

23 – 29 May 2021

Weekly Summary

Demand in Brisbane increased by 9% this week. Demand was also up slightly in Victoria and Sydney, gradually increasing over previous weeks heading into winter. While average prices and demand were relatively flat from the previous week in southern markets, with prices in Adelaide decreasing slightly, prices started showing an upward trend from mid-week. Brisbane experienced the highest prices, averaging \$8.20/GJ.

While gas powered generation (GPG) levels reduced in South Australia and Victoria from last week, GPG requirements increased across mainland regions from 26 May. In Queensland, GPG was up significantly from 97 TJ/day last week to 164 TJ/day following a loss of baseload generation capacity during the week.¹ Gas generation ramped up following the outage, filling the gap of lost coal generation capacity in the region.

There was a reduction in export pipeline flows and Roma production this week, both falling at similar rates. Despite this, gas flows coming out of Roma towards southern markets continued across most of the week.

There was a significant increase in capacity won on the DAA. The majority of capacity on the MSP was won on routes towards Moomba, while on the SWQP all auction capacity was on routes north towards Wallumbilla.

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 (**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

¹ From 25 May, average gas usage for electricity generation in Queensland exceeded 200 TJ/day out to the end of the week.

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

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
23 May - 29 May 2021	6.58	802	7.83	286	7.61	65	8.20	116
% change from previous week	1	4	0	2	-5	0	4	9
20-21 financial YTD	5.37	528	5.75	250	6.09	56	5.90	105
% change from previous financial YTD	-21	-6	-14	5	-17	1	-2	17

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
23 May - 29 May 2021	-	-	7.30	548	6.66	821
% change from previous week	-	-	-1	585	0	-48
20-21 financial YTD	3.04	338	5.65	5601	5.62	14985
% change from previous financial YTD	-56	-34	-3	-26	-9	3

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

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

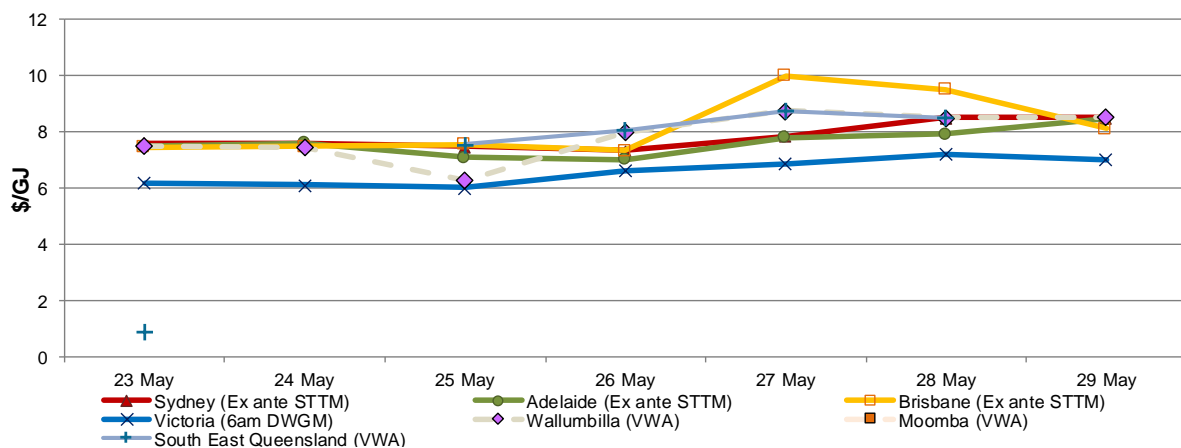


Figure 4 compares average ancillary market payments (VGM) and balancing gas service payments (STTM) against historical averages.

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 4: Average daily ancillary payments (\$000)

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
23 May - 29 May 2021	-	24.44	6.27	0.55
% change from previous week	-	21	58	-25
20-21 financial YTD		19.33	7.76	3.72
% change from previous financial YTD		-6	93	134

* 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	-	-	8.55	22.0	8.21	51.0
Daily	-	-	8.50	4.0	6.34	33.0
Day ahead	-	-	8.16	57.0	8.57	8.0
Weekly	-	-	5.83	105.0	8.00	140.0
Monthly	-	-	7.50	360.0	6.20	589.0
Total	-	-	7.30	548.0	6.66	821.0

* 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	1482	914	1547	3944
Export Pipeline Flows	1475	727	1201	3403
% change from previous week (pipeline flows)	-5	-1	-13	-8
20-21 financial YTD Flows	1469	1004	1321	3794

* 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).

Detailed market analysis

Daily prices followed a downward trend in all markets up to mid-week before rising above the level of price increases observed since mid-May. The largest impact occurred in Brisbane increasing to \$10/GJ and \$9.50/GJ on 27 and 28 May, rising well above provisional forecast prices.⁵

Prices in Adelaide and Sydney also increased to around \$8.50/GJ by the end of the week. There was a gap between prices in Victoria and the STTMs, with DWGM prices reaching a high of just over \$7/GJ alongside higher demand due to cold weather later in the week.⁶ Longford production ramped up from mid-last-week and continued producing higher quantities, averaging over 900 TJ/day.

Gas powered generation demand increased significantly in Queensland from 25 May, followed by further increases in other mainland regions the following day.⁷ In Queensland, the coal-fired Callide power station came offline after mid-day on 25 May, following an explosion and fire in the turbine hall of unit 4 at Callide C, with repairs to the damaged facility expected to last 12 months. This triggered other units at the power station to trip, with all generation remaining offline into the following weeks.⁸

Figure 7 shows gas usage from gas powered generators in the National Electricity Market.

