Gas Market Report

AUSTRALIAN ENERGY REGULATOR

13 – 19 June 2021

Weekly Summary

Average market prices continued to increase across the east coast, rising from mid-week. This follows prices climbing above $8/GJ in the short term trading markets (STTMs) from the start of the month. In Victoria, cold weather drove up demand alongside a significant increase to gas powered generation requirements from the previous week.[1] Demand in the STTMs remained relatively stable, reducing slightly in Adelaide.

Upstream gas generation demand in South Australia combined with the higher Victorian GPG contributed to a significant increase in east coast GPG demand from the previous week, despite levels reducing in Queensland and New South Wales (Figure 5.1). For the latter regions, lower gas generation coincided with Callide B units starting to return to service from 16 June.[2] In Victoria, flooding at the Yallourn coal-fired generator from the previous week contributed to higher GPG demand, particularly on 17 June.[3]

LNG export pipeline flows decreased following increased export flows on APLNG and GLNG pipelines from last week, with QCLNG commencing a planned maintenance outage from 15 June.[4]

Net flows south on the QSN link continued this week. However, these dropped off significantly with flows reversing to deliver gas north into Queensland over 14-15 June.[5] Following QSN redirecting gas south from 16 June, flows west from Wallumbilla increased markedly from 17 June while Victorian supply north via Culcairn dropping off briefly over 17-18 June.

In Brisbane, ex ante prices were $1.08/GJ higher on average compared to D-2 forecasts, with GPG gentailers rebidding capacity to higher price bands.

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1 Weekday demand in Victoria increased to 1.05-1.15 PJ/day, with maximum temperatures in Melbourne ranging between 12.9-16.4 degrees across the week and severe weather bringing strong winds and flooding across the state from the previous week. Market schedule prices in Victoria increased to higher levels during the day on 17 and 18 June, the coldest days alongside demand forecast being revised up during both gas days.

2 In Queensland, the coal-fired Callide power station came offline from 25 May, following an explosion and fire in the turbine hall of unit 4 at Callide C. The Callide C generator remains offline. Callide B1 returned to service from the afternoon of 16 June, while Callide B2 came back online from 22 June.

3 Flooding at the Yallourn coal-fired generator significantly reduced base load generation capacity in the region from 12 June. In addition, very low levels of wind generation output over the first half of this week contributed to higher levels of gas and hydro generation being dispatched to fill in the generation shortfall. Gas generation demand accounted for around 127-212 TJ of daily gas demand within the Declared Transmission System. With the exception of 17 and 18 June, significant quantities of gas were also being exported north via Culcairn over the week (81-146 TJ/day, averaging 123 TJ/day over those 5 days).

4 The scheduled maintenance outage window from 15 June to 13 July affects export capacity of more than half but less than one LNG export train.

5 This was driven by a significant decrease in delivery nominations into Moomba on the SWQP, with MSP receipts from Moomba reducing close to zero on those days. Southern market prices were also relatively lower than Brisbane from 13 June. Prices in Brisbane were relatively flat sitting around $11/GJ from 10-15 June, while Sydney and Adelaide prices reduced from higher levels seen towards the end of last week. The price in Sydney last week peaked on 11 June ($11.76/GJ) and low wind in South Australia from 11 June coincided with ex ante prices rising to $11.44/GJ. Victorian prices remained significantly lower than the STTMs across the week.

In Sydney, D-2 forecast prices climbed higher again from the previous week, reaching close to $13/GJ on average. With the exception of 16 June, where demand was 56 TJ higher in the ex ante schedule, prices reduced by around $2.18/GJ from those levels in ex ante schedules.[6] This occurred alongside exporter/producers offering around 45 TJ/day of extra supply capacity below $10/GJ in ex ante schedules.

On 13 and 15 June, MOS service payments in Sydney reached around $45,000. A decrease MOS requirement on 13 June resulted from over forecast network demand, while an increase requirement on 15 June was driven by higher network demand and backhaul nominations.

Trading on the Day Ahead Auction remained strong, with record levels of capacity being won across June. Capacity won this week exceeded 1900 TJ across 10 facilities, setting a record for the third consecutive week. The majority of capacity was won on the MSP, RBP and SWQP (569 TJ, 338 TJ and 266 TJ respectively).[7] Trading on the EGP was also up at around 192 TJ of capacity, with close to 2/3 won into Horsley Park following increased participation over June.

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 **(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)[8]

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
13 Jun - 19 Jun 2021	9.47	1052	11.08	318	11.42	73	11.65	127
% change from previous week	12	13	7	1	10	-3	12	0
20-21 financial YTD	5.55	554	6.01	254	6.34	57	6.17	106
% change from previous financial YTD	-17	-4	-8	5	-12	0	5	17

6 A significant driver of higher demand on 16 June related to the addition of a 43 TJ controllable demand bid above $15/GJ in ex ante schedule, in addition to an extra 11.3 TJ of pipeline backhaul being cleared.

7 More than a 1/3 of the capacity won on the MSP was on routes towards Moomba, with almost all SWQP capacity going towards Wallumbilla. While decreasing from the previous weeks, RBP activity was largely linked to GPG supply.

