

Weekly Gas Market Report

19 – 25 July 2015



AUSTRALIAN ENERGY
REGULATOR

Weekly summary

Average prices increased in all markets this week except Wallumbilla. The largest increases were in Victoria and Adelaide.

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) in 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**) for the current week compared to historical averages.

Figure 1: Average daily prices – all markets (\$/GJ)¹

Region	Victoria	Sydney	Adelaide	Brisbane
19 Jul - 25 Jul 2015	6.14	6.49	7.34	6.68
% change from previous week	22	9	21	4
15-16 financial YTD	5.06	5.49	5.87	5.00
% change from previous financial YTD	29	35	41	111

Figure 2 compares average weekly gas prices, ancillary market payments and scheduled injections against historical averages for the Victorian gas market.

Figure 2: Victorian Gas Market

	Price (\$/GJ)	Ancillary payments (\$000)*	BOD forecast demand quantity (TJ)
19 Jul - 25 Jul 2015	6.14	-	943
% change from previous week	22	-	-14
15-16 financial YTD	5.06	-	1007
% change from previous financial YTD	29	-	5

* Note: only positive ancillary payments, reflecting system constraints will be shown here.

¹ The weighted average daily imbalance price applies for Victoria.

More detailed analysis on the VGM is provided in section 1.

Figures 3 to 5 show average ex ante and ex post gas prices, Market Operator Service (**MOS**) balancing gas service payments together with the related daily demand quantities against historical averages for the Sydney, Adelaide and Brisbane STTM hubs, respectively.

Figure 3: Sydney STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
19 Jul - 25 Jul 2015	6.49	6.35	25.07	286	282
% change from previous week	9	4	-42	-7	-9
15-16 financial YTD	5.49	5.49	36.20	299	299
% change from previous financial YTD	35	33	84	0	-1

Figure 4: Adelaide STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
19 Jul - 25 Jul 2015	7.34	8.01	26.89	92	96
% change from previous week	21	32	192	-1	5
15-16 financial YTD	5.87	5.95	17.72	91	90
% change from previous financial YTD	41	41	90	0	-2

Figure 5: Brisbane STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
19 Jul - 25 Jul 2015	6.68	6.55	1.45	98	97
% change from previous week	4	5	-31	-3	-4
15-16 financial YTD	5.00	4.70	1.68	97	96
% change from previous financial YTD	111	109	73	-40	-40

More detailed analysis of the STTM hubs is found in sections 2 to 4.

Section 5 provides analysis on production and pipeline flows on the National Gas Bulletin Board (**Bulletin Board**), as well as gas powered generation (**GPG**) volumes in each state, and section 6 provides information on the Gas Supply Hub (**GSH**) at Wallumbilla.

Significant Market Events or Issues this week

Contingency gas event in the Sydney STTM hub

At 6 pm on 22 July, Jemena Gas Networks contacted AEMO to trigger a Contingency Gas event in the Sydney hub. Contingency gas arrangements are triggered when there is an expected supply shortfall and participants are convened to resolve the issue.²

A number of conference calls managed to alleviate the expected supply shortfall through participant renominations which switched to gas deliveries from other supply sources. Following continued monitoring over the following day, AEMO determined on the afternoon of 23 July that the Contingency Gas event was closed and that no contingency gas would be required.

The event was triggered as a result of a drop in pressure in the Jemena distribution network. The cause was traced back to a suspected line valve closure on the Moomba to Sydney Pipeline (**MSP**) between Moomba and Bulla Park.³

APA informed the market of potential supply issues through the publication of an AMBER⁴ line pack capacity adequacy (**LCA**) flag on the Gas Market Bulletin Board. As APA investigated the cause of the reduced MSP flows, a conference was held and participants ended up renominating supply from Victoria to the Eastern Gas Pipeline (**EGP**) and the MSP via Culcairn⁵. When constraints restricted withdrawals from Victoria through Culcairn, a further conference was held and participants shifted additional supply to the EGP. APA subsequently identified the problem and opened a separate valve to correct the pressure on the pipeline. The event remained open until APA confirmed pressure issues had been rectified.

This led to some large supply side deviations in the Sydney market for the 23 July gas day, with 76.2 TJ of gas scheduled on MSP not being delivered and an additional 58.6 TJ of supply being renominated to the EGP (see figure 2.3). The following day saw demand over forecast by most participants which led to a large decrease MOS requirement (see figure 2.4).

The event also resulted in a number of changes being made to offers and bids in day ahead schedules across a number of markets. The price in Victoria on 23 July reached around \$10/GJ during schedules at the beginning of the gas day (see figure 1.1). There was also an increase in withdrawal bids priced at the cap (\$800/GJ) over multiple schedules (see figure 1.4). In Adelaide offers were priced at higher levels in the day-ahead schedule for the 24 July gas day (see figure 3.2) which saw the ex ante price increase to just over \$12/GJ. This was brought about by participants shifting gas offered on the SEAGas pipeline into higher prices and reducing the price of a number of offers on the Moomba to Adelaide Pipeline (**MAP**), effectively reducing supply from the Victorian market.

AGL Newcastle Gas Storage Facility testing

AGL commenced testing the delivery of supply to the Sydney STTM hub through the new Newcastle Gas Storage (**NGS**) facility system point for the first time on 23 and 24 July (see figure 2.3).

