

6 – 12 September 2015

Weekly summary

The average price in Brisbane increased significantly compared to the previous weeks' low prices.¹ The price reached \$5.64/GJ on 7 September before falling below \$4/GJ² from the end of the week. The higher prices in Queensland appeared to have a flow on effect to markets in the south with increased prices in Sydney³ and Adelaide⁴, before prices in those regions gradually decreased toward the latter part of the week.

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) 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)⁵

Region	Victoria	Sydney	Adelaide	Brisbane
06 Sep - 12 Sep 2015	4.31	5.23	5.40	4.43
% change from previous week	-5	9	-8	64
15-16 financial YTD	4.75	5.06	5.90	4.25
% change from previous financial YTD	30	30	51	74

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

¹ Average prices for 23-29 August and 30 August to 5 September were \$2.40/GJ and \$2.70/GJ respectively.

² This coincided with QSN Link flows reversing from 10 September to flow from Moomba towards Queensland.

³ The maximum price in Sydney this week was \$6.20/GJ on the 8 September gas day.

⁴ The maximum price in Adelaide this week was \$6.90/GJ on the 9 September gas day.

⁵ The weighted average daily imbalance price applies for Victoria.

Figure 2: Victorian Gas Market

	Price (\$/GJ)	Ancillary payments (\$000)*	BOD forecast demand quantity (TJ)
06 Sep - 12 Sep 2015	4.31	-	757
% change from previous week	-5	-	-13
15-16 financial YTD	4.75	-	939
% change from previous financial YTD	30	-	11

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

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)
06 Sep - 12 Sep 2015	5.23	4.96	21.73	250	247
% change from previous week	9	13	60	-7	-5
15-16 financial YTD	5.06	4.88	28.65	281	277
% change from previous financial YTD	30	21	41	-4	-6

Figure 4: Adelaide STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
06 Sep - 12 Sep 2015	5.40	5.16	12.16	74	72
% change from previous week	-8	-16	-6	-11	-13
15-16 financial YTD	5.90	5.96	12.77	87	87
% change from previous financial YTD	51	56	-12	-1	-1

Figure 5: Brisbane STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
06 Sep - 12 Sep 2015	5.40	5.16	12.16	74	72
% change from previous week	-8	-16	-6	-11	-13

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
15-16 financial YTD	5.90	5.96	12.77	87	87
% change from previous financial YTD	51	56	-12	-1	-1

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

Following the 3 September completion of planned maintenance on the SEAGas pipeline reported for the previous week, an AMBER Linepack Capacity Adequacy (LCA) flag was again raised for the facility on the Bulletin Board from 11 September for further compressor valve maintenance.⁶

Flows on the South West Pipeline into Victoria began to decrease from 9 September following decreased output from Iona. Increased output from the Otway production facility appeared to be supplying the Adelaide hub as prices in the STTM decreased from a high of \$6.90/GJ on 9 September.⁷

Counteracting MOS occurred on a number of days in Sydney this week, with net MOS decrease requirements of up to 10 TJ due to over forecasting (see figure 2.4).⁸

MOS decrease requirements in Adelaide due to over forecasting were reduced on 10 and 11 September by supply renominations. On 10 September, an over forecast quantity of 17.6 TJ was offset largely by unscheduled backhaul which reduced net supply to the hub on the MAP (see figure 3.3). On 11 September, renominations to reduce MAP supply led to a fall in MOS decrease requirements of 3.4 TJ.

⁶ An AMBER LCA flag on the Bulletin Board indicates reduced capacity and the likelihood of voluntary/contractual load shedding.

⁷ Iona switched from injecting over 200 TJ/day from 7 September, to net withdrawals from 10 September. This also coincided with decreased demand in Victoria as temperatures in the region increased.

⁸ Demand was over forecast in the hub by 10.2 TJ on 8 September, while the net MOS decrease requirement of 5.3 TJ on 10 September was influenced by around 2 TJ of oversupply.

6 – 12 September 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 price⁹ which is the schedule at which most gas is traded.

