

3 – 9 January 2016

Weekly summary

Figure 1 shows that while average daily prices in the southern markets were somewhat lower than the previous week, prices in the Brisbane STTM hub increased for the second consecutive week. Prices in Brisbane have been higher since total pipeline flows to Curtis Island increased at the end of December. Aggregated gas flows on the APLNG Pipeline, the GLNG Gas Transmission Pipeline and the Wallumbilla to Gladstone Pipeline collectively exceeded 2.8 PJ for the 30 December 2015 gas day. Since then the minimum the ex ante price has reached in the Brisbane hub is \$4.72/GJ on 3 January 2016. The higher deliveries were largely driven by an increase in flows on the APLNG pipeline as it prepared to export its first gas from Curtis Island.¹ Flows into Queensland on the QSN Link remained high this week, reaching a new record of 326 TJ on 8 January. This was supported by flows towards Queensland on the Moomba section of the Moomba to Sydney Pipeline.²

The average price in Victoria decreased significantly due to imbalance prices falling below \$2/GJ on two days, as described in Detailed Market Analysis.

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)³

Region	Victoria	Sydney	Adelaide	Brisbane
03 Jan - 09 Jan 2016	2.91	4.12	4.56	5.23
% change from previous week	-39	-21	-18	14
15-16 financial YTD	4.41	4.65	5.07	3.76
% change from previous financial YTD	26	48	42	91

¹ APLNG exported its first cargo on the 'Methane Spirit'. The ship left Gladstone on 9 January 2016.

² Negative flows recorded for the Moomba zone on the pipeline imply that a larger quantity of gas is being delivered into the Moomba zone via the Moomba to Sydney Pipeline than was received from the zone

³ The weighted average daily imbalance price applies for Victoria.

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)
03 Jan - 09 Jan 2016	2.91	-	301
% change from previous week	-39	-	5
15-16 financial YTD	4.41	-	615
% change from previous financial YTD	26	-	7

* 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)
03 Jan - 09 Jan 2016	4.12	3.76	34.37	210	197
% change from previous week	-21	-28	49	15	8
15-16 financial YTD	4.65	4.37	24.70	239	234
% change from previous financial YTD	48	37	76	-7	-9

Figure 4: Adelaide STTM

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
03 Jan - 09 Jan 2016	4.56	3.98	5.98	42	38
% change from previous week	-18	-30	79	4	-10
15-16 financial YTD	5.07	5.19	8.87	65	67
% change from previous financial YTD	42	47	-31	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)
03 Jan - 09 Jan 2016	5.23	5.45	2.55	78	81
% change from previous week	14	21	-38	9	11
15-16 financial YTD	3.76	3.72	1.53	89	88
% change from previous financial YTD	91	111	15	-41	-41

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.

Detailed market analysis

Low schedule prices in Victoria

Figure 1.1 shows schedule prices in Victoria fell to \$0/GJ on a numbers of occasions this week, as a result of over-supply and over forecasting. In particular, beginning-of-day prices on the 4 and 5 January gas days fell to \$2/GJ and \$0.01/GJ respectively, significantly reducing the daily prices for those days. Injection confirmations for the beginning-of-day schedule at Longford on 4 January were 64 TJ higher than that scheduled by AEMO, leading to prices close to zero in the following schedules.

MOS in Sydney

Over forecasting in the Sydney hub resulted in large decrease MOS requirements from 6 January on the Moomba to Sydney Pipeline. Net MOS requirements on 8 and 9 January were 14.5 TJ and 16.7 TJ respectively. This resulted in respective service payments of \$56 369 and \$66 425 on those days.

3 – 9 January 2016

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 price⁴ which is the schedule at which most gas is traded.

