous financial YTD	186	-27	175	-5	147	16

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

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

<sup>4</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 3: Daily gas market prices (\$/GJ)**

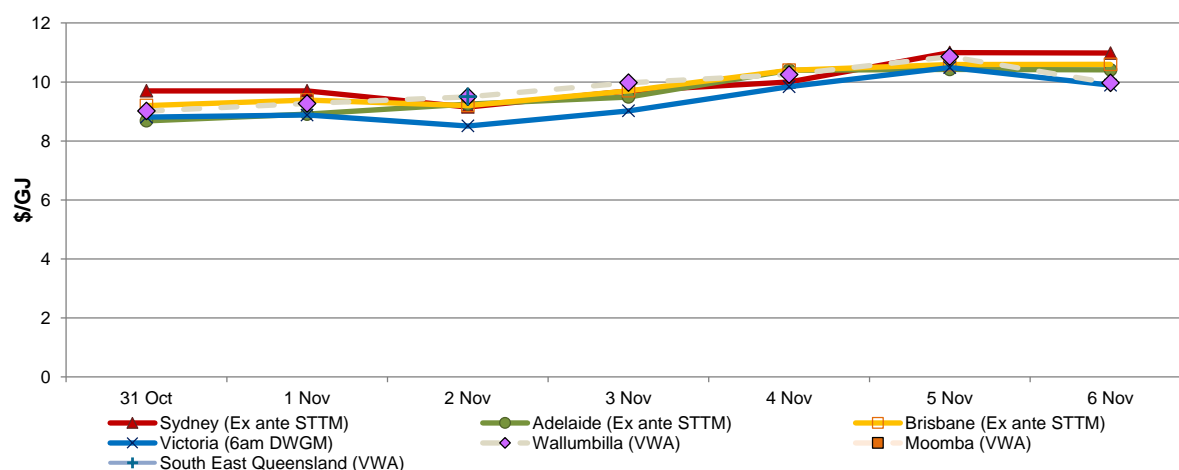


Figure 4 compares average ancillary market payments (for the VGM) and balancing gas service payments (STTM) against historical averages.

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

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
31 Oct - 06 Nov 2021	-	13.54	4.14	0.44
% change from previous week	-	-50	-52	-25
21-22 financial YTD		26.03	4.71	0.76
% change from previous financial YTD		22	-49	-91

\* 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)<sup>5</sup>**

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
<b>Balance of day</b>	-	-	9.50	6.0	9.54	117.0
<b>Daily</b>	-	-	-	-	9.08	76.0
<b>Day ahead</b>	-	-	-	-	9.51	47.0
<b>Weekly</b>	-	-	-	-	-	-
<b>Monthly</b>	-	-	-	-	-	-
<b>Total</b>	-	-	<b>9.50</b>	<b>6.0</b>	<b>9.39</b>	<b>240.0</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	1589	981	1769	4339
Export Pipeline Flows	1647	1095	1431	4173
% change from previous week (pipeline flows)	3	22	-1	6
21-22 financial YTD flows	1379	1138	1314	3831

\* 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>5</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

### Impact of changed Longford production levels

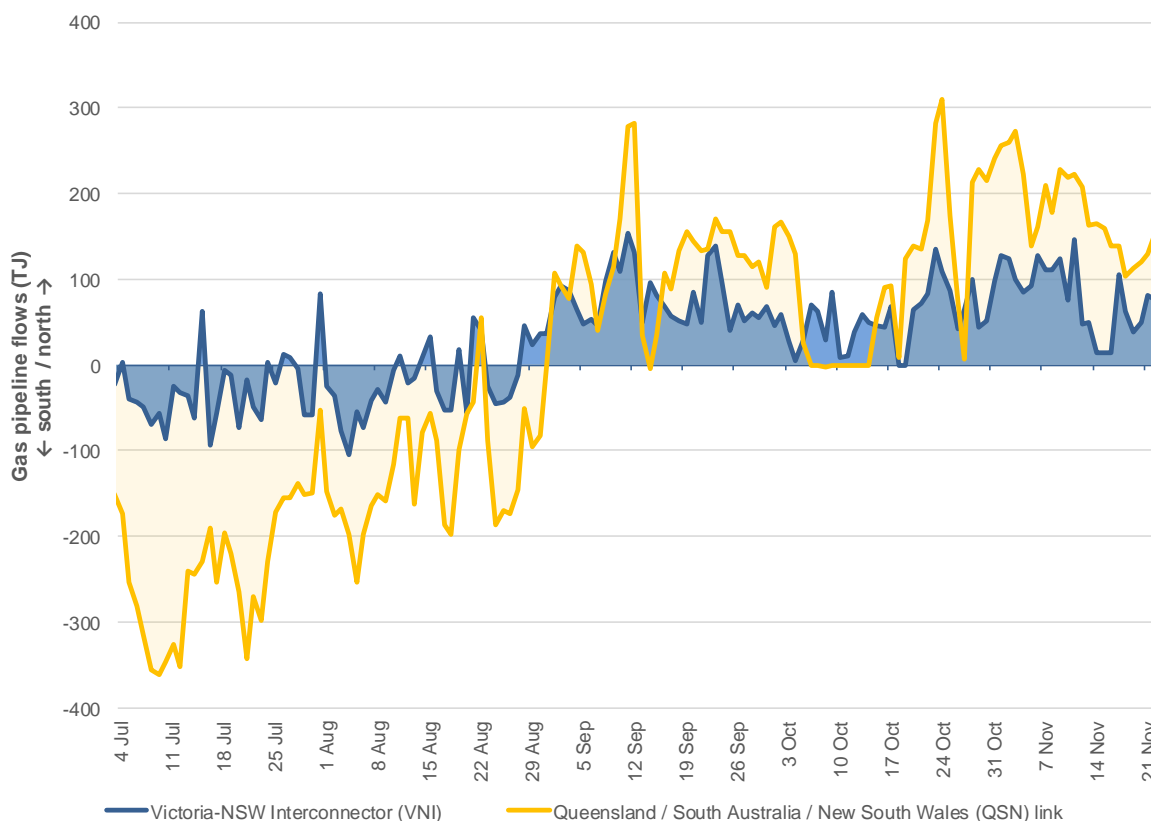
In Victoria, an onshore and offshore maintenance shutdown at the Longford gas plant significantly impacted production levels in the region from 5 November (see figure 1.5). The facility had been producing at reduced levels from 21 October in line with planned maintenance activity (730 TJ/day) prior to daily supply declining to just over 500 TJ from 5 to 8 November.