Figure 7: Daily gas powered generation (GPG) across the east coast (TJ)



Export pipeline flows reduced on average by 276 TJ/day from the previous week, with Roma production levels down by roughly the same amount. GLNG flows were steady around 730 TJ/day, while APLNG flows declined by around 80 TJ/day.⁹ QCLNG flows dropped by

⁵ In addition to rebidding shifting a significant amount of capacity into higher price bands, ex ante demand was up by 8.3 TJ and 15.6 TJ on 27 and 28 May respectively, largely driven by higher industrial demand forecasts. On 27 May, the quantity of gas offered in price bands between \$5-\$9/GJ in the D-2 provisional schedule reduced by 47.8TJ in the D-1 ex ante schedule, with the majority shifted into higher price bands. These factors drove the ex ante price \$2.68/GJ and \$1.07/GJ higher than the D-2 provisional forecasts on the respective days.

⁶ Maximum temperatures in Victoria ranged between 13-15 degrees from 26-29 May driving up demand for residential gas heating.

⁷ Increases in the south were largely attributable to higher gas generation in South Australia as wind levels decreased.

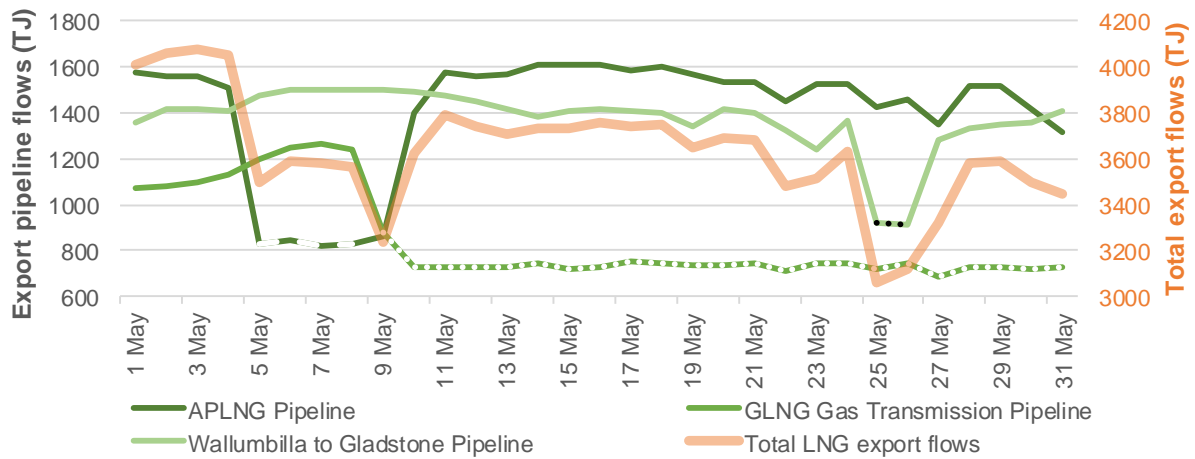
⁸ This influenced a number of high prices in the National Electricity Market (NEM), with Queensland spot prices across the evening peak rising to around \$5000-\$15000/MWh across the 4.30 pm to 7 pm half-hourly spot intervals. The drivers of high NEM prices will be assessed as part of the prices above \$5,000/MWh report triggered for Queensland and New South Wales. This report is due for publishing in mid-July.

⁹ GLNG flows reduced from the start of last week with one train offline for planned maintenance (9 May – 7 June).

187 TJ/d. This was largely driven by short term planned maintenance for pipeline pigging over 25-26 May where daily flows fell to just over 900 TJ/day.¹⁰

Figure 8 shows export pipeline flows to LNG processing facilities at Curtis Island in Queensland. Planned maintenance outage periods are indicated by dotted lines.

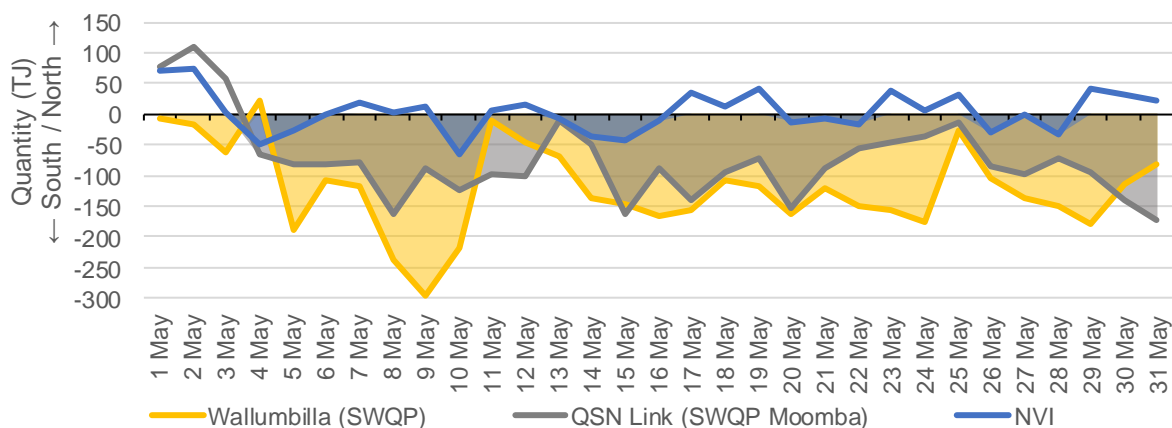
Figure 8: LNG export pipeline flows (TJ)



Net flows from Queensland continued to move gas south¹¹, however gas flowing west from Wallumbilla and south through QSN Link reduced close to zero on 25 May. While westerly flows from Wallumbilla remained high around 150 TJ/day across the rest of the week, there was a notable decline in the amount of gas making its way south via QSN heading into this week.