The main drivers⁵ 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 forecasts⁶, 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

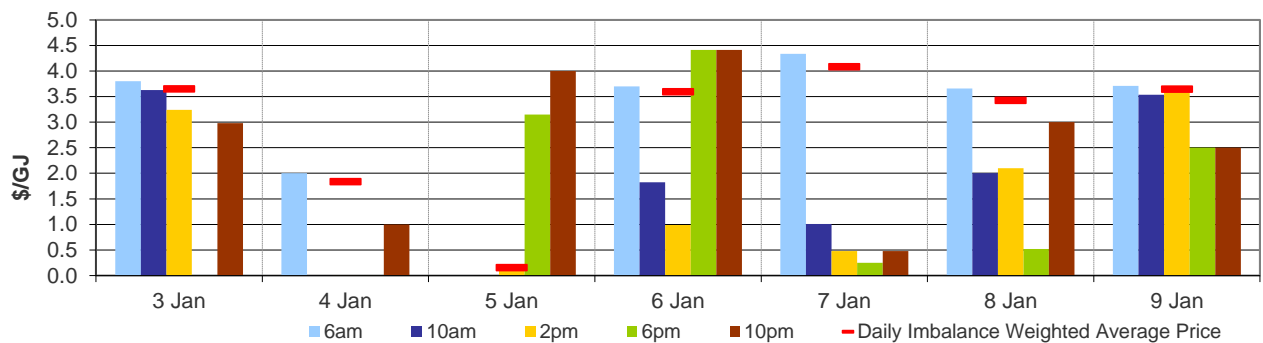
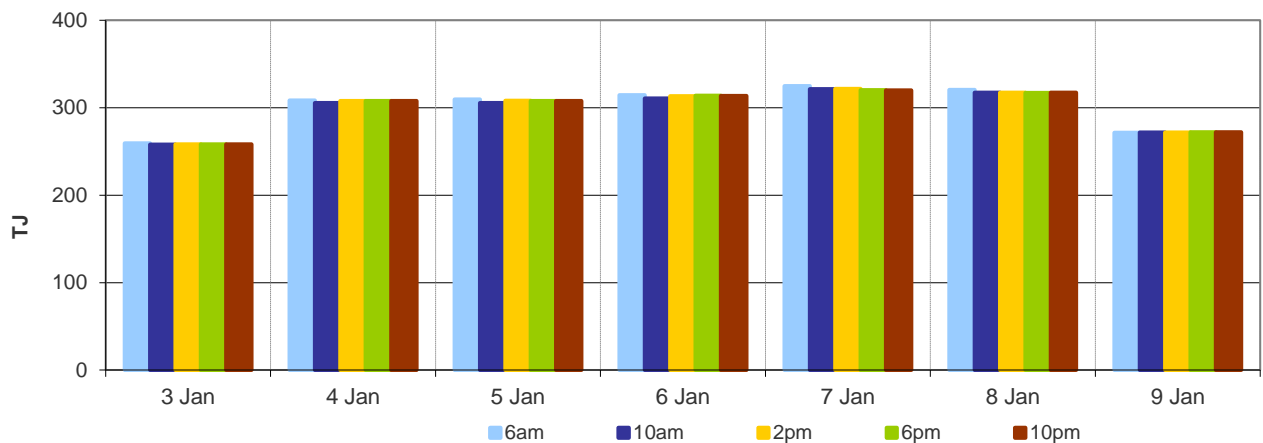


Figure 1.2: Demand forecasts



⁴ 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.

⁵ 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.

