

29 December 2013 – 4 January 2014

## Weekly summary

The average price in Brisbane increased by about \$0.43/GJ this week, while other regions remained relatively stable. The large increase in the Adelaide ex ante price is attributable to the \$0/GJ price set on the 22 December gas day.

## 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)<sup>1</sup>**

	Victoria	Sydney	Adelaide	Brisbane
29 Dec - 04 Jan 2014	3.80	3.81	4.23	5.31
% change from previous week	1	-1	21	9
13-14 financial YTD	3.97	4.18	4.51	5.40
% change from previous financial YTD	-12	-22	-14	3

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

**Figure 2: Victorian gas market**

	Price (\$/GJ)	Ancillary payments (\$000)*	BOD forecast demand quantity (TJ)
29 Dec - 04 Jan 2014	3.80	-	304
% change from previous week	1	-	9
13-14 financial YTD	3.97	-	589
% change from previous financial YTD	-12	-	-6

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

More detailed analysis on the Victorian declared wholesale market is provided in Section 1.

Figures 3 to 5 show average ex ante and ex post gas prices, MOS balancing gas service payments together with the related daily demand quantities against historical averages for the Sydney, Adelaide and Brisbane wholesale gas markets, respectively.

<sup>1</sup> The weighted average daily imbalance price applies for Victoria.

**Figure 3: Sydney STTM**

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
29 Dec - 04 Jan 2014	3.81	3.65	12.75	179	173
% change from previous week	-1	-1	85	3	3
13-14 financial YTD	4.18	4.03	11.16	246	241
% change from previous financial YTD	-22	-31	6	-1	-4

**Figure 4: Adelaide STTM**

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
29 Dec - 04 Jan 2014	4.23	4.13	11.02	46	46
% change from previous week	21	18	-54	-11	-10
13-14 financial YTD	4.51	4.54	15.43	72	72
% change from previous financial YTD	-14	-11	74	-2	1

**Figure 5: Brisbane STTM**

	Ex ante price (\$/GJ)	Ex post price (\$/GJ)	MOS payments (\$000)	Ex ante quantity (TJ)	Ex post quantity (TJ)
29 Dec - 04 Jan 2014	5.31	5.39	1.97	129	128
% change from previous week	9	10	6	7	5
13-14 financial YTD	5.40	5.47	1.59	147	147
% change from previous financial YTD	3	6	-44	3	3

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, as well as gas-powered generation volumes in each state.

### Significant Market Events or Issues this week

#### *PFDC price in Adelaide on January 2*

Following the three Pipeline Flow Direction Constraint (PFDC) prices set in Adelaide during the previous week, another PFDC price was set on the Moomba to Adelaide Pipeline (MAP) on Thursday 2 January. This was the 12<sup>th</sup> time the mechanism has been used since market start. There are a number of circumstances which lead to the mechanism being needed on the day:

- Origin was willing to buy 10 TJ of backhaul gas on the MAP at a price higher than the market price (the market price was \$4.5005/GJ, Origin was prepared to pay \$4.507/GJ)
- There were not enough supply offers on the MAP to meet all of Origin's demand
- There was only 8.591 TJ of scheduled offers on the MAP. Because backhaul cannot exceed forward haul, only 8.591 TJ of Origin's backhaul bid could be met. A quantity of supply

offers on SEAGas below the Origin MAP bid price could not be scheduled as this would produce a net backhaul schedule for MAP. Furthermore, additional MAP offers (beyond 8.591 TJ) were priced above what Origin was prepared to pay and were not scheduled.

- This meant MAP was scheduled to deliver a net amount of gas to the Adelaide hub of 0 TJ
- This resulted in the SEAGas pipeline being scheduled to deliver the full amount of gas to satisfy hub demand – which was forecast at 39.488 TJ.
- The PFDC price was \$0.0065/GJ (calculated as the difference between the market price of \$4.5005/GJ and Origin's backhaul bid price of \$4.507/GJ).
- The PFDC price is combined with the market price, and paid to all participants who supplied offers on the MAP

# Detailed Market Analysis

29 December 2013 – 4 January 2014

## 2 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. However, the volume weighted gas price on a gas day tends towards the 6 am price which is the schedule at which most gas is traded.

The main drivers of price are demand forecasts together with bids to inject or withdraw gas from the market. For each of the five gas day pricing schedules, figures 1.1 to 1.4 below show the daily prices, demand forecasts<sup>2</sup>, and injection/withdrawal bids<sup>3</sup>. 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 bids cleared through the market. Gas is priced five times daily (at 6 am, 10 am, 2 pm, 6 pm and 10 pm) when the first schedule and four reschedules apply, while the last 8-hour schedule has been separated into two 4-hour blocks for a consistent comparison with other scheduled injection volumes. The main drivers of price are demand forecasts and gas bids.<sup>4</sup>

