Gas Market Report

AUSTRALIAN ENERGY REGULATOR

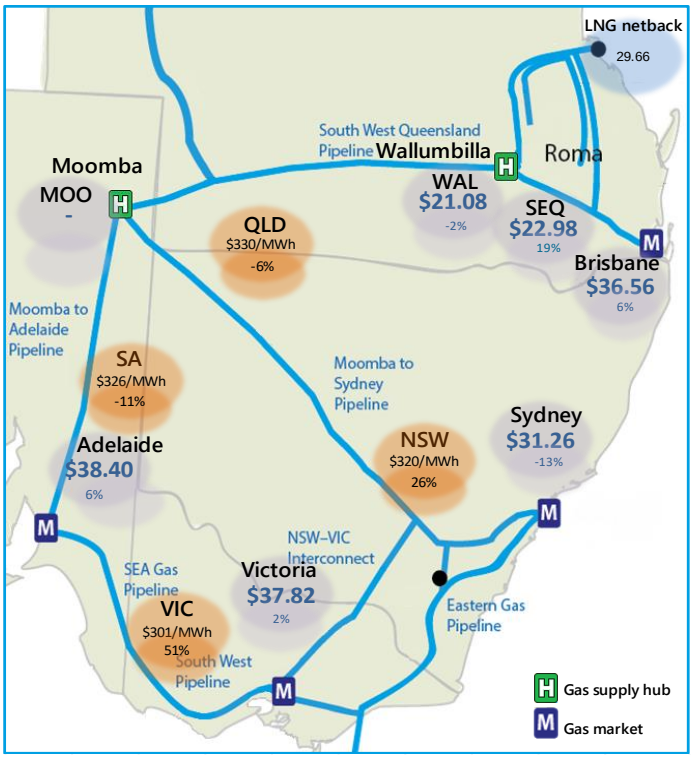
22 – 28 May 2022

Weekly Summary

Downstream wholesale gas market prices (marked M on the map below) increased in every market except for the Sydney short term trading hub (percentage change from previous week shown on map).

At the Wallumbilla upstream supply production hubs (marked H on the map below), the average price slightly decreased at the WAL trading point but there was a significant increase at the SEQ trading point. Gas prices relative to NEM prices (orange bubbles) and the contemporaneous LNG netback price (top right) are also shown on the map.

Map: Gas Market Prices, NEM prices (QLD/SA/NSW/VIC) and LNG Netback price*



The LNG netback price is the 26 May 2022 assessment for the front month forward LNG netback price assessed: https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/lng-netback-price-series

Trading in the gas supply hub this week was concentrated around longer-term trades for deliveries across winter months and the October-December quarter at Wallumbilla (894 TJ). These longer-term trades for the second half of 2022 were priced at around $15-$20/GJ, whereas smaller volumes of gas traded day ahead this week were priced around $35/GJ, consistent with high prices in downstream markets.

Mainland gas powered generation (GPG) increased in NSW, VIC, SA with the most notable increase compared to in Victoria (up 43 TJ from last week). LNG export pipeline flows were

lower this week (see more detailed map and table at figure 5.1), for the third week in a row domestic spot prices slightly exceeded contemporaneous LNG spot netback prices.

On 22 – 28 May, multiple reporting thresholds outlined in the STTM Significant Price Variation Guideline were exceeded. The AER will investigate and publish a further report on these events in or before September 2022. Our analysis below identifies drivers of these significant price variation events as a complement to this further reporting.

Table 1: Significant price variation threshold breaches – Variation >$7/GJ between D-2 and D-1 price

Gas day	Market	D-2 provisional price ($/GJ)	D-1 ex ante price ($/GJ)	Key driver of threshold breach
22-May	Brisbane	21.91	34.50	Supply offer bid
23-May	Brisbane	24.99	38.34	Supply offer bid
24-May	Brisbane*	25.00	38.34	Supply offer bid
25-May	Adelaide	30.00	37.91	Supply offer bid
	Brisbane*	25.00	34.12	Supply offer bid
26-May	Brisbane*	23.50	36.00	Controllable demand bid
	Sydney*	40.00	27.73	Administered state pricing in Sydney
27-May	Brisbane*	24.99	35.10	Controllable demand bid
	Sydney*	50.00	28.09	Administered state pricing in Sydney
28-May	Adelaide	30.94	44.96	Supply offer bid
	Brisbane*	26.12	39.50	Supply offer bid
	Sydney*	58.00	28.48	Administered state pricing in Sydney

* The Brisbane and Sydney STTM hubs were put into administered pricing states following the suspension of Weston Energy from the STTM and DWGM.

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)[1]

	Victoria		Sydney		Adelaide		Brisbane	
	Price	Demand	Price	Demand	Price	Demand	Price	Demand
22 May - 28 May 2022	37.82	784	31.26	262	38.40	59	36.56	83
% change from previous week	2	8	-13	-6	6	-9	6	1
21-22 financial YTD	12.13	521	12.64	249	13.07	53	12.85	85
% change from previous financial YTD	126	-1	120	0	115	-4	118	-19

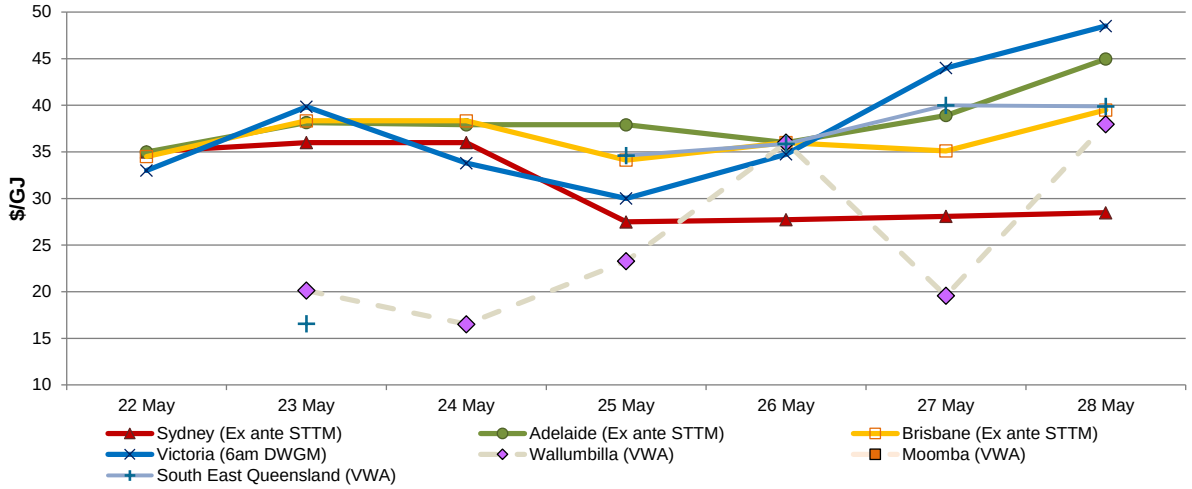
Figure 2 sets out price and demand information for the voluntary Wallumbilla, South East Queensland and Moomba Gas Supply Hubs **(GSH)**.

Figure 2: Average prices and total quantity – Gas Supply Hubs ($/GJ, TJ)[2]

	Moomba		South East Queensland		Wallumbilla	
	Price	Quantity	Price	Quantity	Price	Quantity
22 May – 28 May 2022	-	-	22.98	92	21.08	1038
% change from previous week	-	-	19	-70	-2	155
21-22 financial YTD	8.62	282	12.25	4006	12.33	18752
% change from previous financial YTD	184	-17	121	-24	121	32

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

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



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

[2] 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 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
22 May – 28 May 2022	-	48.85	5.75	2.06
% change from previous week	-	53	-53	237
21-22 financial YTD		21.05	8.90	0.92
% change from previous financial YTD		9	15	-75

* 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)[3]

	Moomba		South East Queensland		Wallumbilla*	
	VWA price	Quantity	VWA price	Quantity	VWA price	Quantity
Balance of day	-	-	37.07	21.0	37.60	97.0
Daily	-	-	41.00	1.0	22.76	214.0
Day ahead	-	-	35.91	8.0	36.55	15.0
Weekly	-	-	-	-	-	-
Monthly	-	-	16.25	62.0	18.00	712.0
Total	**-**	**-**	**22.98**	**92.0**	**21.08**	**1038.0**

* 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	1498	954	1647	4098
Export Pipeline Flows	1495	972	1208	3674
% change from previous week (pipeline flows)	-4	-2	-4	-4
21-22 financial YTD flows	1491	1059	1363	3913

* 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.

[3] Further information about new product trading locations in Victoria (Culcairn) and Sydney (Wilton) is available in section 6. Gas Supply Hub).

Detailed market analysis

Table 2: Timeline of key events*

Date	Market affected	Event	In effect	Description
24-May	East Coast wide	Weston Energy suspension from STTMs and DWGM	24-May	Weston Energy unable to meet AEMO margin calls.
	Sydney	Major RoLR event. Market administered settlement state	RoLR event: 24 May - 21 June Market administered settlement state: 24 May	Major RoLR event threshold met.
	Brisbane	Minor RoLR event. Administered price cap of $40/GJ	24 May - 7 June	Minor RoLR event threshold met.
25-May	Sydney	Market administered scheduling state	25 May - 21 June	Market administered scheduling state replaced administered settlement state.
	Sydney	Contingency Gas (CG) event	N/A	Insufficient gas from participant nominations. Nominations amended and CG avoided.
27-May	Sydney	National Gas Emergency Response Advisory Committee (NGERAC) meeting	N/A	Commonwealth convened meeting to consider legislation to change Sydney to less administered state (minor RoLR).
30-May	Victoria	Cumulative price threshold ($1400/GJ) exceeded, price cap of $40/GJ	10am 30 May. Will remain capped until cumulative price falls and remains below the threshold for a day.	Result of average price over 7 days over $40/GJ, prices ranged $40-50/GJ.
	Sydney	Change from administered scheduling state to an administered price cap state	1 June - 7 June	AEMO administered the STTM at the Sydney hub as if a minor (not major) RoLR event had occurred on 24 May.
1-Jun	Victoria	Threat to System Security	11:13 am - 9:50 pm 1 June	Insufficient injection offers into the Declared Transmission System to meet forecast demand for gas day 1 June. AEMO notified the market at 11:13am and requested additional supply. In response, total demand forecast decreased and additional offers were made available, ending the threat to system security.
	East Coast wide	Gas Supply Guarantee Event	1 June	AEMO projected gas shortfall for 2 June. Averted following response from QLD LNG exporters.
5-Jun	Adelaide	Administered Ex Post Pricing State	4 June	Administered Ex Post Pricing State resulted from a failure to publish the ex post schedule for gas day 4 June due to AEMO's IT systems failure. Ex post price of $40/GJ.
7-Jun	Sydney	Cumulative price threshold ($440/GJ) exceeded, price cap of $40/GJ	7 June. Will remain capped until cumulative price falls and remains below the	Result of average price over 7 days of over $40/GJ.
8-Jun	Brisbane	Administered Price Cap removed	8 June	Administered Price Cap removed due to end of minor RoLR event.
	Sydney	Administered Price Cap removed	8 June	Administered Price Cap removed due to end of minor RoLR event.
	Sydney	Administered Price Cap applied	Start of gas day 8 June	Administered Price Cap continued, Sydney cumulative price exceeded cumulative price threshold.
14-Jun	Sydney	Administered Price Cap removed	At conclusion of gas day 14 June	Cumulative price remained below the threshold for a day.
16-Jun	Victoria	Threat to System Security	4:51pm 16 June - 5:27am 17 June	Unplanned outage at the Longford Gas Plant resulted in potential for insufficient supply to meet forecast demand from 6pm schedule. AEMO notified market at 4:51 pm and requested increased offers to the market. The threat to system security ended 5:27am the next day after AEMO observed a recovery in injections at Longford and a return to normal operations.