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

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)[9]

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
13 Jun - 19 Jun 2021	-	-	10.57	131	10.61	148
% change from previous week	-	-	30	-77	16	-68
20-21 financial YTD	3.04	338	6.08	6556	5.85	16106
% change from previous financial YTD	-55	-37	6	-15	-5	9

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

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

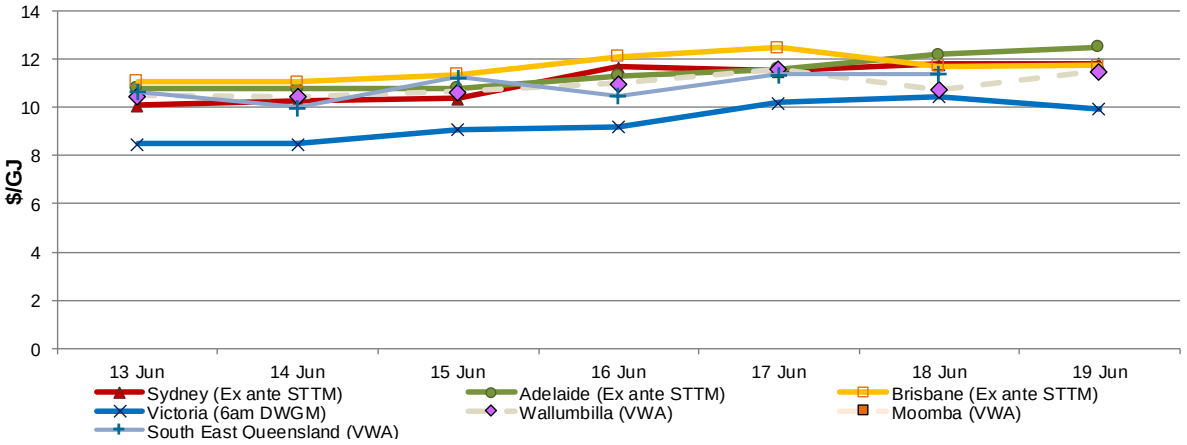


Figure 4 compares average ancillary market payments (VGM) and balancing gas service payments (STTM) against historical averages.

Figure 4: Average daily ancillary payments ($000)

	Victoria Ancillary Payments*	Sydney MOS	Adelaide MOS	Brisbane MOS
13 Jun - 19 Jun 2021	-	31.61	10.04	1.53
% change from previous week	-	21	68	135
20-21 financial YTD		19.80	7.73	3.56
% change from previous financial YTD		-6	81	125

* 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.

[9] 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).

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)[10]

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	-	-	11.12	46.0	10.80	45.0
Daily	-	-	-	-	10.75	31.0
Day ahead	-	-	10.26	85.0	10.44	72.0
Weekly	-	-	-	-	-	-
Monthly	-	-	-	-	-	-
Total	**-**	**-**	**10.57**	**131.0**	**10.61**	**148.0**

* 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	1536	1008	1664	4208
Export Pipeline Flows	1576	1196	791	3563
% change from previous week (pipeline flows)	6	34	-38	-2
20-21 financial YTD Flows	1469	1000	1311	3780

* 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.

[10] 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[11] which is the schedule at which most gas is traded.

The main drivers[12] 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[13], 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)

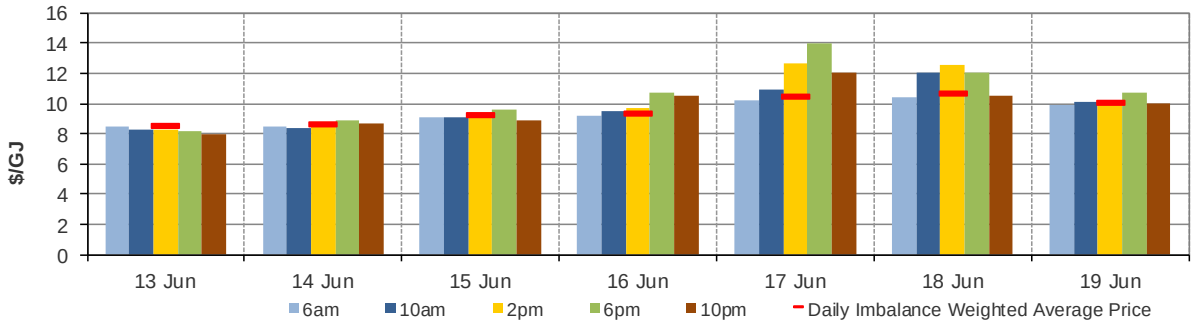
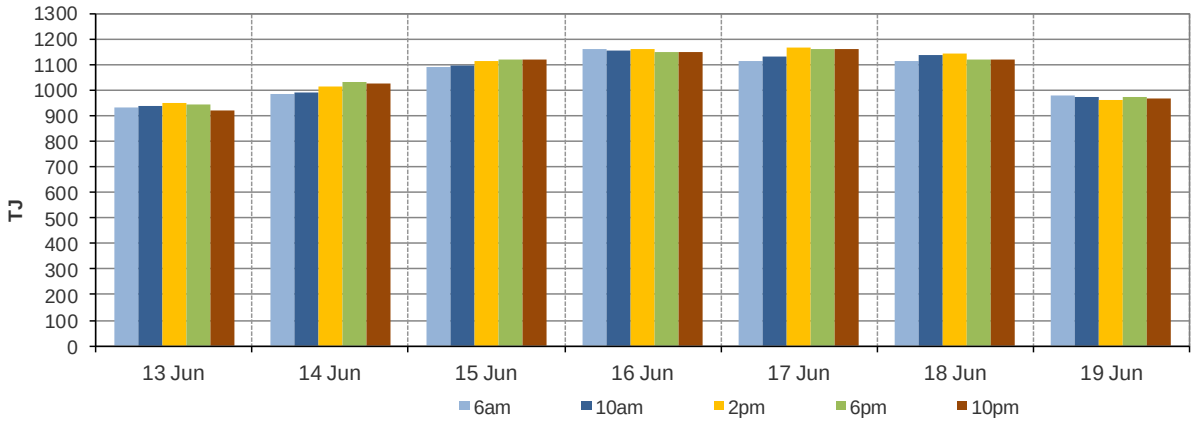