Increase in Wallumbilla trades on the SWQP

There has been a significant increase in South West Queensland Pipeline (**SWQP**) trades on the Gas Supply Hub (**GSH**) from around mid-June (see figure 6.2). The pipeline saw record quantities traded on 24 July⁶ and reached its 2nd highest level of gas traded across the week⁷ since the commencement of trading at the hub.

² Contingency gas bids (for payments to shut down demand) and offers (to provide additional supply) are confirmed with individual participants at an AEMO assessment conference (when required).

³ The MSP is a pressure controlled pipeline and is the main source of MOS (balancing gas) when demand errors occur in the hub. The EGP is flow controlled and will not flow additional gas to the hub unless it is nominated by participants.

⁴ AMBER indicates the likelihood of voluntary or contractual load shedding occurring on the pipeline.

⁵ Northerly flows on the Victoria-NSW interconnector on 22 and 23 July were above 110 TJ/day.

⁶ Record daily trade of 105 TJ on SWQP set on the 4 September 2014 and 23 July 2015 trading days.

Detailed Market Figures

19 – 25 July 2015

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 price⁸ which is the schedule at which most gas is traded.

The main drivers⁹ 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 forecasts¹⁰, 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.

Figure 1.1: Prices by schedule

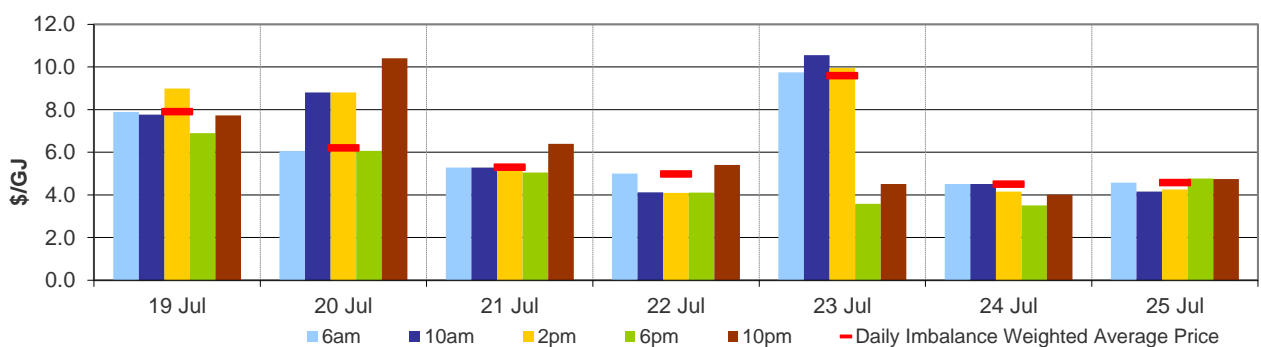
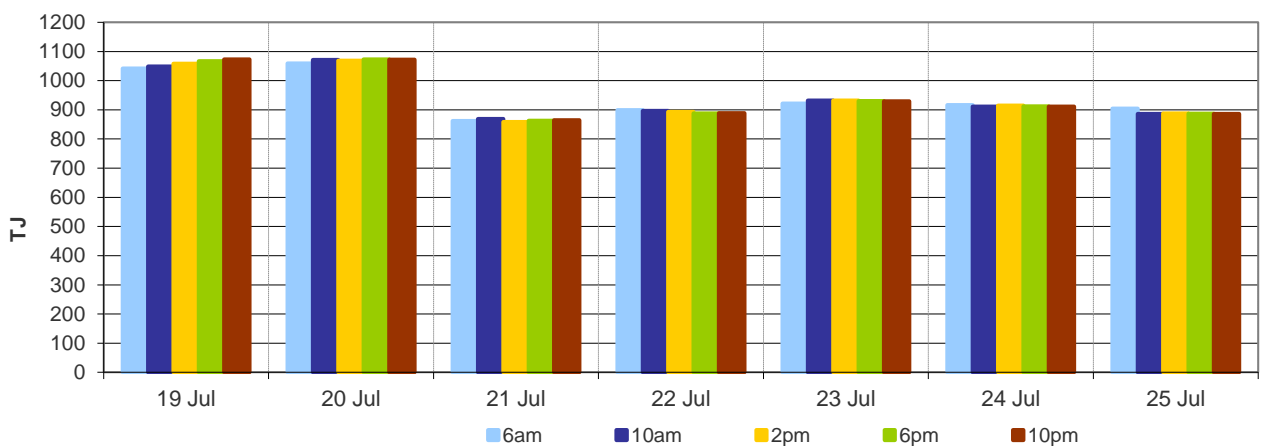


Figure 1.2: Demand forecasts



⁷ The highest volume traded over a reporting week was 195 TJ, traded during the week ending 13 December 2014. The 2nd highest volume traded over a reporting week was 179 TJ for the week ending 25 July 2015.

⁸ 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.

⁹ 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.

