

12 September – 18 September 2010

Preface

As part of its monitoring roles for the National Gas Market Bulletin Board (Bulletin Board) and the Declared Wholesale Gas Market (Victorian Gas Market), the AER publishes a weekly gas market report. Part A of the report looks at gas usage and flows of registered facilities in southern and eastern Australia (as reported on the Bulletin Board). Part B provides a summary of operational and market data in the Victorian Gas Market.

The AER is responsible for monitoring and enforcing compliance with Part 20 of the National Gas Rules that authorise and govern conduct in the Short Term Trading Market (STTM). The STTM is a market for the wholesale trading of natural gas at defined hubs between pipelines and distribution systems, and began operation on 1 September 2010. With initial hubs of Sydney and Adelaide, additional hubs are intended for the future. Each hub is scheduled and settled separately, but all hubs operate under the same rules. Part C provides a summary of operational and market data in the STTM.

The Victorian Gas Market lies between the two STTM hubs and shares common production sources with the Adelaide and Sydney hubs. Participation in the Victorian Gas Market and the STTM hubs occurs on the basis of a different set of market rules and requires contractual arrangements with different pipeline owners. Participants operate in only those markets where they have production, gas and pipeline contracts. The larger number of retailers participating in the Victorian gas market reflects the increased number of retailers in Victoria. Some key differences between the STTM and the Victorian Gas Market are set out at the start of Part C.

This report will evolve over time and the nature of information presented may change. The AER welcomes feedback on the report from interested parties. Feedback can be sent to aer inquiry@ aer.gov.au, with the subject title 'Comments on weekly gas report'.

Summary

Due to data errors in figures S9 to S12, the AER has republished the 29 August to 4 September and 5 – 11 September weekly gas market analysis reports.

Average prices in Victoria increased compared to the previous week, from \$1.35/GJ to \$1.53/GJ, consistent with a small increase in demand. Average prices in Victoria were again considerably lower than prices in Sydney and Adelaide as shown in Figure 1.

Figure 1: Average daily price (\$/GJ) – All gas markets

12 September – 18 September	Victorian market*	STTM Sydney hub**	STTM Adelaide hub**
Average Price	1.53	3.33	3.50

* weighted average daily imbalance price

** ex ante market price

STTM Gas Markets (Adelaide and Sydney)

While average ex ante prices increased this week at both Adelaide and Sydney hubs compared to the previous week, average ex post prices fell (see figures S3 and S4). The weekly average ex ante and ex post prices at the Sydney hub were equivalent at \$3.33/GJ. In Adelaide the weekly average ex post price was lower than the ex ante price. Lower network allocations than scheduled network demand contributed to lower ex post prices from 12 to 15 September in Adelaide (see figure S6).

Gas deliveries across all STTM pipelines continue to be well below maximum pipeline capacities. The highest daily gas flows continue to be along the Moomba Sydney Pipeline to the Sydney hub and along the Moomba Adelaide Pipeline (MAP) to the Adelaide hub (see figures S7 and S8). However, as shown in figure S8, from 16 September to 18 September flows along MAP to the Adelaide hub fell to levels close to those along SEAGas.

Service payments for MOS (balancing gas) were the lowest since the market started (see figures S17, S18). The average daily quantity of market schedule variations (MSVs) increased in Adelaide but was similar to the previous week in Sydney (see figures S21 and S22).

Victorian Gas Market

In line with an increase in demand in Victoria, average gas injections rose by around 2.5 per cent compared to the previous week (see Figure V3). The average imbalance price increased from \$1.35/GJ the previous week to \$1.53/GJ (see Figure V2). AEMO issued demand overrides of -7 TJ on Tuesday, -17 TJ on Wednesday and -11 TJ on Friday (see Figure A5). Supply and Demand Point Constraints (SDPCs) were applied to withdrawals at Culcairn on 14 September and SEA Gas injections and withdrawals on 15 September.

National Gas Market Bulletin Board

There were no instances of missing flow data on the Bulletin Board this week.

Figure N4 shows changes in gas demand and production and pipeline flows compared to the previous week. Total average daily demand for gas fell slightly compared to the previous week. Small decreases in demand were recorded in South Australia, Tasmania and New South Wales, while Victoria recorded a small increase and Queensland remained steady.

Total average daily gas powered generation (GPG) gas usage was similar to the previous week. Small falls were recorded in all regions except New South Wales, which recorded an increase.

Average daily production volumes and pipeline flows remained relatively unchanged from the previous week.

Part A: National Gas Market Bulletin Board

Overview of pipeline and production flows

Figure N1 sets out the average daily pipeline flows into each key demand region across the National Gas Market. A list of pipeline facilities for each demand region is provided in Figure A1 of the Appendix.

Figure N1: Average daily pipeline flows (TJ) into each demand region

Average daily flows	NSW	ACT	VIC	SA	TAS	Brisbane	QLD	
							Mt Isa	Gladstone
12 September – 18 September	396	32	795	325	40	188	95	121
Financial Year-to-date 2010-11*	446	45	904	323	49	188	93	102
Financial Year-to-date 2009-10**	438	40	825	281	24	150	90	68

*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Source: National Gas Market Bulletin Board <http://www.gasbb.com.au>

Figure N2 provides the average daily amount of gas used for GPG (gas-powered generators) in each state.

Figure N2: Average daily gas (TJ) used by gas-powered generators in each state

Average daily gas for GPG usage [^]	NSW	VIC	SA	TAS	QLD
12 September – 18 September	77	8	195	26	164
Financial Year-to-date 2010-11*	80	18	183	34	161
Financial Year-to-date 2009-10**	84	42	146	9	112

[^]Estimated values based on application of implied heat rates for generators within the demand region sourced from ACIL Tasman's 2009 Final Report 'Fuel resource, new entry and generation costs in the NEM'

*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Source: <http://www.aemo.com.au>

Notes: Data for each state collected on the following basis:

1. NSW - Smithfield Energy, Uranquinty, Hunter Valley GT, Colongra and Tallawarra power stations.
2. VIC - Laverton North, Valley Power, Jeeralang A, Jeeralang B, Somerton, Bairnsdale, and Newport power stations.
3. SA - Dry Creek GT, Hallet, Pelican Point, Torrens Island, Mintaro, Osborne, Ladbroke Grove, and Quarantine power stations.
4. TAS - Tamar Valley power stations.
5. QLD - Braemar 1, Braemar 2, Roma, Oakey, Barcaldine, and Swanbank power stations.

Figure N3 sets out the daily average flows from production and storage facilities from each production zone across the National Gas Market. A list of production/storage facilities for each zone is provided in Figure A2.

Figure N3: Daily average production flows (TJ) for each production zone

Average daily flows	Roma (QLD)	Eastern Victoria	Otway Basin (VIC)	Moomba (SA/QLD)
12 September – 18 September	562	927	321	326
Financial Year-to-date 2010-11*	564	1028	347	360
Financial Year-to-date 2009-10**	422	831	349	358

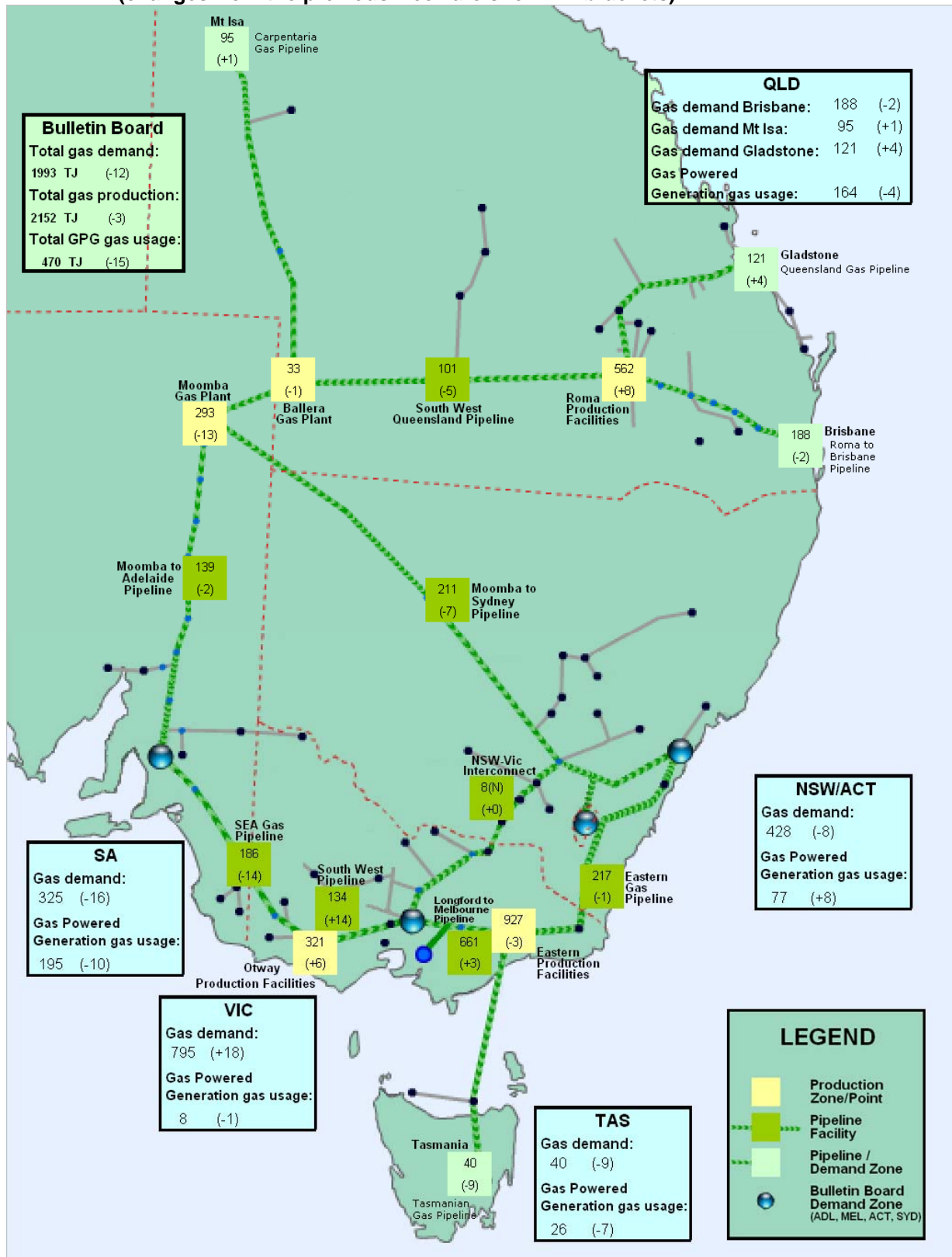
*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Source: National Gas Market Bulletin Board <http://www.gasbb.com.au>