*Note that the events shaded in grey did not occur this week

The cumulative price is calculated using the trading prices before the application of the administered price cap, over the previous 7 days. The cumulative price breached the cumulative price threshold in the Victorian and Sydney markets on 30 May and 7 June respectively, which triggered an administered price period during which the price cannot exceed $40/GJ.

Sydney and Brisbane STTM enter administered pricing state

On 24 May, a gas retailer of last resort (RoLR) event occurred following AEMO's suspension and deregistration[4] of Weston Energy from the downstream wholesale markets for failing to meet prudential requirements.

[4] See Australian Energy Market Operator (AEMO), *National Gas Rules Public Notice Weston Energy*, May 2022.

As a result of the RoLR event and for the first time in all domestic gas markets, the Sydney and Brisbane STTMs entered into market administered states:

- for Brisbane the RoLR event was classified as minor and the price capped at $40 per GJ for 10 business days (rule 428)
- Initially, Sydney entered a major RoLR state under Rule 431(1) and prices were set using cleared market bids, with Rule 430(1) invoked from 25 May setting prices using a rolling average of previous daily prices over the past 30 days (to drive a more stable daily price level).

This market administered scheduling state was set to last for 20 business days until end of gas day 21 June. However, a subsequent emergency notice from the NSW government on 30 May led to a minor RoLR reclassification from the following gas day (1 June). This effectively transitioned the market to the same administered state as Brisbane (a minor RoLR event) and resulted in the price being set at the administered price cap ($40/GJ) until 11 June. Cumulative prices are calculated daily, even under an administered price cap period. While the minor RoLR event had ceased from 8 June, the market remained in an administered state due to the cumulative price (averaged over the past week) exceeding the $440/GJ cumulative price threshold. The cumulative price reduced below the threshold on 14 June leading to the cancellation of the administered price state.

In line with our standard analysis of the drivers of high market operator service (MOS) payments, activity during this period is being further reviewed by the AER, including:

- How MOS stacks were used during the period
- How Participants submitted nominations during the period to meet demand, sell or purchase gas. The market price was set lower in Sydney than other East Coast spot markets from 24th May, creating incentives to buy gas from Sydney.

Industry Conference

On 25th May 2022, AEMO convened a Contingency Gas[5] assessment and industry conference with STTM facility operators, distributors, and trading participants, as a result of a Contingency Gas trigger event at the Sydney hub. This emergency market mechanism is a highly unusual event and is only triggered when a specific event under r 440(1) of the NGR occurs. AEMO issued an ex ante/provisional schedule which indicated that price taker bids would not be fully scheduled due to inadequate supply to the hub. AEMO considered that this event met the requirement of rule 440(1)(d) of the NGR and commenced the process to call Contingency Gas. Based on information provided at the Contingency Gas assessment conference and industry conference, AEMO determined that Contingency Gas was not required to meet the operational requirement relating to the contingency gas trigger event. Gas nominations were amended following the conferences and Contingency Gas was avoided.

We consider that AEMO acted appropriately to convene a contingency gas assessment conference for the Sydney STTM.

Strong reliance on Longford gas production and gas storage in the south

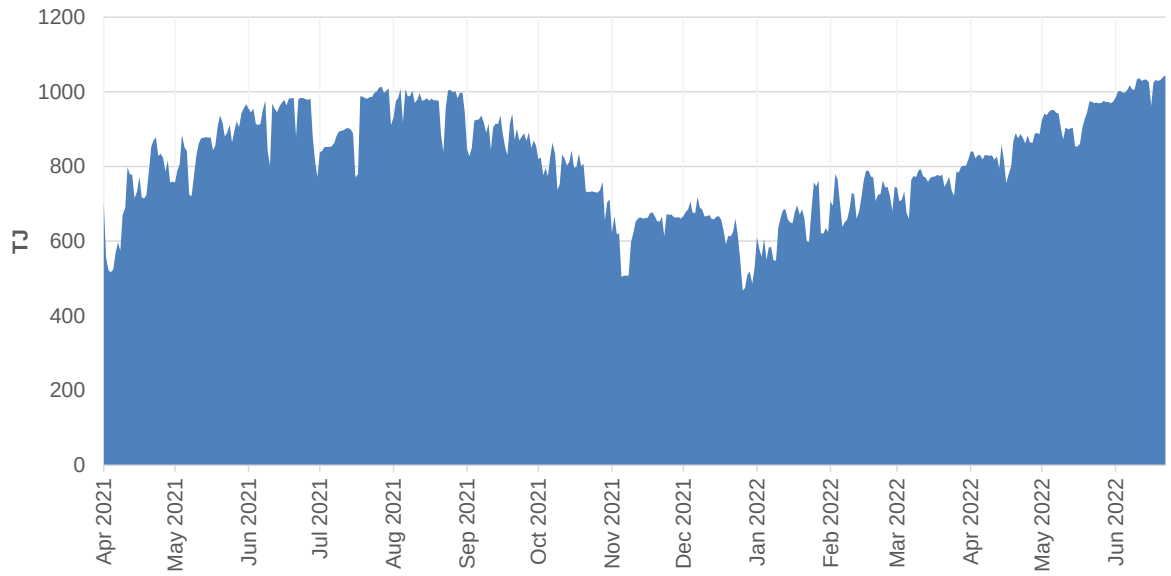
There were no gas flows south this week despite higher domestic prices surpassing the contemporaneous LNG netback price (see map above). Domestic spot prices this week have all been over $30/GJ, except in the Sydney hub. Over winter, more gas from the LNG exporters is required to supply the southern markets to meet peak demand as has happened

[5] Contingency Gas is an emergency market mechanism for balancing supply and withdrawals at a hub when both the ex-ante market and bilateral intraday pipeline flow variations are unable (or not expected to be able) to match supply and demand within or over a gas day.

in past years. The majority of the gas produced in Queensland this year is for meeting contract obligations relating to equity gas[6], however gas typically does flow south as a result of exporter sales to the domestic market. These flows south are also influenced by the Heads of Agreement (HoA) and Australian Domestic Gas Security Mechanism[7], with the HoA requiring LNG exporters to offer uncontracted gas into the domestic market.

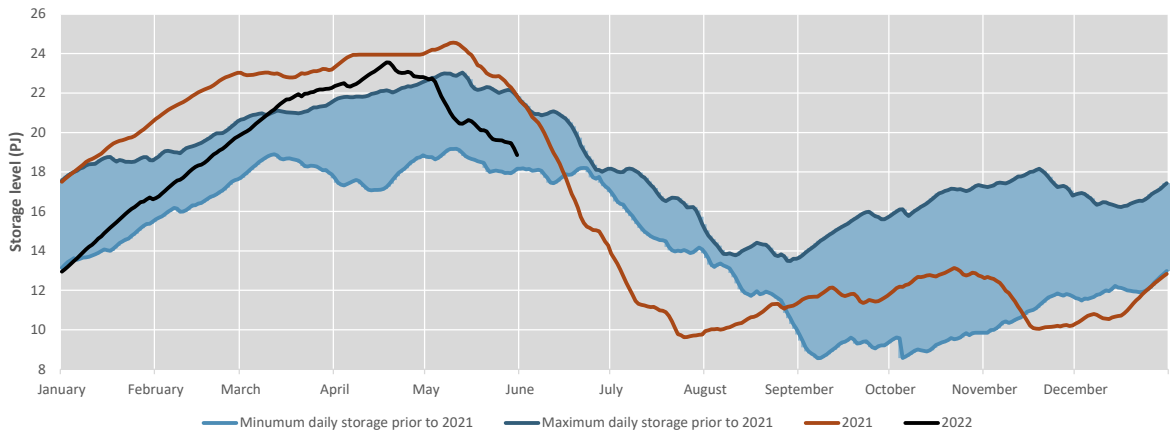
Longford has increased production above 2021 levels to supply the Victorian market (see Figure 7). This week, production from Longford averaged 972 TJ/day at full capacity in comparison to the same week in 2021 where production was down 8% at 898 TJ/day.

Figure 7: Longford gas production



The main gas storage facility in southern Australia is the Iona storage facility in Victoria. This facility is vital for winter gas supplies and has been crucial in meeting gas demands in the south in this unprecedented high price environment. Storage levels at the Iona storage facility decreased more rapidly this week (587 TJ) compared to the last (425 TJs), highlighting the increasing reliance on gas storage in the south (see figure 8). The Newcastle Gas Storage (NGS) facility has been completely depleted. In contrast to this year, the NGS has refilled to capacity before the winter months in previous years.

Figure 8: Iona gas storage depleted



[6] Gas contracted to supply underwriters of the gas export project.

[7] See Department of Industry, Science, Energy and Resources, *Australian Domestic Gas Security Mechanism*, January 2021.

High electricity prices continue

High gas prices in the NEM have been driven by ongoing high international coal prices, coal plant outages and coal availability. This has resulted in higher than forecast demand for GPG and the subsequent increase in trading by GPG players.

Significant price variation (SPV) analysis

There has been high volatility in the spot markets. The AER significant price variation reporting thresholds were triggered in the STTMs on 12 occasions. For the third week in a row, there were price increases for the final schedule due to a significant upward shift in the ex ante price following participants rebidding to increase the price of supply offers.

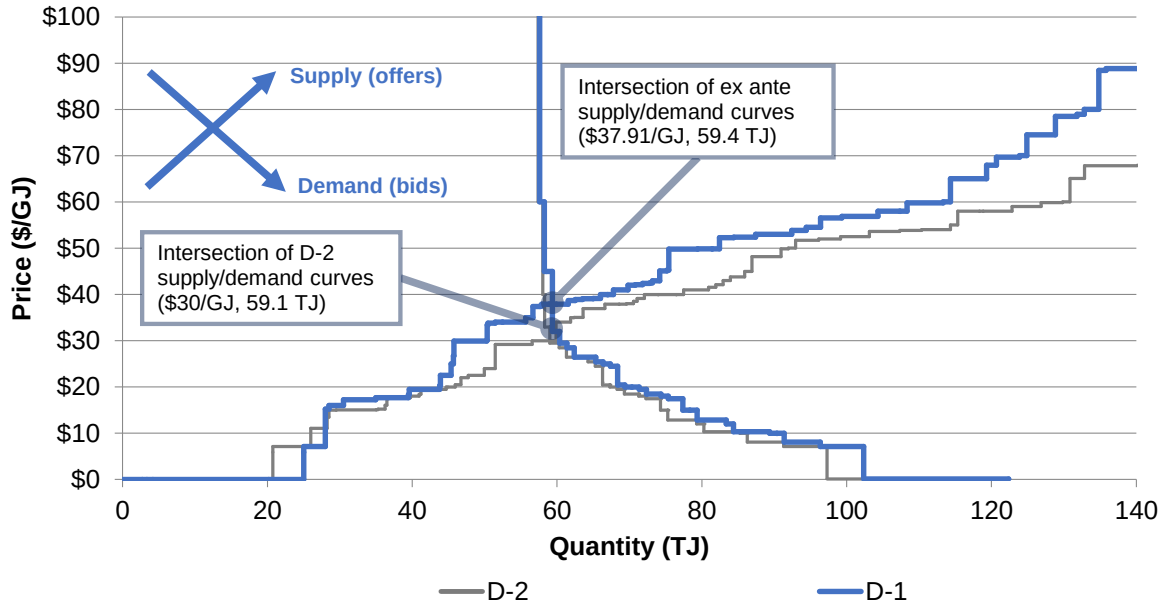
Specifically, the main drivers for each event can be summarised as:

- **Change in supply offers**: the D-1 price in the STTMs deviated from the D-2 forecast price by more than $7/GJ on 9 occasions (Figures 9-11, 13-14, 17-18)
- **Change in controllable demand bids:** the D-1 price in the STTMs deviated from the D-2 forecast price by more than $7/GJ on 3 occasions (Figures 12, 15 and 16)
- **Administered state pricing in Sydney:** the D-1 price in the STTMs deviated from the D-2 forecast price (down) as a result of the application of a price set in Sydney over 25th May to 1 June at a past 28 day average price (Figures 19-21).