¹⁰ 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

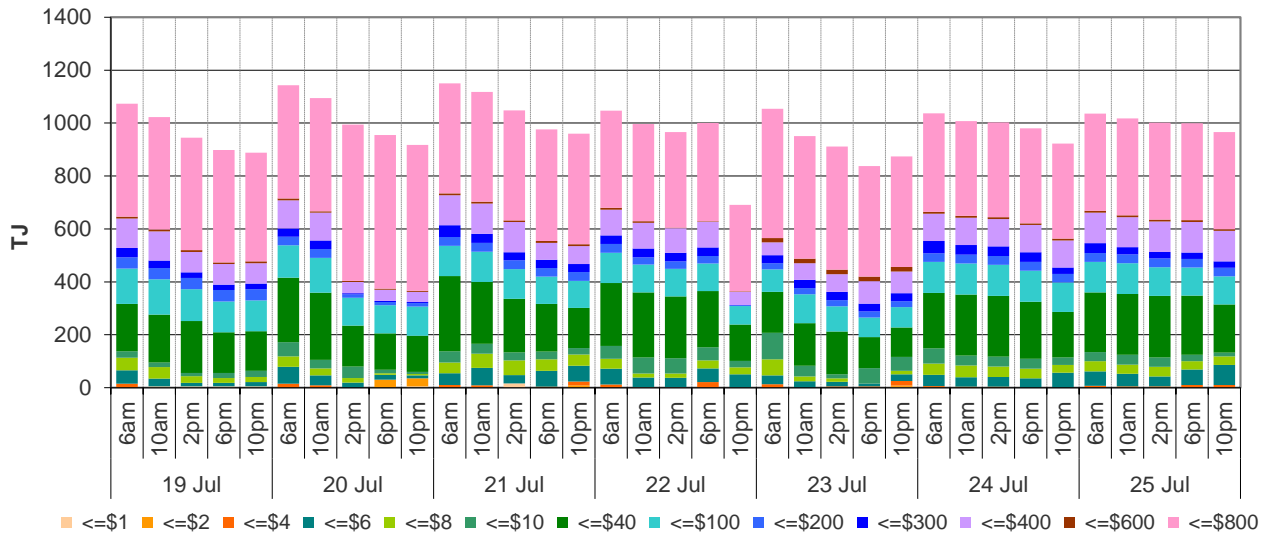


Figure 1.4: Withdrawal bids by price bands

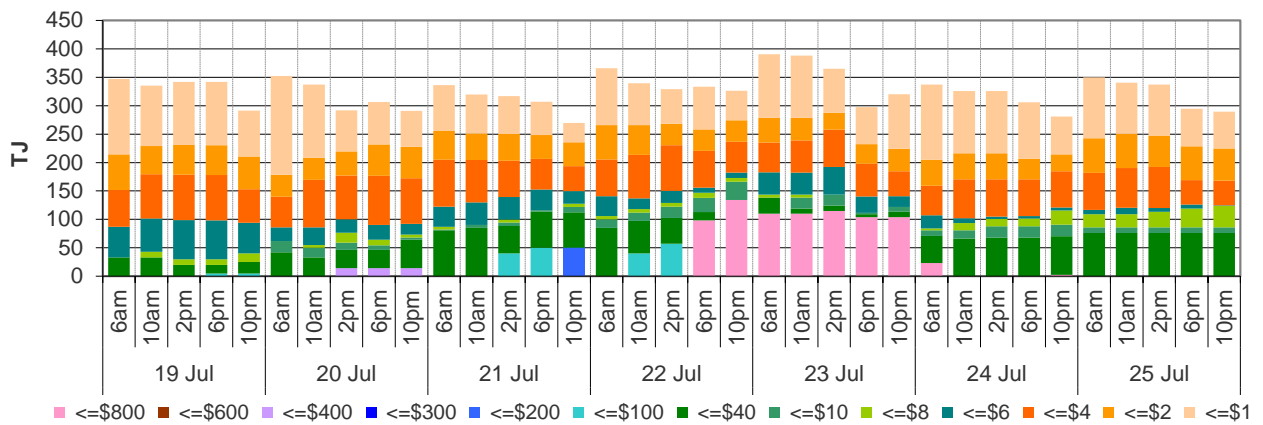
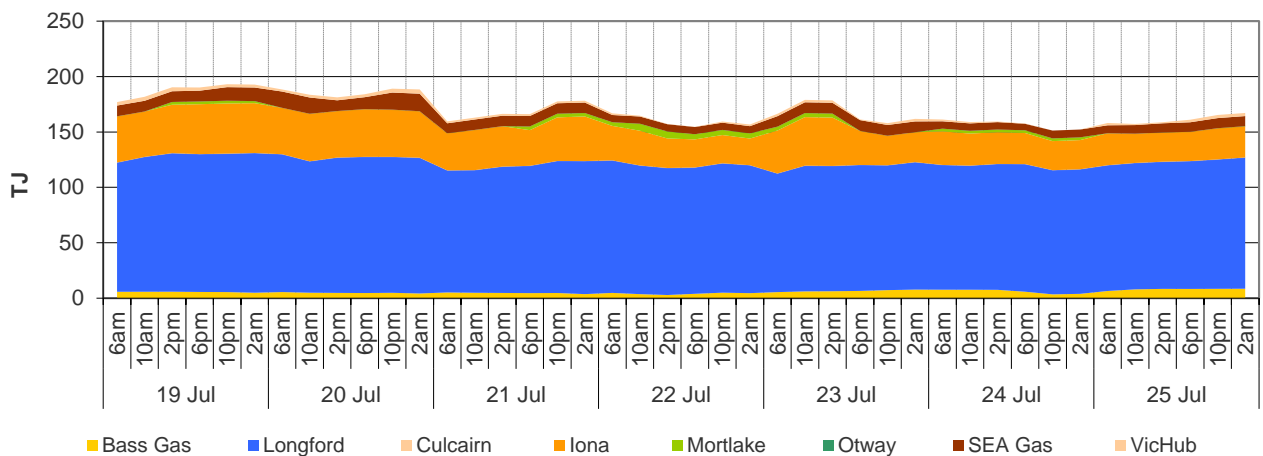


Figure 1.5: Metered Injections by System Injection Point



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.¹¹ 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](#).