Figure N4 shows the changes in average daily pipeline and production flows compared to the previous week, as well as the gas demand and GPG usage of gas in each region.

Figure N4: Gas production/consumption and pipeline flows (TJ)
 (changes from the previous week are shown in brackets)

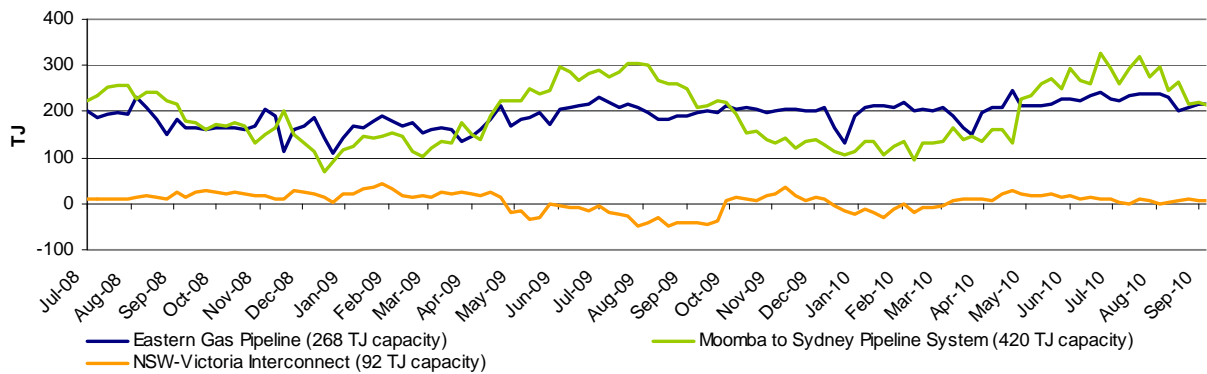


Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>
 Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).
 Numbers in brackets indicate a change in average daily flow from the previous week.

Gas flows into demand regions

The figures below provide the average daily flows into each of the demand regions served by multiple pipelines and supply sources.

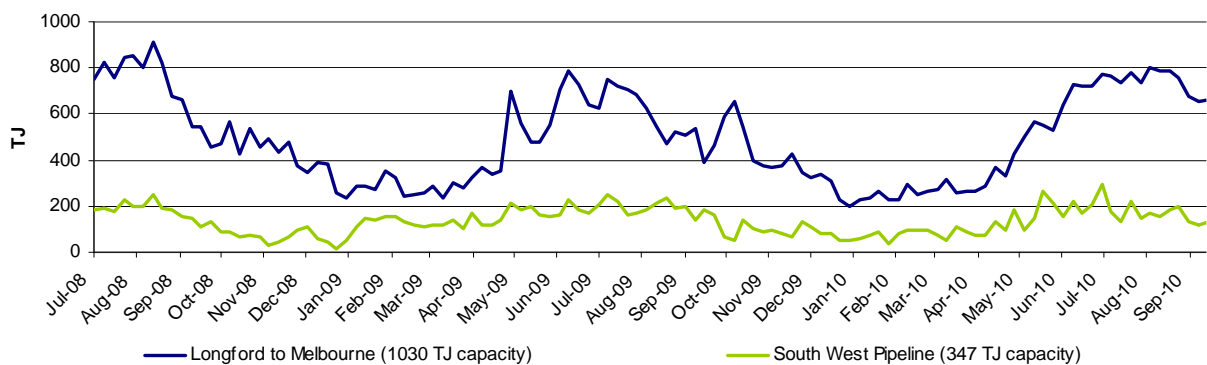
Figure N5: Average daily flows (TJ) into NSW/ACT demand region



Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>

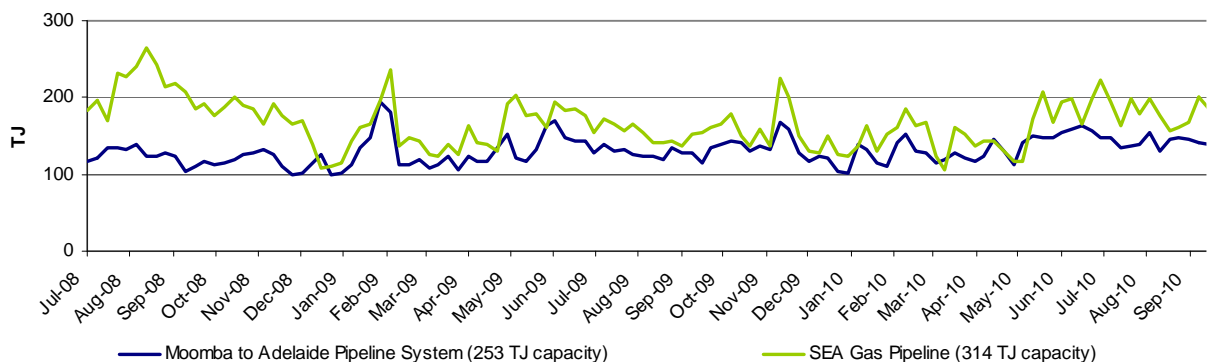
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

Figure N6: Average daily flows (TJ) into VIC demand region



Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>

Figure N7: Average daily flows (TJ) into SA demand region



Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>

Part B: Victorian Gas Market

Participation in the market

Figure V1 shows participant bids submitted at the start of the gas day (6 am) at injection and withdrawal points on the Victorian Principal Transmission System (VPTS). The orange shaded boxes indicate that the participant submitted bids at that location on at least one occasion during the week. An “S” indicates that some of this nominated gas was scheduled into the gas market, while “NS” indicates that none of the gas was scheduled. Green shading indicates where a change has occurred from the previous week.

Bids are scheduled in price merit order — this means injection bids which are less than the market clearing price will be scheduled, while withdrawal bids which are greater than the market clearing price will be scheduled into the market.

Figure V1: Injection and withdrawal point bids in the VIC Gas Market[^]

Market Participant	Participant type	No. of injection / withdrawal bid points	Injection bids in the VPTS							Withdrawal bids in the VPTS				
			BassGas	Culcairn	IONA	LNG	Longford	SEA Gas	VicHub	Otway	Culcairn	IONA	SEA Gas	VicHub
AETV Power	Trader	1							S					S
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	4		NS	S	NS	S				NS	NS		
Aurora Energy	Retailer	1					S							
Aust. Power & Gas	Retailer	3			S	NS	S					S		
Coogee Energy	Transmission Customer	1					S							
Country Energy	Transmission Customer	1									S			
Energy Australia	Retailer	3			S		S		NS					S
International Power	Transmission Customer	1										S		
Lumo Energy	Retailer	5		NS	S	NS		S	S		NS			
Lumo Energy	Trader	2			NS				S			S		NS
Origin (Vic)	Retailer	6	S	S	S	NS	S	S			S	S		
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	1					S							
Santos	Retailer	2			S									S
Simply Energy	Retailer	4			S	NS	S	NS						
TRU Energy	Retailer	3			S		S					NS		NS
Visy Paper	Distribution Customer	2					S				S			

[^]Bids taken from 6am data for each gas day during the current week.

Source: <http://www.aemo.com.au> (INT131)

Market Prices

Figure V2 displays volume-weighted average daily imbalance prices, compared to the 2010-11 financial year-to-date average and the 2009-10 financial year-to-date equivalent as well as daily imbalance prices for each day during the current week.

The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6 am, 10 am, 2 pm, 6 pm and 10 pm.