These deviations constitute SPV events in accordance with rules 355(2) and 498(2) of the National Gas Rules. The AER will publish a detailed report on these outcomes following further investigation, including analysis of administered and shadow prices.[8] Below is a brief description of these events.

SPV preliminary analysis - Adelaide

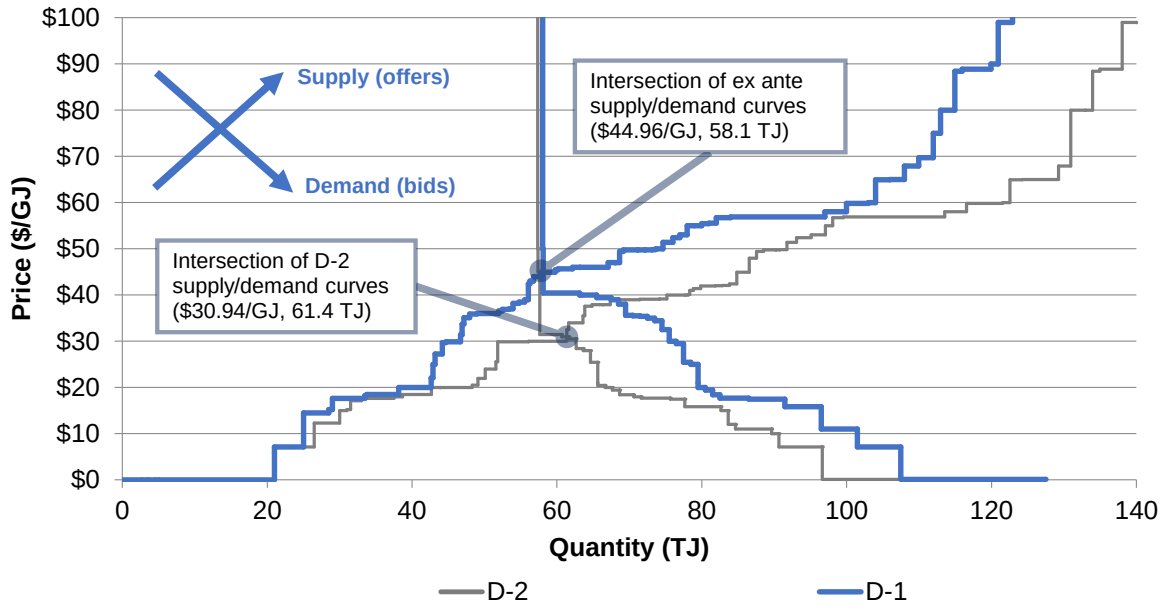
Figure 9: Adelaide provisional and ex ante bid and offer curves (25 May)



On 25 May in Adelaide, the upward shift in the ex ante price was largely driven by supply rebids, with 11.5 TJ of GPG gentailer offers shifted out of the $10-30/GJ price range in the ex ante schedule.

[8] Shadow pricing refers to prices that would have been set in the markets if administered pricing states were not being applied.

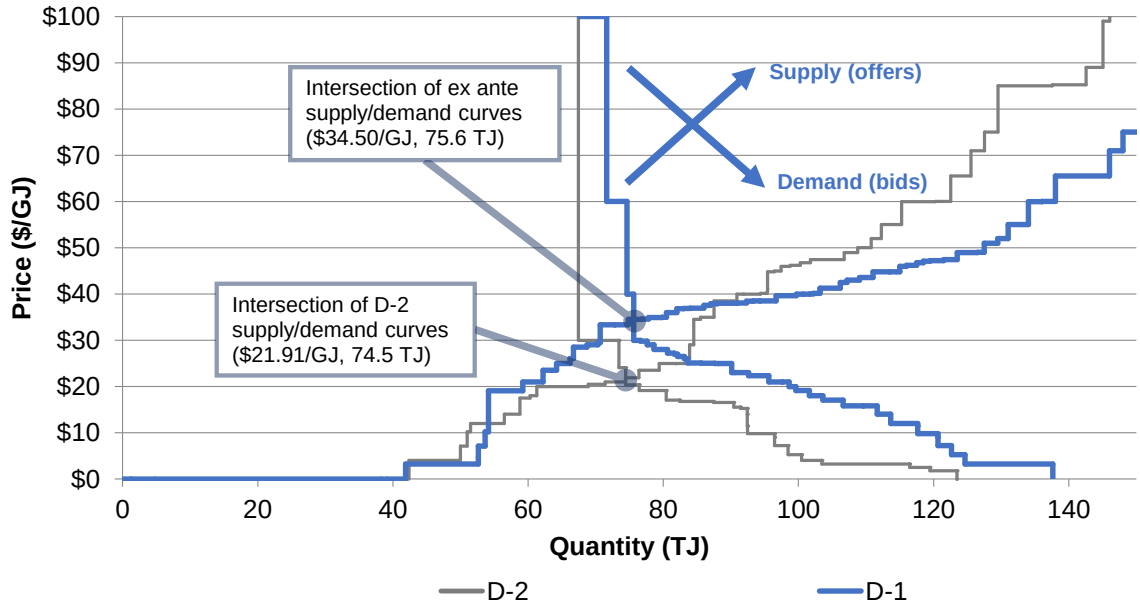
Figure 10: Adelaide provisional and ex ante bid and offer curves (28 May)



On 28 May in Adelaide, the main driver of the higher ex ante schedule price was an increase in offer prices, reducing gas quantities offered below $45/GJ by 26.8 TJ, of which 9.7 TJ was re-priced at $45-50/GJ. This raised the ex ante price by $14.02/GJ to $44.96/GJ. Controllable demand rebidding also significantly increased the price participants were willing to pay for supply, this would have increased the ex ante price to just under $40/GJ if supply had not been rebid to higher prices.

SPV preliminary analysis - Brisbane

Figure 11: Brisbane provisional and ex ante bid and offer curves (22 May)

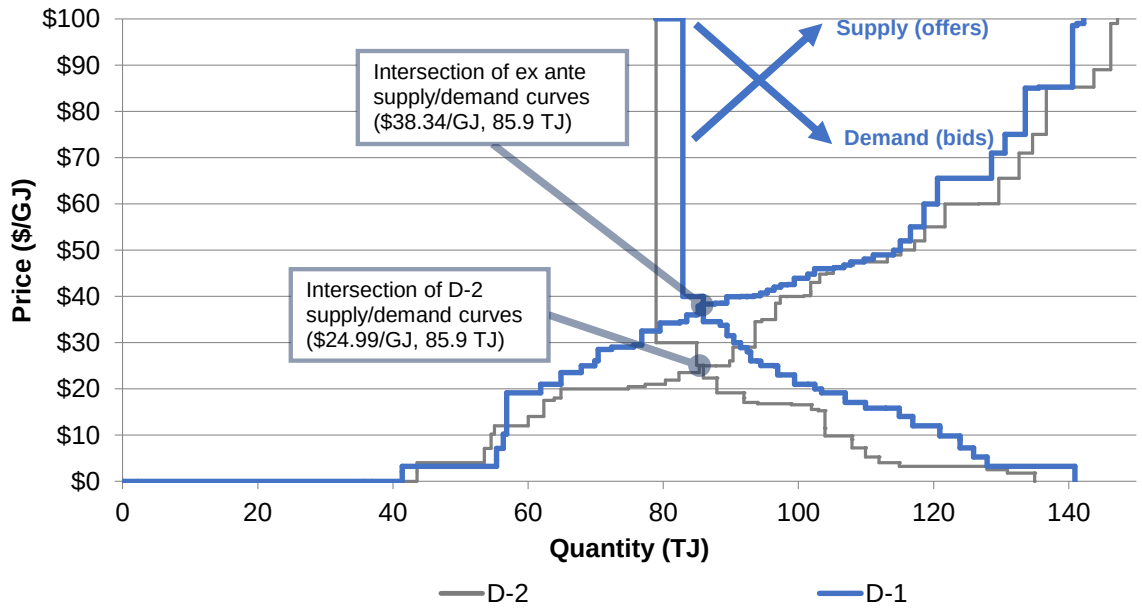


On 22 May, rebidding in Brisbane led to a significant increase in controllable withdrawal bids, particularly at prices in the $20-30/GJ[9] price range, with 8 TJ more bids at $30-100/GJ pushing up scheduled demand. This occurred alongside an upward shift in offer prices at

[9] Bids at $20-30/GJ were up 20 TJ in the ex ante schedule, but these did not get scheduled due to higher offer prices.

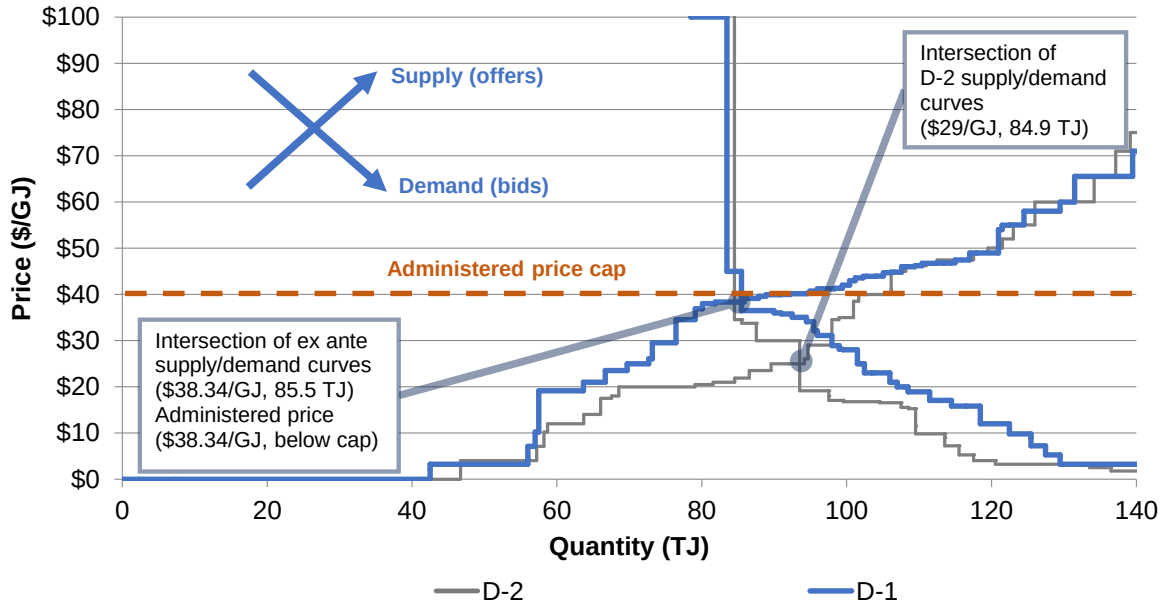
$25-45/GJ[10], resulting in an increase of $12.59/GJ between the D-2 provisional price ($21.91/GJ) and the ex ante price ($34.50/GJ).