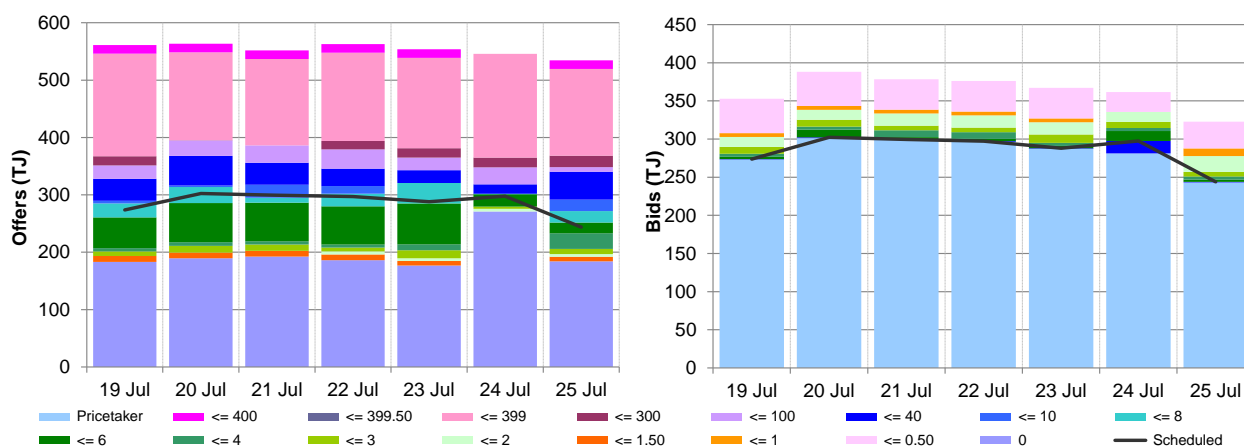
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.¹²

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)	6.22	7.17	8.05	7.16	6.03	5.80	5.00
Ex ante quantity (TJ)	274	302	300	297	288	298	244
Ex post price (\$/GJ)	6.22	7.17	8.05	7.89	5.99	4.60	4.50
Ex post quantity (TJ)	273	306	296	300	283	279	234

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



¹¹ 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.

¹² 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)

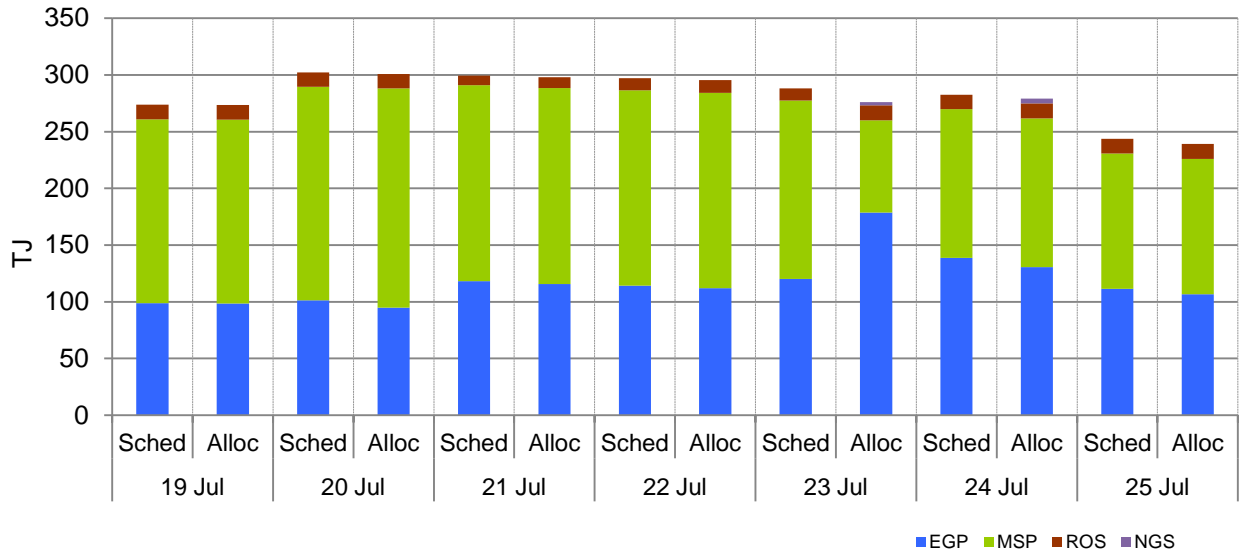
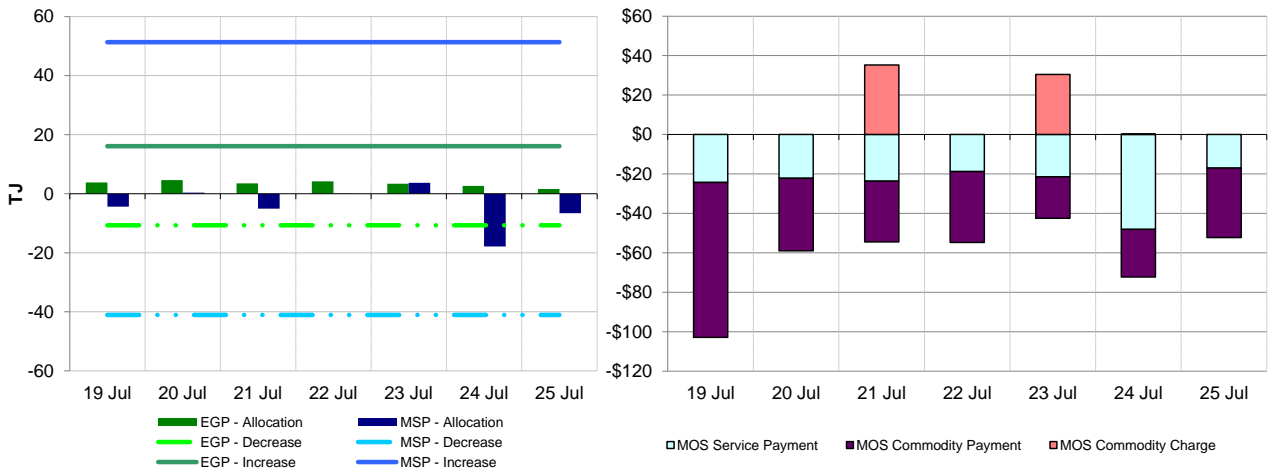