Figure V2: Imbalance Weighted Prices (\$/GJ)

	12 September – 18 September	5 September – 11 September	2010-11 Financial YTD*	2009-10 Financial YTD**
Average daily price	1.53	1.35	2.49	1.68

12 September – 18 September	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	0.33	1.02	1.07	2.57	1.40	2.90	1.44

*Average daily imbalance weighted average price from 1 July 2010 to the current week (inclusive)

**Average daily imbalance weighted average price from 1 July 2009 to the equivalent week in 2009 (inclusive)

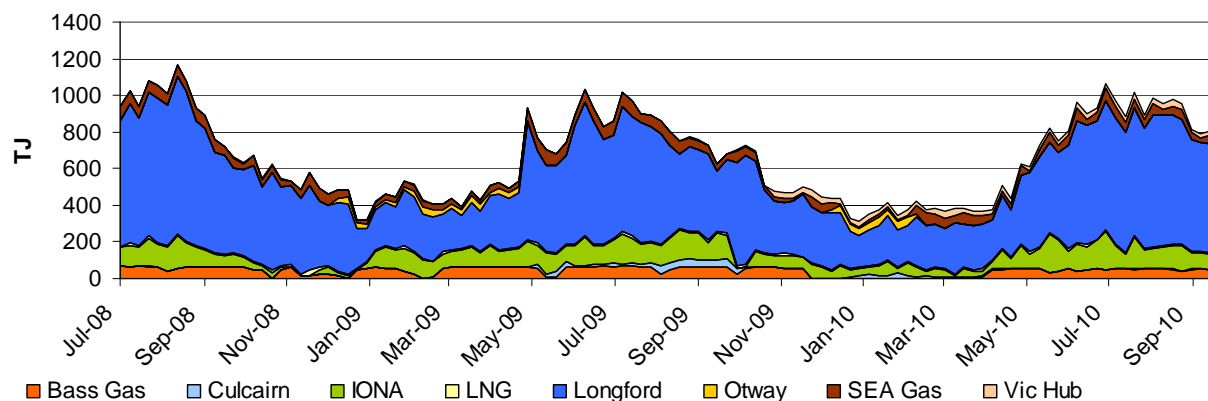
Source: <http://www.aemo.com.au> (INT 041)

System Injections

Figure V3 shows the average daily injections into the VPTS for the current and previous week, compared with the 2010-11 and 2009-10 equivalent financial year-to-date daily averages.

Figure V3: Average daily flows (TJ) from Injection Points on the VPTS

Injection Point:	12 September – 18 September	5 September – 11 September	2010-11 Financial YTD*	2009-10 Financial YTD**
Culcairn	0	0	1	32
Longford	592	591	666	538
LNG	11	9	9	9
IONA	83	89	114	133
VicHub	21	18	28	1
SEAGas	49	28	48	63
Bass Gas	50	51	50	58
Otway	0	0	0	0
TOTAL	806	787	916	834



*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

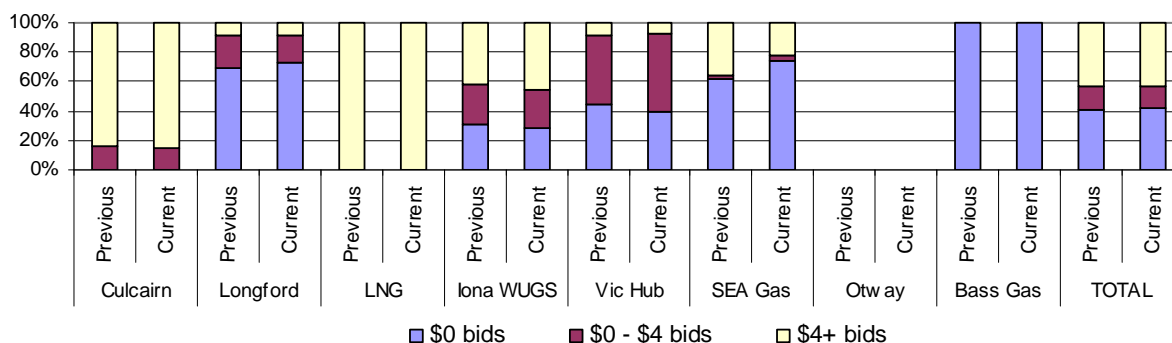
**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Source: <http://www.aemo.com.au> (INT 150)

Bidding Activity

Figure V4 compares the price structure of gas bid at each of the injection points on the VPTS, within three price bands of \$0/GJ, \$0/GJ to \$4/GJ, and \$4/GJ and above, for the current week and for the previous week.

Figure V4: Price structure of bids by injection points



Source: <http://www.aemo.com.au> (INT 131) - bids submitted for the 6am schedule on each day of the week.

Notes: Figures in the table are rounded off the nearest round number (TJ); the maximum allowable bid is \$800/GJ.

Figure V5 provides a table of injection points on the VPTS where market participants submitted intra-day renominations, for each day of the week.

Figure V5: Intra-day rebidding of gas injections

Injection Point:	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Culcain				Origin	Origin	Lumo	
Longford	AGL TRU	AGL TRU	AGL Origin TRU	AGL TRU	AGL TRU	AGL TRU	AGL Origin
LNG							
Iona		Origin TRU APG	TRU	TRU APG	TRU APG	APG Lumo	APG
VicHub	AETV	AETV	AETV TRU	AETV Lumo	AETV TRU Lumo	AETV Lumo	AETV
SEAGas	Simply	Simply	Origin Simply	Origin Simply			Simply
Bass Gas							

Source: <http://www.aemo.com.au> (INT 131)

Notes: Origin = Origin Energy | AGL = AGL Sales | TRU = TRUenergy | Simply = Simply Energy | AETV = AETV Power
 APG = Australian Power & Gas | CE = Country Energy | Lumo = Lumo Energy (formerly Victoria Electricity) |
 AGL (QLD) = AGL Sales (Queensland)

System withdrawals

Figure V6 shows the average daily gas usage on the VPTS for the current and previous week, compared with the 2010-11 and 2009-10 equivalent financial year-to-date daily averages.

Figure V6: Average daily withdrawals (TJ) from system demand zones on the VPTS

System withdrawal zone:	12 September – 18 September	5 September – 11 September	2010-11 Financial YTD*	2009-10 Financial YTD**
Ballarat	37	37	44	39
Geelong^	90	91	104	95
Gippsland	57	49	57	55
Melbourne	553	539	632	577
Northern	72	75	83	71
TOTAL	808	790	919	836

^Data presented also includes withdrawals for the Western system withdrawal zone or Western Transmission System (WTS).

*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Source: <http://www.aemo.com.au> (INT 150).

Part C: STTM MARKET DATA

What is the STTM?

The STTM is a market for the trading of natural gas at the wholesale level at defined hubs between pipelines and distribution systems. Currently the STTM has two hubs: Sydney and Adelaide.

The AER first commenced reporting on the STTM in September. The report deliberately contains a significant amount of information on the STTM. It is envisaged that over time as readers become familiar with the market, the amount of information will be reduced, while being mindful not to compromise the quality of the report.

Although the STTM and Victorian gas markets (discussed in Part B of this report) are both spot markets for gas, there are a number of key differences. Some of these differences are listed in the table below.

Key area of difference	Victoria Gas Market	STTM
AEMO role	<ul style="list-style-type: none"> Wholesale market operator, Retail market operator, Transmission pipeline system operator 	<ul style="list-style-type: none"> Wholesale market operator, Retail market operator
Scheduling	<ul style="list-style-type: none"> On the day scheduling comprising five pricing and operating schedules at set times. Ad hoc schedules if required. Day ahead and 2-Day ahead schedules (forecast data only). 	<ul style="list-style-type: none"> Day ahead market schedules Shippers may vary from their market schedules when they nominate to pipeline operators 2-Day ahead and 3-Day ahead schedules (forecast data only).
Market Price	<ul style="list-style-type: none"> Five ex ante prices for imbalances set on the day Ex ante prices in subsequent schedules after the 6am schedule apply to deviations Market price is for commodity only. Transportation is charged separately by pipeline owner 	<ul style="list-style-type: none"> One ex ante market price set the day before the gas day One ex post imbalance price set the day after the gas day Price includes both commodity and delivery to the hub and represents purchase of gas at the hub
Linepack management (pipeline balancing mechanism)	<ul style="list-style-type: none"> AEMO defines linepack target depending on operational conditions and is generally set seasonally not daily. Linepack account covers costs that includes costs of day to day linepack variations 	<ul style="list-style-type: none"> On the day pipeline balancing through Market Operator Service (MOS), provided by MOS offers from shippers
Transmission pipeline constraint management	<ul style="list-style-type: none"> Ancillary payments for higher priced gas scheduled that relieves constraints Uplift payments to fund ancillary payments 	<ul style="list-style-type: none"> Capacity payments from shippers with non-firm contracts to shippers with firm contracts if a pipeline is constrained (based on the pipeline capacity price)

AEMO's website (www.aemo.com.au) contains documents that provide further detail on how the STTM works, including a glossary of terms.