Figure 12: Brisbane provisional and ex ante bid and offer curves (23 May)



On 23 May, Brisbane gas offers below $25/GJ decreased by 20 TJ, with a 17.9 TJ increase in the $25-50/GJ range. A rebid by Ampol shifted a $30/GJ (6 TJ) controllable withdrawal bid to separate 4 TJ and 3 TJ bids priced at $100/GJ and $40/GJ respectively. The latter cleared the offers at $38.34/GJ, up $13.35/GJ from the D-2 provisional schedule price ($24.99/GJ).

Figure 13: Brisbane provisional and ex ante bid and offer curves (24 May)

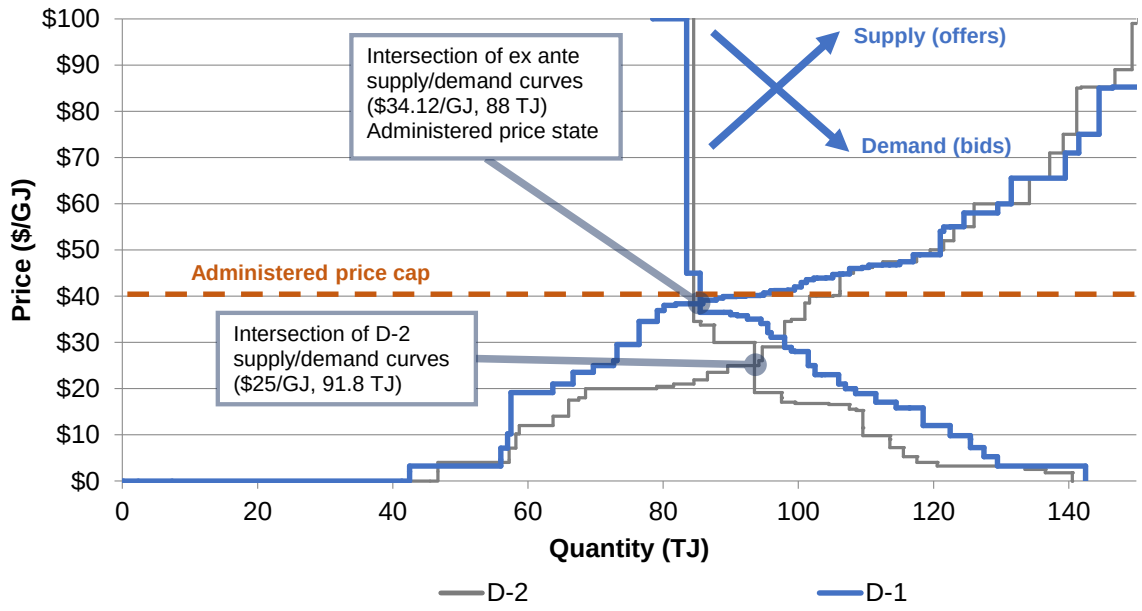


The 24th of May was the first day of the administered price cap in the Brisbane hub. While the ex ante price was set below the cap, at $38.34/GJ, it was however $13.34/GJ above the D-2 provisional price ($25/GJ). While there was rebidding pushing up $30-40/GJ controllable demand bids by close to 10 TJ, these generally remained unscheduled due to the significant

[10] GPG gentailer and industrial offers priced between $10-25/GJ reduced by almost 20 TJ, while offers priced at $25-45/GJ increased by close to 35 TJ (mainly in the $35-45/GJ price range, up 24.6 TJ with traders adding the majority of extra supply, 14 TJ).

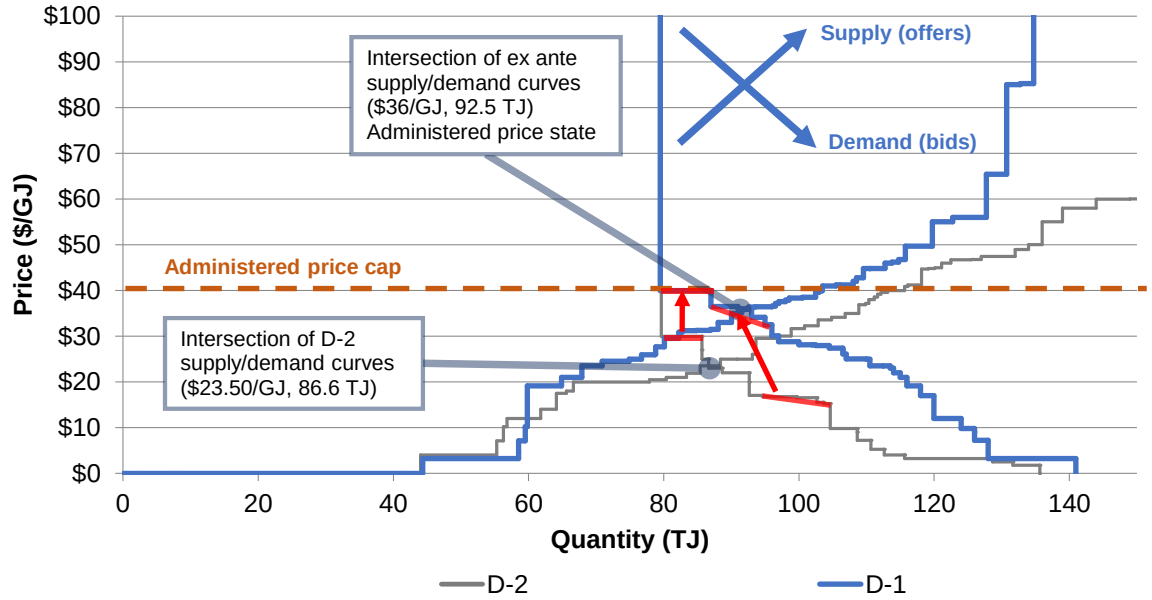
upwards shift in offer prices. Rebidding removed 21.8 TJ of GPG gentailer and industrial offers from below $35/GJ, with a similar increase in $35-45/GJ supply offers.

Figure 14: Brisbane provisional and ex ante bid and offer curves (25 May)



On 25 May in Brisbane, the upward shift in the ex ante price was also largely driven by supply rebids, with around 20 TJ less gas offered below $30/GJ by GPG gentailers and industrial participants in the ex ante schedule.

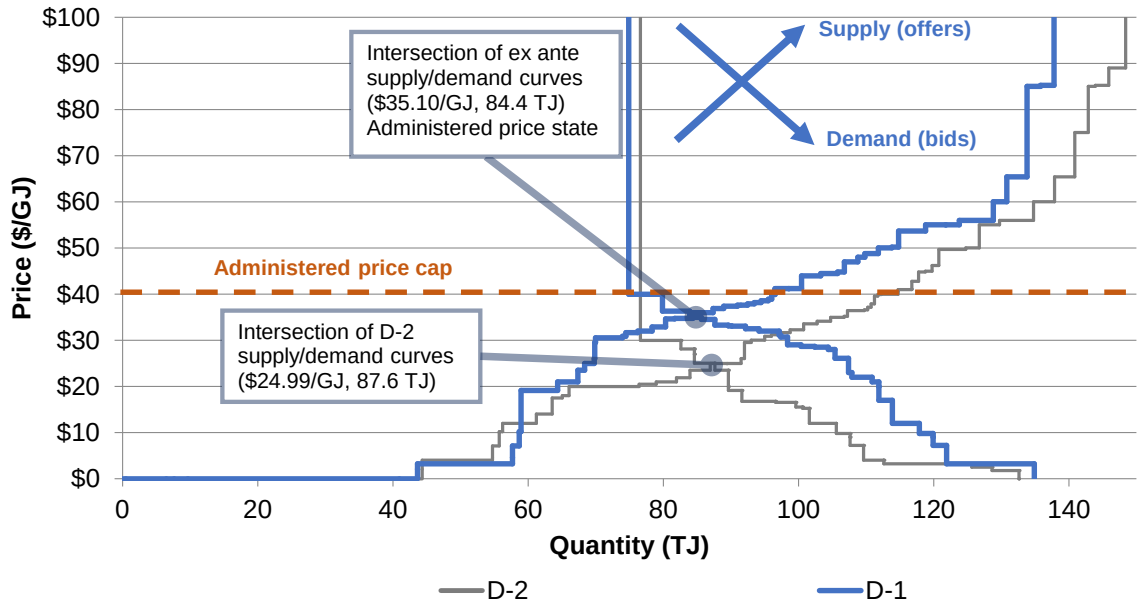
Figure 15: Brisbane provisional and ex ante bid and offer curves (26 May)



On 26 May in Brisbane, higher prices were driven by rebidding affecting both supply offers and controllable demand bids. Supply offered below $35/GJ reduced by 17.8 TJ in the ex ante schedule, while controllable demand bids priced between $35-40/GJ increased by 24.5 TJ.[11]

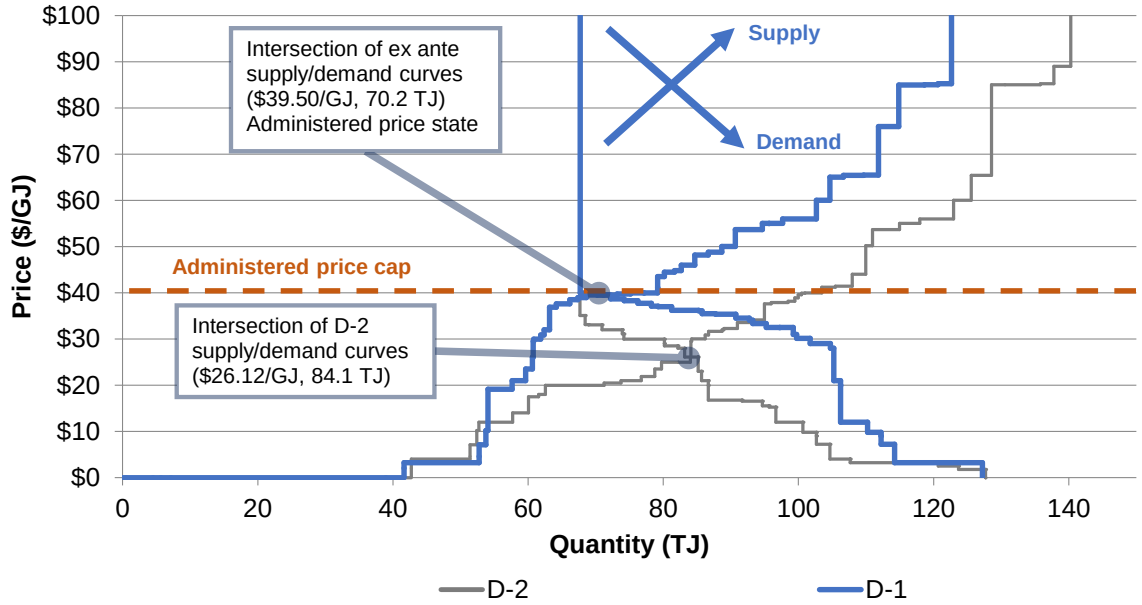
[11] Ampol rebid 6 TJ of demand at $30/GJ up to 7.5 TJ at $40/GJ, while Alinta rebid 10 TJ of demand from $15.24-16.75/GJ up to 9 TJ priced at $32.50-36.50/GJ. Rebids by Eastern Energy, Senex and Shell in smaller quantities also contributed to the shift in the demand curve.