⁶ 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

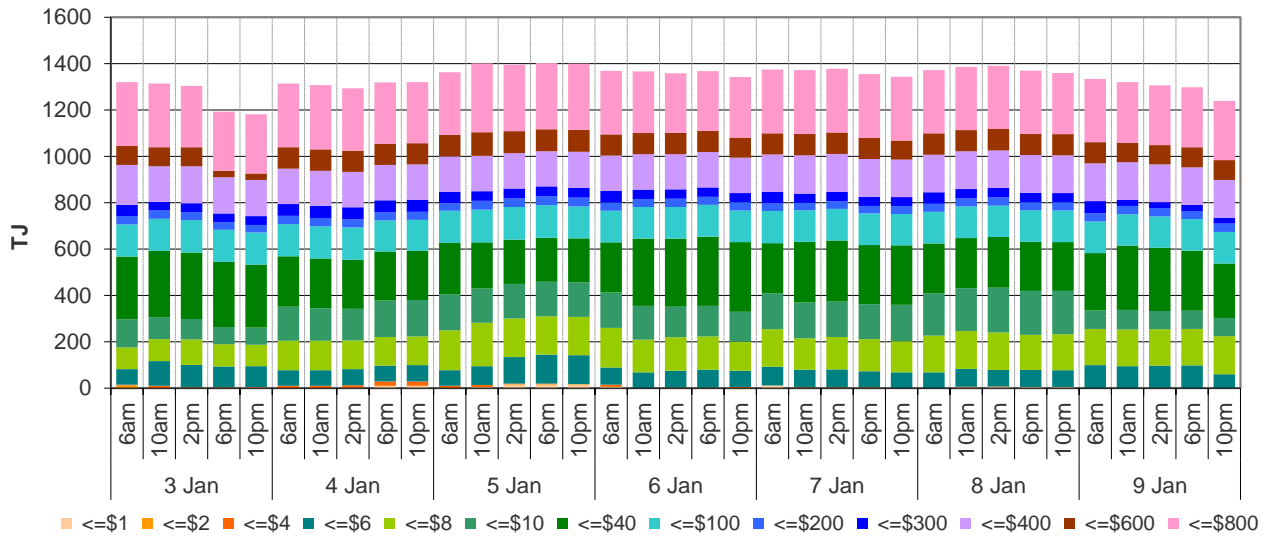


Figure 1.4: Withdrawal bids by price bands

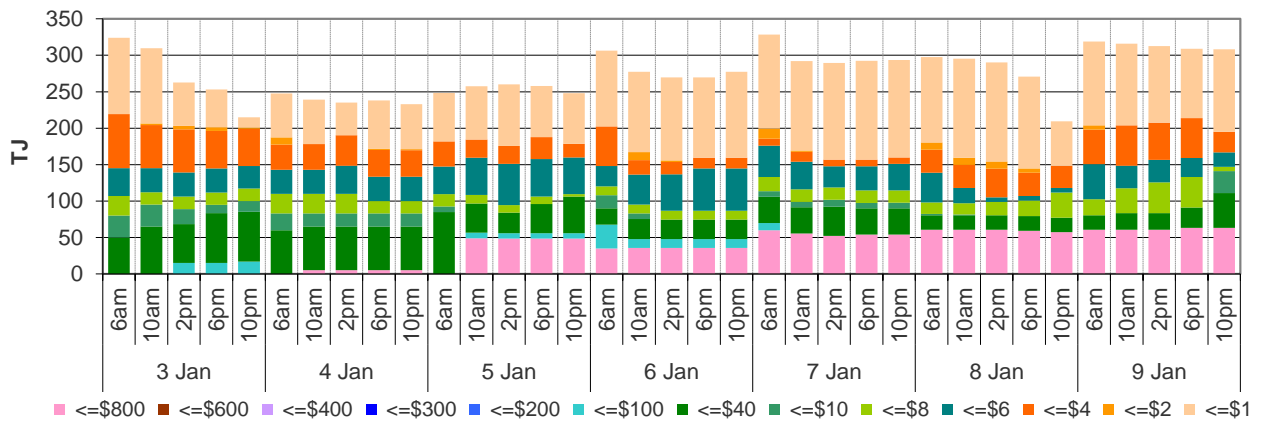
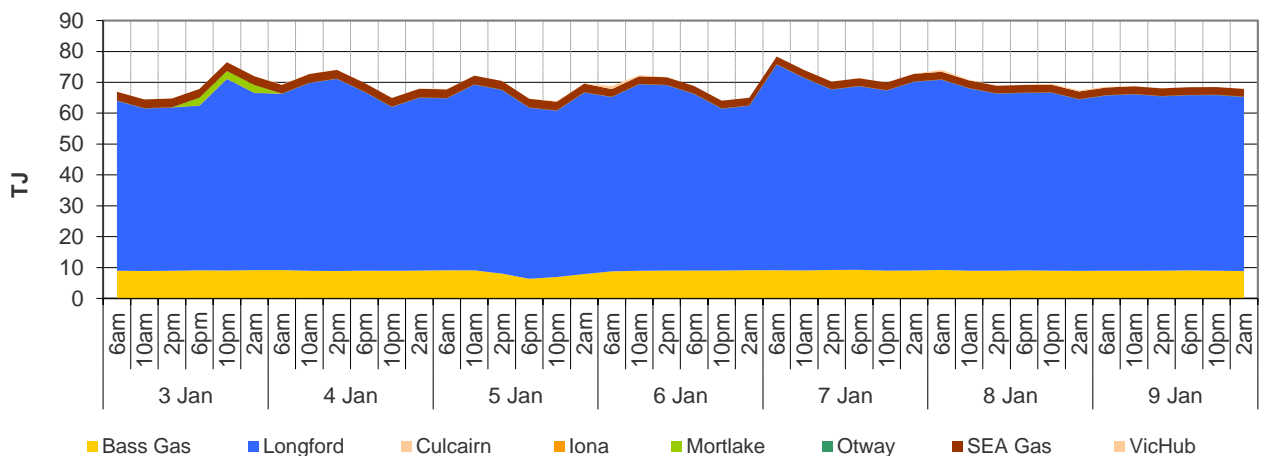