The reduced capacity availability at Longford led to an increased reliance on supply from the Iona underground storage facility, which has been providing the majority of the shortfall to meet Victorian market demand (see figure 1.5).

### Off peak southern demand competing with flows north for LNG

Flows north from Victoria on the VNI have remained strong since late August, and continue at elevated levels despite the recent supply constraints in the Victorian market. This coincides with elevated export levels from Queensland and significant quantities flowing north from Moomba (see figure 7).

**Figure 7: Victoria and Queensland interstate pipeline flows (TJ)**



These factors in Victoria have put upwards pressure on local prices and had an apparent flow on effect for other markets.

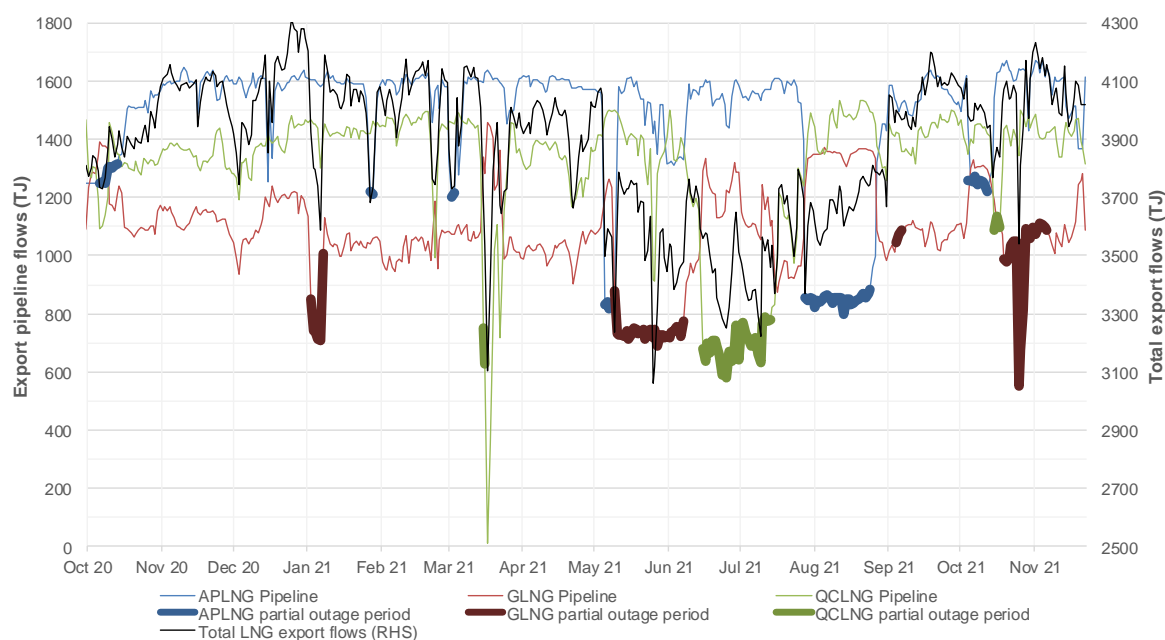
## LNG exports continue at record levels

LNG export pipeline flows were overall higher this week driven by increases on the APLNG and GLNG pipelines. The GLNG export pipeline, undergoing a 19 day planned maintenance outage, ramped up after an unscheduled reduction in export flows last week.<sup>6</sup>

From October 2020, export pipeline flows had increased to record levels with China taking increased cargoes from Gladstone as international prices surged.<sup>7</sup> With a continued rise in prices across multiple international regions prior to mid-2021 and high projections for expected LNG netback price levels across Q4 2021 and Q1 2022, favourable conditions for sellers of spot LNG cargoes look set to continue into the new year.<sup>8</sup>

Monthly pipeline export flows exceeded last year's October record reaching 3984 TJ/day, despite maintenance outages taking place across the three export projects during the month.<sup>9</sup> With export flows tracking high into November, and purchasers incentivised to maximise offtake quantities to avoid high international spot prices, there is potential for exported quantities to exceed those of Q4 2020.<sup>10</sup>

**Figure 8: Export pipeline flows and scheduled outage timeframes (TJ)\***



\* Export pipeline operator planned maintenance schedules recommence in 2022 ([LNG maintenance schedule](#)):

- APLNG Tuesday, 22 March 2022 to Friday, 25 March 2022 (0.5 Train outage)
- QCLNG 16th June 2022 to 18th July 2022 (One half of a train or greater, but not greater than one LNG train)

<sup>6</sup> A GLNG planned maintenance outage of half a train was scheduled over 19 October to 6 November. Pipeline flows reduced from around 1000 TJ/day at the start of the outage to 552 TJ on 25 October, before returning above 1000 TJ on 28 October.

<sup>7</sup> This trend continued across 2021 as the year commenced with colder than normal Asian winter conditions followed by a hotter than average Asian summer.