Figure 9 shows flows west at Wallumbilla (QLD) and south at Moomba (SA) and Cul Cairn (VIC) illustrated by the shaded areas.

Figure 9: Inter-regional gas pipeline flows (TJ)



There was a significant increase in capacity attained on the Day Ahead Auction, with almost 1280 TJ won for delivery this week across 12 facilities. Just over 527 TJ of this capacity was on the SWQP and MSP pipeline routes, however the majority of flows on these routes was directing gas west on the MSP and towards Wallumbilla on the SWQP, counter to the direction of net flows making their way south from Queensland.

¹⁰ For the same period there was a significant reduction in gas production from Roma, with QCLNG operated facilities declining by roughly 700 TJ. This contributed to the weekly average flows from those facilities declining by 277 TJ/day compared to the previous week. Total Roma production had increased back above 4100 TJ by the end of the week.

¹¹ This trend recommenced in early May and continued over the past two weeks.

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 price¹² which is the schedule at which most gas is traded.

The main drivers¹³ 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 forecasts¹⁴, 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)

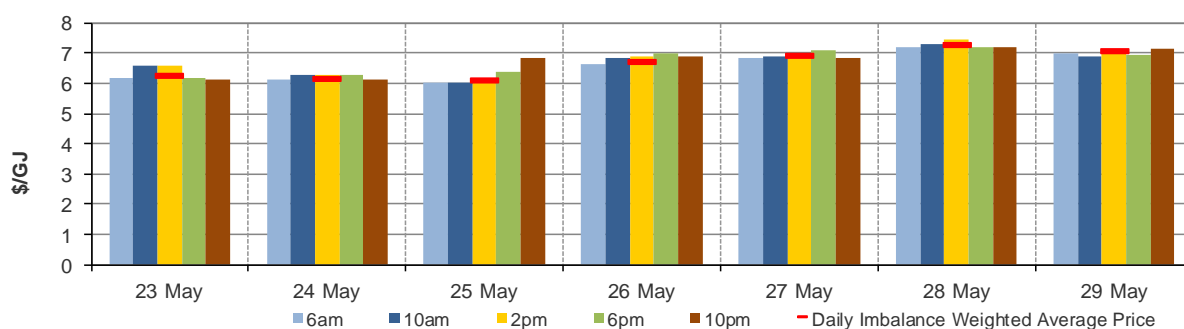
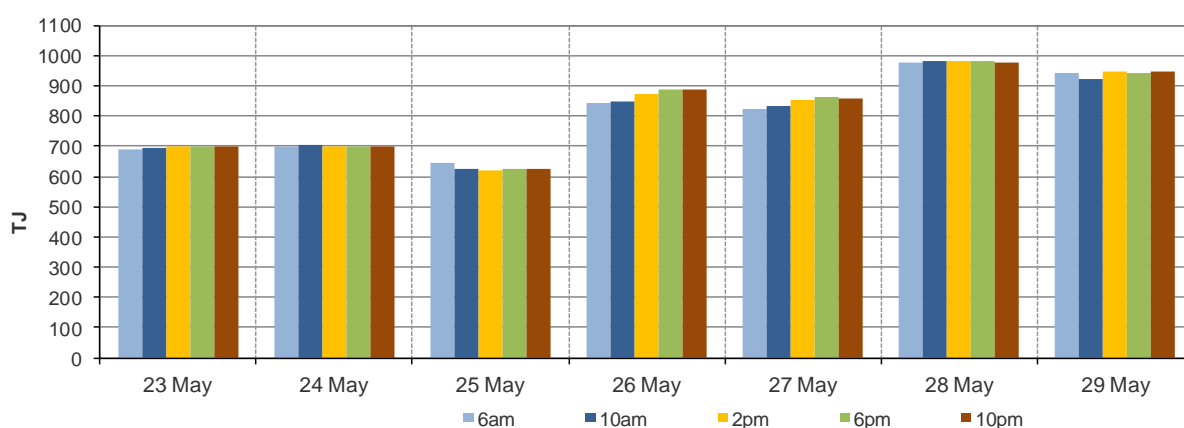


Figure 1.2: Demand forecasts (TJ)



¹² 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.

¹³ 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.

¹⁴ 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)

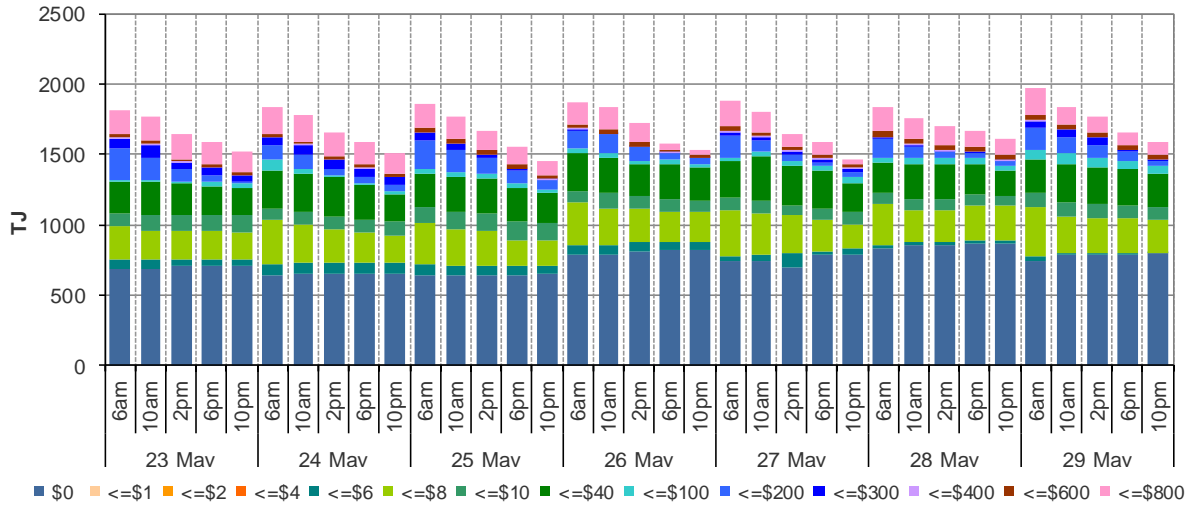


Figure 1.4: Withdrawal bids by price bands (TJ)