Figure 16: Brisbane provisional and ex ante bid and offer curves (27 May)



On 27 May in Brisbane, rebidding of supply and demand higher prices were driven by rebidding affecting both supply offers and controllable demand bids. Supply offered below $30/GJ reduced by 23 TJ in the ex ante schedule, while controllable demand bids priced between $30-40/GJ increased by 24.5 TJ, largely shifted from price bands below $20/GJ.[12]

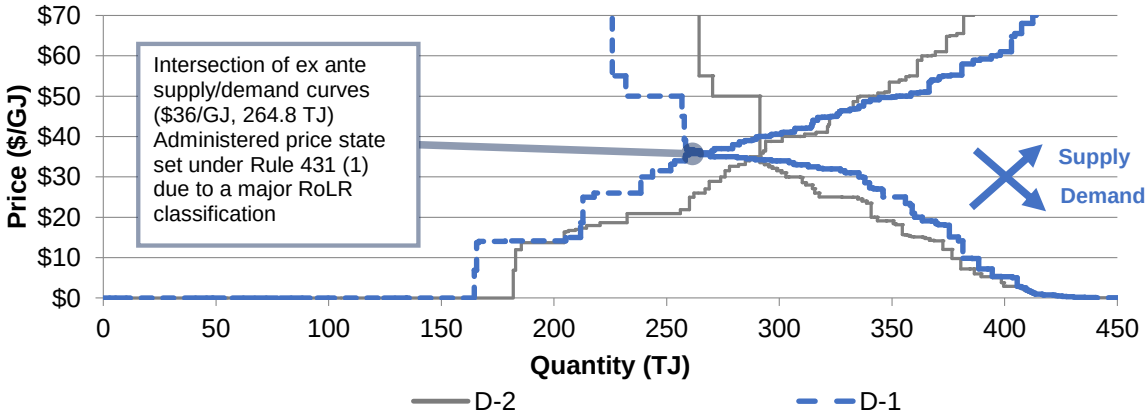
Figure 17: Brisbane provisional and ex ante bid and offer curves (28 May)



On 28 May in Brisbane, the main driver of the higher ex ante price was a significant upward shift in offer prices following a reduction in GPG gentailer, industrial and trader offers below $35/GJ (31.8 TJ). 28 TJ of controllable demand bids when prices were below $20/GJ shifted prices to the $30-40/GJ range. However, with only 7.5 TJ of supply capacity, prices moved into the $35-40/GJ range. This set the ex ante price just below the $40/GJ price cap, up $13.38/GJ from the D-2 provisional schedule forecast.

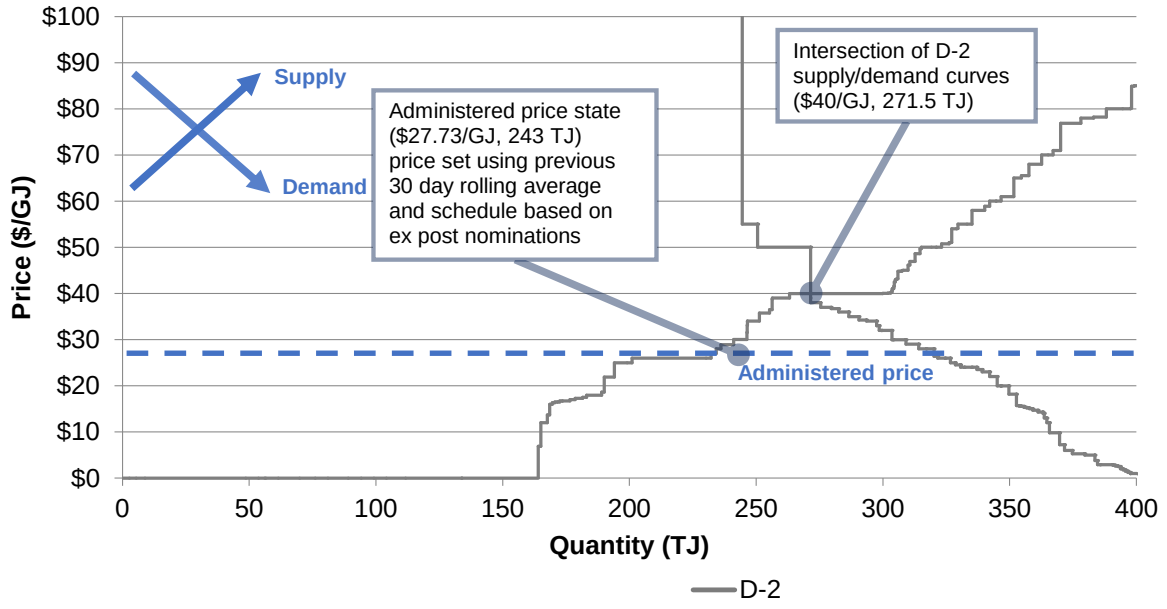
[12] Alinta rebid 7 TJ of their D-2 controllable demand (10 TJ) from around $16/GJ up to $32.50-36.30/GJ. Shell rebid 9 TJ of demand up from $19.12-28.11/GJ to $26.12-33.07/GJ. Eastern Energy rebid 10 TJ from $1.80-4/GJ up to $17-33.30/GJ. Smaller quantities from Petro China and Senex were also added at prices above $31/GJ. Supply from Alinta and Origin below $25/GJ decreased significantly, moved to prices above $40/GJ.

Figure 18: Sydney provisional and ex ante bid and offer curves (24 May) – administered price state (24 - 25 May)



On 24 May, Sydney was also put into an administered pricing state, however the major RoLR classification led to a different calculation of ex ante prices in the following days. The ex ante price was set at $36/GJ on this day in line with the available offer stack, however the following day did not have an approved ex ante schedule due to supply nominations falling by 48 TJ from the D-2 schedule, leading to a 23 TJ shortfall in supplying participants' pricetaker bids (which represent forecast levels of uncontrollable load). Following the contingency gas conference on this day, participants renominated supply and contingency gas was not required to resolve the shortfall. MOS increase allocations accrued to 35.8 TJ to make up for the shortfall in nominated supply.

Figure 19: Sydney provisional and ex ante bid and offer curves (26 May)

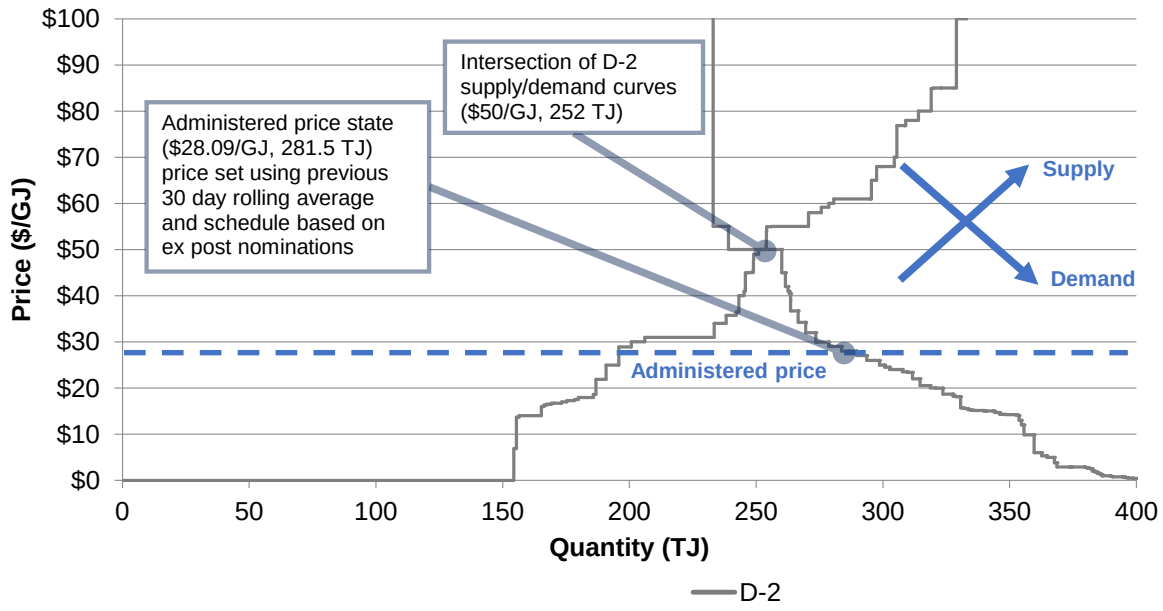


From 26 May in Sydney, administered ex ante prices were set using the rolling average price over the previous 30 days, without ex ante schedules being approved. Ex ante schedule quantities were set using participants' pipeline nominations, with the ex post and contingency gas prices set at the ex ante price. Capacity and pipeline flow direction prices were set at $0/GJ. This resulted in the ex ante price ($27.73/GJ) being set $12.27/GJ below the D-2 provisional forecast price of $40/GJ.

No ex ante schedules are being set from submitted offers, with nominations used to calculate ex post positions, however MOS allocations are still occurring (this is period of

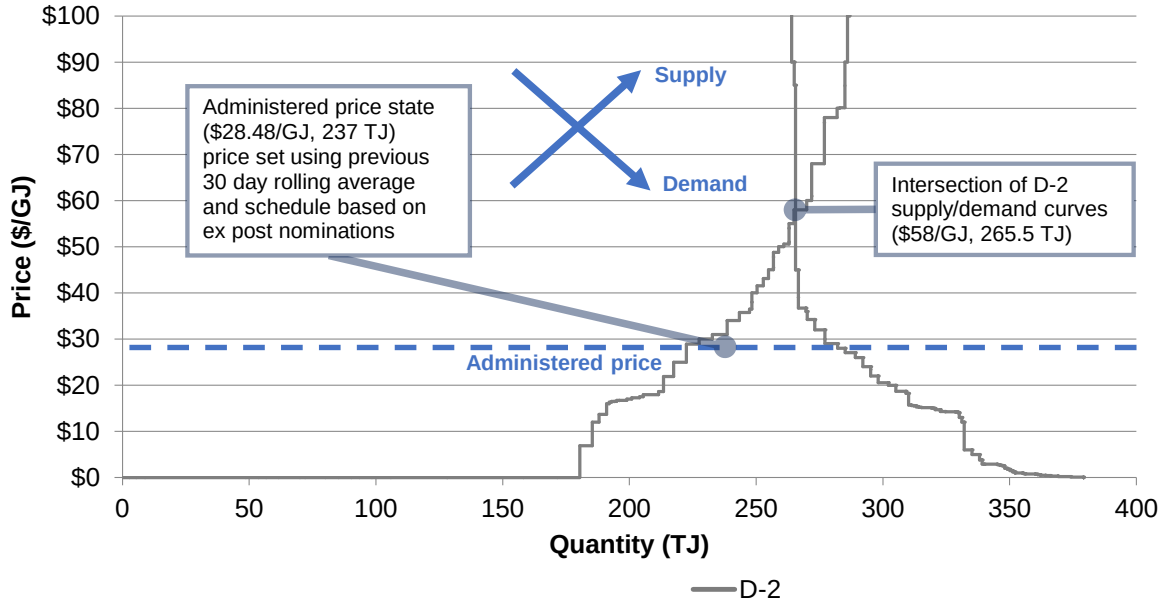
further investigation while markets are in administered pricing states). Increase MOS allocations accrued to 37.14 TJ to make up for a shortfall in nominated supply.