Figure 1.2: Demand forecasts (TJ)



11 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.

12 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.

13 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)

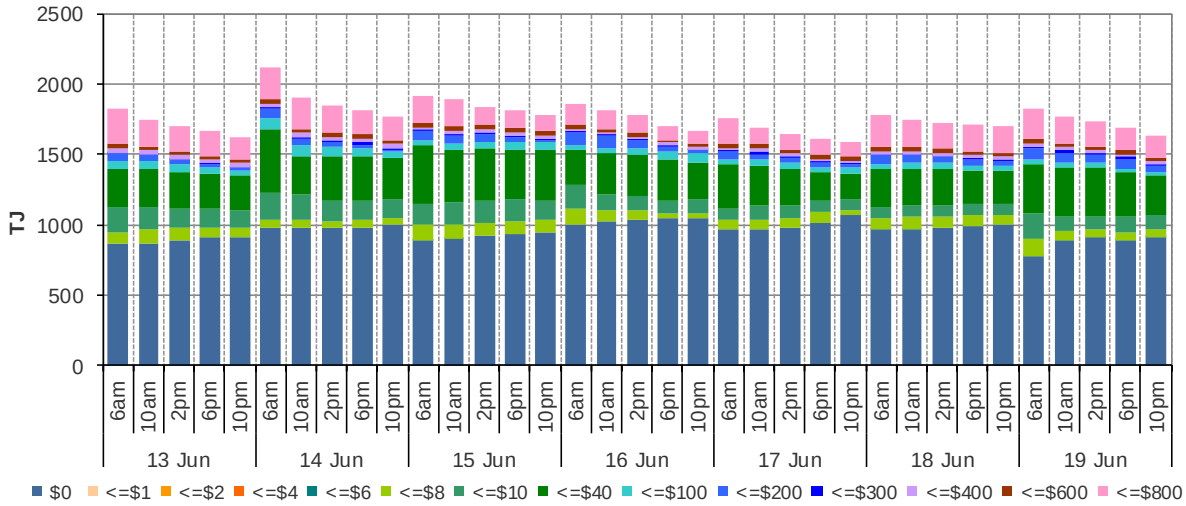


Figure 1.4: Withdrawal bids by price bands (TJ)

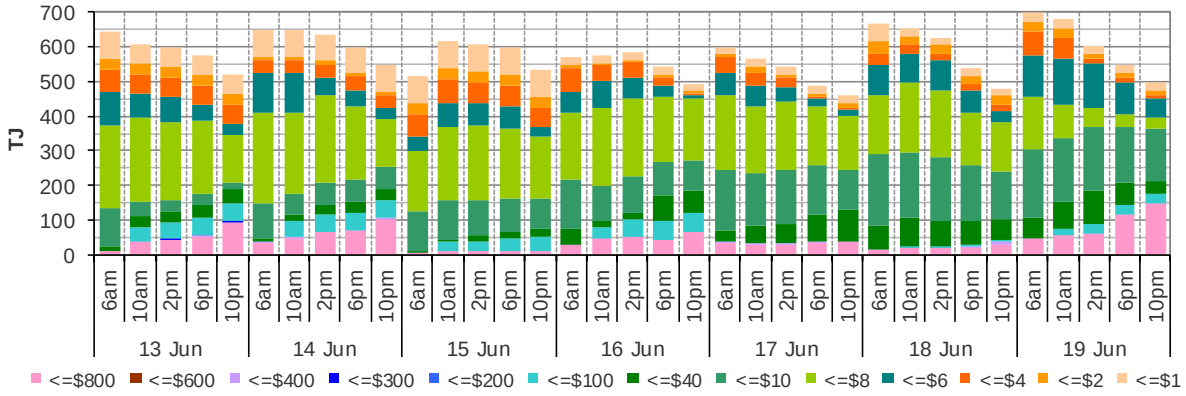
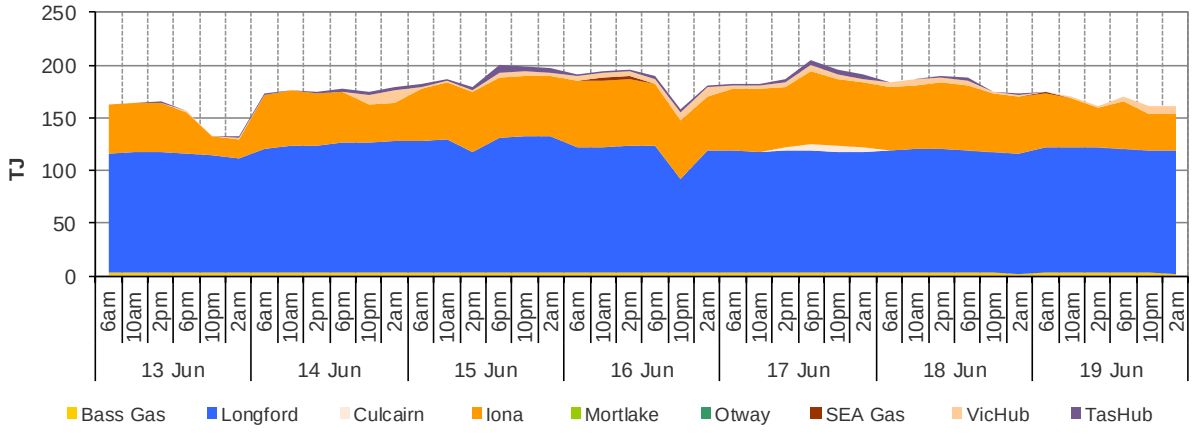