Figure 2.1: Prices by schedule

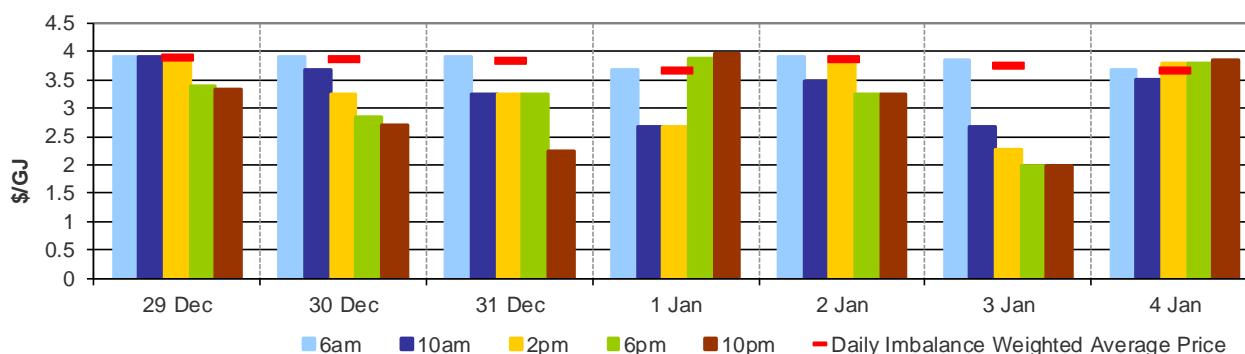
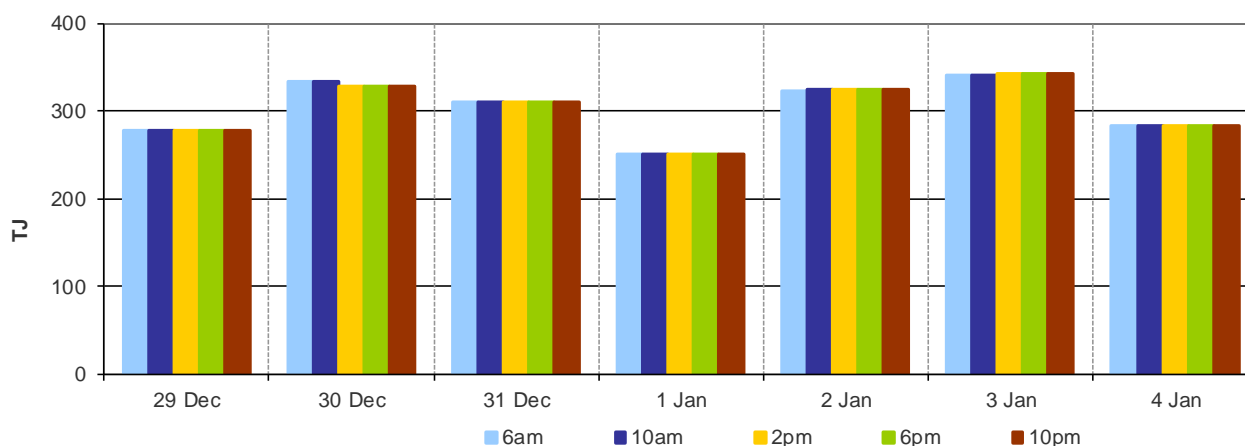