The main drivers¹⁰ 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 forecasts¹¹, 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

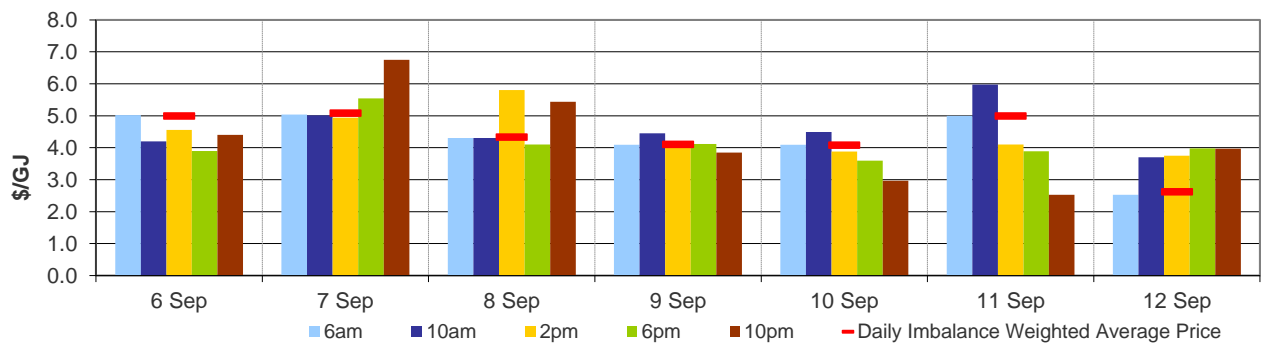
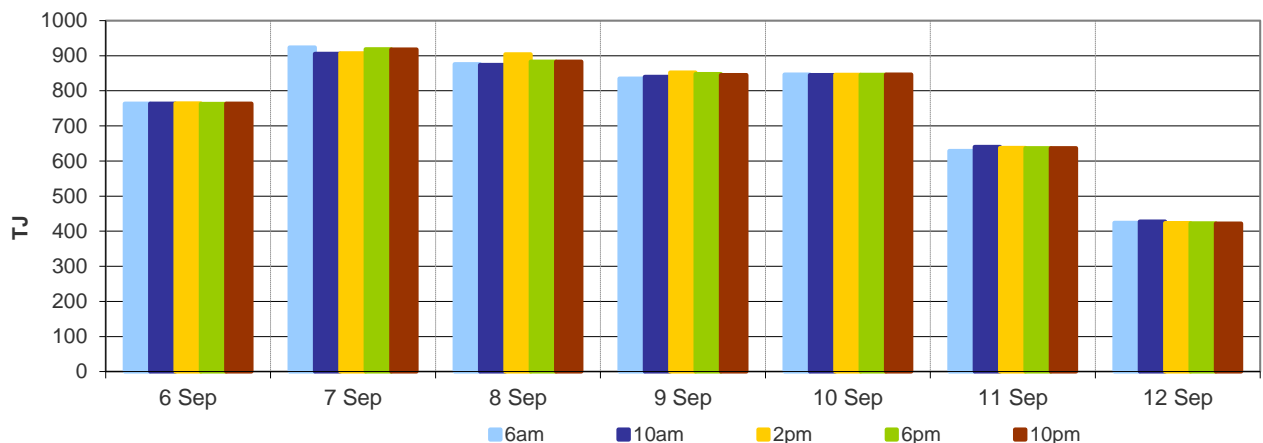


Figure 1.2: Demand forecasts



⁹ 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.

¹⁰ 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.