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$'000)



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)	6.26	6.15	7.90	7.90	5.69	12.02	5.49
Ex ante quantity (TJ)	92	101	97	98	89	90	80
Ex post price (\$/GJ)	6.55	11.56	8.49	6.34	5.69	12.02	5.45
Ex post quantity (TJ)	93	118	104	95	95	90	77

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

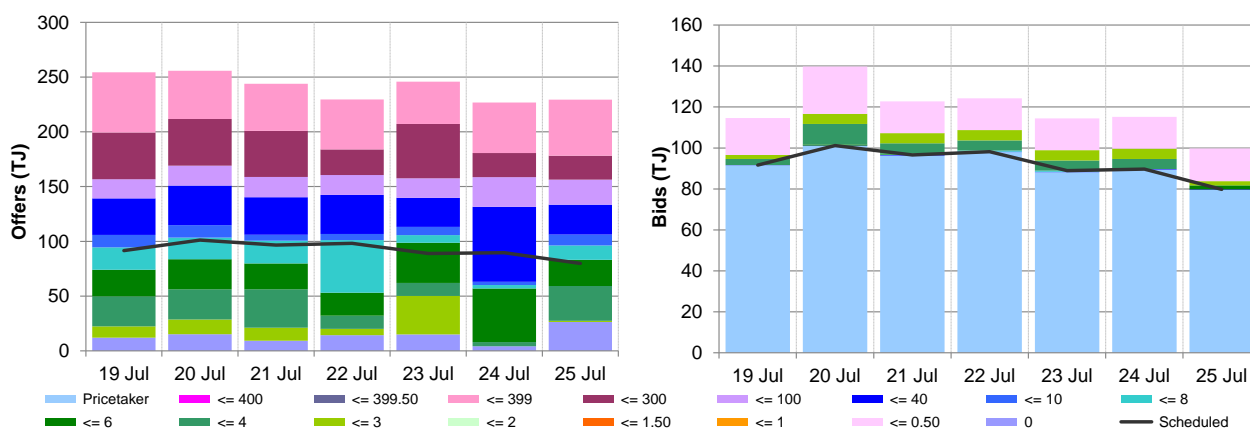


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

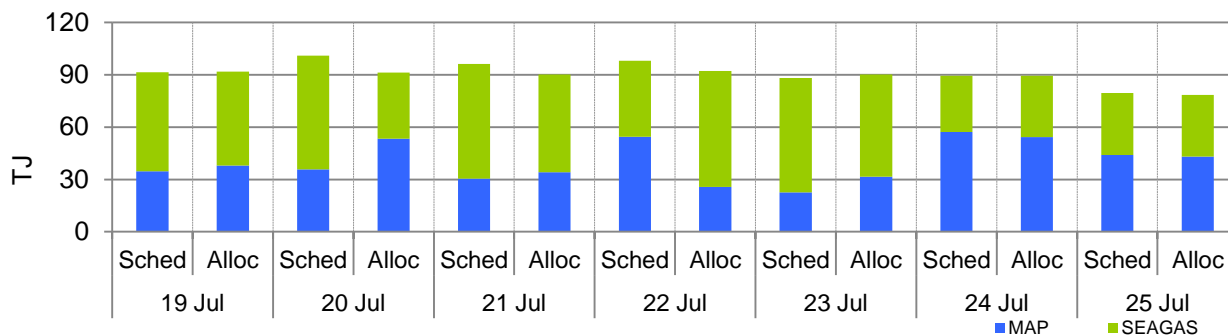
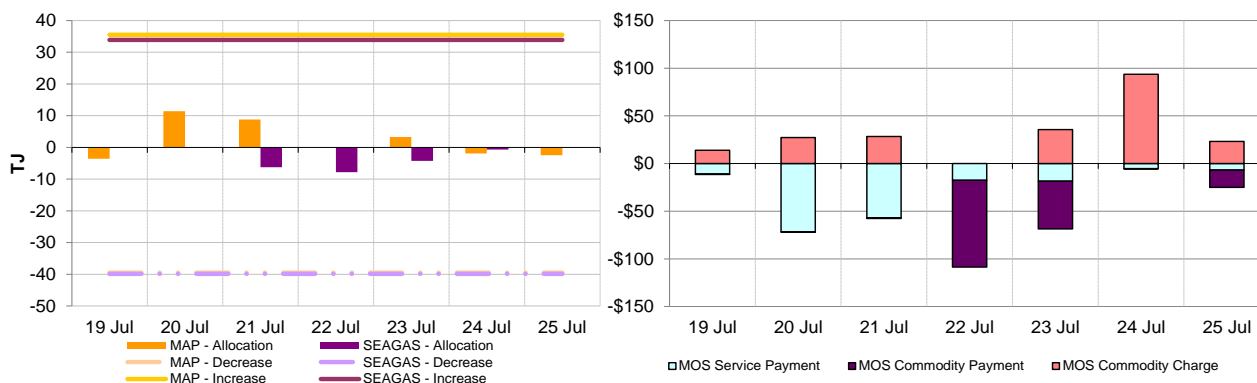