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.[14] 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.

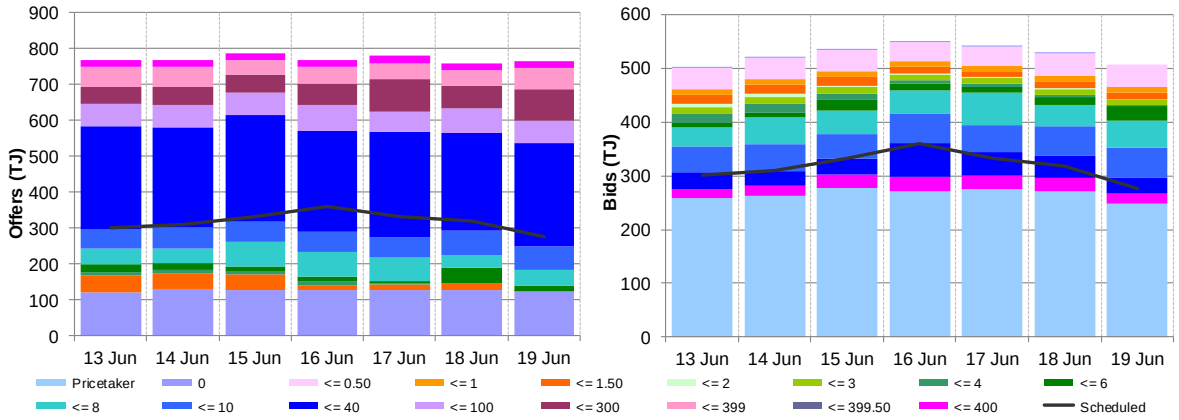
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.[15]

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 ($/GJ)	10.10	10.30	10.38	11.69	11.50	11.79	11.84
Ex ante quantity (TJ)	301	309	332	360	332	319	276
Ex post price ($/GJ)	10.00	10.00	10.99	11.29	11.58	11.30	12.50
Ex post quantity (TJ)	288	302	357	353	335	309	297

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



[14] 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.

[15] 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.

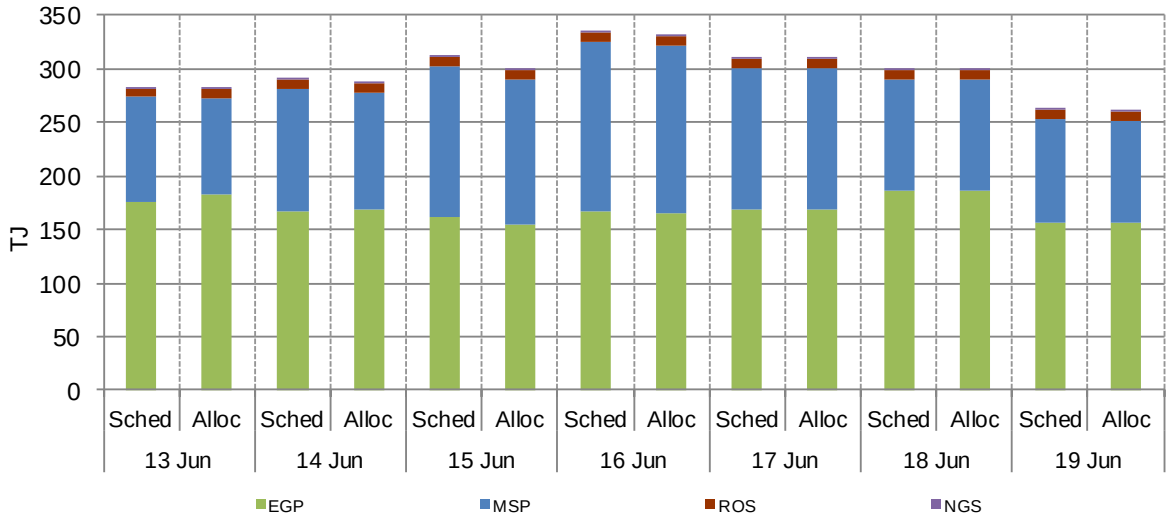
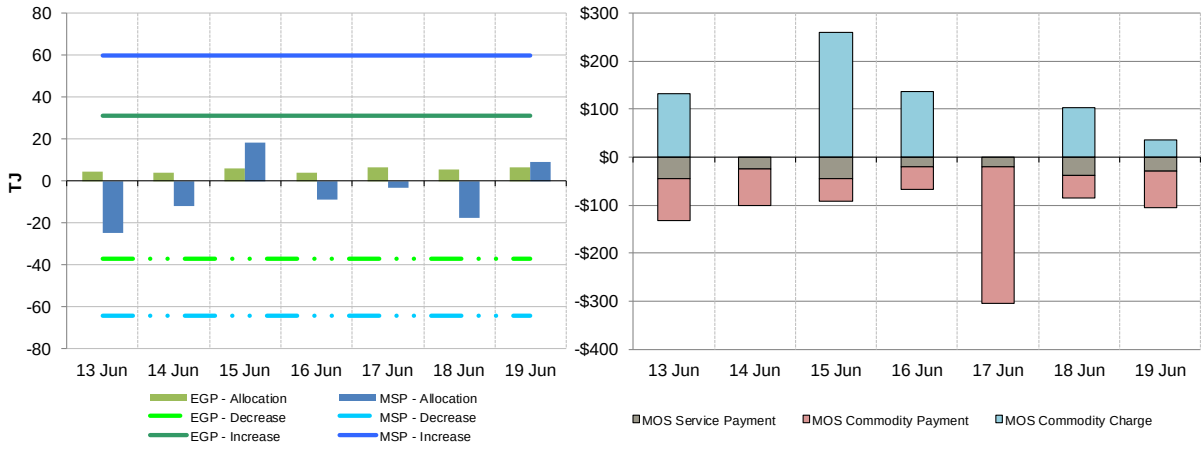