¹¹ 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

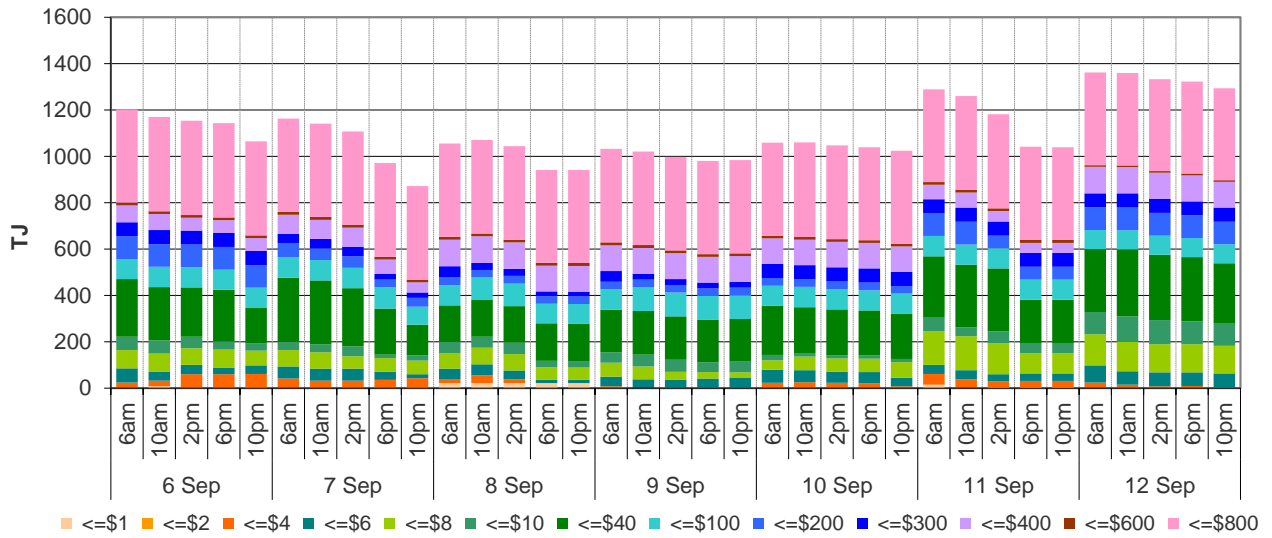


Figure 1.4: Withdrawal bids by price bands

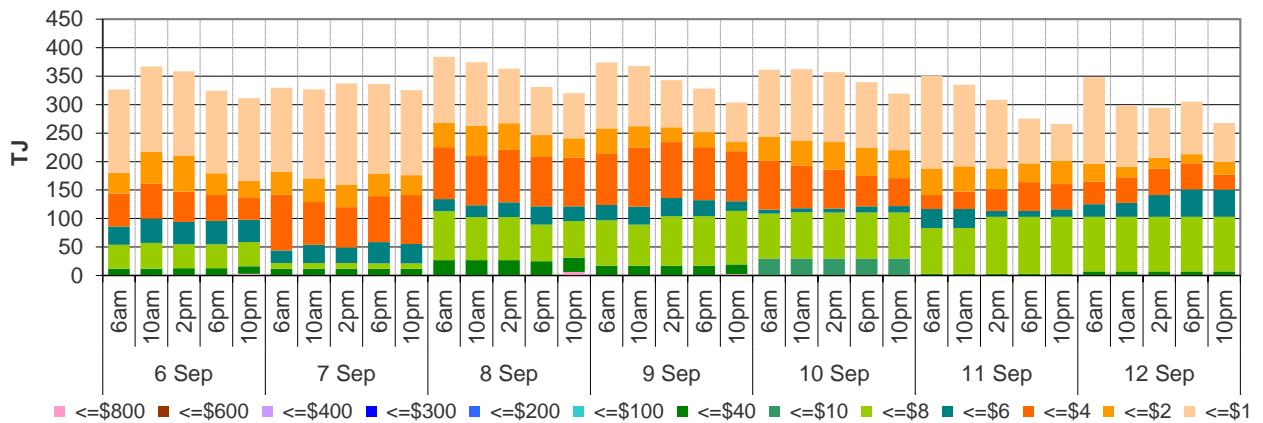
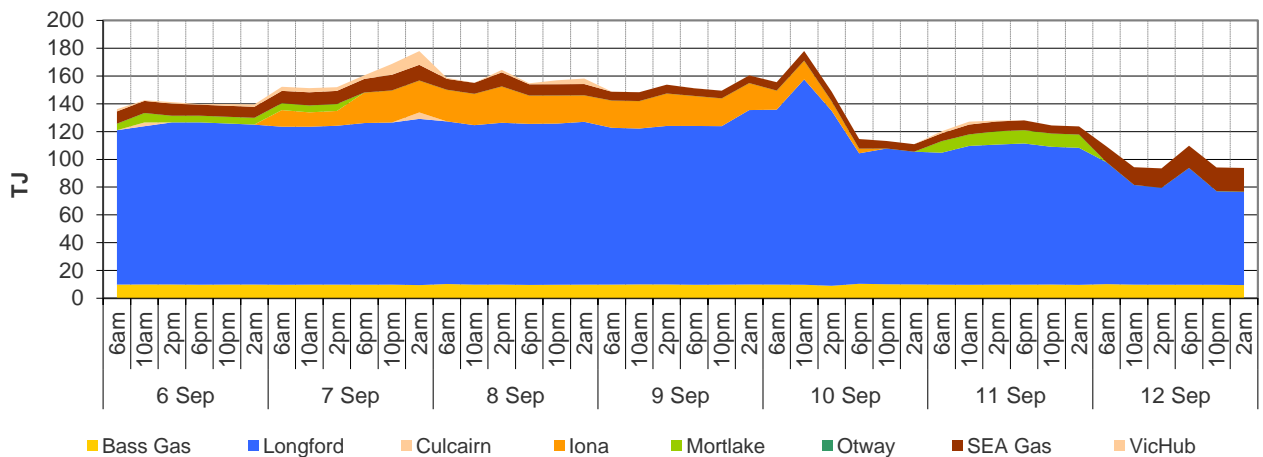


Figure 1.5: Metered Injections by System Injection Point



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.¹² 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](#).