Figure 1.5: Metered Injections by System Injection Point



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.⁷ 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](#).

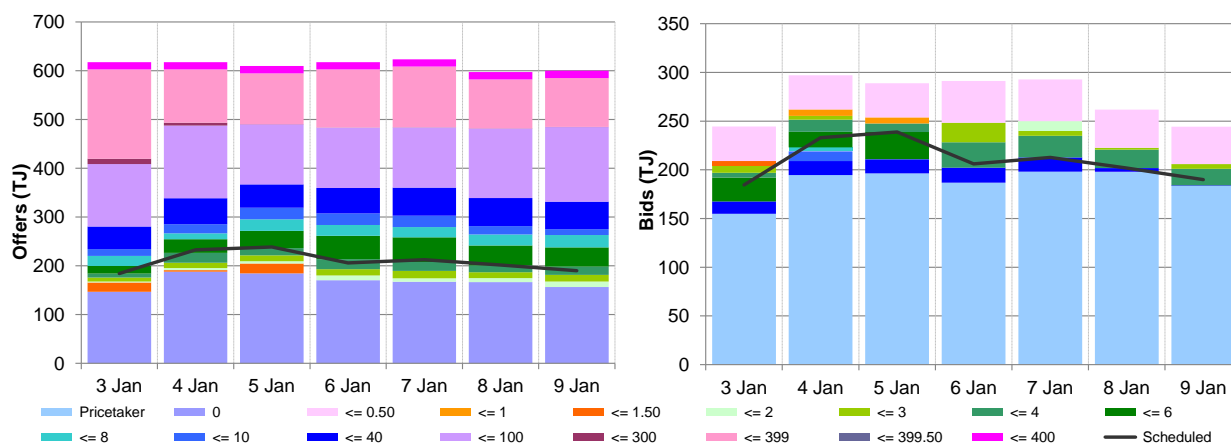
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.⁸

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)	4.50	4.51	4.41	3.68	4.01	4.05	3.71
Ex ante quantity (TJ)	184	233	239	206	213	202	190
Ex post price (\$/GJ)	4.50	4.41	3.79	3.50	3.60	3.91	2.57
Ex post quantity (TJ)	188	224	225	182	193	187	177

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



⁷ 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.

⁸ 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)