Participation in the market

Figures S1 and S2 show participant supply offers and withdrawal bids submitted in the Sydney and Adelaide STTM hubs. The orange shaded boxes indicate that the participant submitted offers and bids at that location on at least one occasion during the week. An “S” indicates that some of this gas was scheduled into the gas market, while “NS” indicates that none of the gas was scheduled. Green shading indicates where a change has occurred from the previous week.

Offers and Bids are scheduled in price merit order—this means offers that are less than the market clearing price will be scheduled, while withdrawal bids that are greater than the market clearing price will be scheduled into the market.

Figure S1: Supply Offers and Withdrawal Bids (Sydney Hub)^

Trading Participant	Participant type^^	No. of supply offer / withdrawal bid points	Offers			Bids			
			EGP	MSP	ROS	EGP	MSP	ROS	SYD - NET
AETV Power	Shipper								
AGL Energy Sales & Marketing Pty Ltd	STTM User, Shipper	4	S	S	S				S
AGL Wholesale Gas Limited	Shipper	2	S	NS					
BHP Billiton Petroleum (Bass Strait) PL	Shipper								
BlueScope Steel	STTM User, Shipper	1	S						
Country Energy	STTM User, Shipper	2	S				S		
Delta Electricity	STTM User, Shipper								
EnergyAustralia	STTM User, Shipper	2	S	S					
Esso Australia Resources Pty Ltd	Shipper								
OneSteel Manufacturing Pty Ltd	STTM User, Shipper	1	S						
OneSteel NSW Pty Ltd	STTM User, Shipper	1	S						
Origin Energy LPG Limited	STTM User, Shipper								
Origin Energy Retail Ltd	STTM User, Shipper	2	S	S					
Santos Direct Pty Ltd	STTM User, Shipper	1	S						
TRUenergy Pty Ltd	STTM User, Shipper	2	S	S					
Tyco Water	STTM User								

^Offers and bids taken from the (D-1) ex ante schedule

^^STTM Users also submit price-taker bids to satisfy customer demand, which are not included in this table

Source: <http://www.aemo.com.au> INT 651, 659, 668

EGP=Eastern Gas Pipeline, MSP=Moomba to Sydney Pipeline, ROS=Rosalind Park Production facility, SYD-NET=Sydney Hub

Figure S2: Supply Offers and Withdrawal Bids (Adelaide Hub)^

Trading Participant	Participant type^^	No. of supply offers / withdrawal bids	Offers		Bids		
			MAP	SEAGAS	MAP	SEAGAS	ADL - NET
AGL South Australia Pty Limited	STTM User,Shipper	1	S				
AGL Wholesale Gas (SA) Pty Ltd	Shipper	2	S	S			
Adelaide Brighton Cement Ltd	STTM User,Shipper	2	S	S			
OneSteel Manufacturing Pty Ltd	Shipper						
Origin Energy Retail Ltd	Shipper,STTM User	2	S	S			
Pelican Point Power Limited	Shipper						
Simply Energy	STTM User,Shipper	2	S	S			
TRUenergy Pty Ltd	STTM User,Shipper	2	S	S			

^ Offers and bids taken from the (D-1) ex ante schedule

^^ STTM Users also submit price-taker bids to satisfy customer demand, which are not included in this table

Source: <http://www.aemo.com.au> INT 651, 659, 668

MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline, ADL-NET=Adelaide Hub

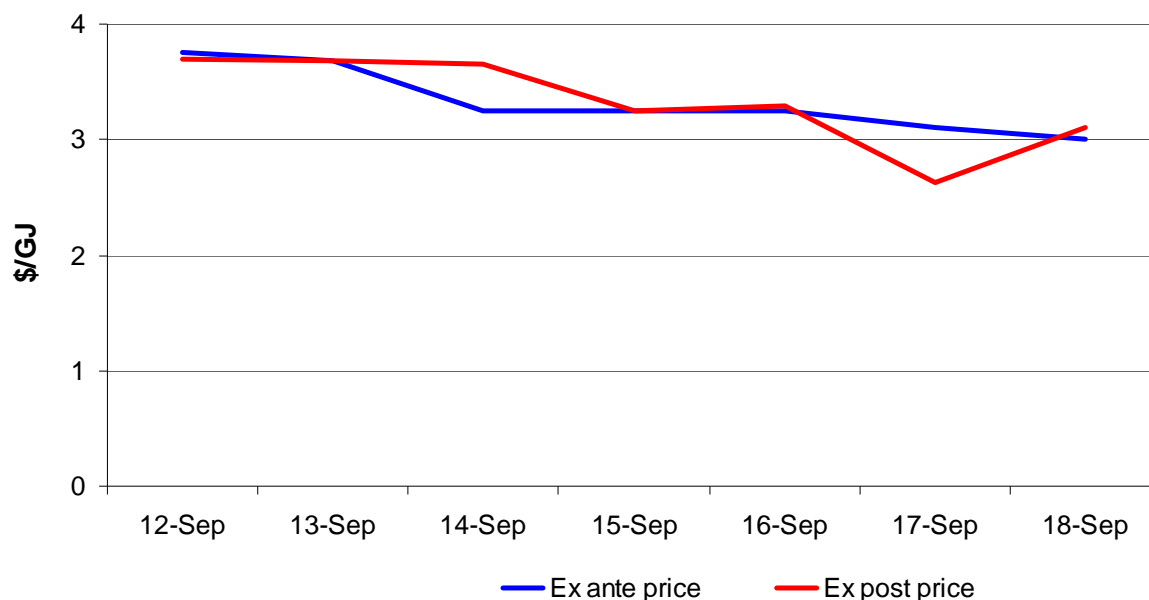
Ex ante and Ex post Market Prices

Figures S3 and S4 show ex ante and ex post prices at the Sydney and Adelaide Hubs. Differences between the ex ante and ex post price may arise where there are significant differences between price taker bids (demand forecasts) for the hub and actual demand in the hub. When this occurs, this leads to more or less gas being scheduled in the ex post market and a divergence between the ex ante and ex post prices.

Figure S3: Ex ante vs Ex post Price - Sydney Hub (\$/GJ)^

	12 Sep - 18 Sep	5 Sep - 11 Sep	2010-11 Financial YTD*
Ex ante price (\$/GJ)	3.33	3.02	N/A
Ex post price (\$/GJ)	3.33	3.73	N/A

* Financial Year to date figures will be included from October 2010

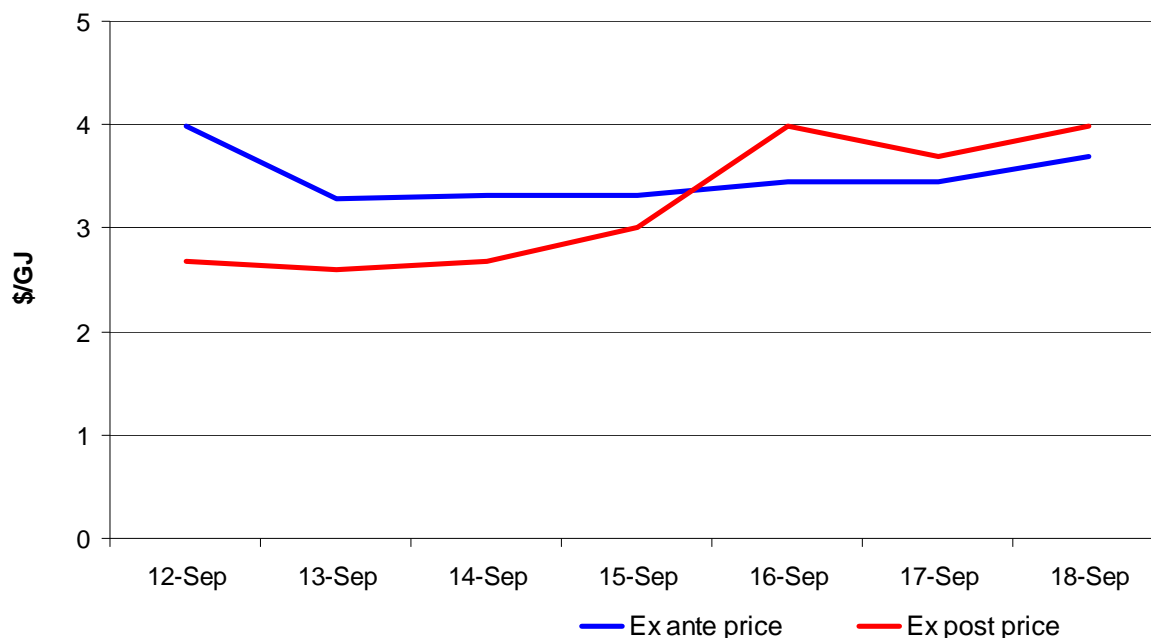


Source: <http://www.aemo.com.au> INT 651, 657

Figure S4: Ex ante vs Ex post Price - Adelaide Hub (\$/GJ)

	12 Sep - 18 Sep	5 Sep - 11 Sep	2010-11 Financial YTD*
Ex ante price	3.50	3.45	N/A
Ex post price	3.23	3.66	N/A

* Financial Year to date figures will be included from October 2010



Source: <http://www.aemo.com.au> INT 651, 657

Scheduled gas

“Firm” and “non-firm” gas is scheduled to the STTM hubs. Firm capacity describes a facility contract that has the highest haulage priority. Non-firm (as available) capacity refers to facility contracts with lower order priority.