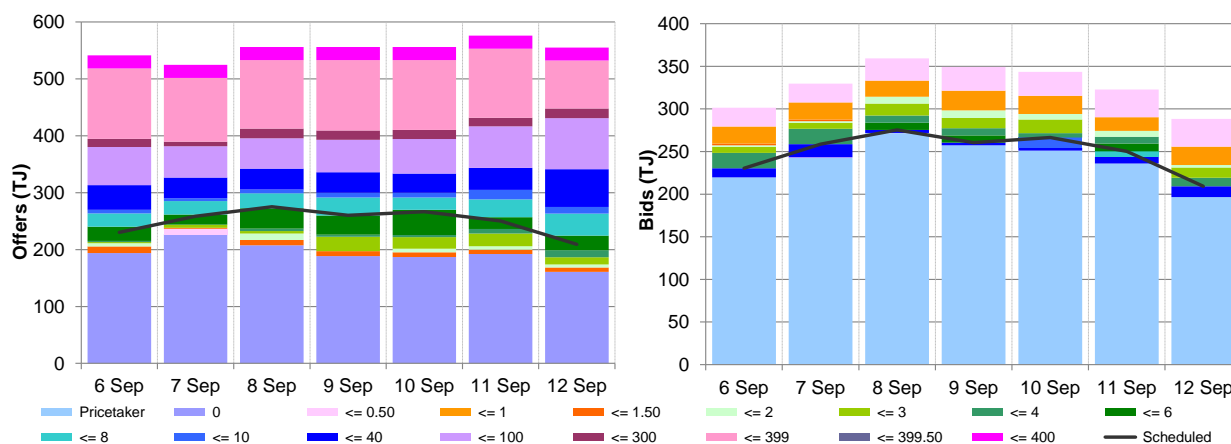
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.¹³

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)	4.36	5.10	6.20	6.10	5.36	5.10	4.40
Ex ante quantity (TJ)	230	259	275	260	267	250	209
Ex post price (\$/GJ)	4.36	5.10	5.10	6.10	5.36	4.32	4.40
Ex post quantity (TJ)	231	258	265	263	263	241	206

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



¹² 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.

¹³ 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)

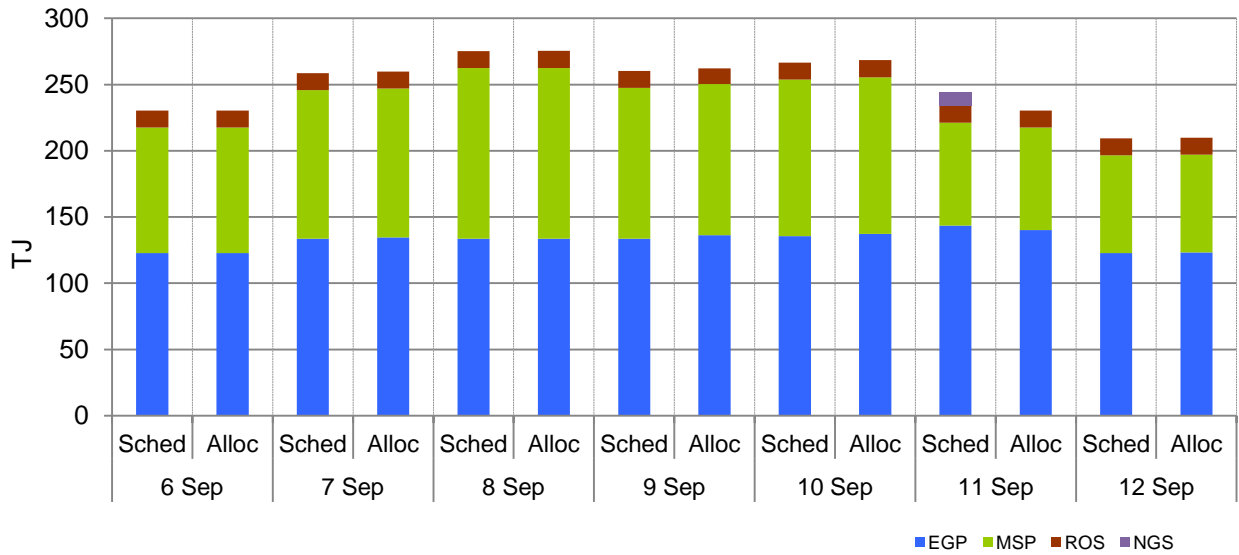
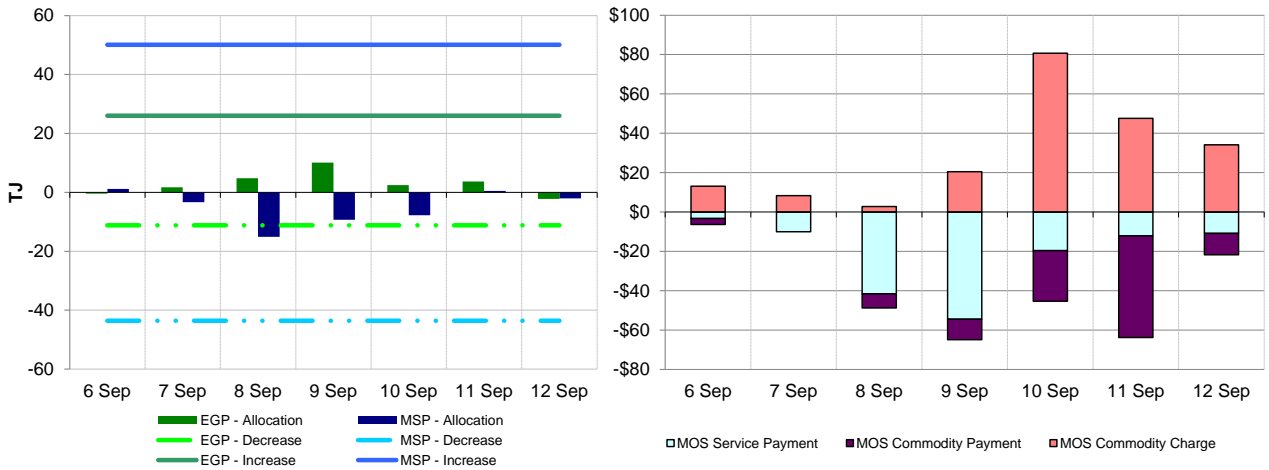