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	6.10	8.70	7.90	7.35	6.05	6.12	4.54
Ex ante quantity (TJ)	87	107	105	105	103	100	83
Ex post price (\$/GJ)	6.70	8.70	7.90	7.35	4.52	6.12	4.54
Ex post quantity (TJ)	89	109	104	103	101	94	81

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

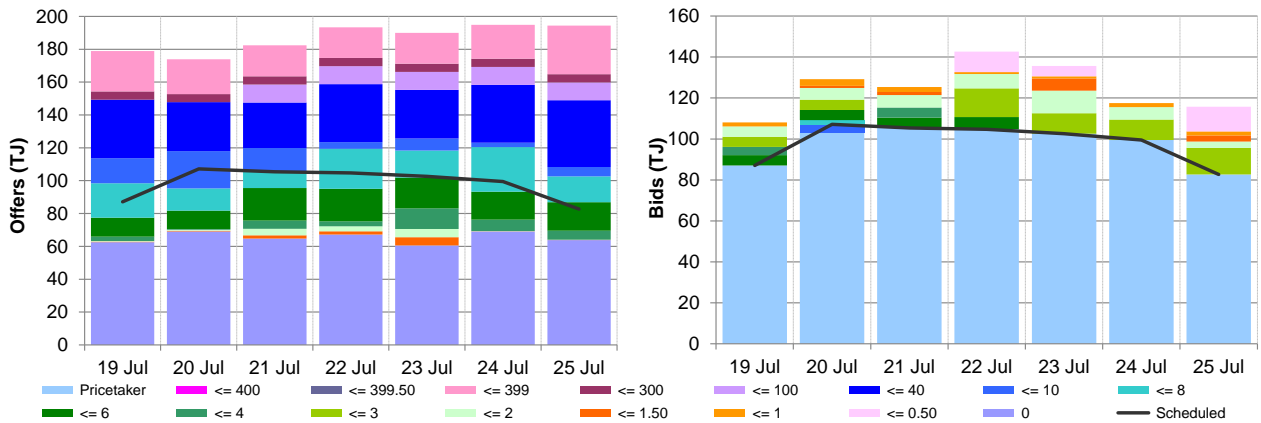


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

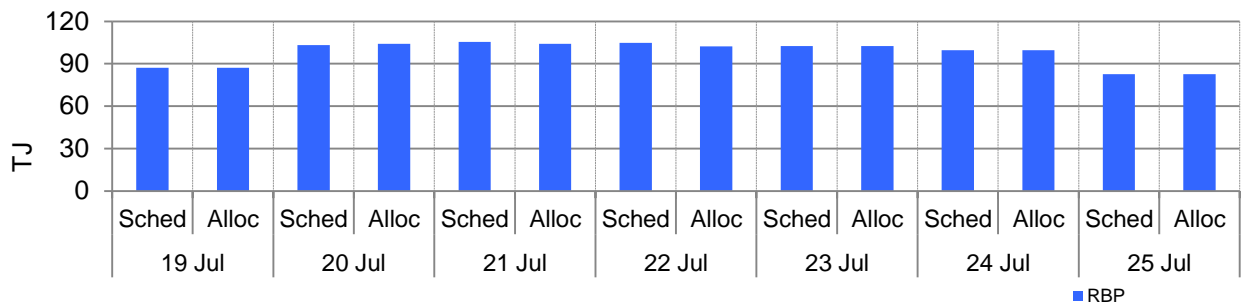
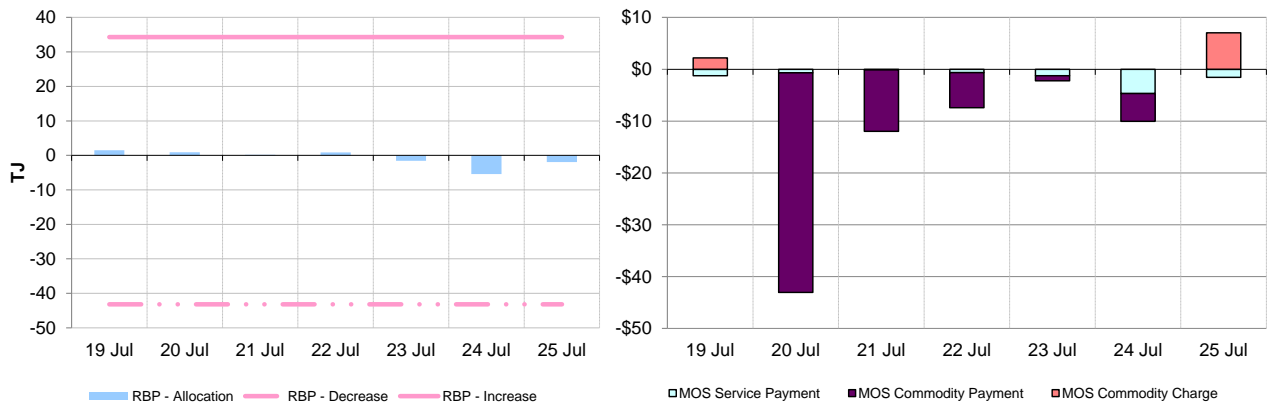