Figure 2.2: Demand forecasts

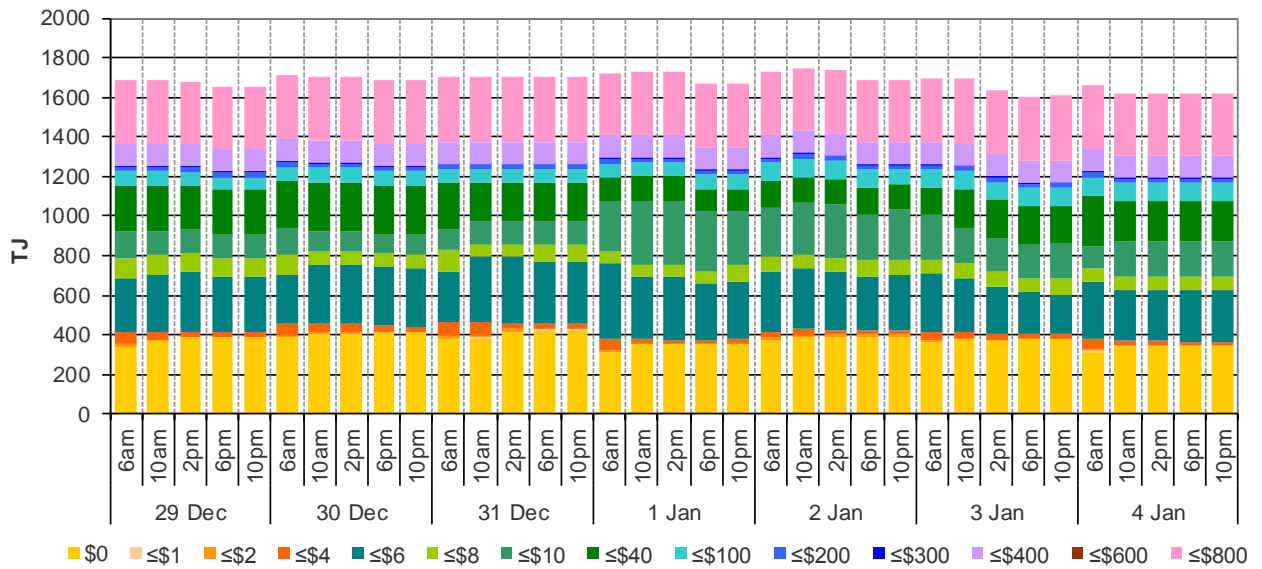


<sup>2</sup> These are Market Participants' aggregate demand forecasts adjusted for any override as applied by AEMO from time to time. The main driver of the amount of gas scheduled on a gas day are these forecasts which are forecasts that cannot respond to price or in other words is gas delivered regardless of the price.

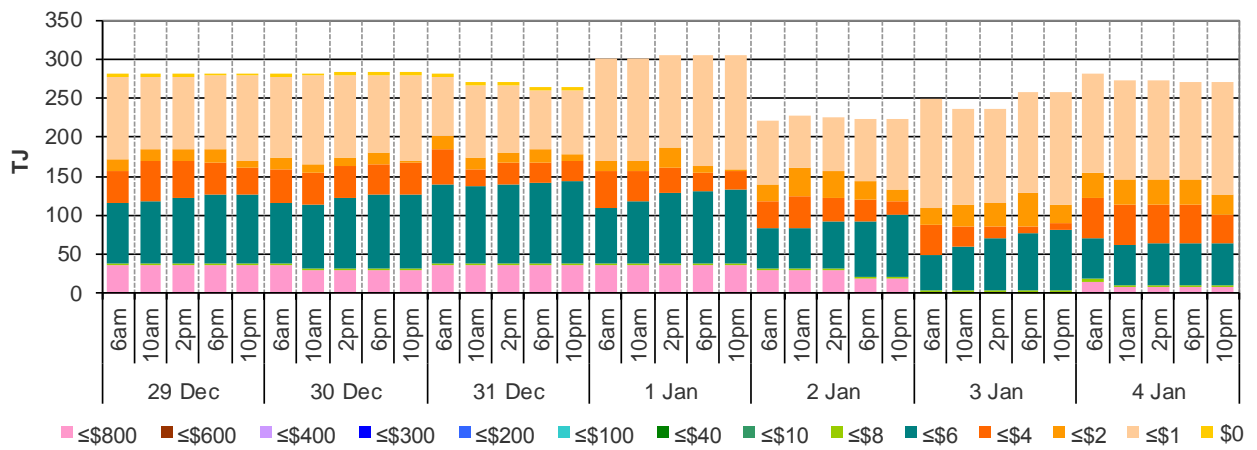
<sup>3</sup> The price might also be affected by transmission or production (contractual) constraints limiting how much gas can be delivered from a locale or System Injection Point (SIP) from time to time.

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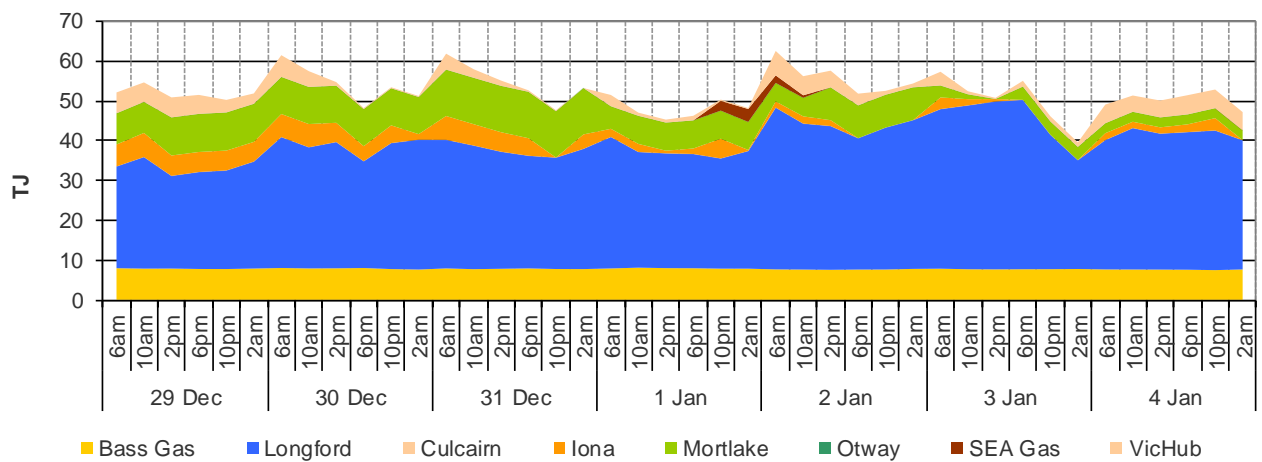
**Figure 2.3: Injection bids by price bands**



**Figure 2.4: Withdrawal bids by price bands**



**Figure 2.5: Metered Injections by System Injection Point**



### 3 Sydney STTM

In each STTM hub, gas is priced once before each gas day (the ex ante price) and once after the gas day (the ex post price). The main drivers of ex ante and ex post prices are demand forecasts, together with participant offers and offers to inject or bids to withdraw gas traded through the hub.<sup>5</sup> Prices before and after the gas day may also vary depending on how much gas is scheduled before the gas day (setting the ex ante price) and how much gas is consumed in the hub on a gas day (setting the ex post price).