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$'000)



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)	5.40	5.30	5.31	6.90	5.65	4.86	4.35
Ex ante quantity (TJ)	72	85	81	83	79	66	50
Ex post price (\$/GJ)	5.40	5.30	5.65	6.90	5.27	3.23	4.35
Ex post quantity (TJ)	72	86	87	87	73	51	46

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

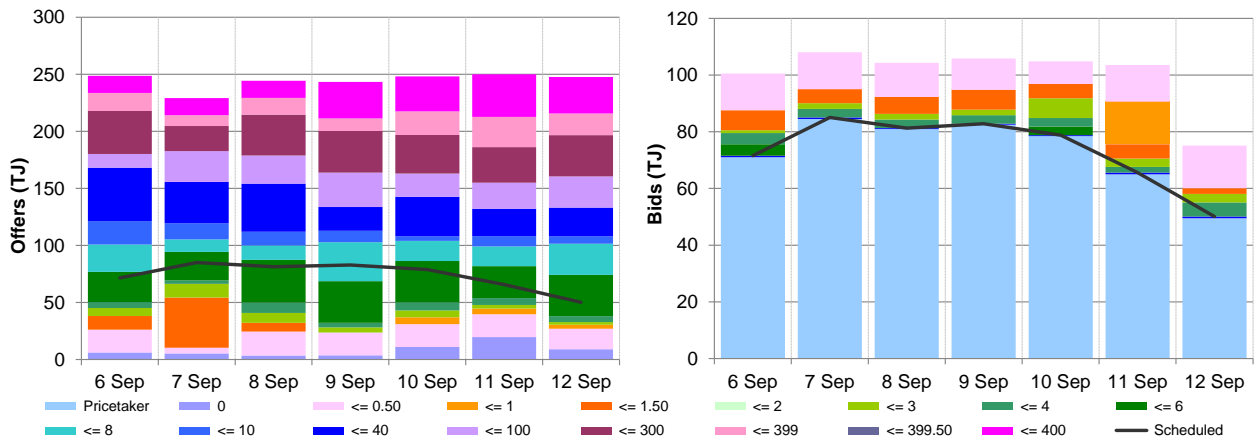


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

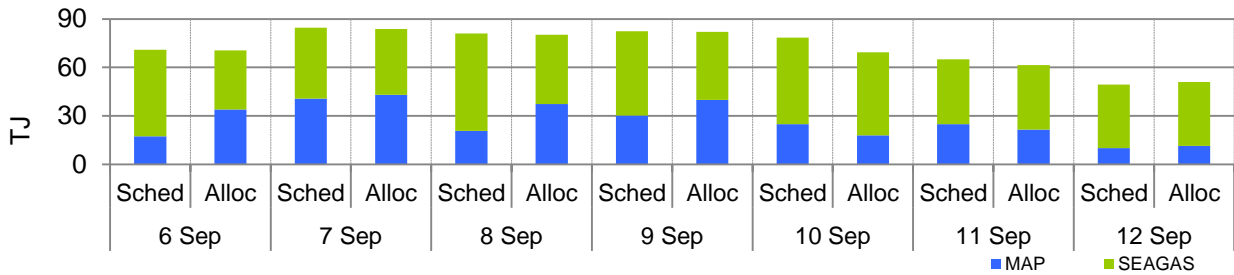
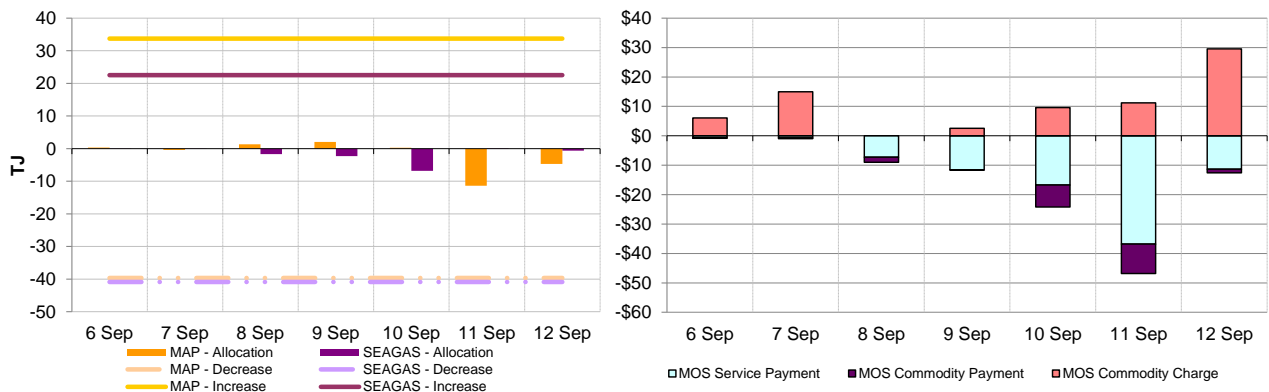


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	4.20	5.64	4.25	5.40	3.90	3.60	3.99
Ex ante quantity (TJ)	82	96	98	99	98	92	81
Ex post price (\$/GJ)	3.30	5.64	5.49	5.40	3.90	3.08	3.80
Ex post quantity (TJ)	81	97	100	99	98	90	78