<sup>8</sup> Strong interest from Asian buyers from Q1 2021 reflected colder than normal winter conditions, a recovery in industrial activity following COVID and environmental policies promoting use of gas as a cleaner fuel of choice to reduce carbon emissions. This was followed by increased Asian GPG demand driven by warm weather. Supply from southern states supported high export flows over the period, with consistent northerly flows across Q4 2020 and Q1 2021 looking likely to recommence over Q4 2021 as supply flowing south from Queensland diminishes.

<sup>9</sup> Planned maintenance outages for half a train over Q4 2021 were scheduled for APLNG (4 – 12 October), QCLNG (15 – 17 October) and GLNG (from 19 October, outlined above).

<sup>10</sup> International prices for spot LNG cargoes are much higher than prices under long term oil linked offtake agreements, incentivising customers to obtain more gas under their existing offtake agreements and pushing up local LNG export plant utilisation. As such, higher levels of gas exports are expected to remain as long as spot LNG prices remain elevated.

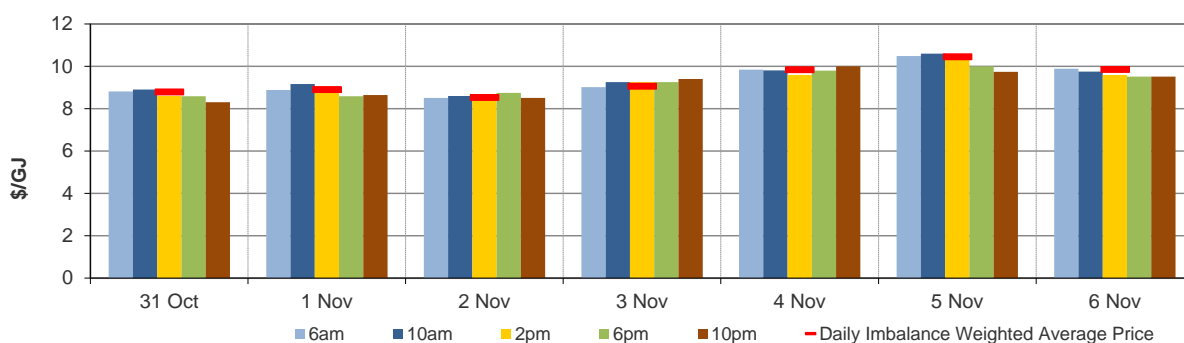
## 1. Victorian Declared Wholesale Market

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>11</sup> which is the schedule at which most gas is traded.

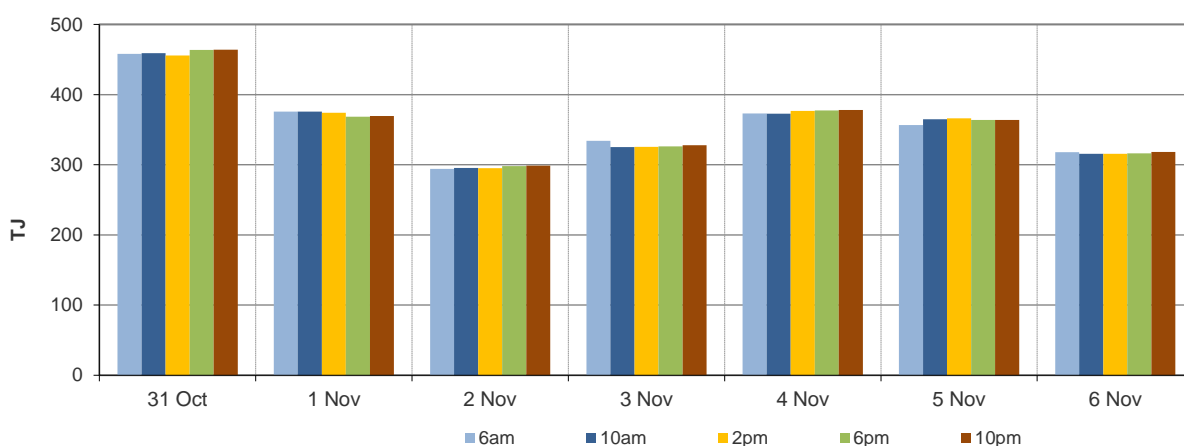
The main drivers<sup>12</sup> of price are demand forecasts and bids to inject or withdraw gas from the market. Figures 1.1 to 1.4 below show the daily prices, demand forecasts<sup>13</sup>, and injection/withdrawal bids for each of the five pricing schedules. Figure 1.5 provides information on which 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)**