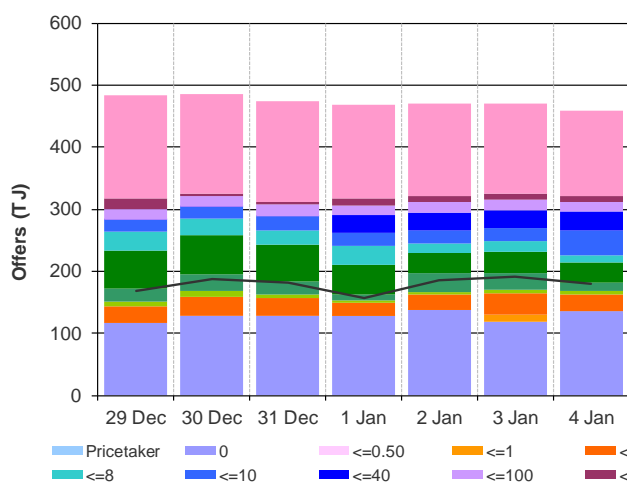
Market Operator Service balancing gas (MOS) payments arise because the amount of gas nominated on pipelines for delivery on a gas day will either exceed or fall short, by some amount, of the amount of gas consumed in the hub. In such circumstances, MOS payments are made to participants for providing a service to park gas on a pipeline or to loan gas from a pipeline to the hub.<sup>6</sup>

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, indicating the location and relative quantity of gas offers across pipelines and also the amount of MOS allocated for each pipeline.

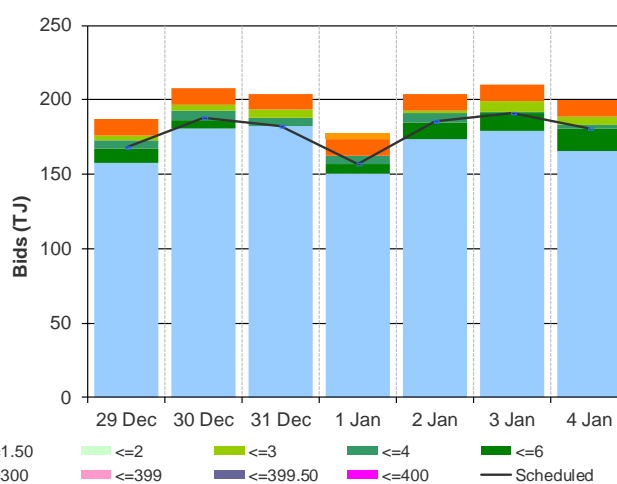
**Figure 3.1: SYD STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	3.69	3.69	4.00	3.90	3.68	3.68	4.00
Ex ante quantity (TJ)	168	188	182	157	185	191	181
Ex post price (\$/GJ)	4.00	3.17	3.67	3.68	3.67	3.67	3.67
Ex Post quantity (TJ)	172	180	167	154	181	185	174

**Figure 2.2 (a) Daily hub offers in price bands (\$/GJ)**



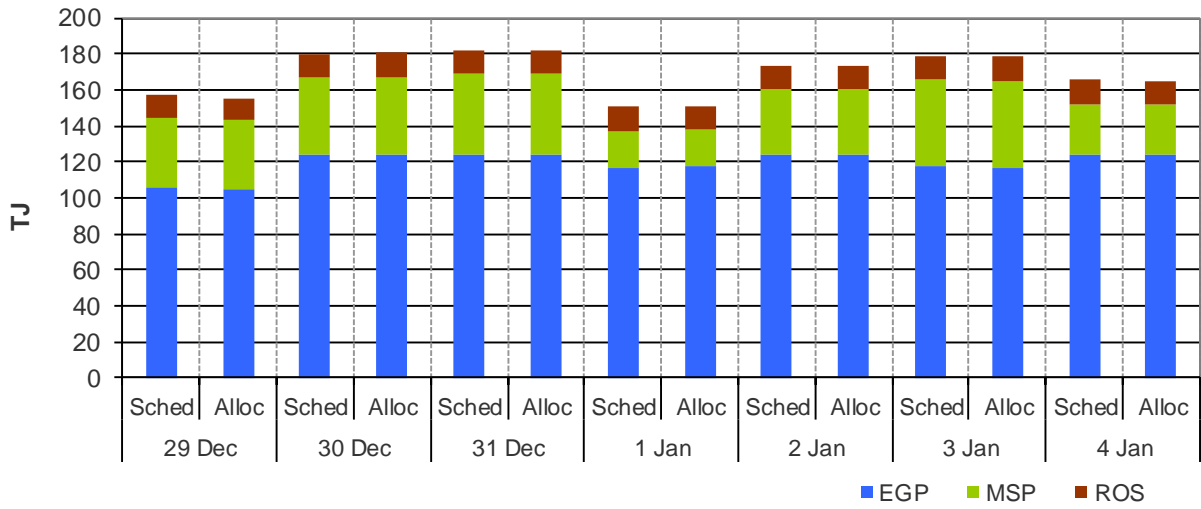
**Figure 2.2(b): Daily hub bids in price bands (\$/GJ)**