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges ($000)[16]



16 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 ($/GJ)	10.80	10.76	10.80	11.31	11.60	12.19	12.50
Ex ante quantity (TJ)	66	62	75	84	80	73	70
Ex post price ($/GJ)	10.01	10.55	10.40	11.10	11.24	12.40	12.50
Ex post quantity (TJ)	58	56	67	81	77	78	68

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

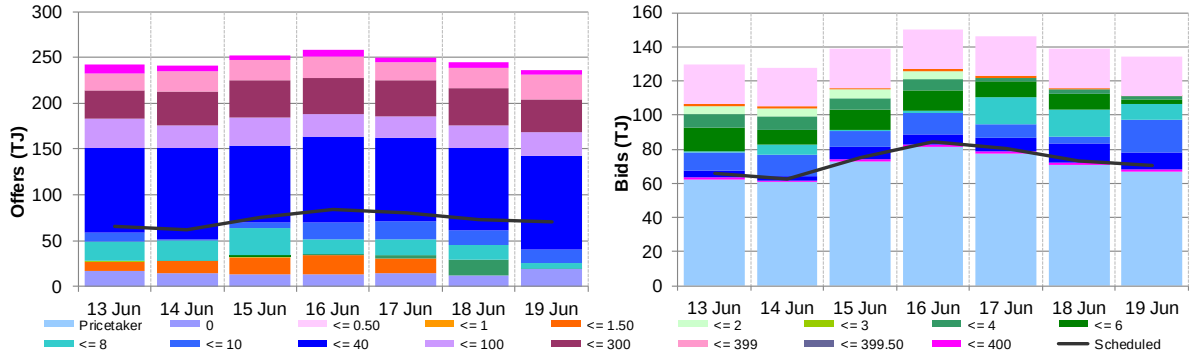


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

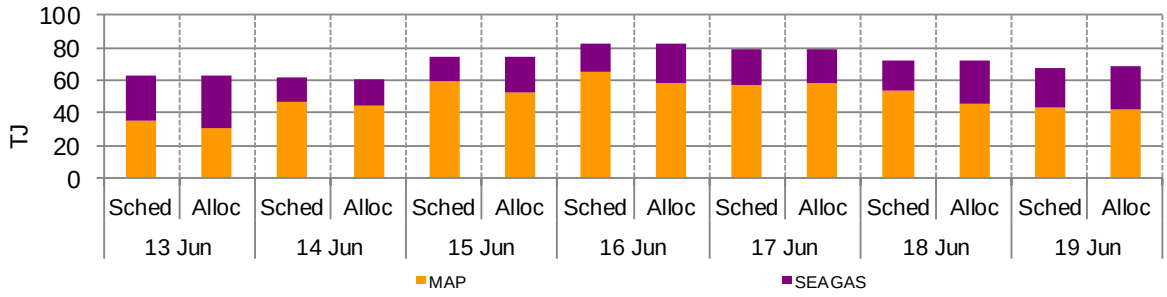
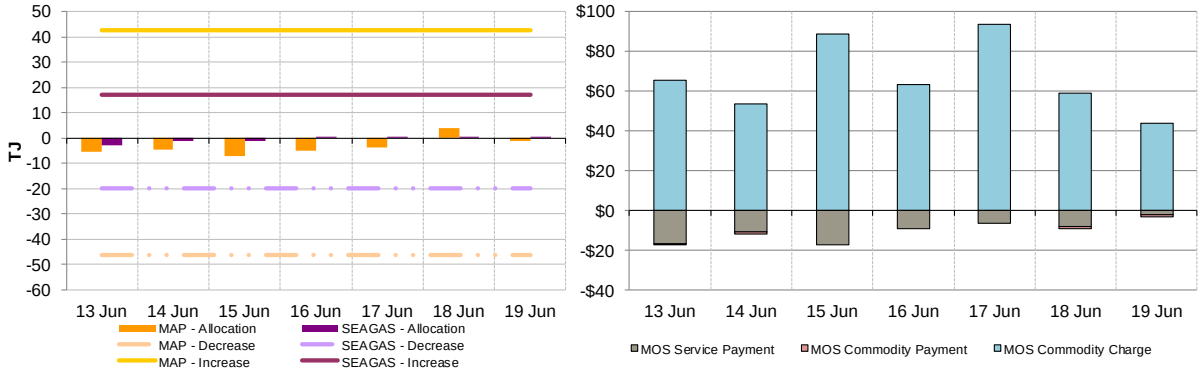