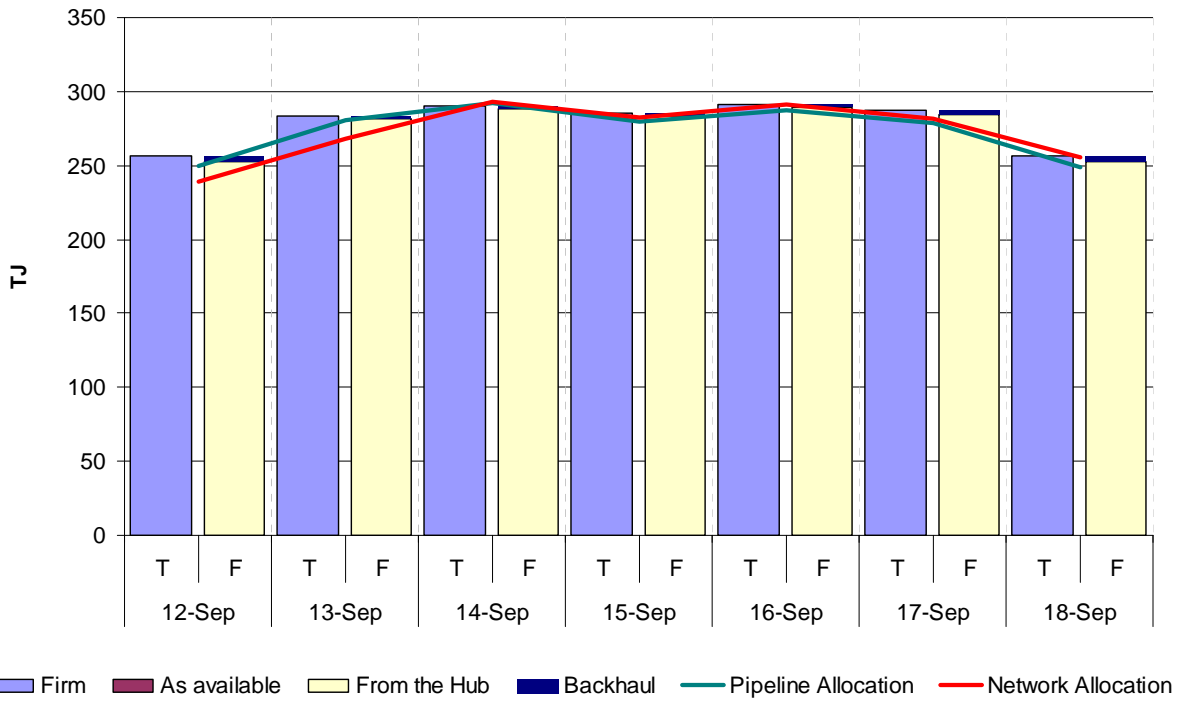
Gas can also be scheduled from the STTM hubs. This happens when Shippers “backhaul” gas from the hub or Users bid to take gas from the hub (including price taker bids).

Figures S5 and S6 show scheduled versus allocated gas at each hub. To understand the figures, the quantities of firm and non-firm gas scheduled via offers to the hub are indicated by the columns marked “T” (or **to** the hub). Firm offers are indicated by light purple shading and as available gas is indicated by maroon shading. Bids to take gas from the hub are indicated by columns marked “F” (or **from** the hub). User bids are indicated by light yellow shading and backhaul is indicated by dark blue shading.

The red line shows network (or in other words hub or demand side) allocations and the green line shows pipeline allocations. Allocations show actual gas flows for the day based on pipeline and network metered data.

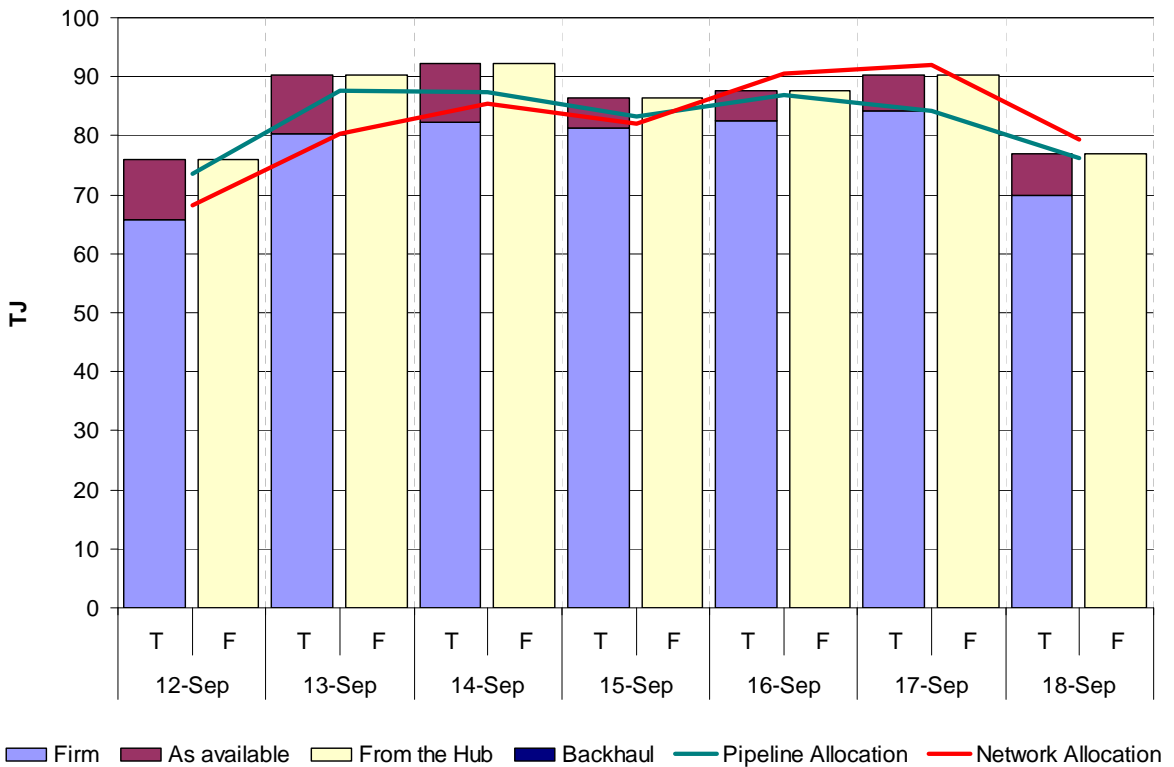
By comparing the level of the red line to the columns marked “F”, it can be shown whether demand (allocation) was higher than scheduled. Similarly, comparing the green line to the columns marked “T” shows how the actual flow of gas (allocation) compared to what was scheduled.

Figure S5: Allocated vs scheduled ex ante quantity - Sydney Hub (TJ)^



Source: <http://www.aemo.com.au> INT 651, 652, 658 and 664 (MOS allocations removed)

Figure S6: Allocated vs scheduled ex ante quantity - Adelaide Hub (TJ)



Source: <http://www.aemo.com.au> INT 651, 652, 658 and 664 (MOS allocations removed)

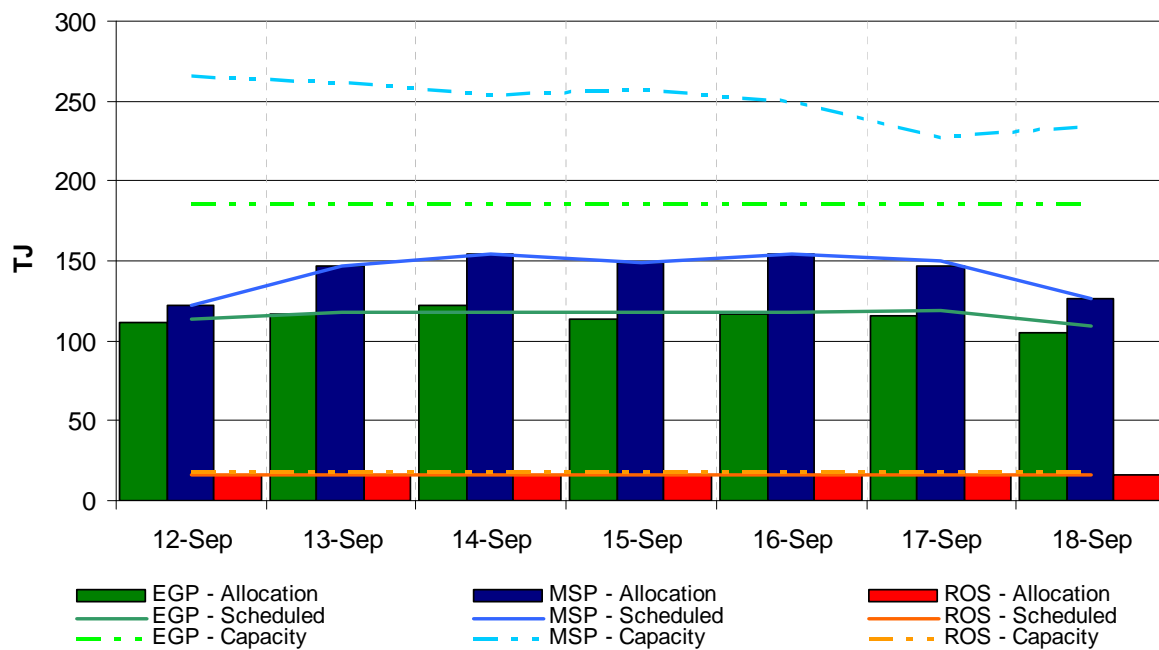
Pipeline Facility Allocations

A number of pipelines supply the Adelaide and Sydney hubs. Figures S7 and S8 show, for each hub, the allocation (or actual flow) of gas to each of the pipeline facilities supplying the hub, the quantity of gas scheduled (ex ante) on the pipeline and the capacity of the pipeline.