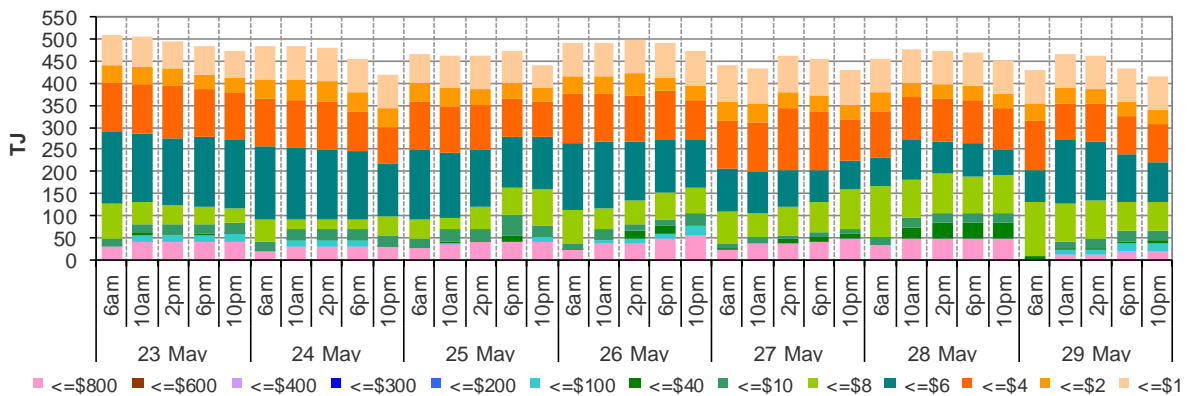
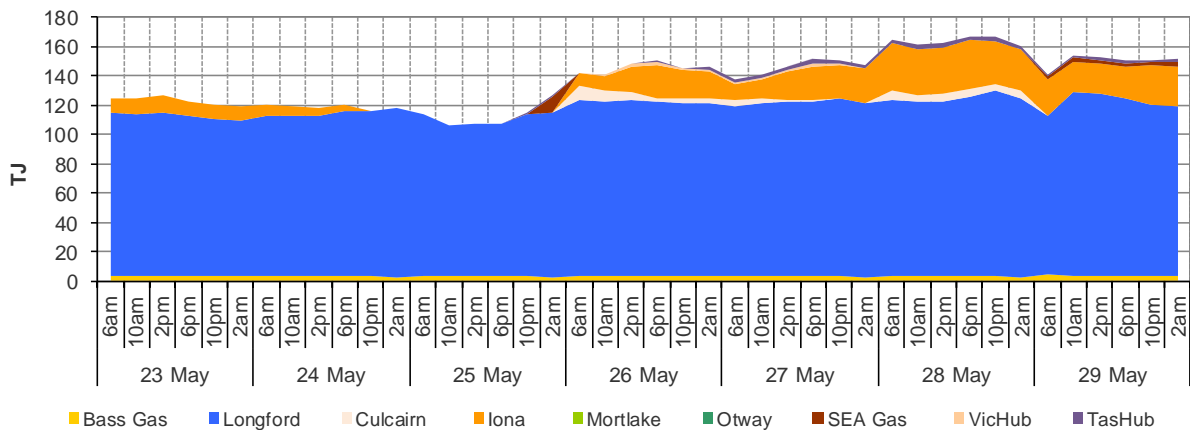


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.¹⁵ 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](#).

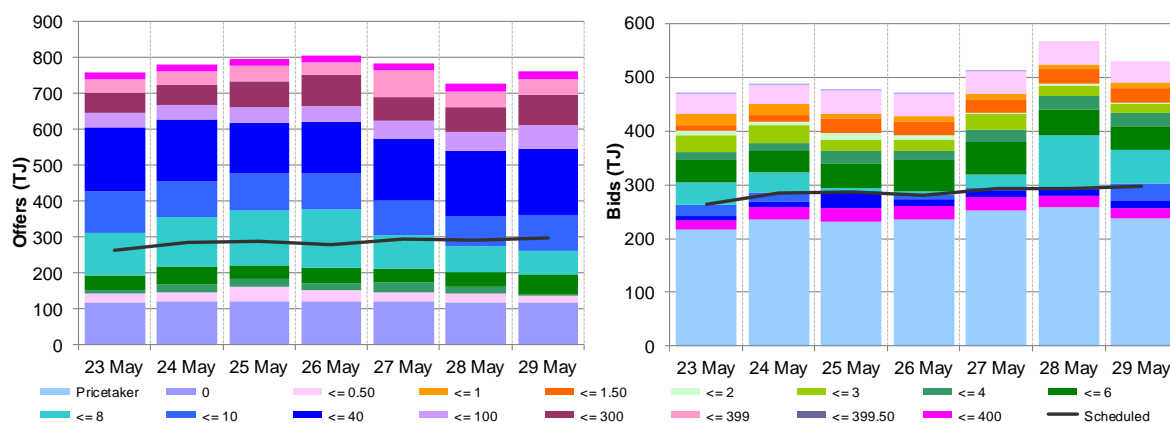
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.¹⁶

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)	7.59	7.57	7.47	7.34	7.85	8.50	8.50
Ex ante quantity (TJ)	264	286	287	281	294	293	297
Ex post price (\$/GJ)	7.65	7.57	7.48	7.49	8.10	8.75	8.69
Ex post quantity (TJ)	268	288	298	303	312	302	310

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



¹⁵ 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.