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges ($000)



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 ($/GJ)	11.08	11.05	11.37	12.10	12.49	11.72	11.73
Ex ante quantity (TJ)	118	130	132	133	133	125	118
Ex post price ($/GJ)	10.82	11.20	11.80	12.10	12.40	12.19	10.91
Ex post quantity (TJ)	116	133	139	134	129	129	107

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

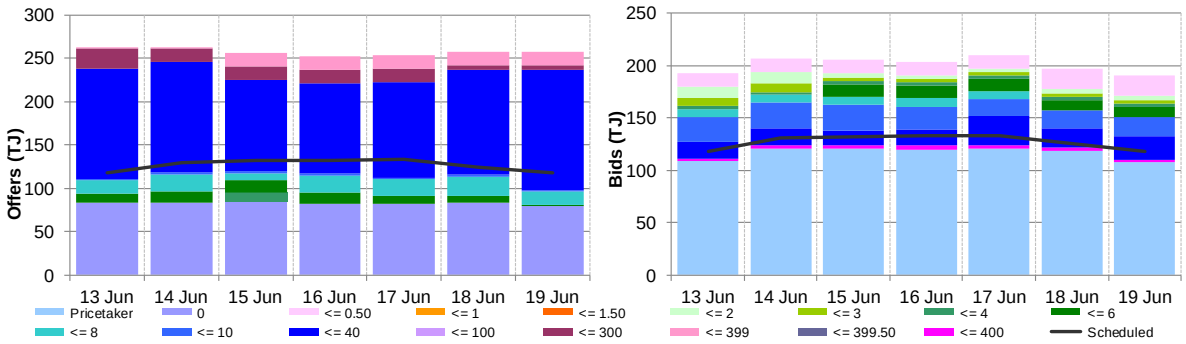


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

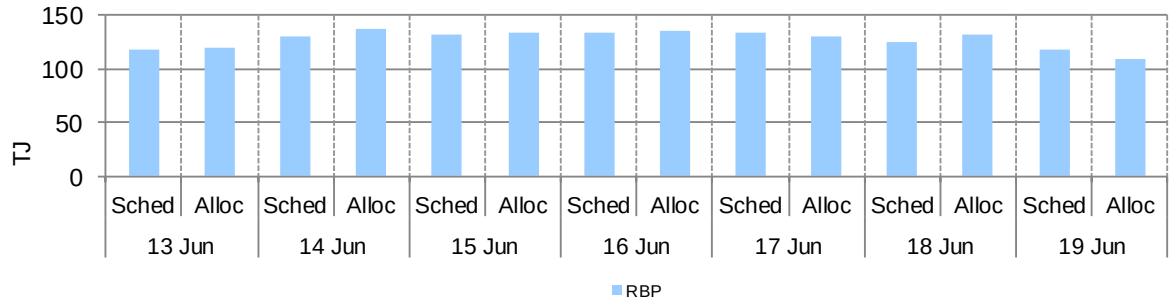
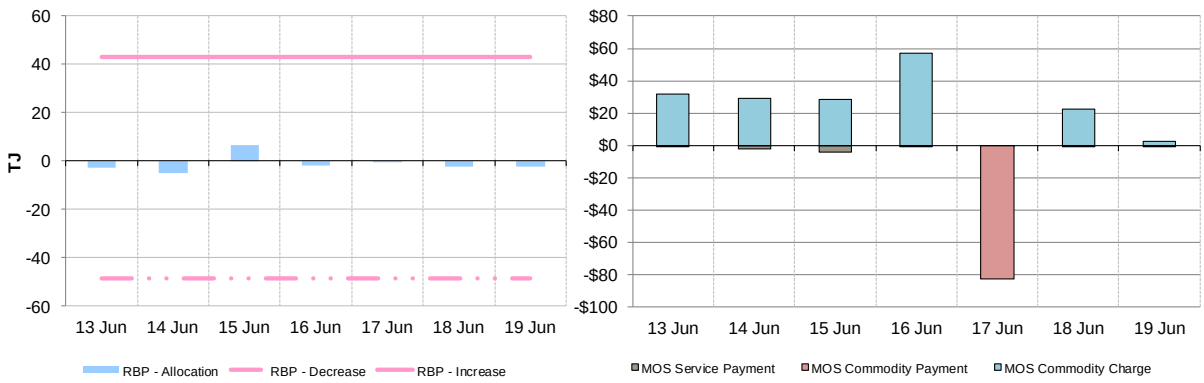