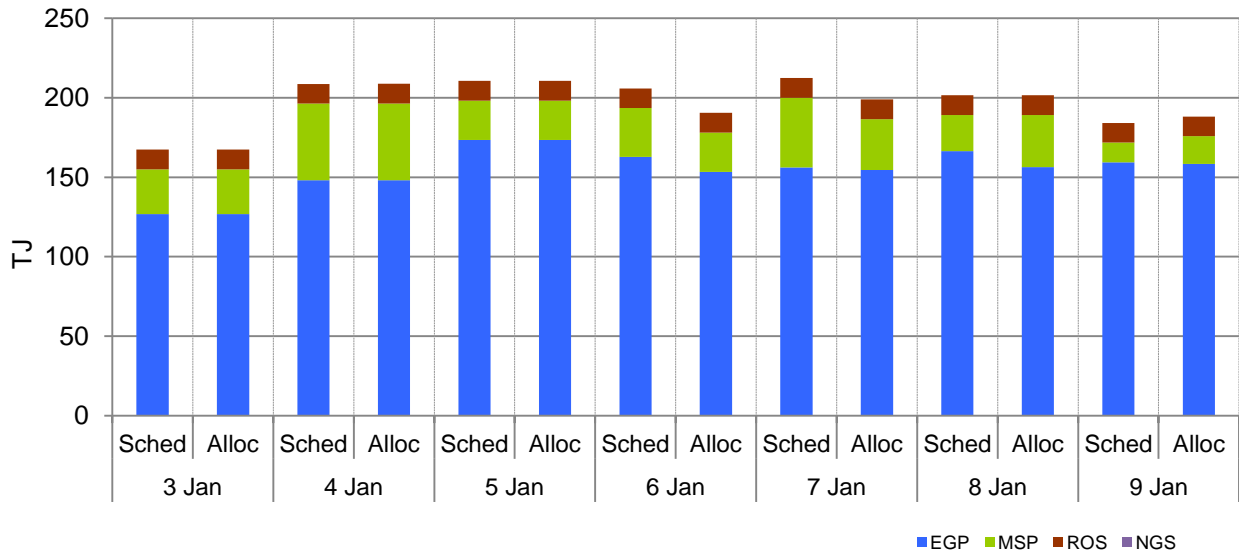
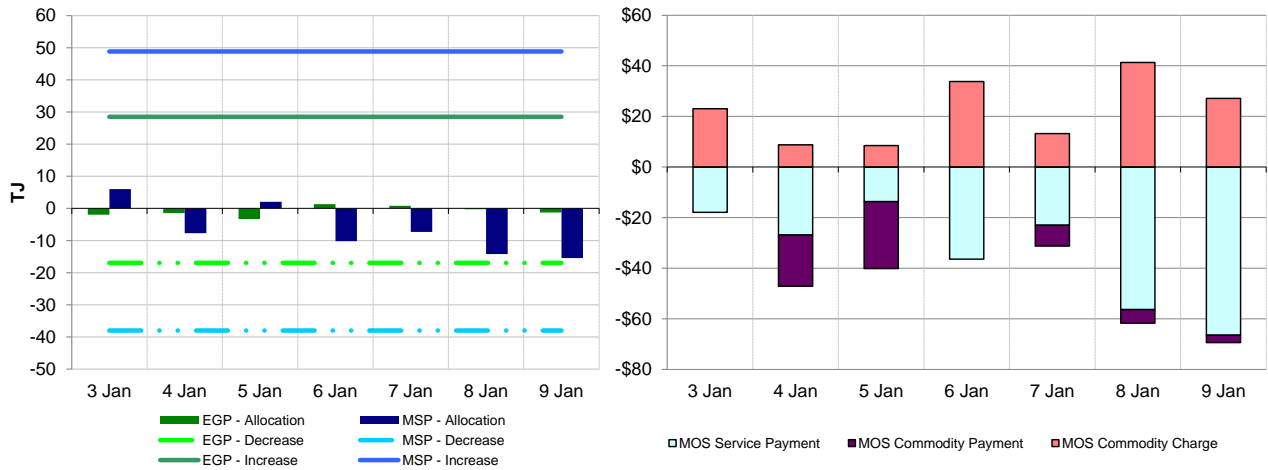


Figure 2.4: SYD MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	4.70	3.90	3.80	4.89	4.60	5.64	4.35
Ex ante quantity (TJ)	33	43	40	46	47	45	36
Ex post price (\$/GJ)	4.70	3.69	3.66	3.93	4.60	3.37	3.91
Ex post quantity (TJ)	34	37	38	41	46	37	32