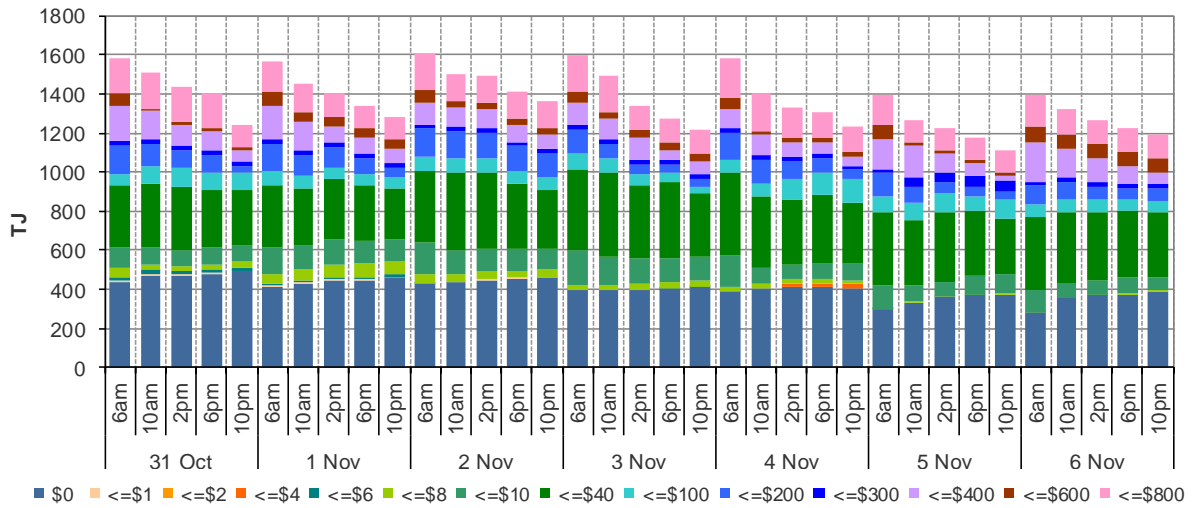


<sup>11</sup> Prices for subsequent schedules are applied only to the differences in scheduled quantities (imbalances) to calculate the weighted price. The 6 am price applies to the entire scheduled quantity in the initial schedule.

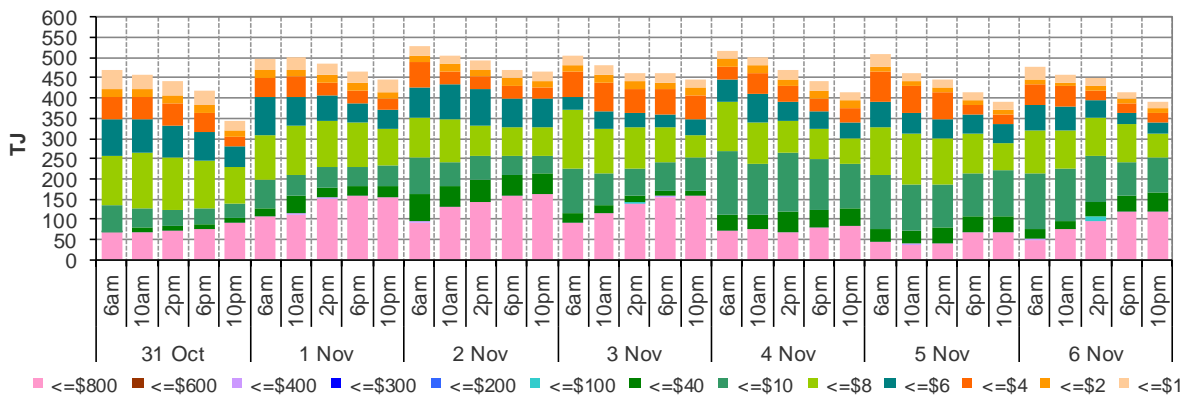
<sup>12</sup> The price might also be affected by transmission or production (contractual) constraints limiting how much gas can be delivered from a locale or System Injection Point (SIP) from time to time.

<sup>13</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.

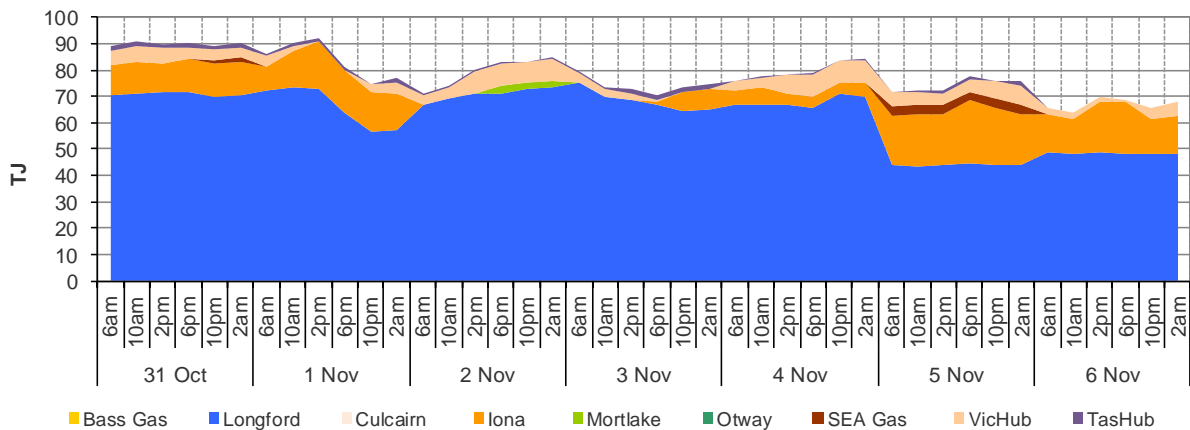
**Figure 1.3: Injection bids by price bands (TJ)**



**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>14</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](#).

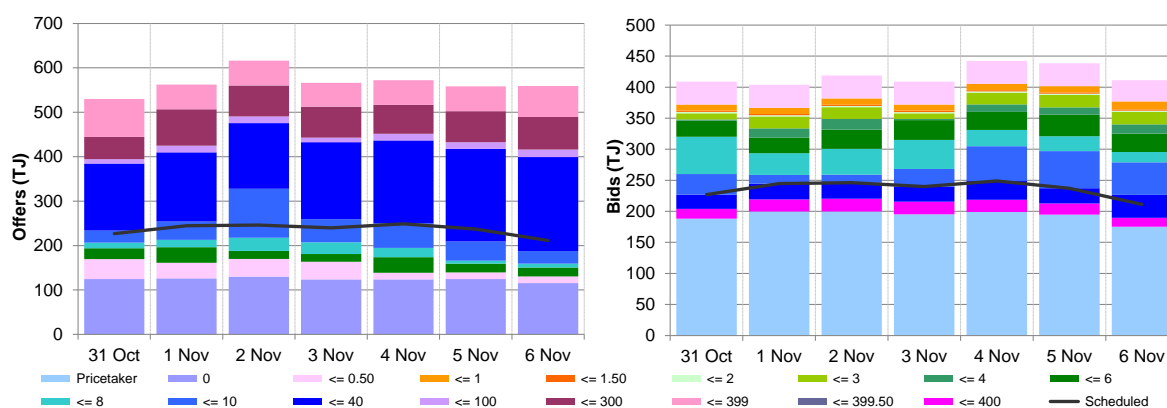
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.<sup>15</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)	9.70	9.70	9.15	9.70	10.00	11.00	10.98
Ex ante quantity (TJ)	227	245	246	240	249	237	211
Ex post price (\$/GJ)	10.20	10.00	9.18	9.86	10.00	11.00	10.91
Ex post quantity (TJ)	236	253	252	247	250	238	207