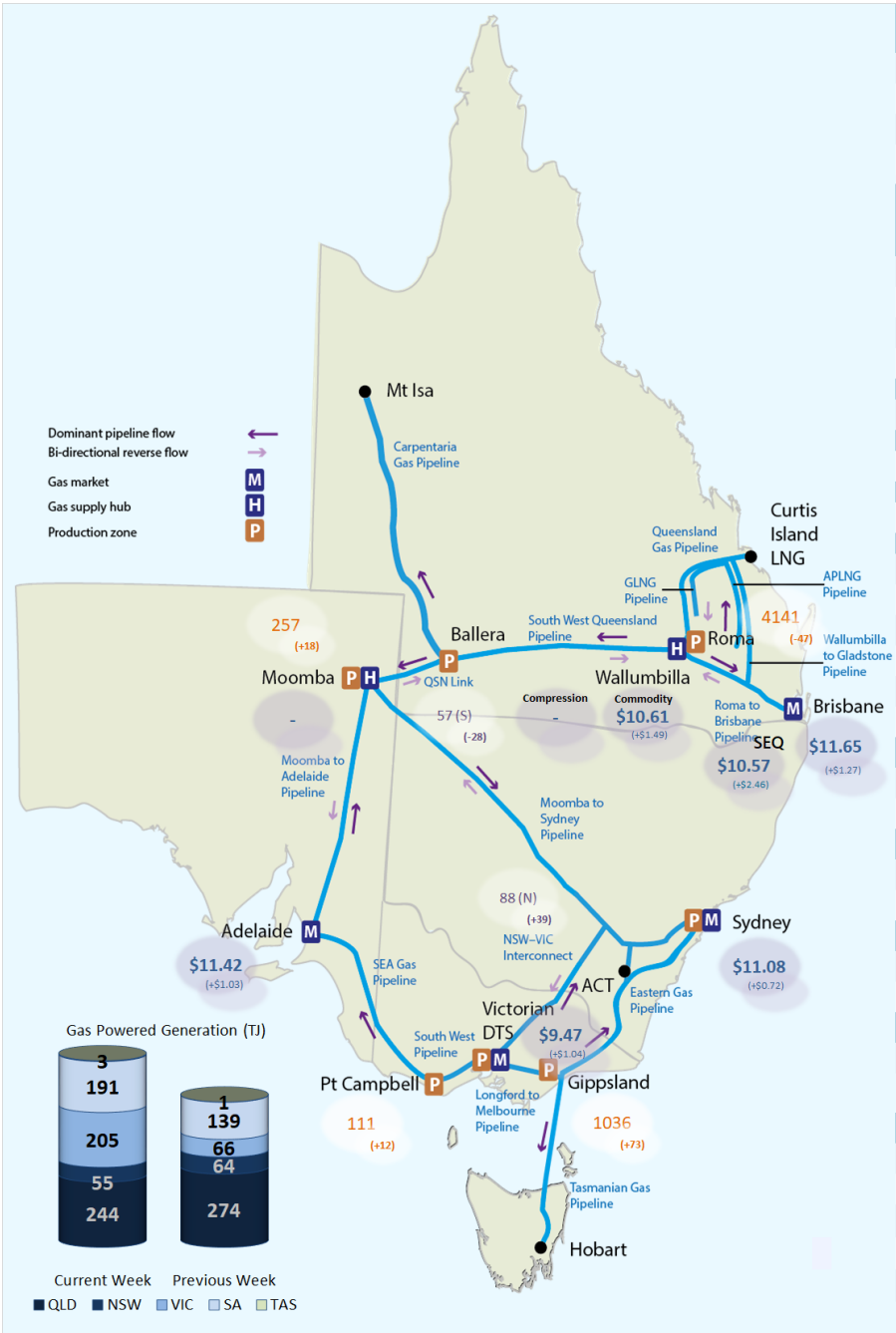
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges ($000)



5. National Gas Bulletin Board

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



Totals	Current Week	Change (TJ)
Domestic gas flows	2206	(+150)
Export gas flows	3563	(-84)
Gas production	5544	(+56)
GPG gas usage	699	(+155)
Pipelines		
Queensland		
Gladstone		
APLNG	1576	(+88)
GLNG	1196	(+306)
QGP	139	(+2)
WGP	791	(-478)
Mt Isa		
CGP	79	(+1)
Brisbane		
RBP	140	(-7)
South West		
SWQP	32	(-6)
Wallumbilla		
BWP	162	(+17)
CRWP	8	(-5)
DDP	77	(+13)
QGP (WAL)	16	(+1)
RBP (WAL)	-43	(-79)
SWQP (WAL)	117	(+17)
New South Wales		
MSP	195	(-2)
EGP	278	(-2)
Victoria		
LMP	755	(+66)
SWP	309	(+57)
South Australia		
MAP	193	(+27)
SEAGas	88	(+12)
Tasmania		
TGP	29	(-3)

Storage (held volume)		
Moomba LDB	15358	(-82)
Iona UGS	17672	(-2217)
LNG Storage Dandenong	346	(-4)
Silver Springs	20382	(-170)
Roma UGS	39386	(-374)

17 **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.