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

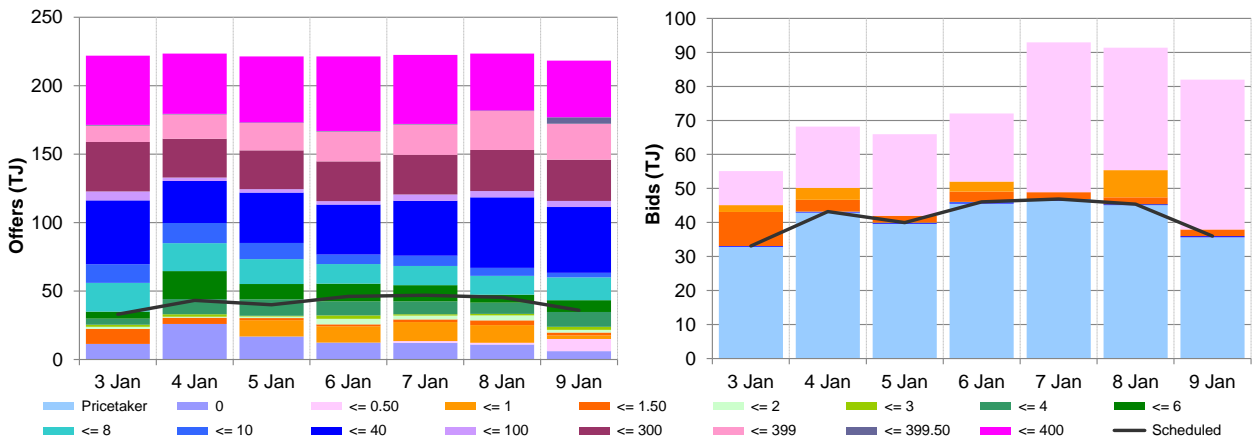


Figure 3.3: ADL net scheduled and allocated gas hub supply (excluding MOS)

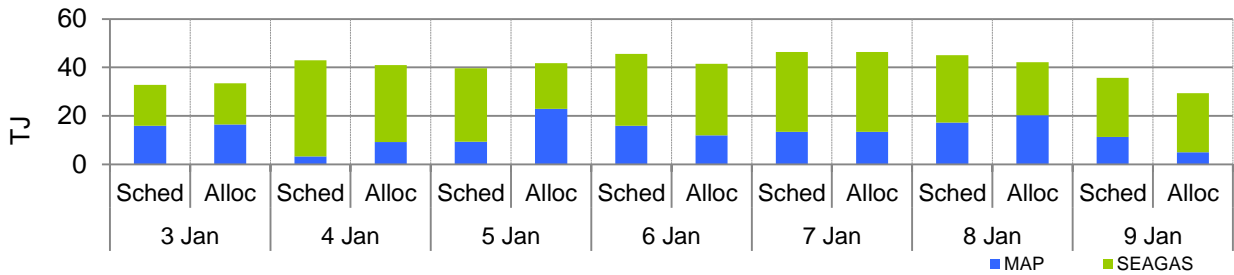
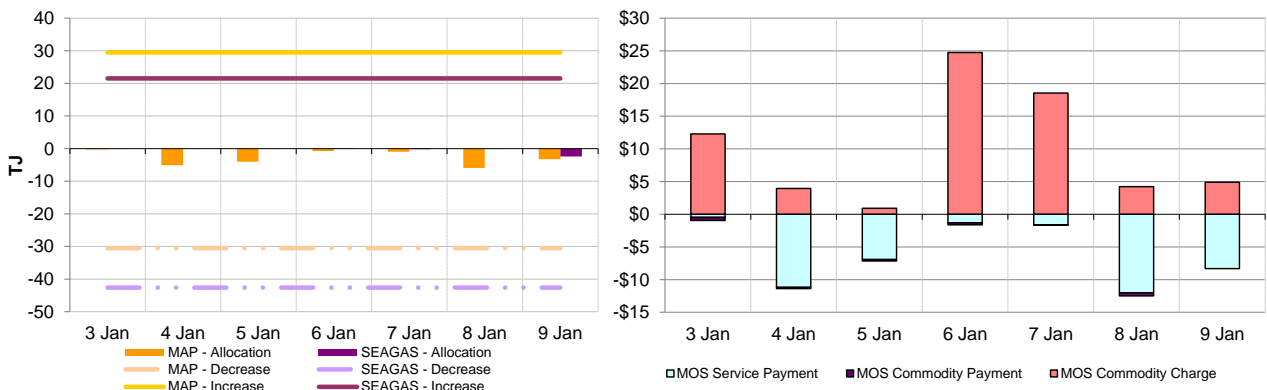