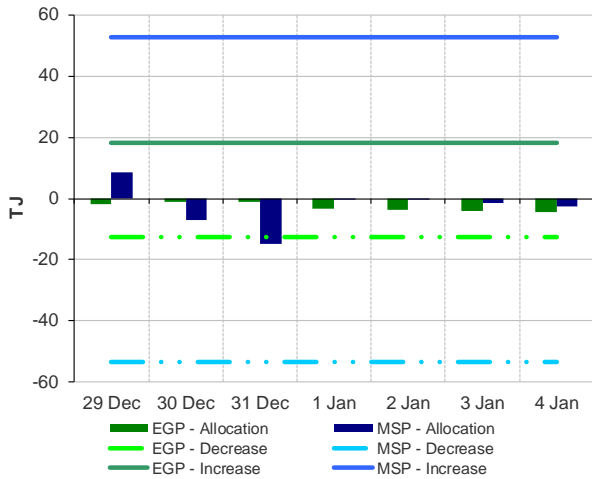
<sup>5</sup> The main driver of the amount of gas scheduled on a gas day is the ‘price-taker’ bid, which is forecast hub demand that cannot respond to price and which must be delivered, regardless of the price.

<sup>6</sup> 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.

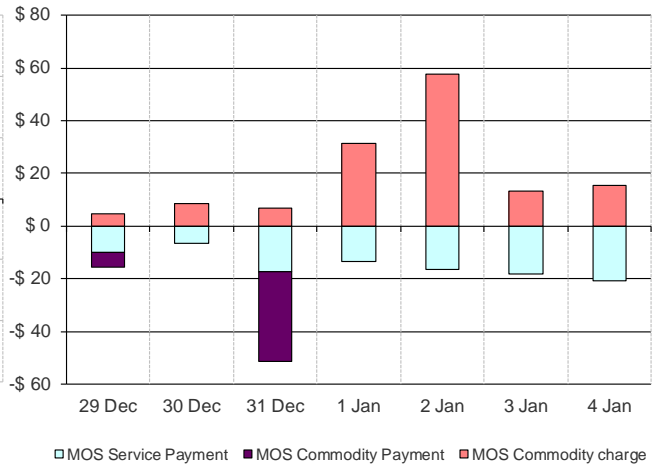
**Figure 3.3: SYD net scheduled and allocated gas volumes (excluding MOS) by STTM facility**



**Figure 2.4 (a) SYD STTM MOS allocations (TJ)**



**Figure 2.4 (b): Service payments and commodity payments/charges (\$000)**



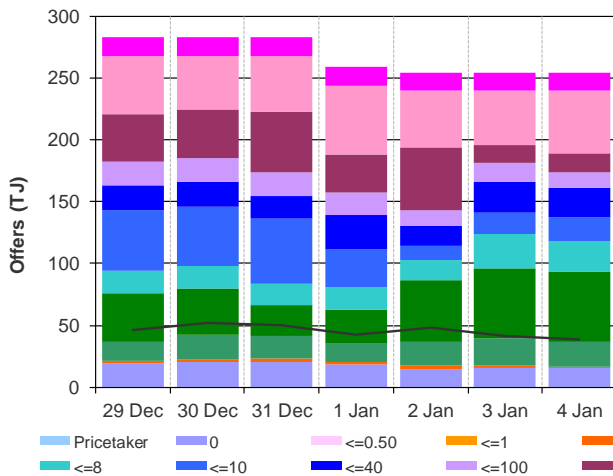
## 4 Adelaide STTM

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.