For a gas day, the pipeline operator delivers gas to the hub, and users withdraw gas from the hub. However, the quantities delivered to or withdrawn from the hub may not, and generally will not, match with the ex ante schedules. In addition, during the day, as gas requirements become better known, and if permitted by their contracts, shippers may renominate quantities (“intraday nominations”) with their pipeline operators.

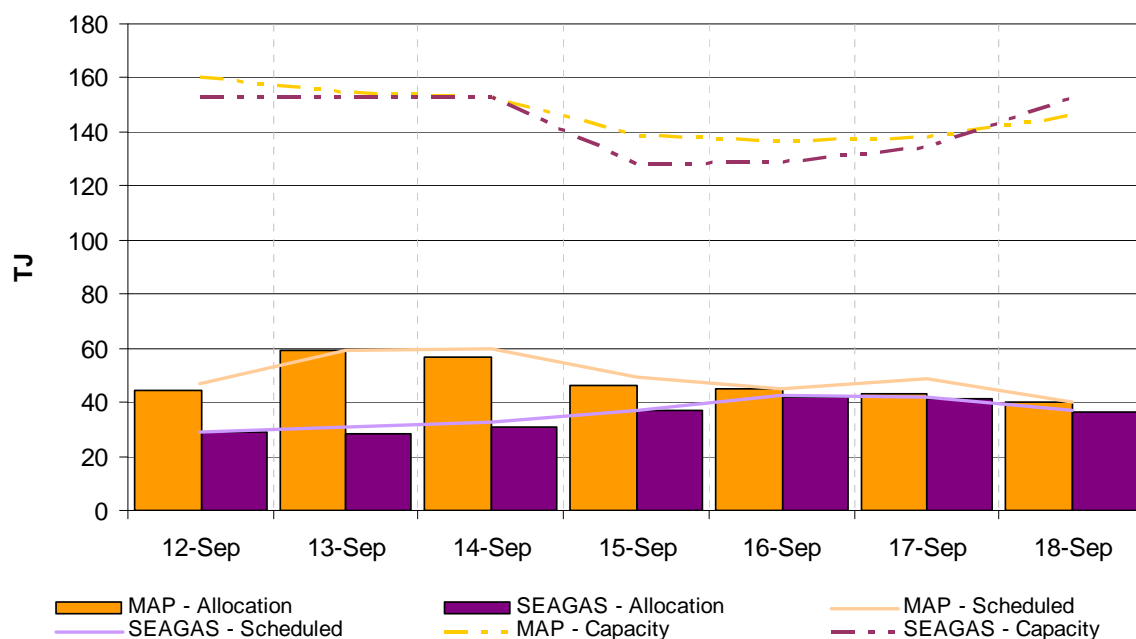
Differences between the amount of gas scheduled and what was actually allocated can result in variations between the ex ante and ex post price, as the ex post price is related to the offers actually allocated while ex ante is related to the offers scheduled.

Figure S7: Allocated vs scheduled pipeline quantities - Sydney Hub (TJ)



Source: <http://www.aemo.com.au> INT 652, 653, 658 and 664 (MOS allocations removed)
EGP=Eastern Gas Pipeline, MSP=Moomba to Sydney Pipeline, ROS=Rosalind Park production facility

Figure S8: Allocated vs scheduled pipeline quantities - Adelaide Hub (TJ)



Source: <http://www.aemo.com.au> INT 652, 653, 658 and 664 (MOS allocations removed)
 MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline

Offers and Bids

Trading Participants submit offers to sell gas into an STTM hub and withdrawal bids to take gas from a hub.

Figures S9 and S11 show for the Sydney and Adelaide hubs respectively, total offers within various price bands for the current week compared to the previous week for each of the pipeline facilities.

Figures S10 and S12 show for the Sydney and Adelaide hubs respectively, total bids within various price bands for the current week compared to the previous week for each of the pipeline facilities and the hubs themselves (NETSYD1 and NETADL1).

These figures also include information on price-taker bids. A price-taker bid is a bid for a quantity of gas that the user will accept at any price. Only STTM users are able to place price-taker bids, that is, to purchase gas at any price. These bids (which represent customer demand forecasts) must be submitted on a daily basis. Price-taker bid data is read against the right-hand-side axis.

Because scheduling is price-driven, offers for lower-priced gas are scheduled ahead of offers for higher-priced gas and bids for higher-priced gas are scheduled ahead of bids for lower-priced gas.

Figure S9: Total weekly Sydney hub offers (TJ) within price bands (\$/GJ)

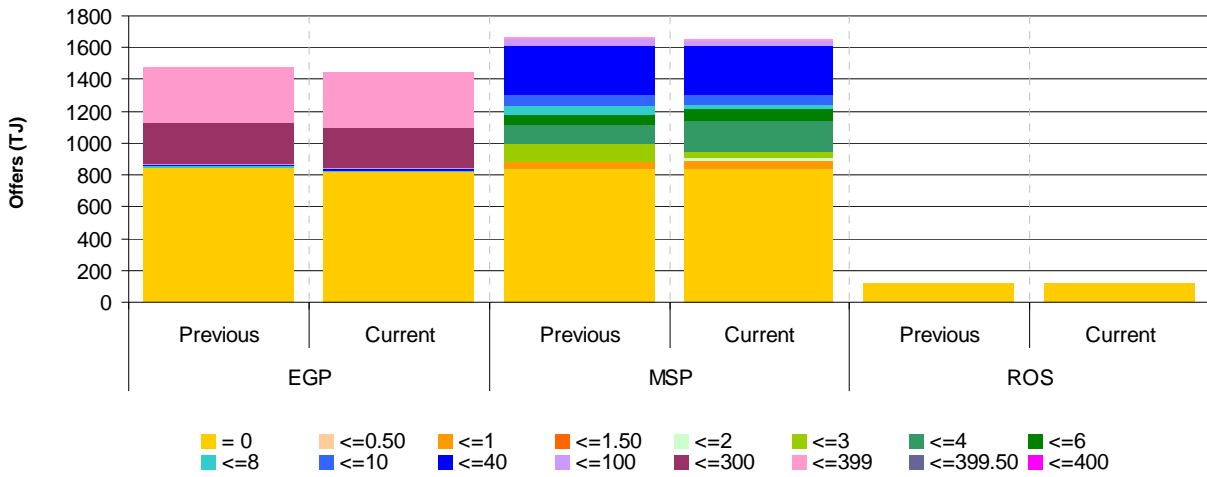


Figure S10: Total weekly Sydney hub bids (TJ) within price bands (\$/GJ)