Figure 3.4: ADL MOS allocations (TJ), service payments and commodity payments/charges (\$000)



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)	4.72	5.49	4.99	5.20	5.50	5.22	5.48
Ex ante quantity (TJ)	70	80	80	85	82	80	70
Ex post price (\$/GJ)	4.72	5.53	5.20	5.50	6.25	5.49	5.48
Ex post quantity (TJ)	72	83	85	87	84	83	74

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

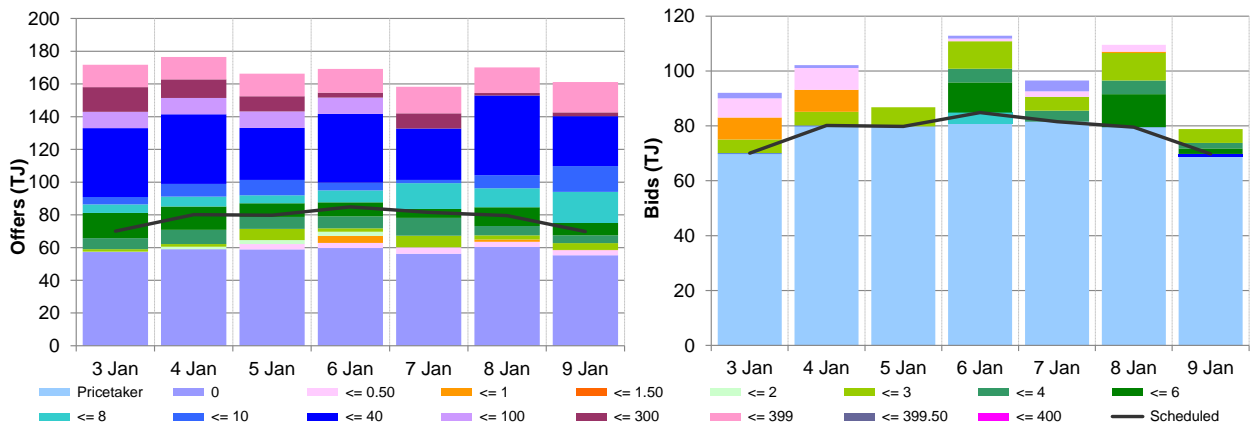


Figure 4.3: BRI net scheduled and allocated gas hub supply (excluding MOS)

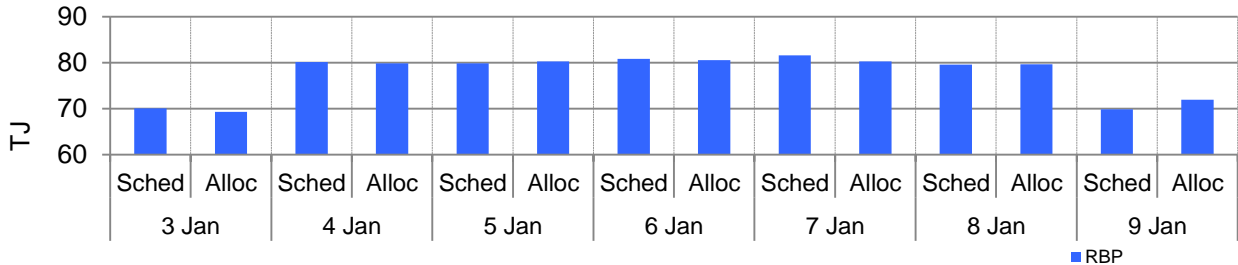
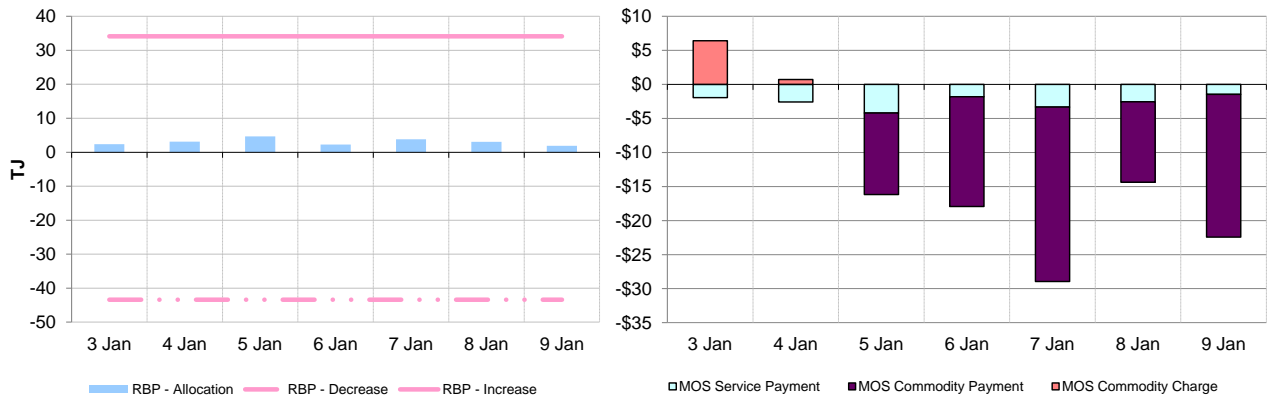