¹⁶ 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.

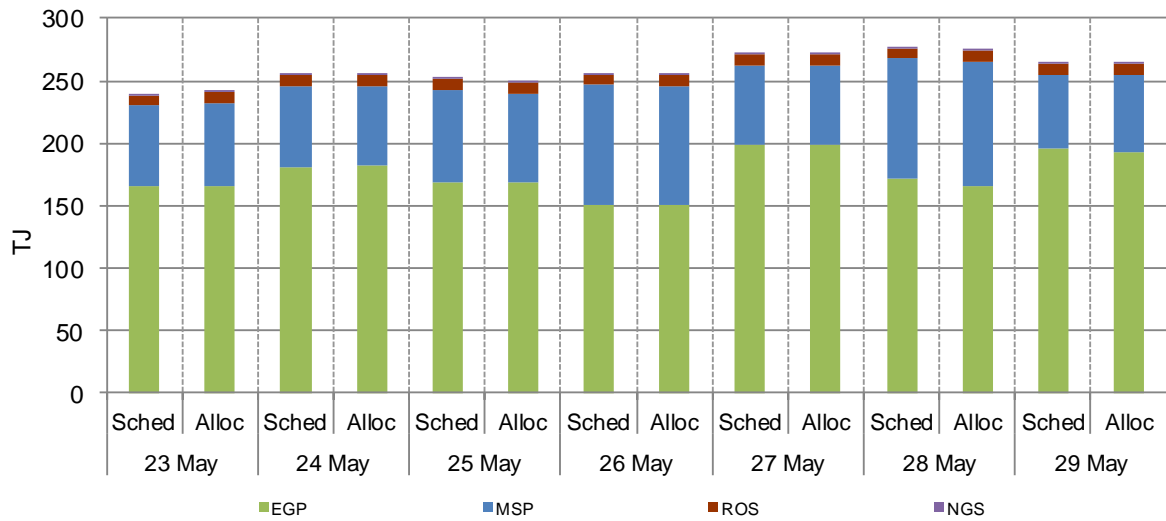
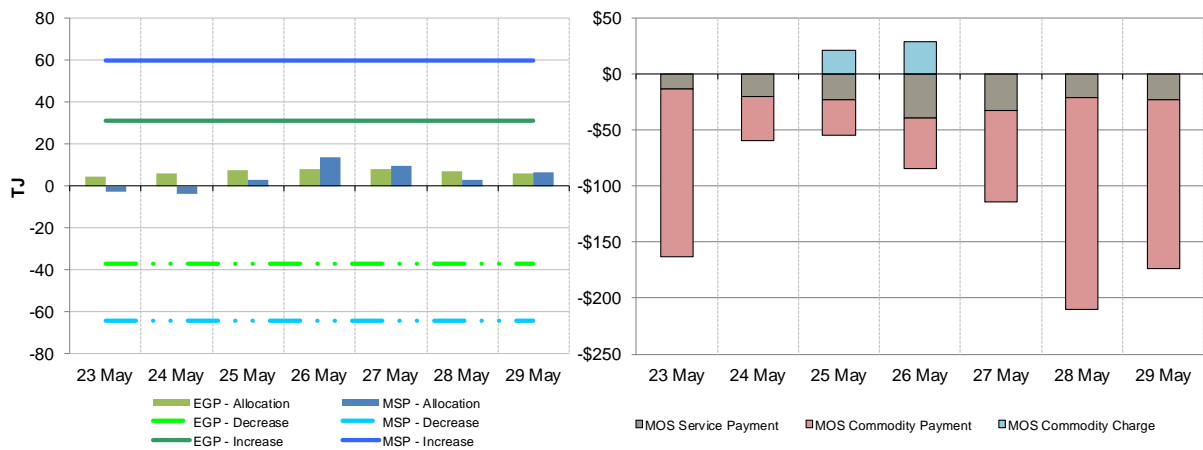


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$000)¹⁷



¹⁷ 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)	7.48	7.60	7.07	7.01	7.78	7.91	8.45
Ex ante quantity (TJ)	48	57	68	72	72	71	65
Ex post price (\$/GJ)	7.48	7.46	7.05	6.80	7.46	7.48	8.90
Ex post quantity (TJ)	46	52	66	63	68	70	69