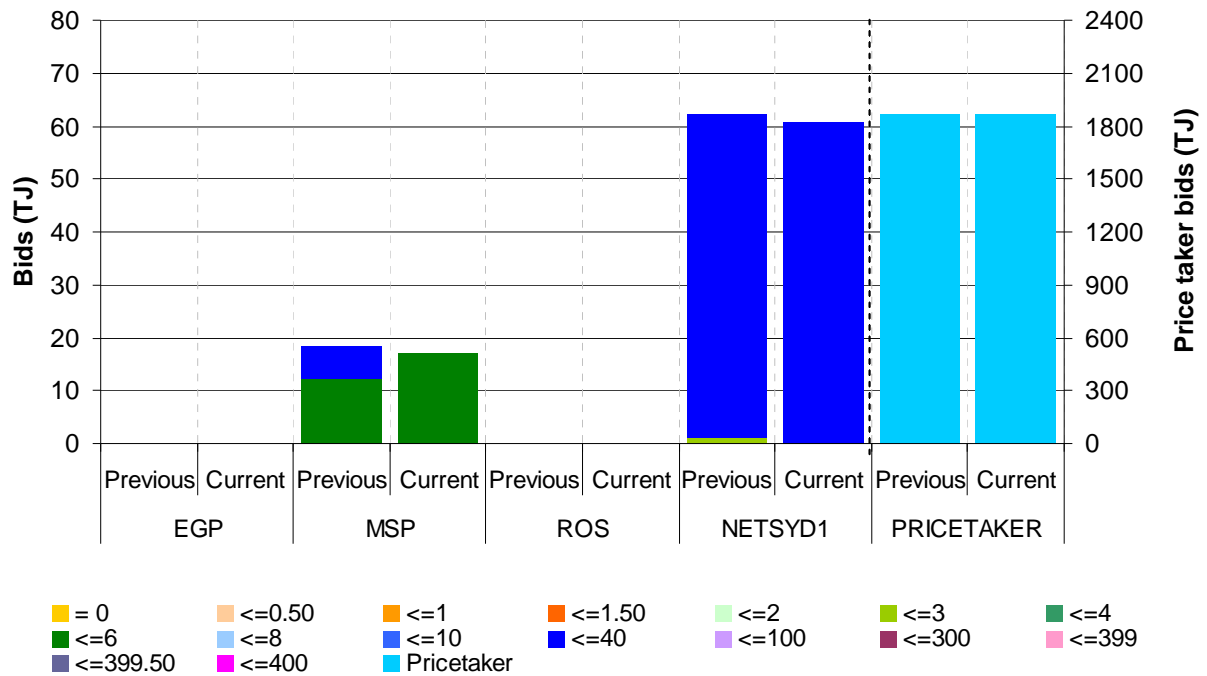
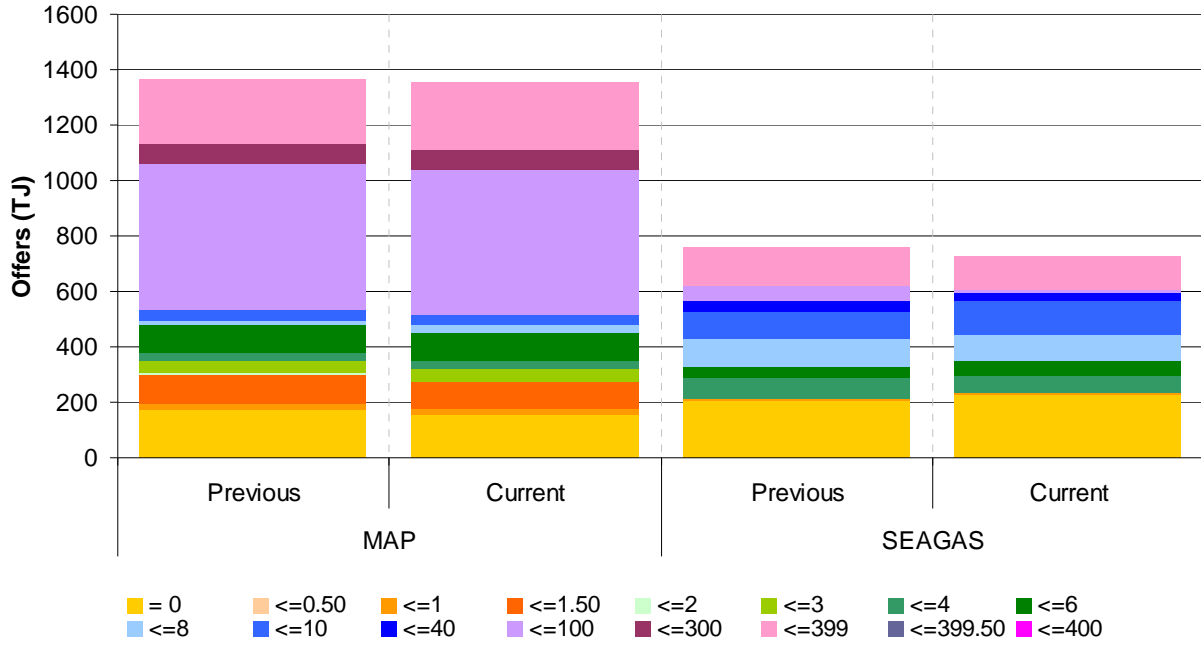
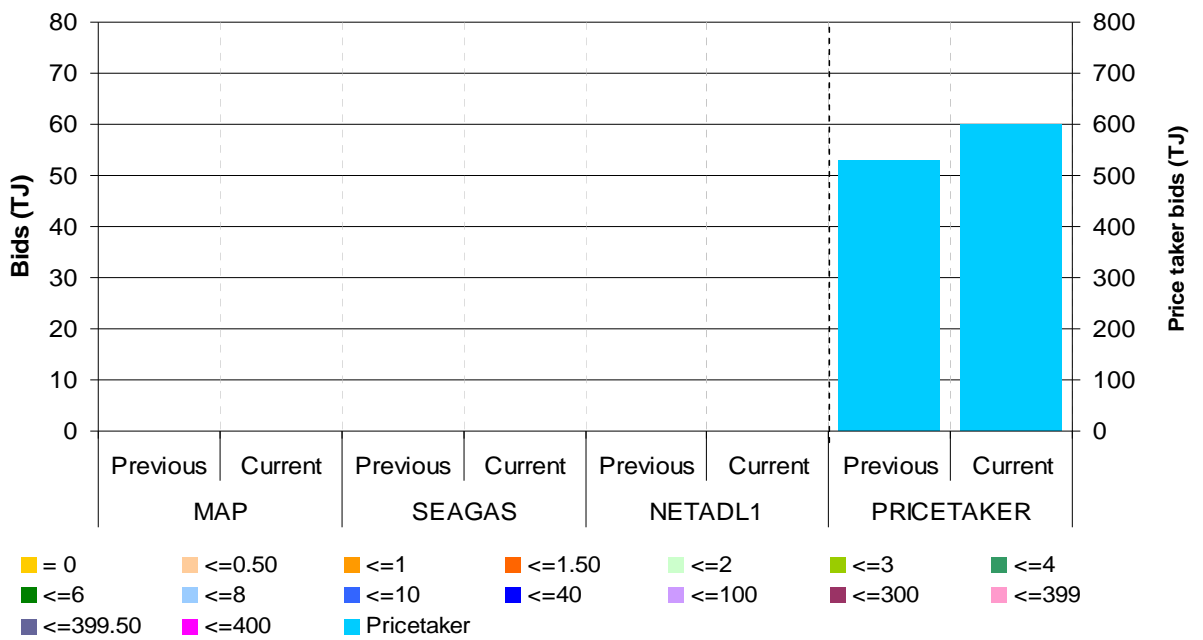


Figure S11: Total weekly Adelaide hub offers (TJ) within price bands (\$/GJ)



Source: <http://www.aemo.com.au> INT 652, 659
 MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline

Figure S12: Total weekly Adelaide hub bids (TJ) within price bands (\$/GJ)



Source: <http://www.aemo.com.au> INT 652, 659
 MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline, NETADL1=Adelaide Hub
NOTE: This figure includes both market trial data (until 31 August) and live data

Re-offers and re-bids

In the STTM, offers and bids must first be submitted three days before the gas day (D-3), leading to an initial provisional price and schedule for the gas day. Re-offers and re-bids are then allowed for the D-2 schedule and finally for the D-1 “ex ante” schedule.

Re-offers and re-bids can lead to significant changes between D-3 and D-2 provisional prices and the ex ante price. Figures S13, S14, S15 and S16 show the participants that made inter-day re-offers and re-bids at the hubs for the different pipeline facilities.

Figure S13: Inter-day resubmission of offers at Sydney Hub

Pipeline	Schedule	Sun	Mon	Tue	Wed	Thu	Fri	Sat
EGP	D-3 to D-2	BluSc EA SANTOS TRU	AGL(ESM) TRU	SANTOS TRU	OneStl(NSW)	TRU	TRU	OneStl(NSW) TRU
	D-2 to D-1		SANTOS	BluSc Country EA OneStl(NSW) SANTOS	BluSc Country EA OneStl(NSW) SANTOS TRU	BluSc Country EA SANTOS	BluSc Country EA OneStl(NSW) SANTOS	BluSc Country EA SANTOS
MSP	D-3 to D-2	AGL(ESM) Origin TRU	AGL(ESM) Origin TRU	AGL(ESM) Origin TRU	AGL(ESM) Origin	AGL(ESM) Origin TRU	AGL(ESM) Origin TRU	AGL(ESM) Origin TRU
	D-2 to D-1	AGL(ESM) Origin TRU	AGL(ESM) Origin TRU	AGL(ESM) EA Origin TRU	AGL(ESM) EA Origin TRU	AGL(ESM) EA Origin TRU	AGL(ESM) EA Origin TRU	AGL(ESM) EA Origin TRU
ROS	D-3 to D-2	AGL(ESM)						
	D-2 to D-1							

Source: <http://www.aemo.com.au> INT 659

BluSc= BlueScope Steel | Country= Country Energy | Origin=Origin Energy Retail Ltd | TRU= TRUenergy Pty Ltd |

AGL(WG)= AGL Wholesale Gas Limited | EA=EnergyAustralia | OneStl(NSW)= OneSteel NSW Pty Ltd |

SANTOS= Santos Direct Pty Ltd | AGL(ESM)= AGL Energy Sales & Marketing Pty Ltd |

EGP=Eastern Gas Pipeline, MSP=Moomba to Sydney Pipeline, ROS=Rosalind Park Production facility

Figure S14: Inter-day resubmission of bids at Sydney Hub

Pipeline	Schedule	Sun	Mon	Tue	Wed	Thu	Fri	Sat
EGP	D-3 to D-2							
	D-2 to D-1							
MSP	D-3 to D-2							
	D-2 to D-1			Country	Country	Country	Country	Country
NETSYD1	D-3 to D-2							
	D-2 to D-1							
ROS	D-3 to D-2							
	D-2 to D-1							Country