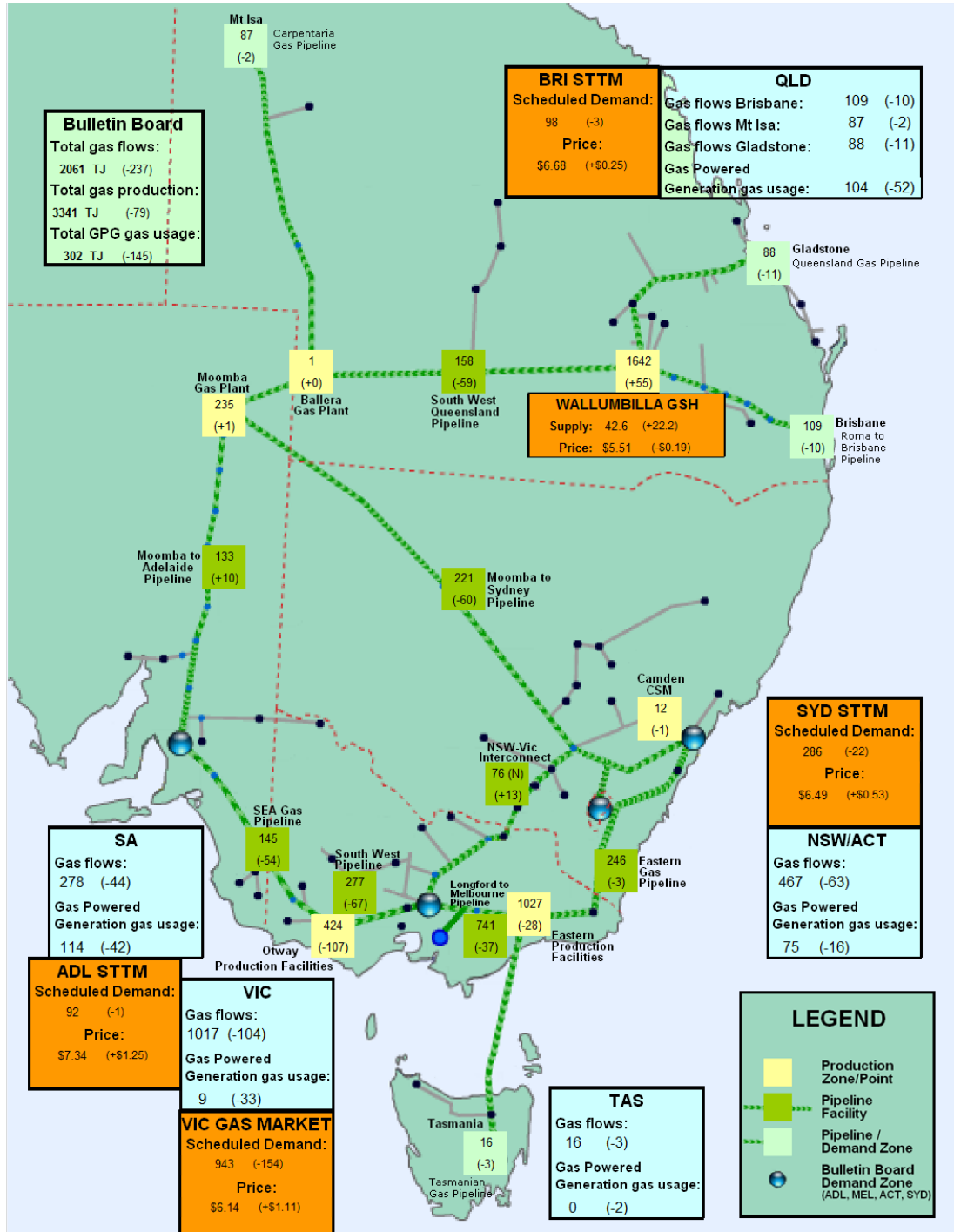
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week in the aqua boxes¹³ from the Bulletin Board (changes from the previous week's average are shown in brackets). Gas powered generation (GPG) gas usage is also shown in each region in the aqua boxes. The orange boxes provide average daily scheduled volumes and prices¹⁴ for each gas market.

Figure 5.1: Gas market data (\$/GJ, TJ/day); Production, Consumption and Pipeline flows (TJ)



¹³ Regional Gas Flows: **SA** = MAP + SEAGAS, **VIC** = SWP + LMP – negative(NSW-VIC), **NSW/ACT** = EGP + MSP, **TAS** = TGP, **QLD (Brisbane)** = RBP, **QLD (Mt Isa)** = CGP, **QLD (Gladstone)** = QGP
GPG volumes may include gas usage that does not show up on Bulletin Board pipeline flows.
From October 2014, production flows reported for the Roma region include quantities of gas for LNG export trains.

¹⁴ Wallumbilla supply is the average daily volume of gas 'traded', while price is a volume weighted average.