Figure 20: Sydney provisional and ex ante bid and offer curves (27 May)



The previous 30 day rolling average price in Sydney for 27 May was $28.09/GJ, $21.91/GJ below the D-2 provisional forecast of $50/GJ. Increase MOS allocations accrued to 26.29 TJ to make up for a shortfall in nominated supply.

Figure 21: Sydney provisional and ex ante bid and offer curves (28 May)



The previous 30 day rolling average price in Sydney for 28 May was 28.48/GJ, $29.52/GJ below the D-2 provisional forecast of $58/GJ.

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[13] which is the schedule at which most gas is traded.

The main drivers[14] 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[15], 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 4.

Figure 1.1: Prices by schedule ($/GJ)

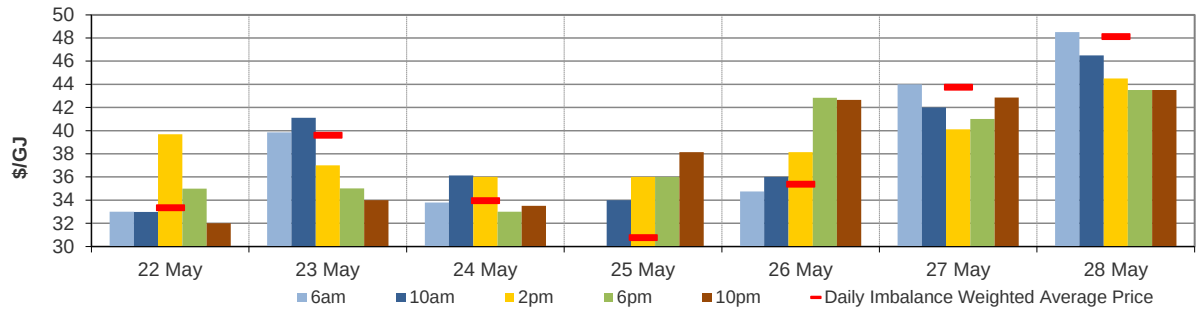
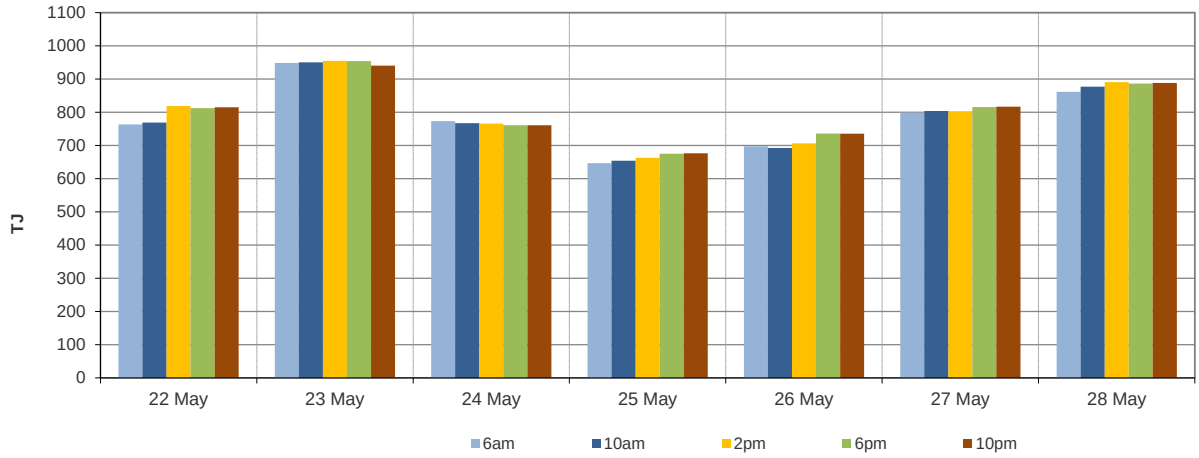


Figure 1.2: Demand forecasts (TJ)



[13] 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.
[14] 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.
[15] 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)

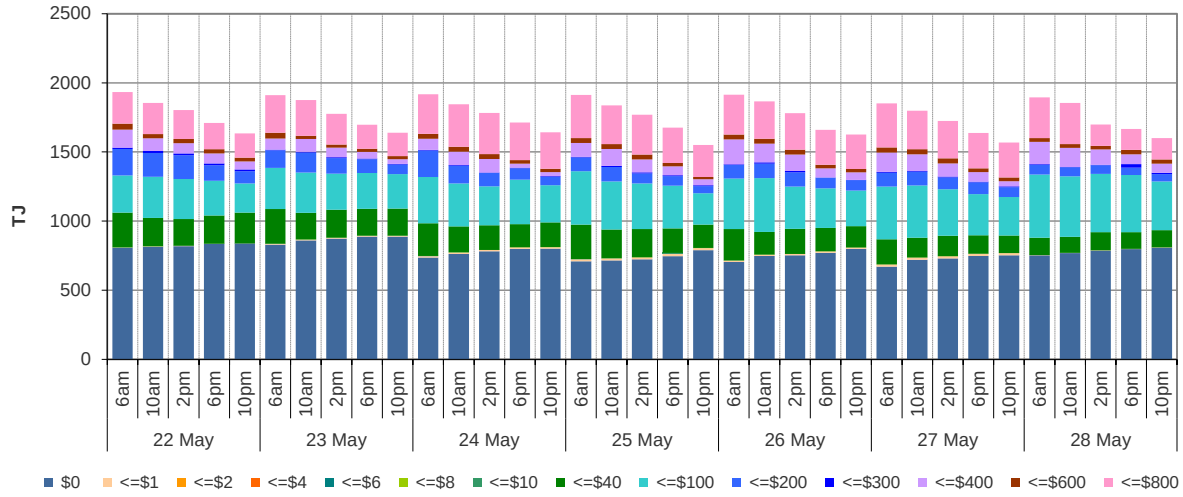


Figure 1.4: Withdrawal bids by price bands (TJ)

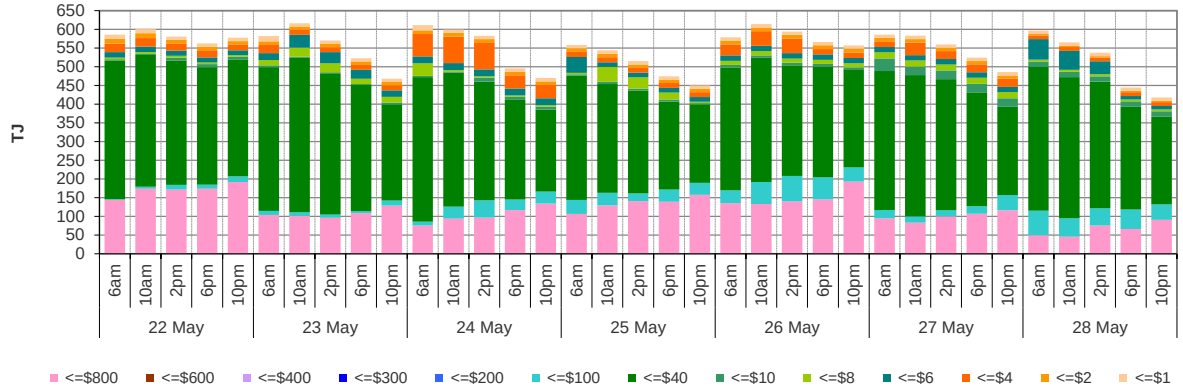
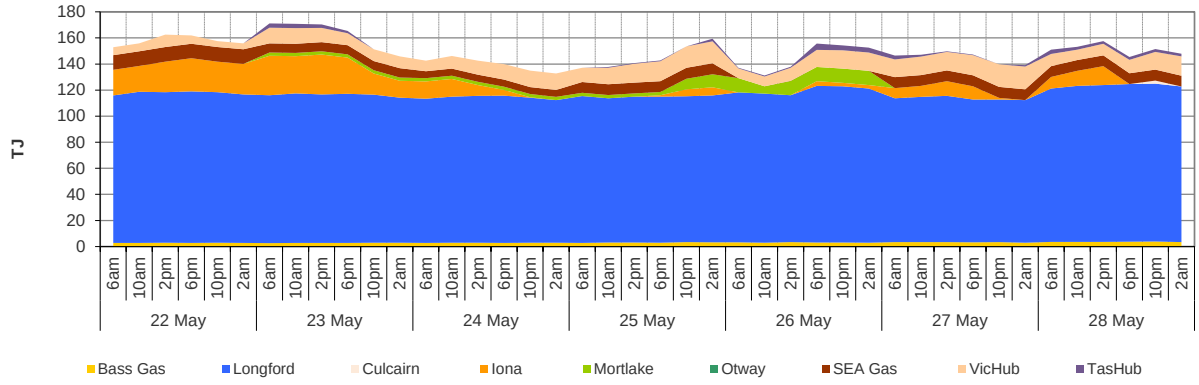


Figure 1.5: Metered Injections by System Injection Point (TJ)



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.[16] 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.

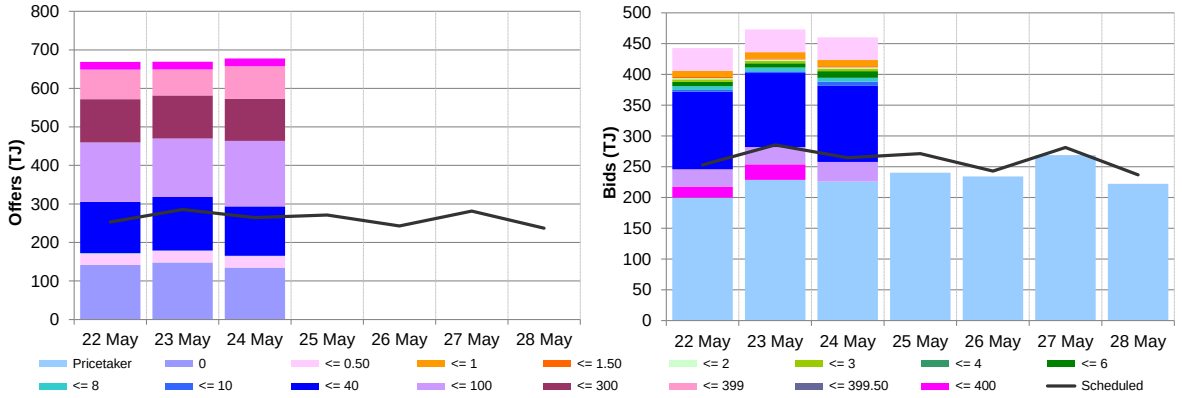
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.[17]

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 ($/GJ)	35.00	36.00	36.00	27.49	27.73	28.09	28.48
Ex ante quantity (TJ)	253	286	265	271	243	281	237
Ex post price ($/GJ)	36.50	38.19	36.00	27.49	27.73	28.09	28.48
Ex post quantity (TJ)	269	304	265	271	243	281	237

Figure 2.2: SYD daily hub offers and bids in price bands ($/GJ)[18]



[16] 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.