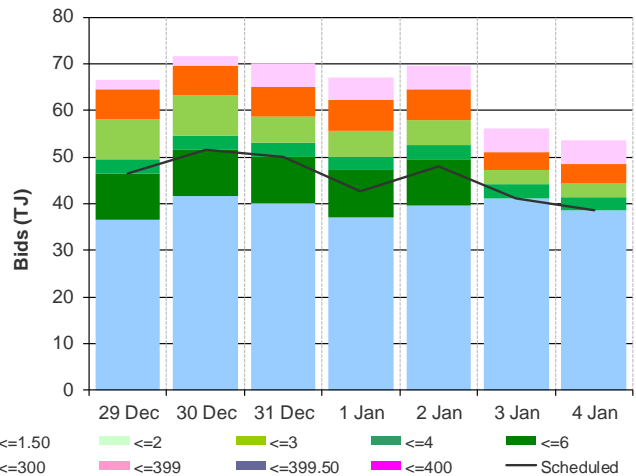
**Figure 4.1: ADL STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	4.15	4.15	4.15	4.51	4.50	4.10	4.07
Ex ante quantity (TJ)	47	52	50	43	48	41	38
Ex post price (\$/GJ)	4.15	4.15	4.15	4.14	4.14	4.15	4.07
Ex Post quantity (TJ)	50	55	50	38	46	45	38

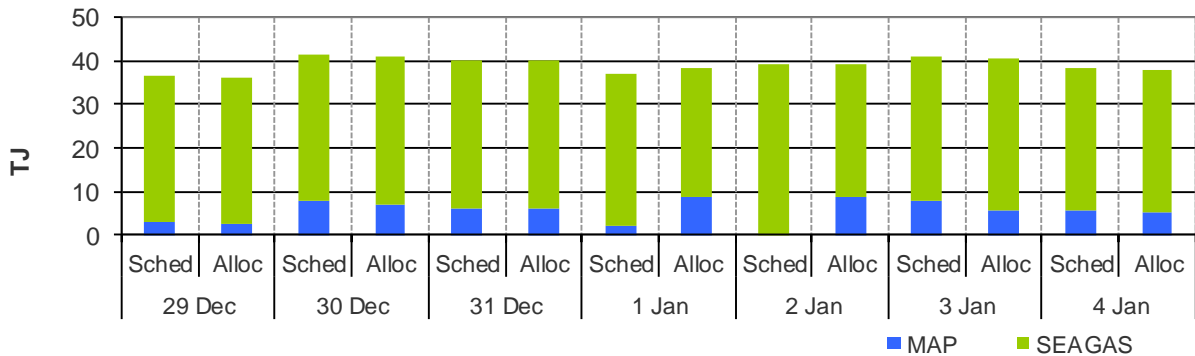
**Figure 3.2 (a) Daily hub offers in price bands (\$/GJ)**



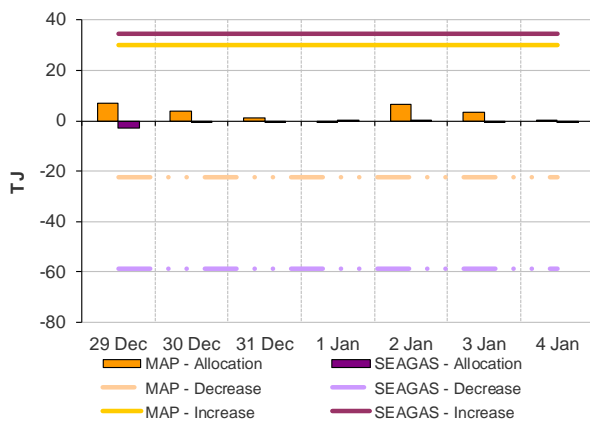
**Figure 3.2(b): Daily hub bids in price bands (\$/GJ)**



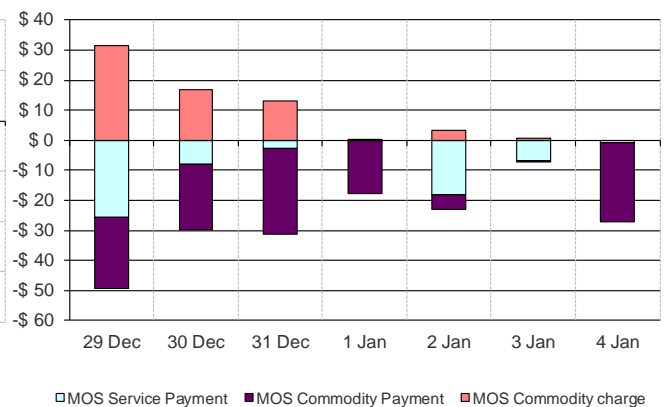
**Figure 4.3: ADL net scheduled and allocated gas volumes (excluding MOS) by STTM facility**



**Figure 3.4 (a) ADL STTM MOS allocations (TJ)**



**Figure 3.4 (b): Service payments and commodity payments/charges (\$000)**





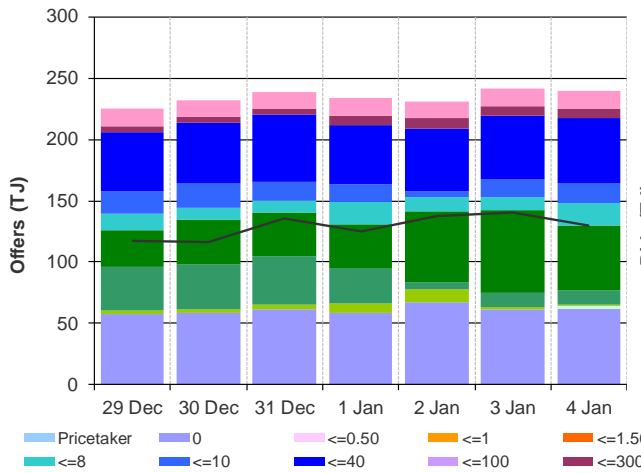
## 5 Brisbane STTM

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.