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

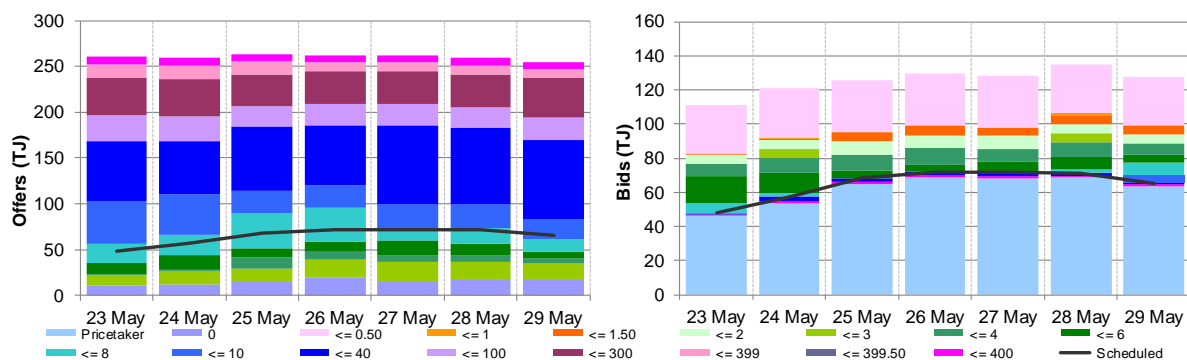


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

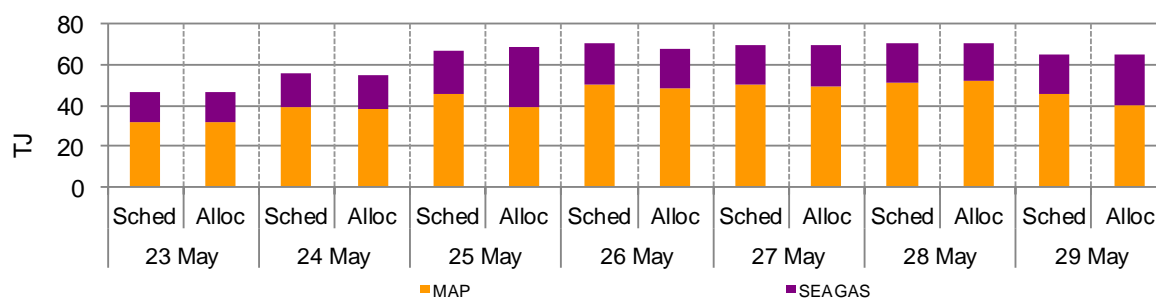
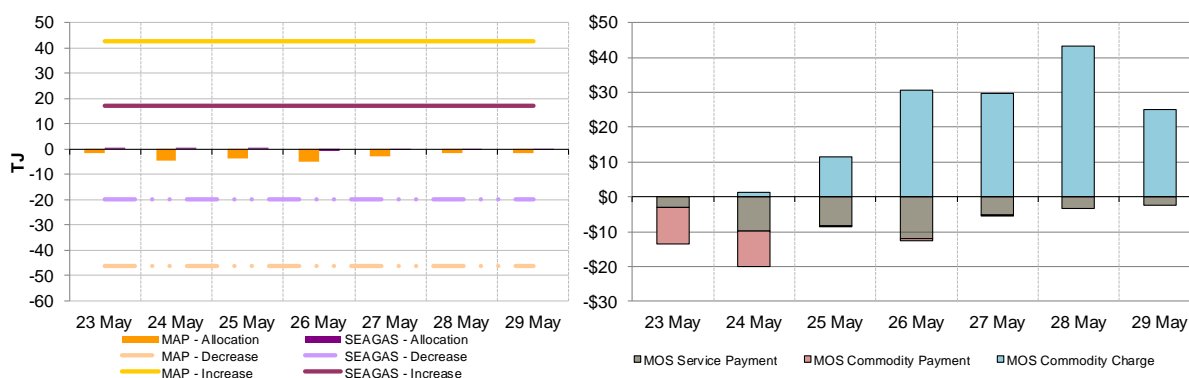


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	7.45	7.47	7.55	7.33	10.00	9.50	8.10
Ex ante quantity (TJ)	75	114	124	114	131	139	116
Ex post price (\$/GJ)	7.66	6.61	6.90	7.39	9.70	9.03	8.57
Ex post quantity (TJ)	77	90	106	119	130	134	122