Figure 4.4: BRI MOS allocations (TJ), service payments and commodity payments/charges (\$000)



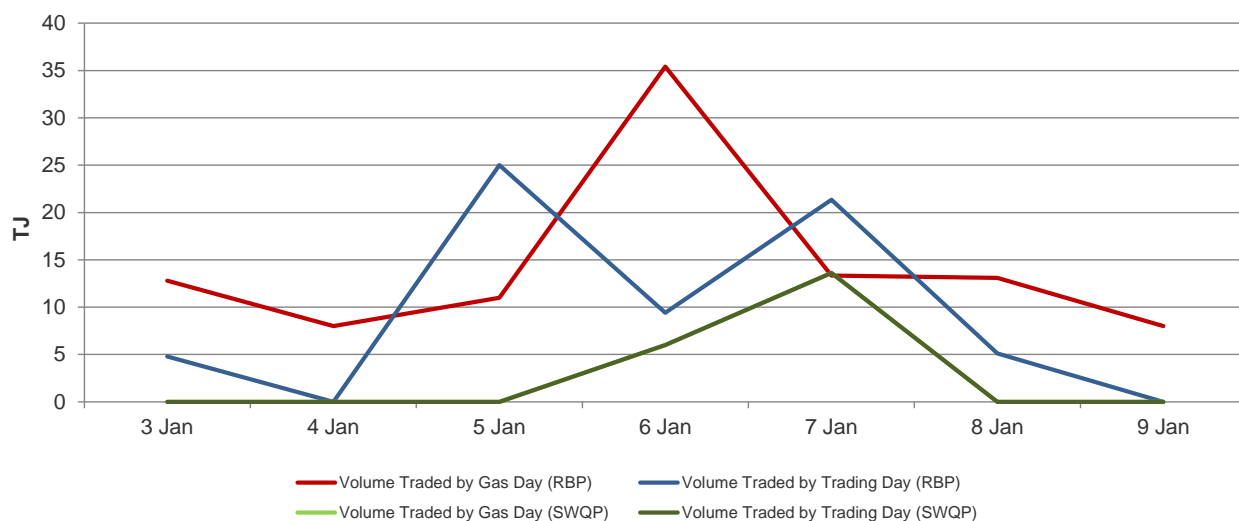
6. Gas Supply Hub

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 market¹¹ 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 17 trades in the supply hub this week. The quantity of gas traded fell to 85.3 TJ despite a higher number of trades than previous weeks. The lower quantity was linked to a lack of weekly product trades. The volume weighted average price of gas was \$4.52/GJ (\$4.46/GJ on the RBP and \$4.71/GJ on the SWQP).

Figure 6.1 shows volumes traded¹² on each gas day and trading day for the current week.

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



¹¹ 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.

¹² Volumes shown for weekly products include the ‘daily’ volume for each relevant ‘gas day’, and the ‘weekly’ volume for each relevant ‘trading day’.