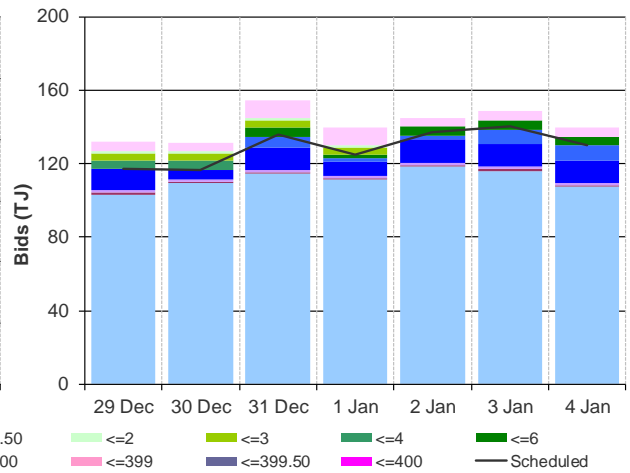
**Figure 5.1: BRI STTM daily ex ante and ex post prices and quantities**

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ex ante price (\$/GJ)	4.53	4.82	5.00	5.00	5.77	5.78	6.25
Ex ante quantity (TJ)	117	117	136	125	137	141	130
Ex post price (\$/GJ)	4.44	6.31	5.00	5.00	5.45	5.52	6.00
Ex Post quantity (TJ)	110	135	134	126	132	134	128

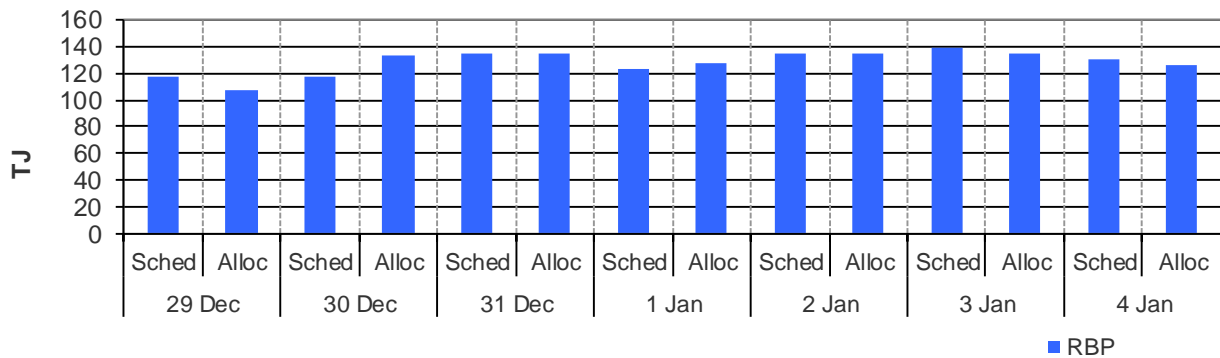
**Figure 4.2 (a) Daily hub offers in price bands (\$/GJ)**



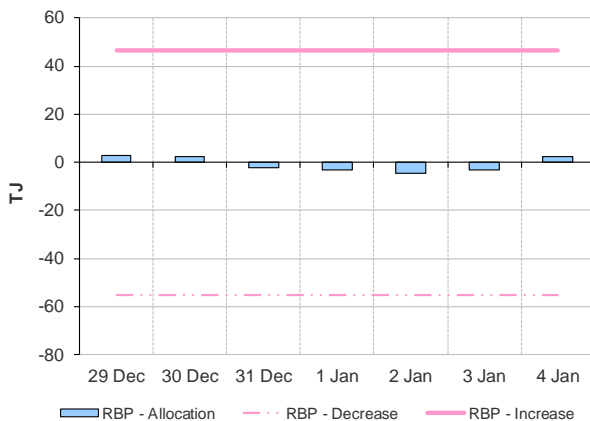
**Figure 4.2(b): Daily hub bids in price bands (\$/GJ)**



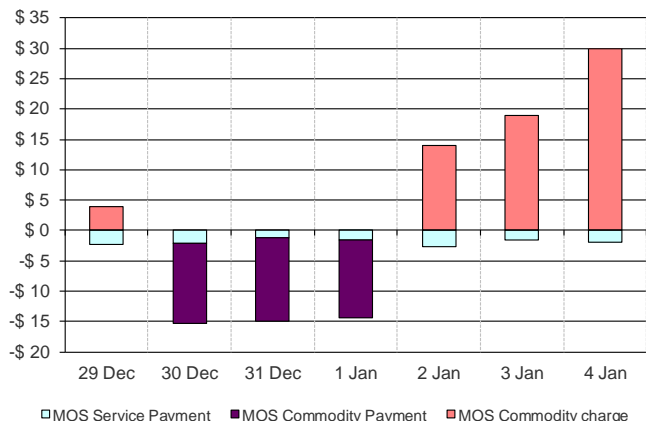
**Figure 5.3: BRI net scheduled and allocated gas volumes (excluding MOS) by STTM facility**