18 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.

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

6. Gas Supply Hub

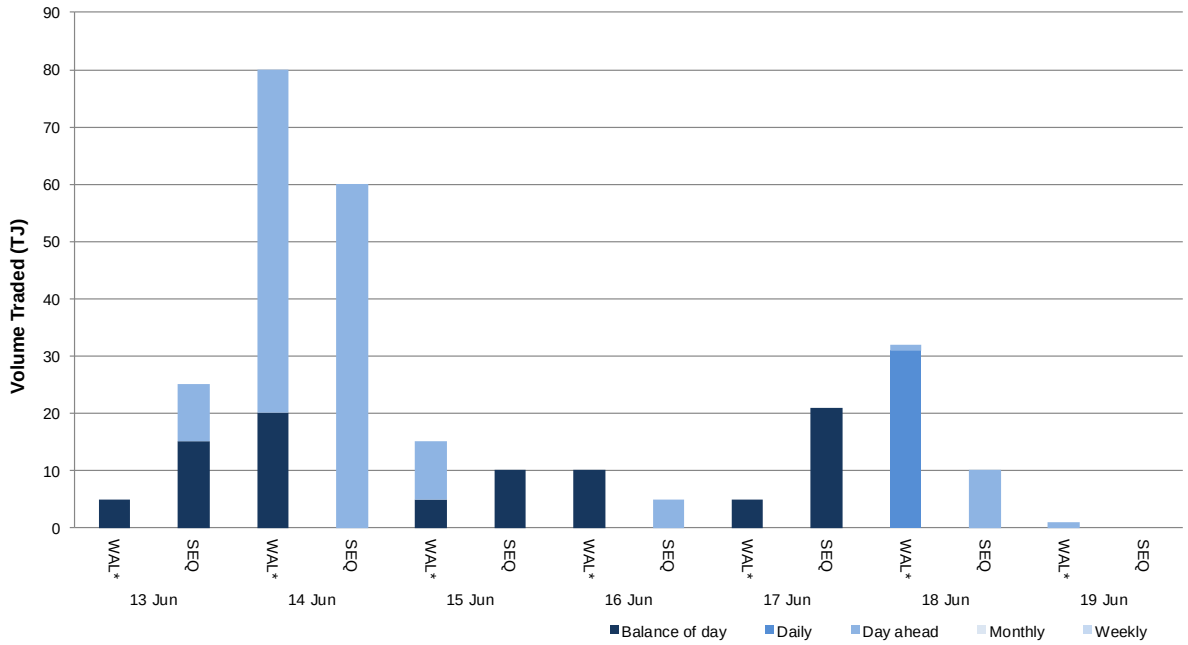
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).[20]

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 279 TJ of gas at a volume weighted price of $10.59/GJ. These consisted of 17 trades at WAL (148 TJ at $10.61/GJ) and 18 trades at SEQ (131 TJ at $10.57/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.[21]

Figure 6.1: GSH traded quantities



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

21 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.

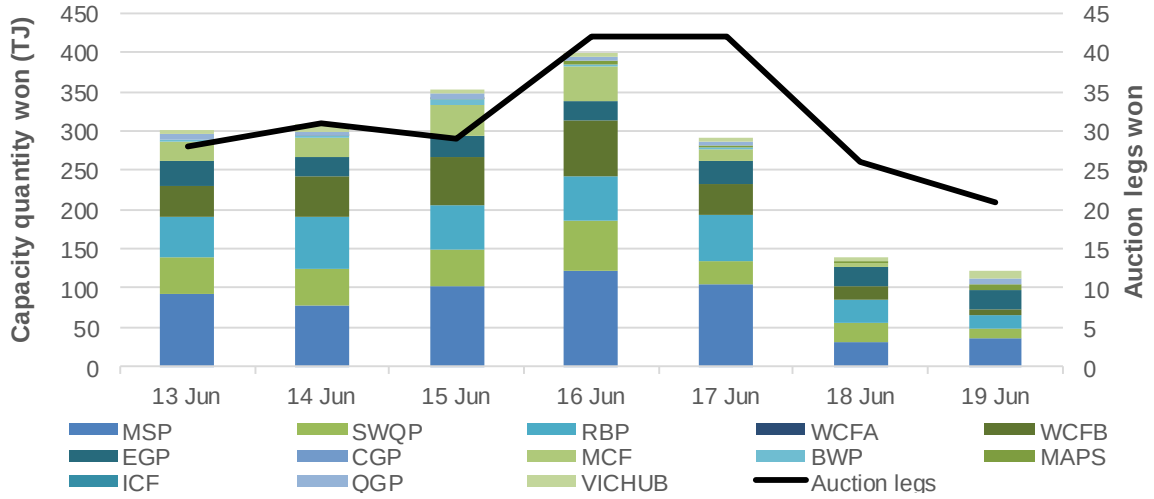
Participants may bid in to the DAA in order to procure the following services:

- 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 1912 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.[22]

Figure 7.1: DAA traded quantities and auction legs won



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