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

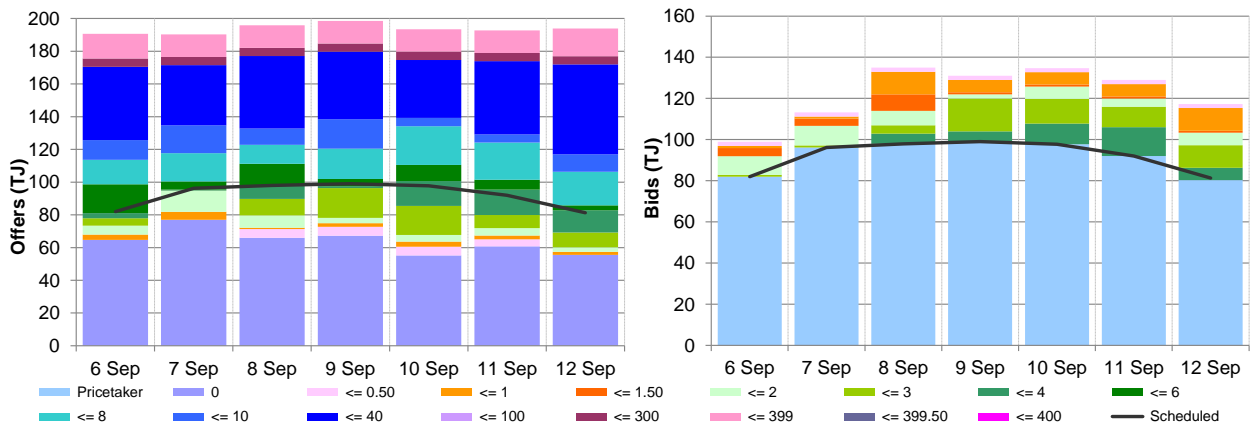


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