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

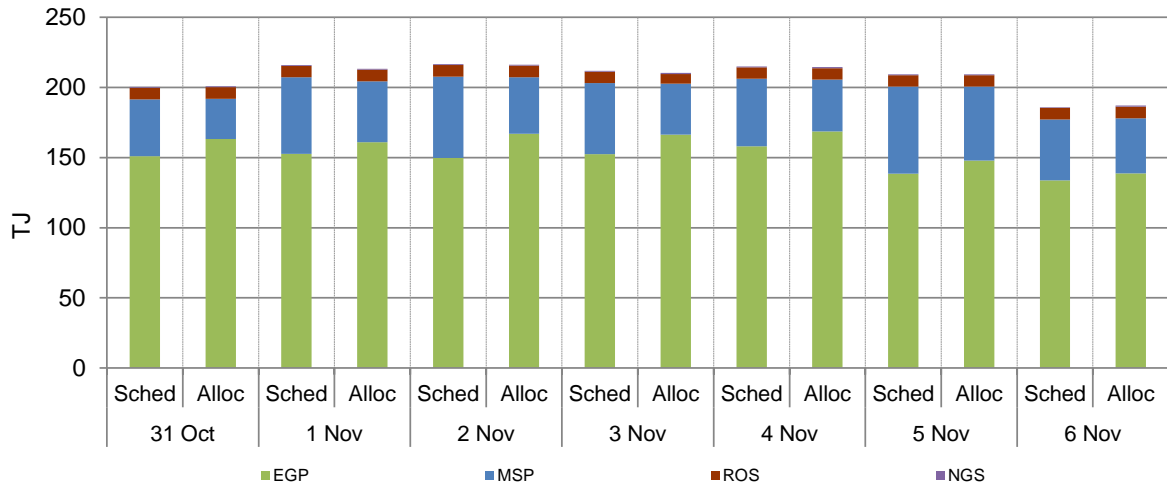


<sup>14</sup> The main driver of the amount of gas scheduled on a gas day is the 'price-taker' bid, which is forecast hub demand that cannot respond to price and which must be delivered, regardless of the price.

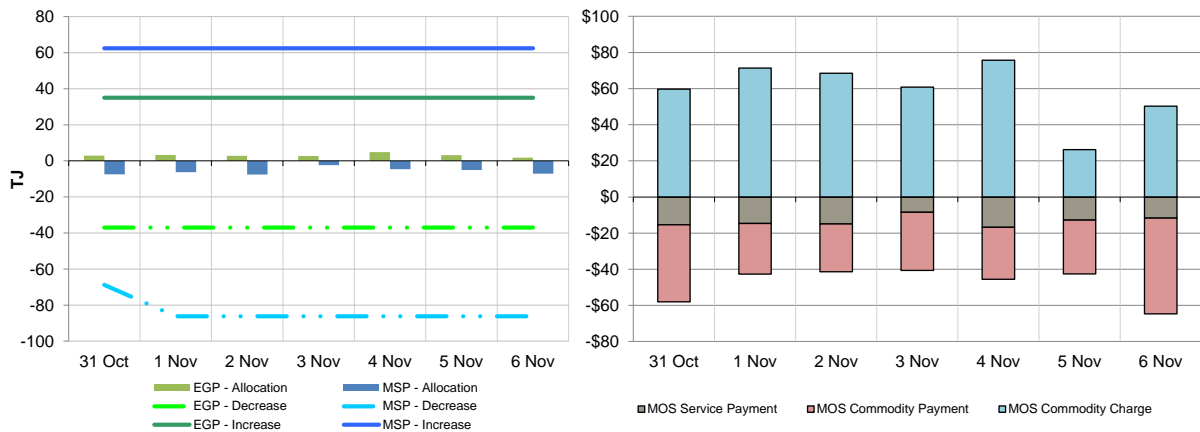
<sup>15</sup> MOS service payments involve a payment for a MOS increase service when the actual quantity delivered exceeds final gas nominations for delivery to a hub, and a payment for a MOS decrease service when the actual quantity delivered is less than final nominations. As well as a MOS 'service' 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>16</sup>**



<sup>16</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.

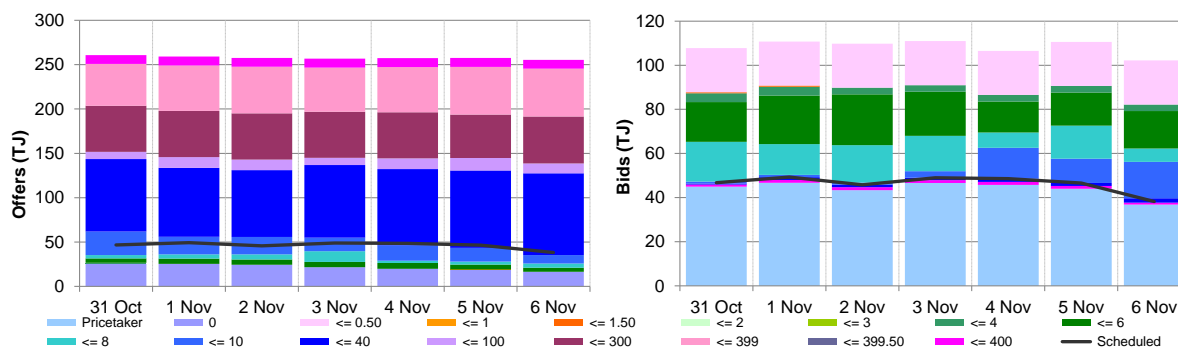
### 3. Adelaide STTM

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.