[17] 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).

[18] Due to the administered pricing state resulting from a major Retailer of Last Resort (RoLR) event being declared for the Sydney hub (following the suspension of Weston Energy from the STTM), ex ante schedules were not run for the 25-31 May gas days. Scheduled quantities on these days were determined based on participants' nominated supply quantities, with ex ante and ex post prices set using a rolling 30-day average from 27 May (for further information, see preliminary analysis for significant price variations in the detailed analysis section).

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.

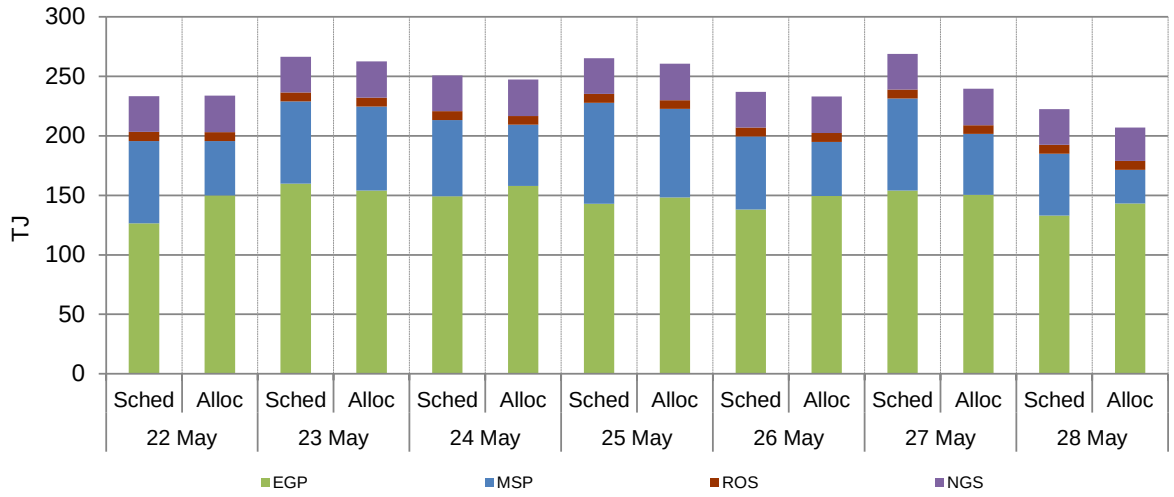
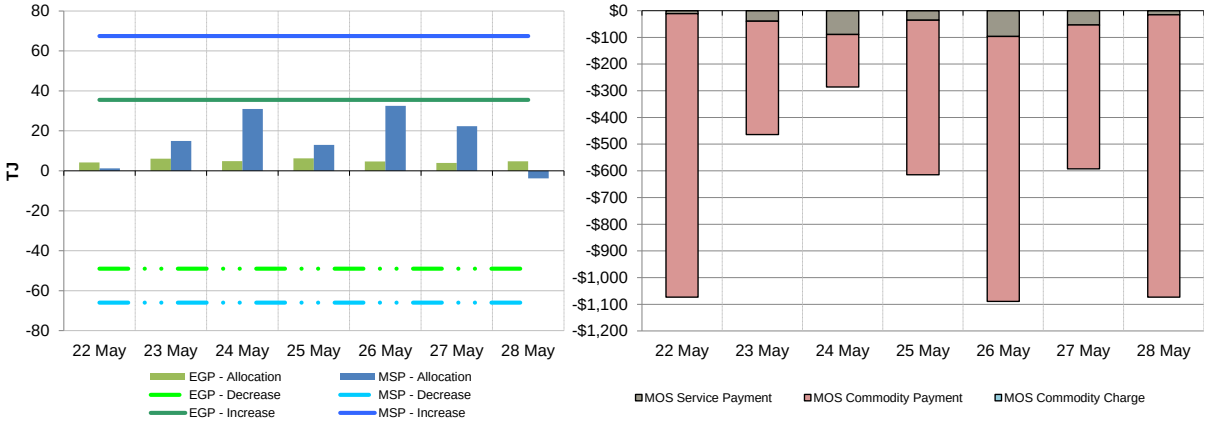


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges ($000)[19]



[19] 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 ($/GJ)	35.00	38.15	37.91	37.91	36.00	38.90	44.96
Ex ante quantity (TJ)	53	60	56	59	63	67	58
Ex post price ($/GJ)	36.44	38.14	38.20	37.89	38.90	38.99	43.00
Ex post quantity (TJ)	57	57	59	58	71	70	57

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

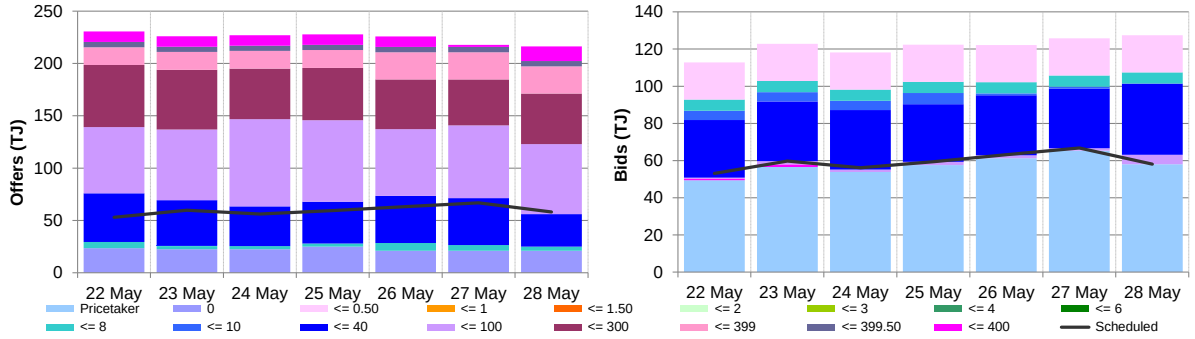


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

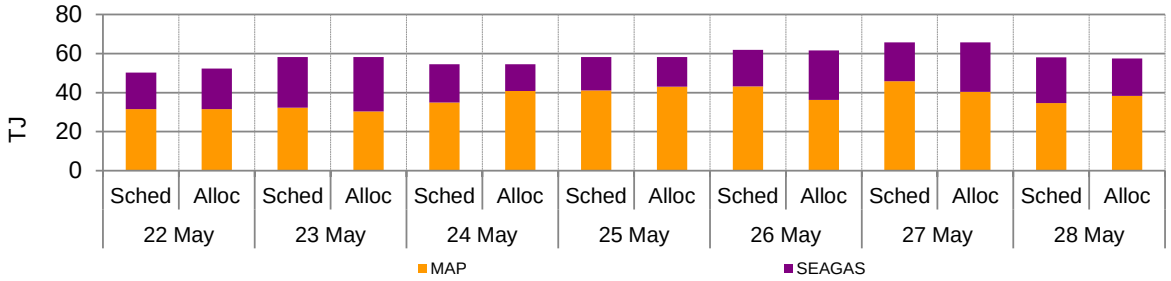
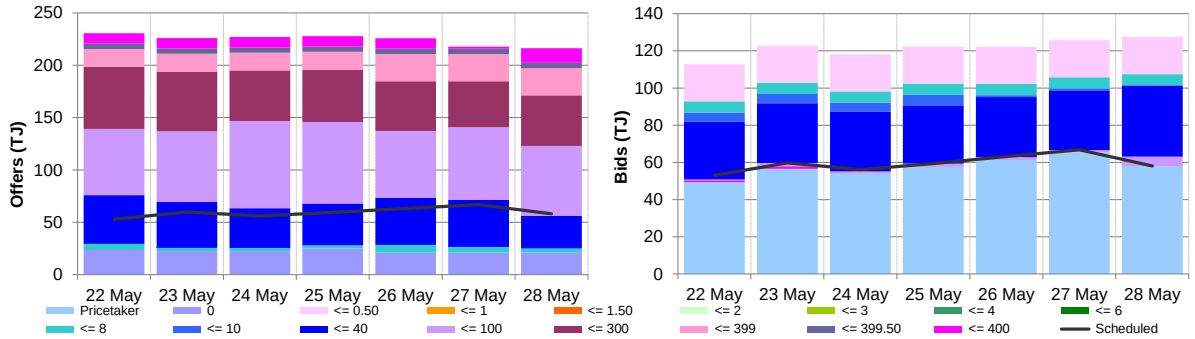


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges ($000)



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 ($/GJ)	34.50	38.34	38.34	34.12	36.00	35.10	39.50
Ex ante quantity (TJ)	76	86	85	88	93	84	70
Ex post price ($/GJ)	33.34	38.49	39.15	34.12	35.18	36.00	39.50
Ex post quantity (TJ)	74	88	88	88	91	88	70

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

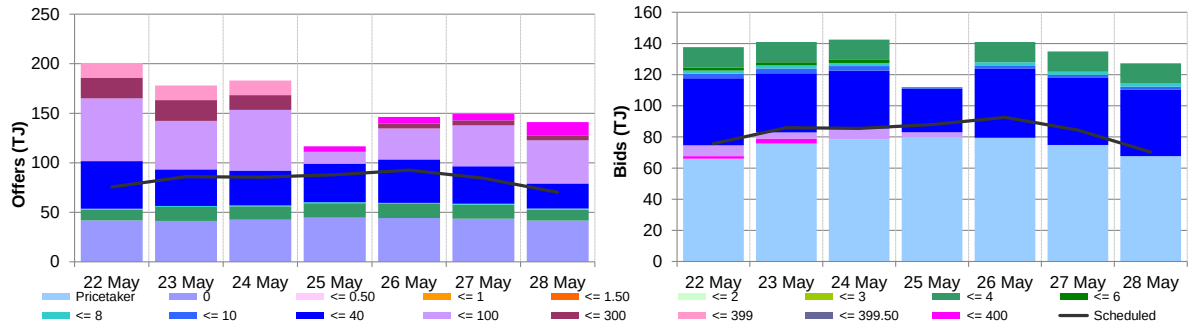


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

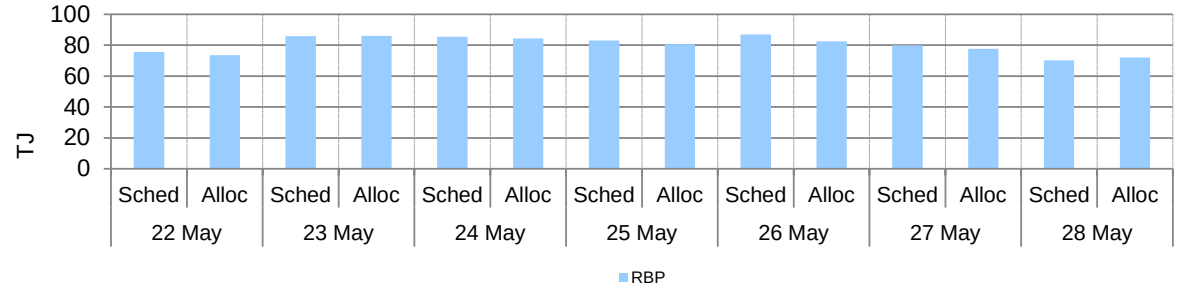
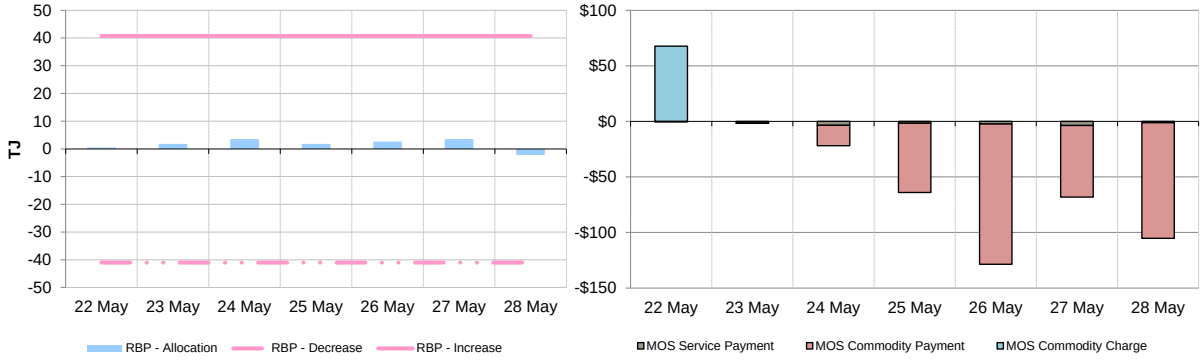