**Figure 4.4 (a) BRI STTM MOS allocations (TJ)**



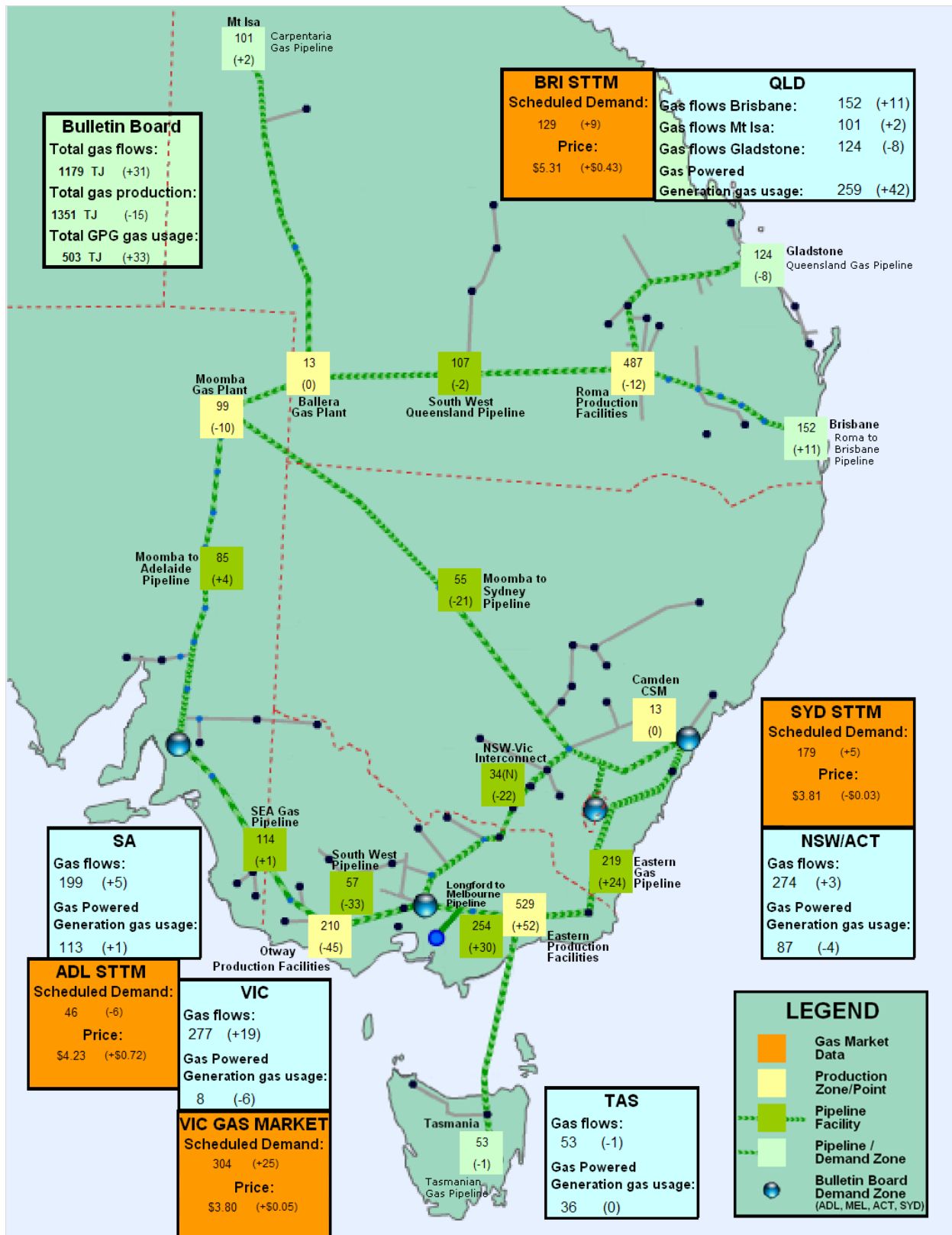
**Figure 4.4 (b): Service payments and commodity payments/charges (\$000)**



## 6 National Gas Bulletin Board

Figure 5.1 shows average daily actual flows for the current week in the aqua boxes<sup>7</sup> 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. In the orange boxes average daily scheduled volumes and prices for each gas market are provided.

Figure 6.1: Gas market data (\$/GJ, TJ); Production, Consumption and Pipeline flows (TJ)



<sup>7</sup> 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 include gas usage that may not show up on Bulletin Board pipeline flows.