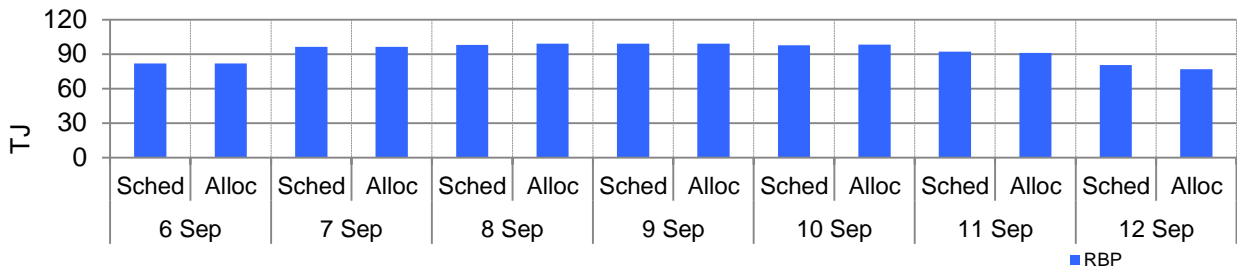
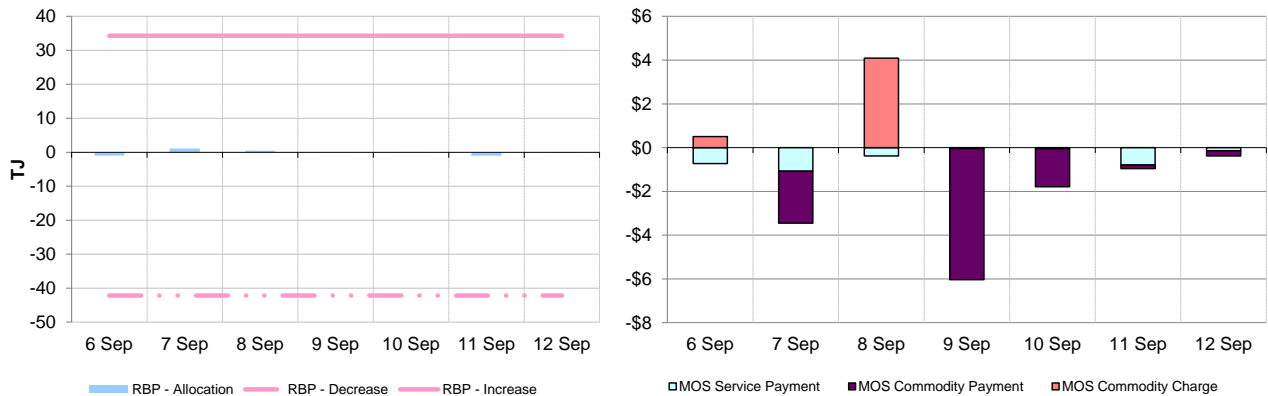


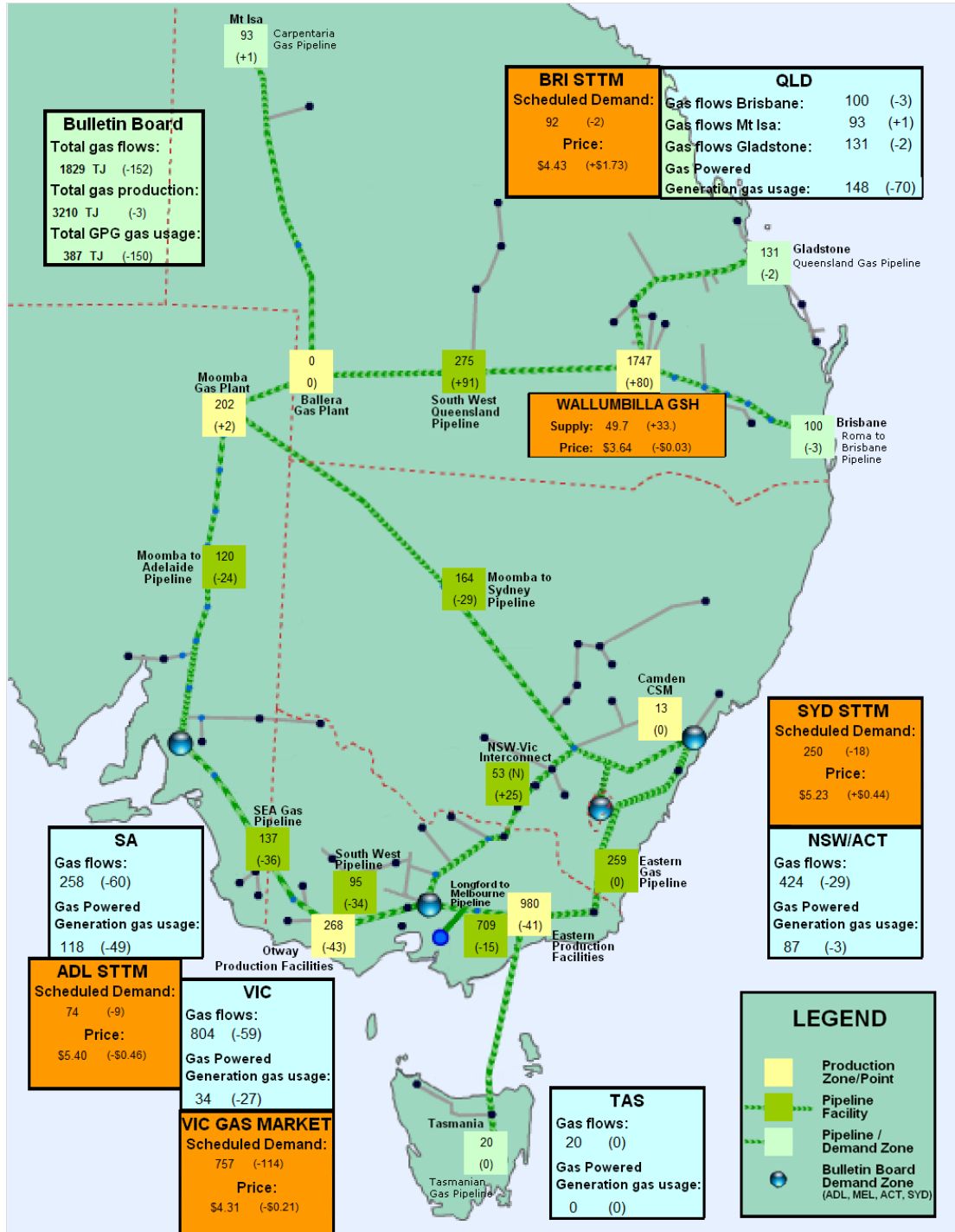
Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