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

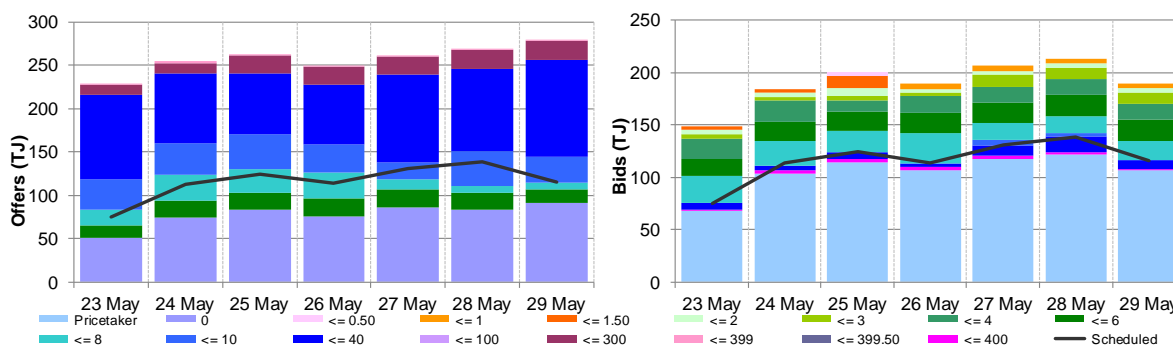


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

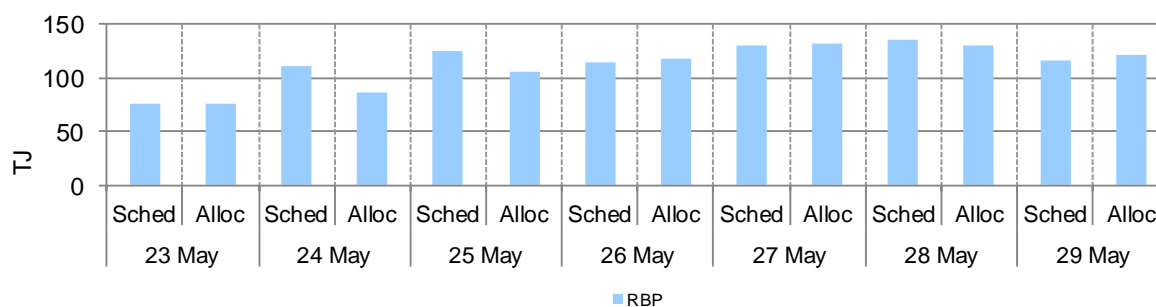
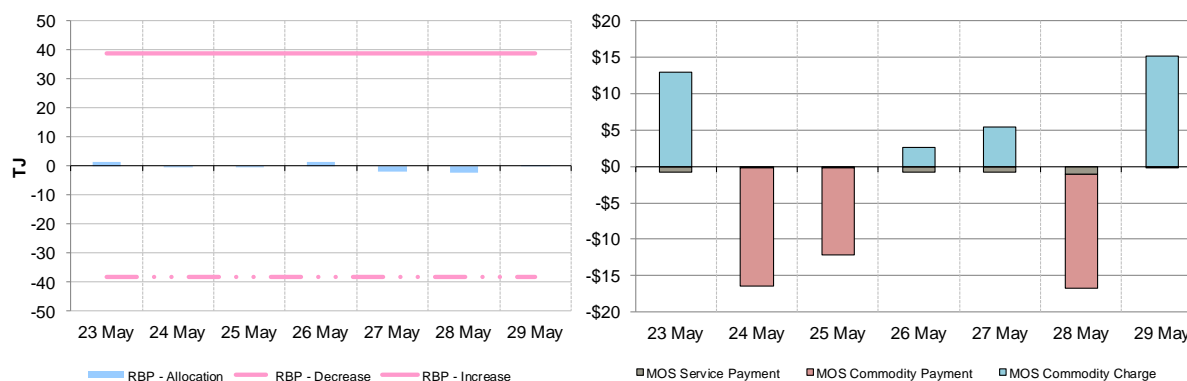


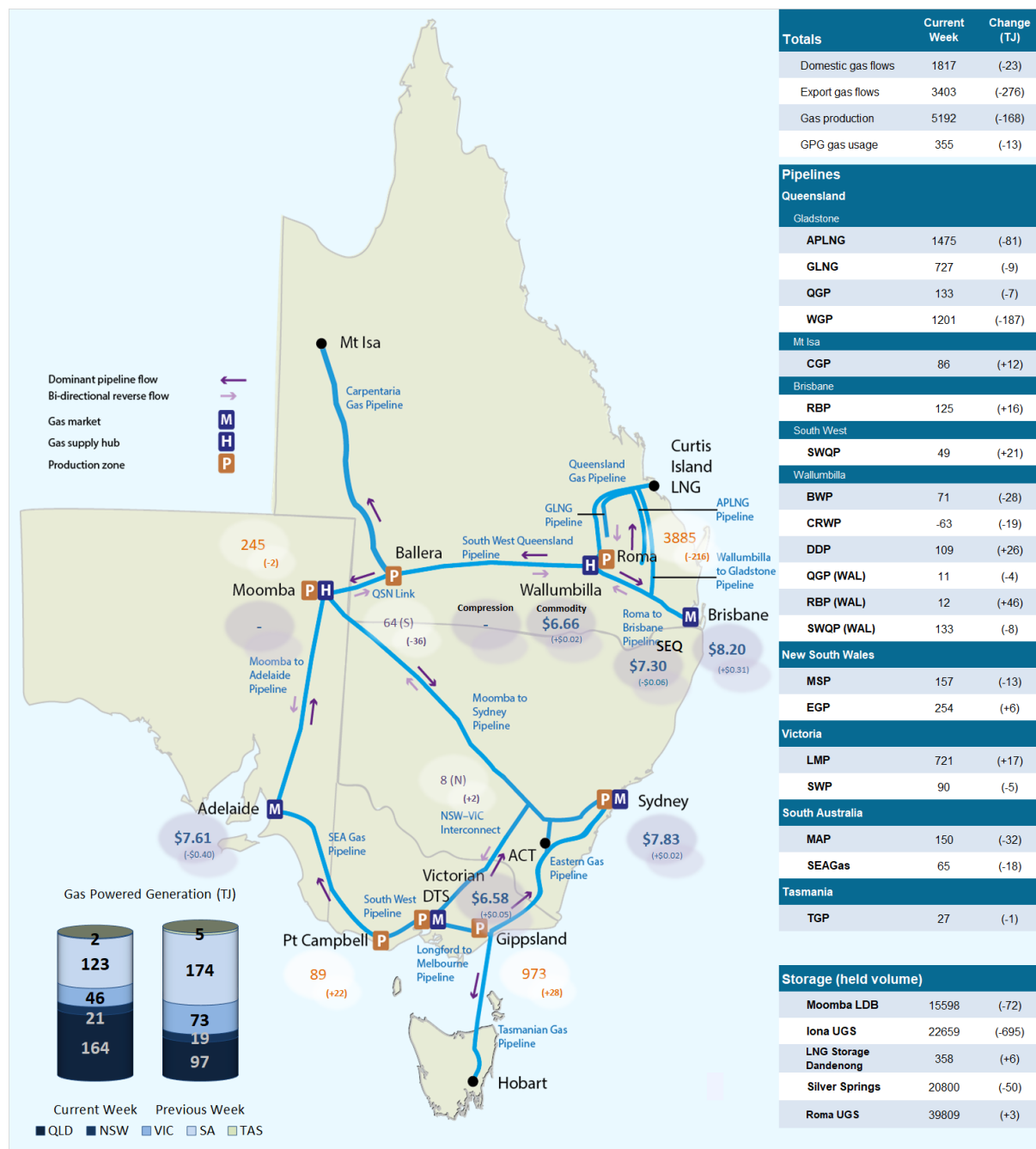
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week¹⁸ from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices¹⁹ 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)²⁰



¹⁸ 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.