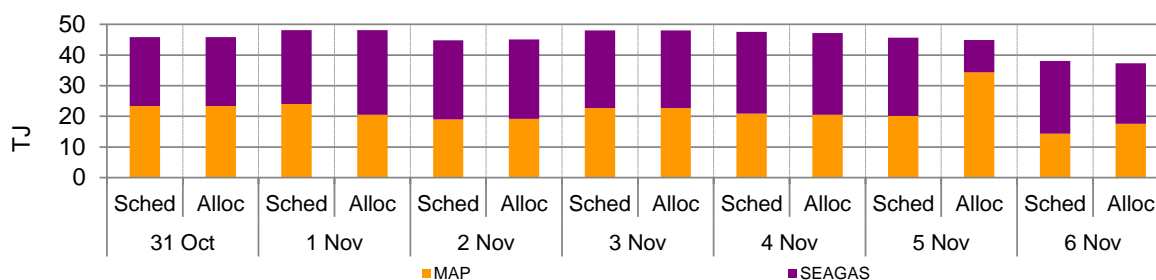
**Figure 3.1: ADL STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	8.68	8.91	9.25	9.49	10.40	10.43	10.41
Ex ante quantity (TJ)	47	49	46	49	49	47	38
Ex post price (\$/GJ)	8.51	9.51	9.25	9.69	10.44	10.01	10.09
Ex post quantity (TJ)	44	53	46	51	50	44	36

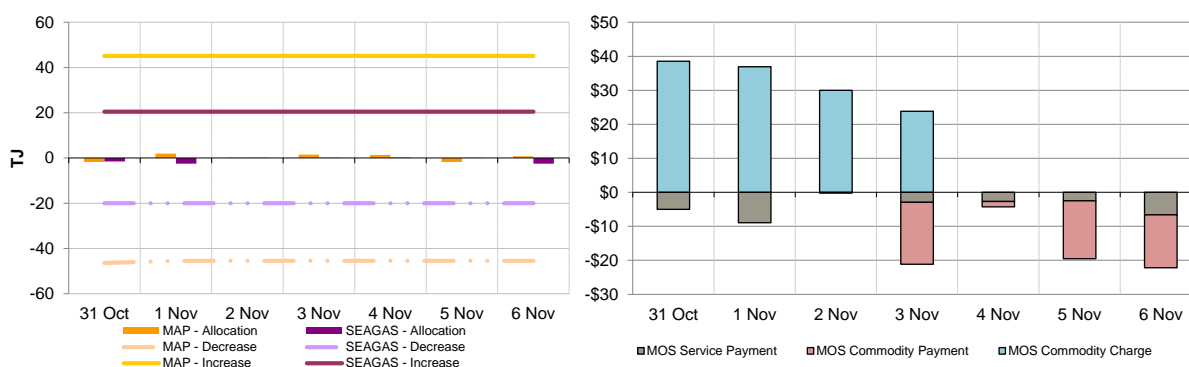
**Figure 3.2: ADL daily hub offers and bids in price bands (\$/GJ)**



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



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



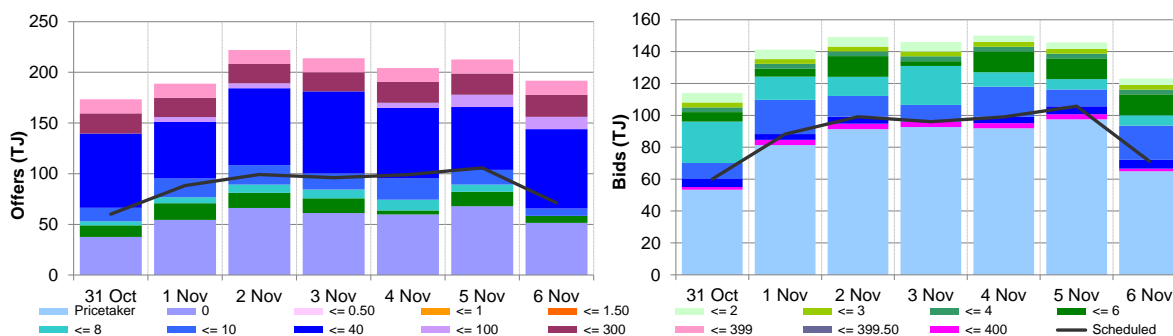
## 4. Brisbane STTM

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.