5. National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week in the aqua boxes¹⁴ 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 prices¹⁵ for each gas market.

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



¹⁴ 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.

¹⁵ From October 2014, production flows reported for the Roma region include quantities of gas for LNG export trains.
Wallumbilla supply is the average daily volume of gas 'traded', while price is a volume weighted average.

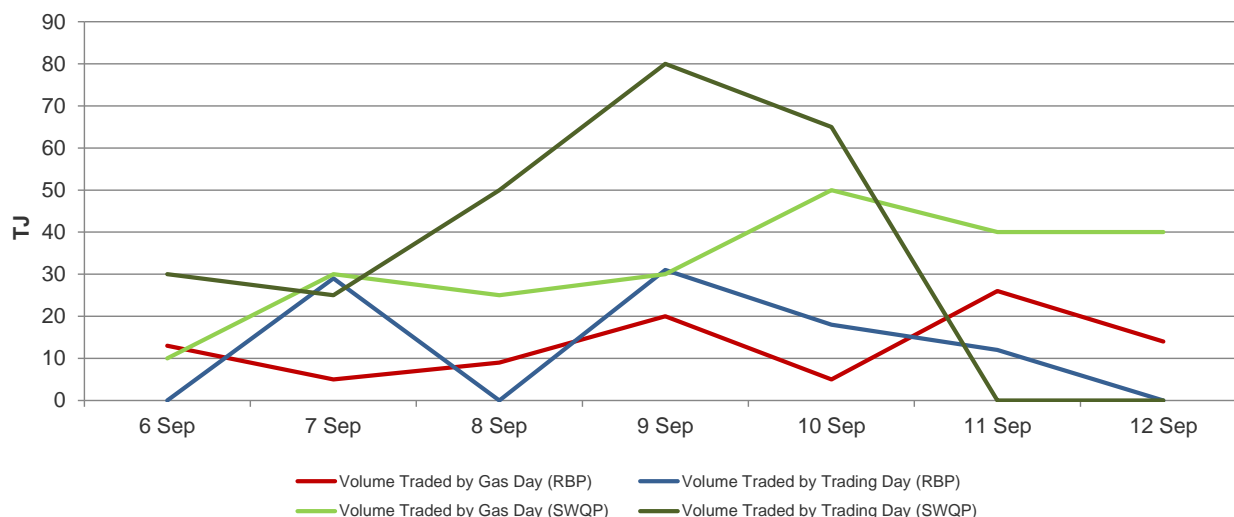
6. Gas Supply Hub

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 market¹⁶ 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 34 trades this week for a record quantity of 348 TJ, at a volume weighted price of \$3.64/GJ. This was largely the result of gas trades across the week on the SWQP reaching a record level of 250 TJ, comprised of daily and day-ahead products at a volume weighted price of \$3.63/GJ. The remaining 18 trades on the RBP for 98 TJ of gas set a volume weighted price of \$3.66/GJ.

Figure 6.1 shows volumes traded¹⁷ on each gas day and trading day for the current week.

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



¹⁶ 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.

¹⁷ Volumes shown for weekly products include the ‘daily’ volume for each relevant ‘gas day’, and the ‘weekly’ volume for each relevant ‘trading day’.