¹⁹ Export gas flows are calculated as the total of: the APLNG pipeline; the GLNG pipeline; and the Wallumbilla to Gladstone pipeline.

²⁰ GPG volumes may include gas usage that does not show up on Bulletin Board pipeline flows.

¹⁹ 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.

²⁰ Net flows are shown for Bulletin Board facilities, as outlined in the [user guide](#).

6. Gas Supply Hub

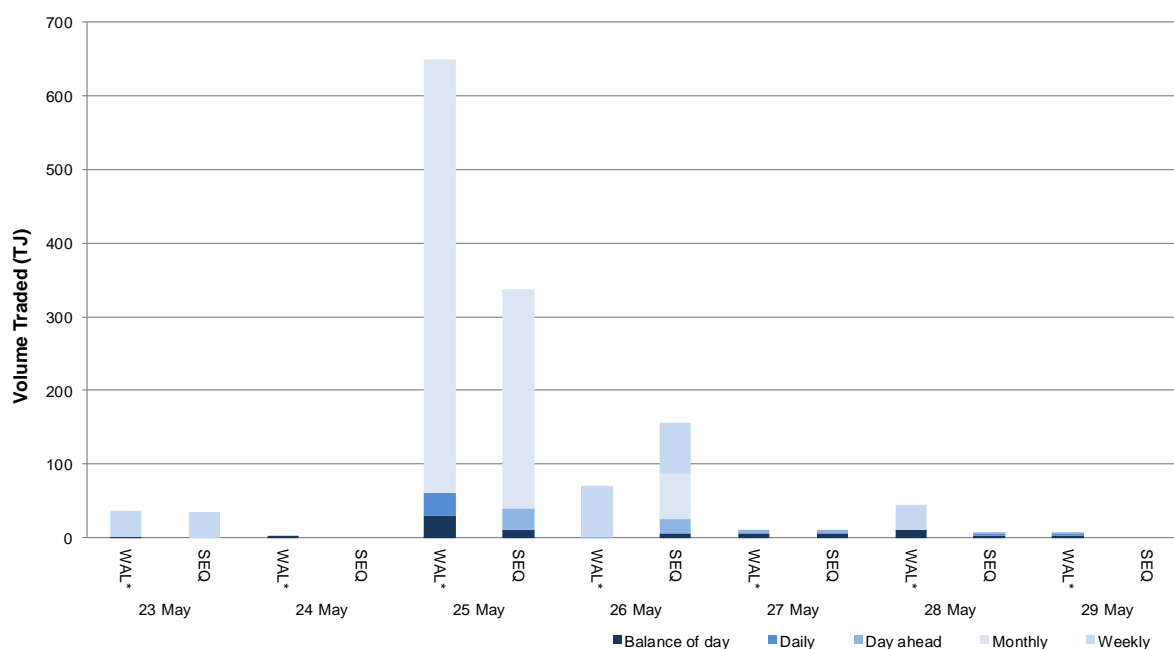
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).²¹

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 47 trades for 1369 TJ of gas at a volume weighted price of \$6.92/GJ. These consisted of 24 trades at WAL (821 TJ at \$6.66/GJ) and 23 trades at SEQ (548 TJ at \$7.30/GJ). There was one spread trade 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.²²

Figure 6.1: GSH traded quantities



²¹ Additional information on trading locations and available products is detailed in the [user guide](#).

²² 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.

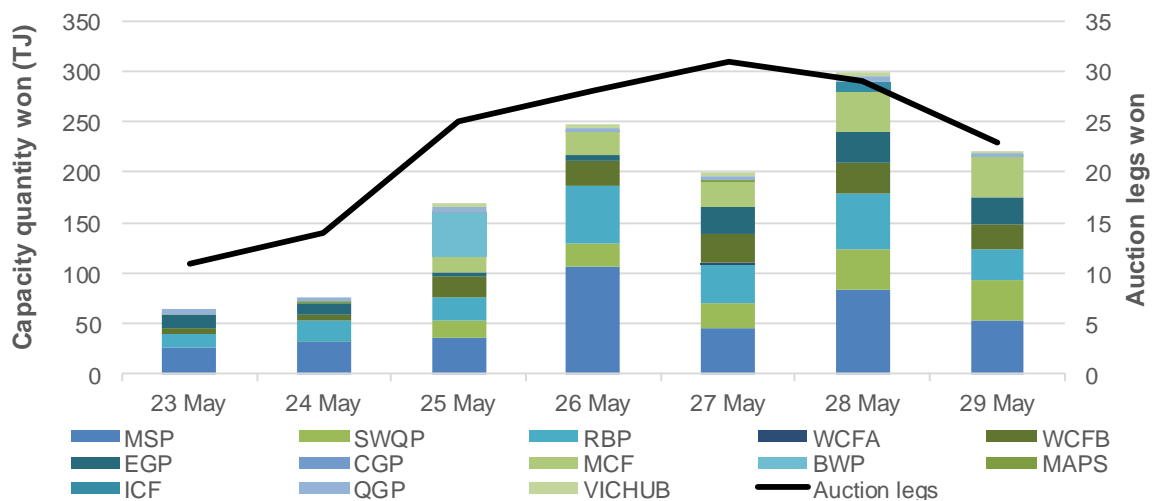
Participants may bid in to the DAA in order to procure the following services:

- 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, 14 participants took part in the DAA, winning 1277 TJ of capacity across 12 different facilities.

Figure 7.1 shows the quantities of gas and auction legs won through the DAA by gas date, with gas deliverable up to the level of capacity procured. Auction legs reflect each individual facility transaction.²³

Figure 7.1: DAA traded quantities and auction legs won



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²³ Additional information is available in the [user guide](#) to the AER gas weekly report.