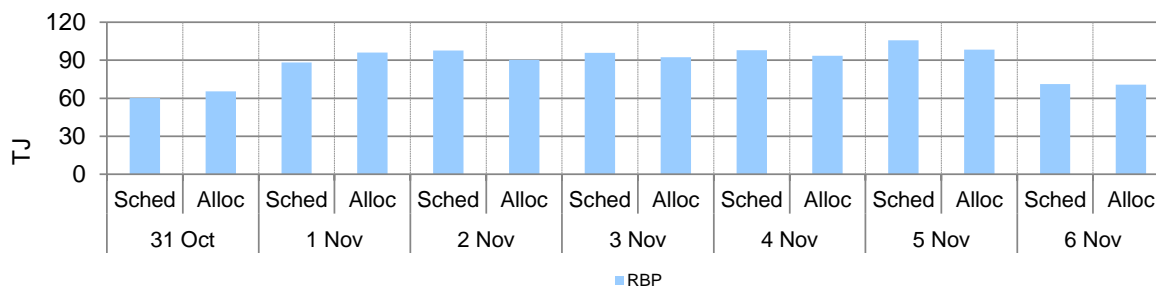
**Figure 4.1: BRI STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	9.20	9.39	9.20	9.70	10.40	10.59	10.60
Ex ante quantity (TJ)	60	88	99	96	99	106	71
Ex post price (\$/GJ)	10.17	10.22	8.71	9.20	9.85	9.58	10.41
Ex post quantity (TJ)	67	96	91	93	94	99	69

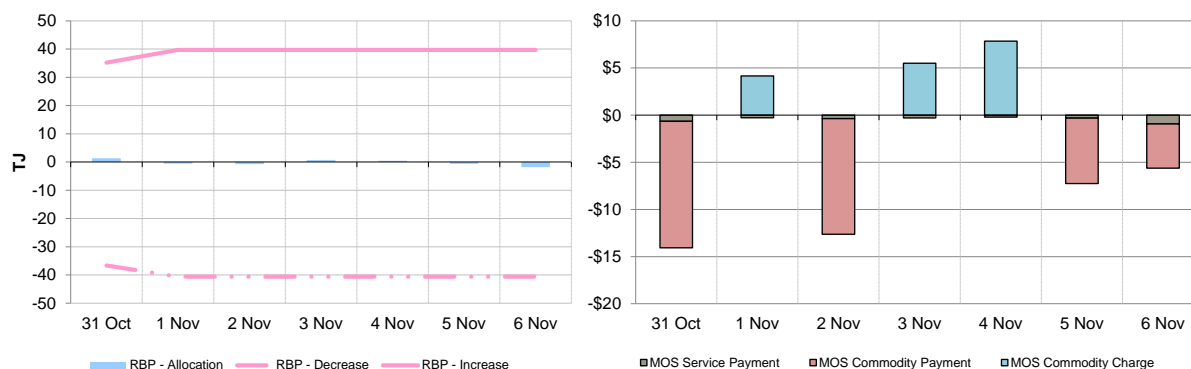
**Figure 4.2: BRI daily hub offers bids in price bands (\$/GJ)**



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



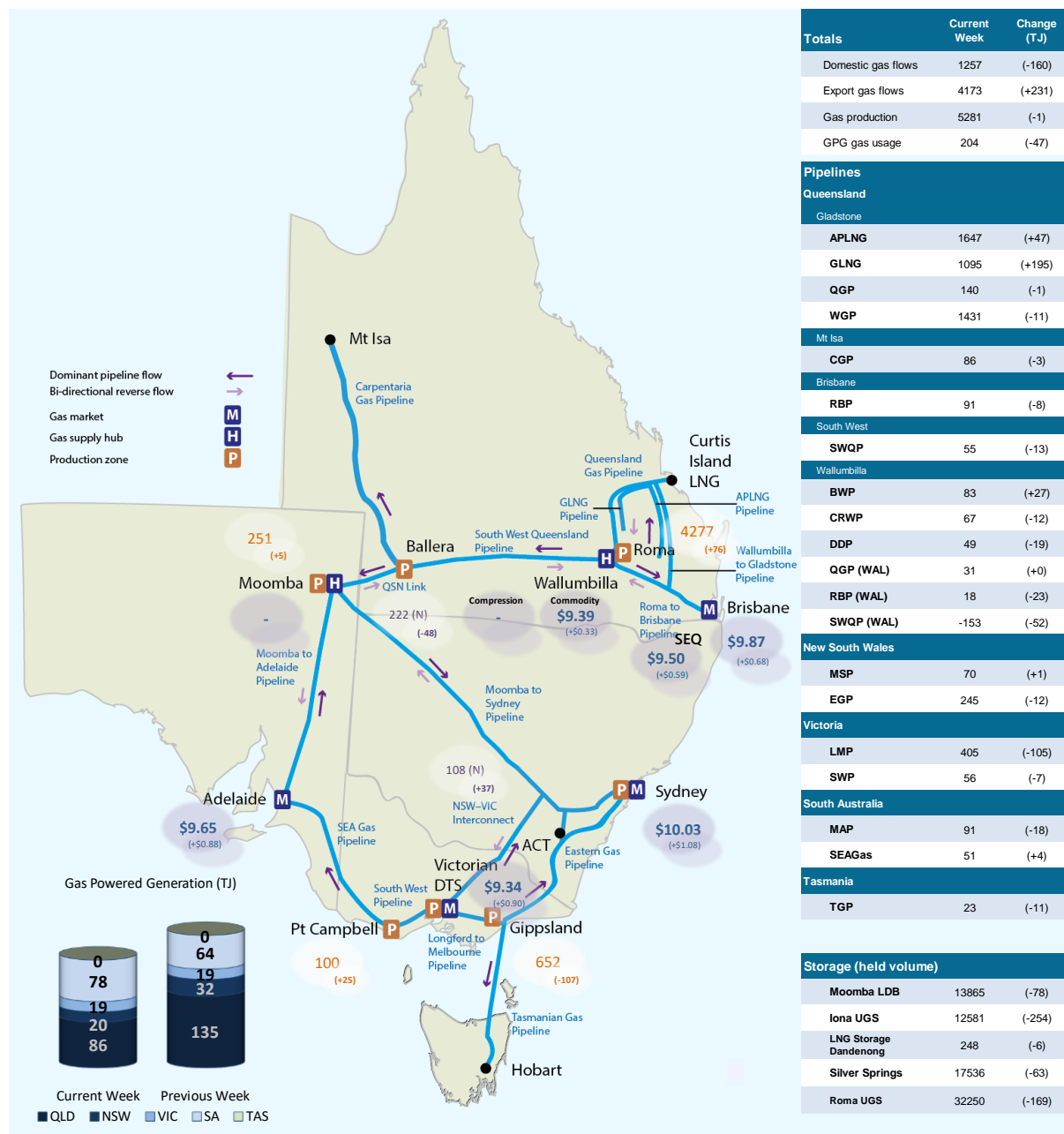
**Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)**



## 5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week<sup>17</sup> from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices<sup>18</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>19</sup>



<sup>17</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>18</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>19</sup> Net flows are shown for Bulletin Board facilities, as outlined in the [user guide](#).