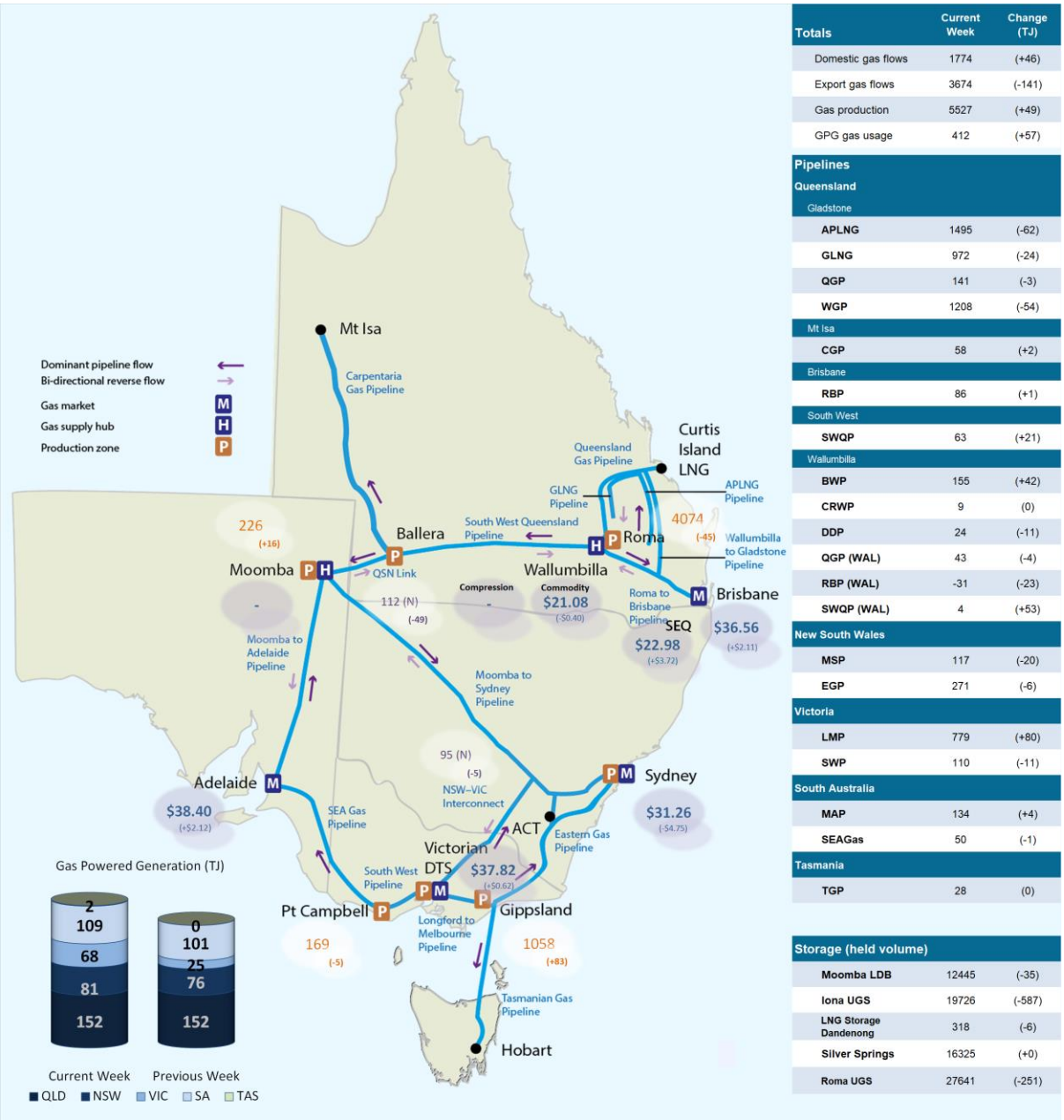
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges ($000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week[20] from the Bulletin Board (changes from the previous week's average are shown in brackets). Average daily prices[21] 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)[22]



Totals	Current Week	Change (TJ)
Domestic gas flows	1774	(+46)
Export gas flows	3674	(-141)
Gas production	5527	(+49)
GPG gas usage	412	(+57)
Pipelines		
Queensland		
Gladstone		
APLNG	1495	(-62)
GLNG	972	(-24)
QGP	141	(-3)
WGP	1208	(-54)
Mt Isa		
CGP	58	(+2)
Brisbane		
RBP	86	(+1)
South West		
SWQP	63	(+21)
Wallumbilla		
BWP	155	(+42)
CRWP	9	(0)
DDP	24	(-11)
QGP (WAL)	43	(-4)
RBP (WAL)	-31	(-23)
SWQP (WAL)	4	(+53)
New South Wales		
MSP	117	(-20)
EGP	271	(-6)
Victoria		
LMP	779	(+80)
SWP	110	(-11)
South Australia		
MAP	134	(+4)
SEAGas	50	(-1)
Tasmania		
TGP	28	(0)

Storage (held volume)		
Moomba LDB	12445	(-35)
Iona UGS	19726	(-587)
LNG Storage Dandenong	318	(-6)
Silver Springs	16325	(+0)
Roma UGS	27641	(-251)

20 **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.

21 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.

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

6. Gas Supply Hub

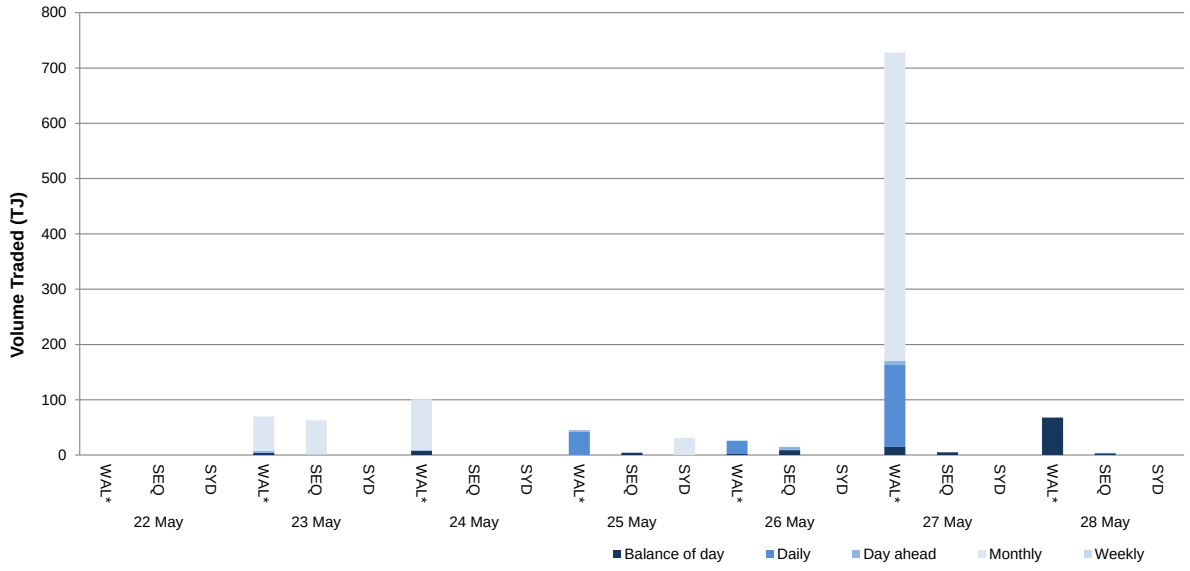
The gas supply hub was established at Wallumbilla in March 2014 to facilitate the voluntary trading of gas between participants, with products listed for sale and purchase at delivery points on three major connecting pipelines. There are separate products for each trading location and delivery period (daily, day-ahead, balance-of-day, weekly and monthly products).[23]

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 51 trades for 1161 TJ of gas at a volume weighted price of $21.42/GJ. These consisted of 37 trades at WAL (1038 TJ at $21.08/GJ), 13 trades at SEQ (92 TJ at $22.98/GJ) and 1 trade at SYD (31 TJ at $28.00/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.[24]

Figure 6.1: GSH traded quantities



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

24 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.

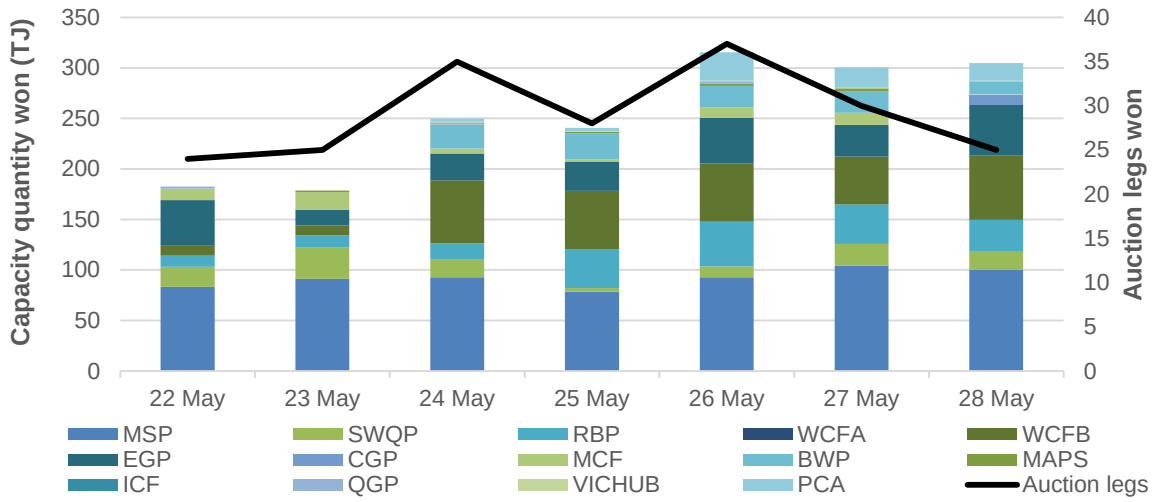
Participants may bid in to the DAA in order to procure the following services:

- 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 1772 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.[25]

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



Australian Energy Regulator
July 2022

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