6. Gas Supply Hub

The Gas Supply Hub (**GSH**) was established for the trading of gas at Wallumbilla because it is located in close proximity to significant gas supply sources and demand locations and is a major transit point between Queensland and the gas markets on Australia’s east coast. The GSH is a voluntary market¹⁵ for the supply of gas traded between separate participants, with products listed for sale and purchase at delivery points on three major connecting pipelines at Wallumbilla – the Queensland Gas Pipeline (**QGP**), the South West Queensland Pipeline (**SWQP**) and the Roma to Brisbane Pipeline (**RBP**). There are separate products for each pipeline (each pipeline is considered a trading location, and each has a number of delivery points) and delivery period (daily, day-ahead, balance-of-day and weekly).

There were 45 trades at Wallumbilla this week for 298.4 TJ at a volume weighted price of \$5.51/GJ. The RBP saw 26 trades of mostly daily and day-ahead products valued at \$6.45/GJ, while the SWQP saw 19 trades of daily and day-ahead products valued at \$4.89/GJ.

Figure 6.1 shows volumes traded¹⁶ on each gas day and trading day for the current week.

Figure 6.1: Volume Traded (by Gas Day and by Trading Day)

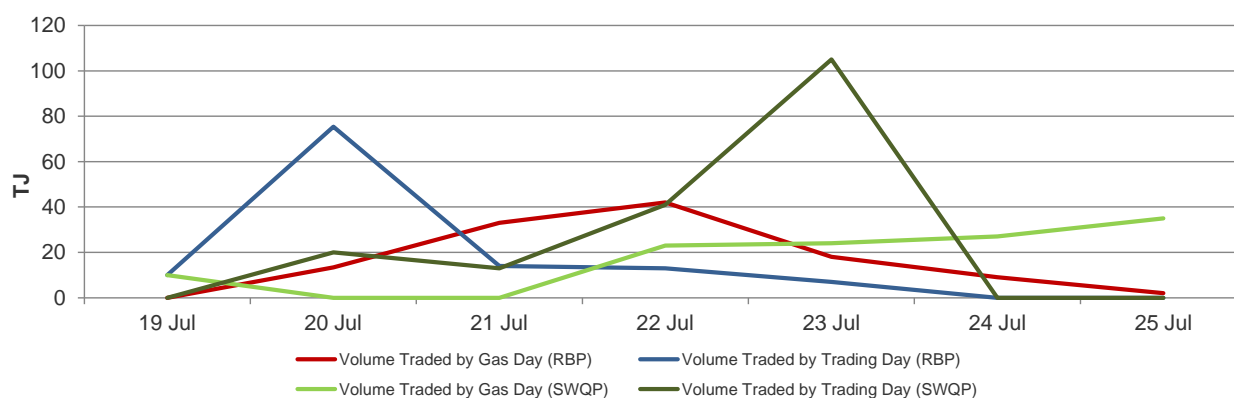
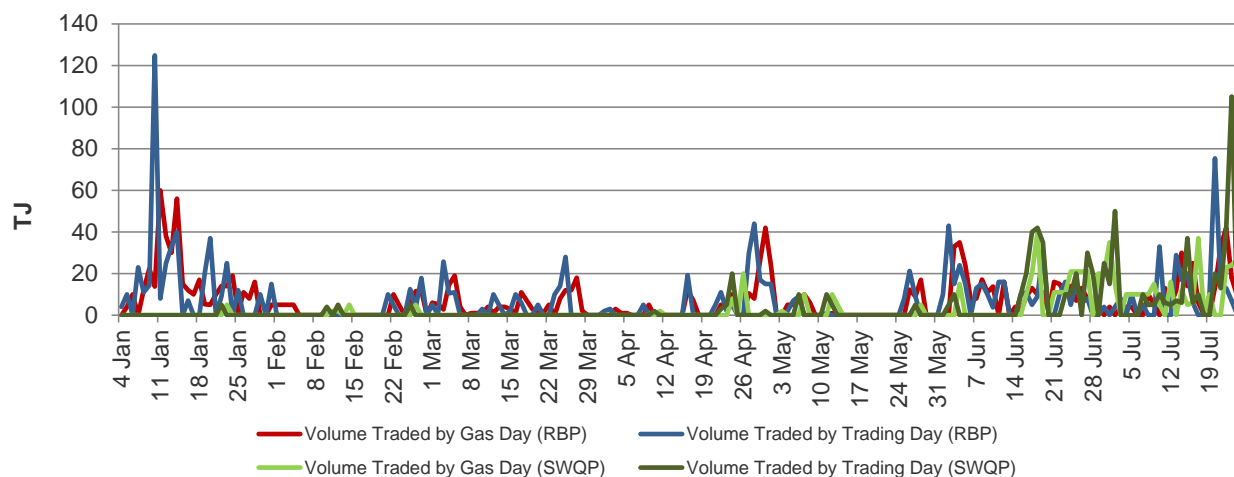


Figure 6.2: Historical Volume Traded



¹⁵ Market trade is facilitated through an electronic trading platform, with standardised terms and conditions and a market settlement facility for the short-term trading of physical gas and related products. The market is designed to complement existing bilateral gas supply arrangements and gas transportation agreements, through the placement of anonymous offers (to sell) or bids (to buy) at specified quantity and price increments, which are automatically matched on the exchange to form transactions.

¹⁶ Volumes shown for weekly products include the ‘daily’ volume for each relevant ‘gas day’, and the ‘weekly’ volume for each relevant ‘trading day’.