## 6. Gas Supply Hub

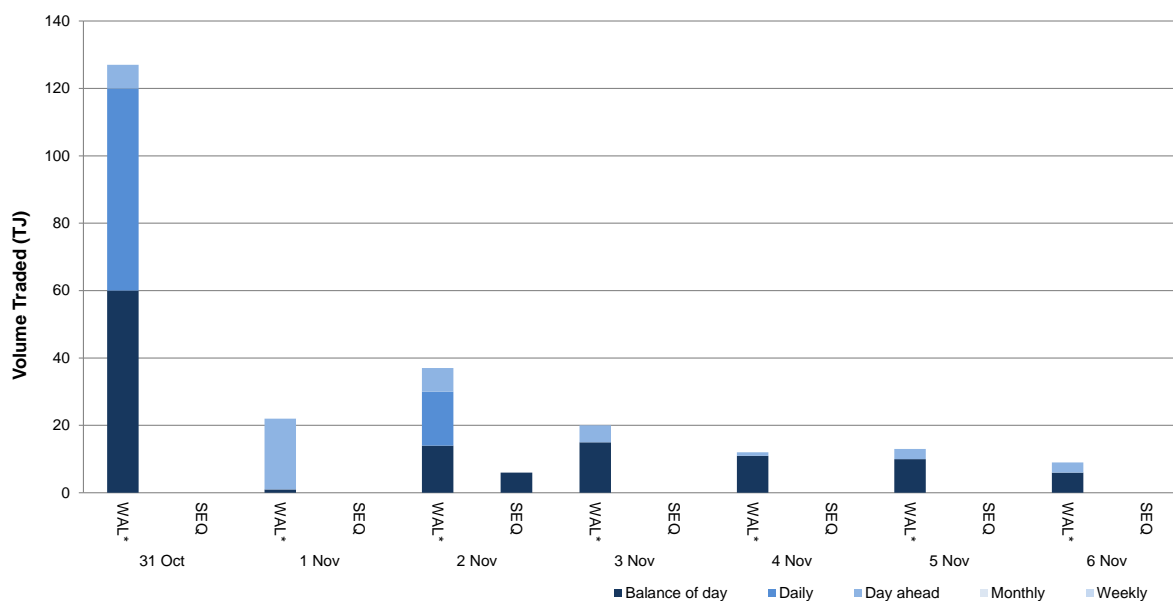
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).<sup>20</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 35 trades for 246 TJ of gas at a volume weighted price of \$9.39/GJ. These consisted of 34 trades at WAL (240 TJ at \$9.39/GJ) and 1 trade at SEQ (6 TJ at \$9.50/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.<sup>21</sup>

**Figure 6.1: GSH traded quantities**



<sup>20</sup> Additional information on trading locations and available products is detailed in the [user guide](#).

<sup>21</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.

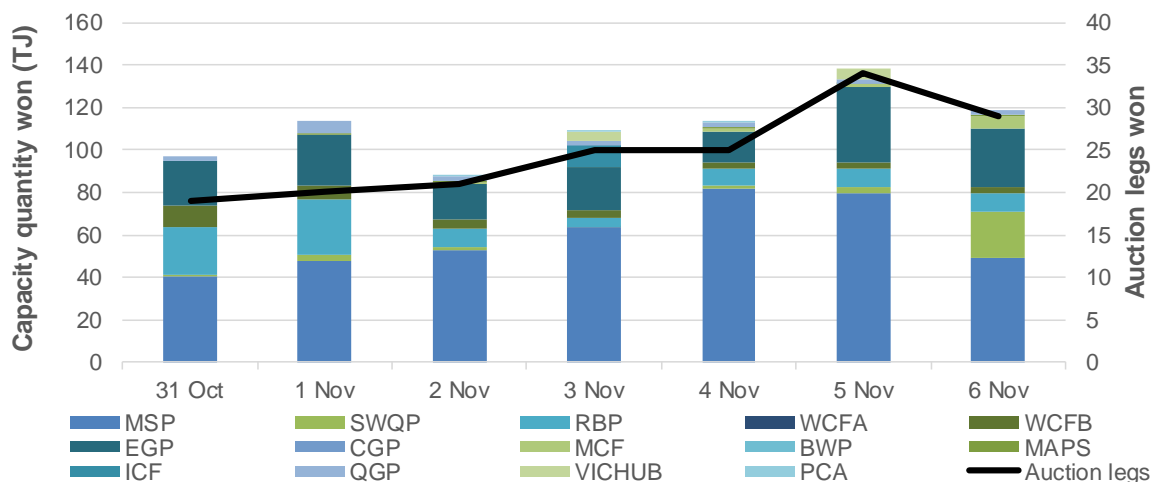
Participants may bid in to the DAA in order to procure the following services:

- 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 776 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.<sup>22</sup>

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



**Australian Energy Regulator  
November 2021**

<sup>22</sup> Additional information is available in the [user guide](#) to the AER gas weekly report.