Source: <http://www.aemo.com.au> INT 659

Country= Country Energy

EGP=Eastern Gas Pipeline, MSP=Moomba to Sydney Pipeline, ROS=Rosalind Park Production facility, NETSYD1=Sydney Hub

Figure S15: Inter-day resubmission of offers at Adelaide Hub

Pipeline	Schedule	Sun	Mon	Tue	Wed	Thu	Fri	Sat
MAP	D-3 to D-2	ABC AGL(SA) AGL(WGSA) Origin Simply TRU	ABC AGL(WGSA) Origin Simply TRU	AGL(WGSA) Origin Simply TRU	Origin Simply	ABC AGL(SA) AGL(WGSA) Origin Simply	ABC AGL(SA) AGL(WGSA) Origin Simply	AGL(SA) AGL(WGSA) Origin Simply
	D-2 to D-1	AGL(WGSA) Origin Simply TRU	AGL(WGSA) Origin Simply TRU	AGL(SA) AGL(WGSA) Origin Simply TRU	ABC AGL(SA) AGL(WGSA) Origin Simply	ABC AGL(WGSA) Origin	AGL(WGSA) Origin Simply	AGL(WGSA) Origin Simply TRU
SEA-GAS	D-3 to D-2	AGL(WGSA) Origin TRU	Simply TRU	Simply TRU		ABC Origin TRU	Origin TRU	AGL(WGSA) Simply TRU
	D-2 to D-1	Simply TRU	Simply TRU	TRU	ABC Origin Simply TRU	Origin TRU	AGL(WGSA) TRU	Origin Simply TRU

Source: <http://www.aemo.com.au> INT 659

ABC= Adelaide Brighton Cement Ltd | AGL(WGSA)= AGL Wholesale Gas (SA) Pty Ltd | Origin=Origin Energy Retail Ltd |
Simply= Simply Energy | TRU= TRUenergy Pty Ltd | AGL(SA)= AGL South Australia Pty Limited |
MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline

Figure S16 – Inter-day resubmission of bids at Adelaide Hub

There were no inter-day resubmissions of bids at the Adelaide Hub this week.

Market Operator Service

The Market Operator Service (MOS) is a daily mechanism for allocating balancing gas provided by pipelines to maintain pressures at receipt points. This balancing gas is the difference between what was scheduled by a pipeline operator (the pipeline schedule) and the actual quantities of gas that flowed on a pipeline on the day.

MOS offers are made by participants who have contracts with pipeline facilities to “park” gas (on the pipeline) or “loan” gas (from the pipeline). Based on these contracts, two types of MOS are offered: increase offers to increase flows on a pipeline to a hub; and decrease offers to decrease flows on a pipeline to a hub. Where a pipeline deviation¹ occurs on a gas day and there is a requirement for MOS from a MOS provider (either an increase or decrease offer), the MOS provider is paid according to their MOS offer price (the MOS service payment).

In addition, where this MOS service is required, AEMO pays or charges the MOS provider for the MOS gas allocation on the gas day at the ex ante market price two days after the gas day, which covers the cost of restoring its inventory of MOS gas (the MOS commodity payment or charge). The MOS provider can then choose to submit bids or offers for the gas it needs to replace or run down its MOS gas allocation on the gas day.

Figure S17a and S18a show quantities of MOS allocated on a daily basis compared to total MOS increase and decrease offers (from potential providers) on each pipeline at each hub. MOS allocations are shown by the columns in these figures, whereas total MOS increase and decrease offers on each pipeline are shown by horizontal lines (as indicated in the legend). Figures S17b and S18b show MOS service payments and MOS commodity payments or charges. Payments fall below the horizontal axis and charges are displayed above the axis.

¹ Deviations occur when the gas flowed on pipelines into hubs on a gas day differ from the modified market schedule, or when gas taken out of the hub is different to the schedule.

Figure S17a – Sydney MOS allocations

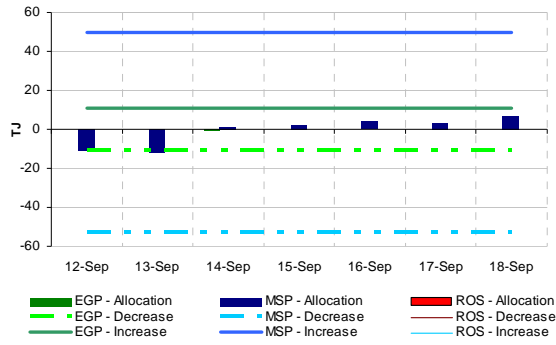
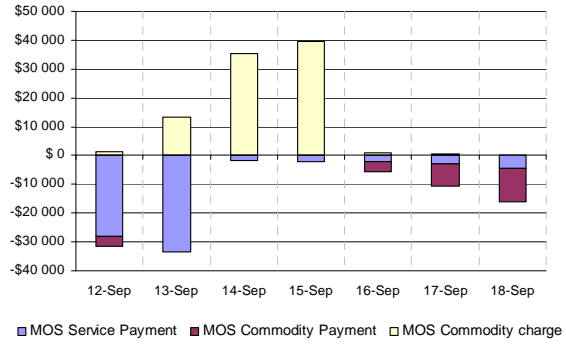


Figure S17b Sydney MOS payments / Charges



Source: <http://www.aemo.com.au> 663, 664, 665

EGP=Eastern Gas Pipeline, MSP=Moomba to Sydney Pipeline, ROS=Rosalind Park Production facility

Figure S18a – Adelaide MOS allocations

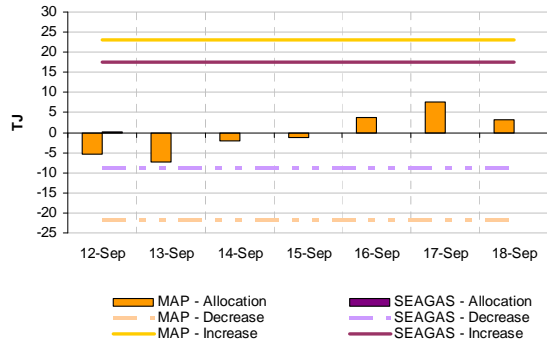
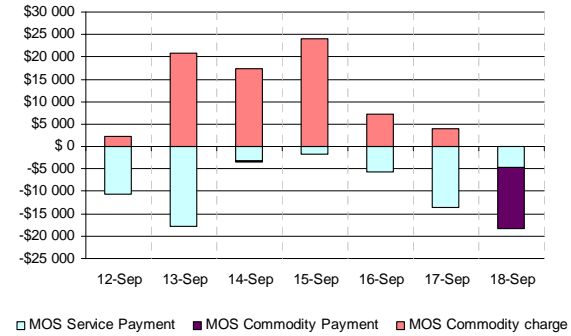


Figure S18b Adelaide MOS payments / Charges



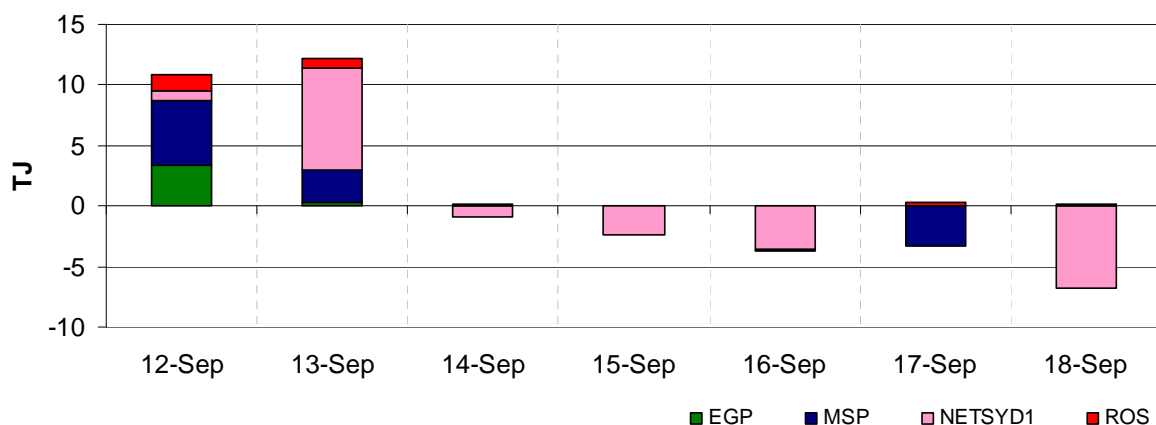
MAP=Moomba to Adelaide Pipeline, SEAGAS=SEA gas pipeline

Deviations

Deviations occur when the gas flowed on pipelines into hubs on a gas day differ from the modified market schedule, or when gas taken out of the hub is different to the schedule.

The most likely reason for deviations is where participants incorrectly forecast the demand of customers within the hub. As discussed previously, figures S5 and S6 show allocated quantities versus scheduled. Where they differ, there is a deviation. Net deviations may lead to requirements for MOS services. Figures S19 and S20 show net deviations at the STTM hubs.

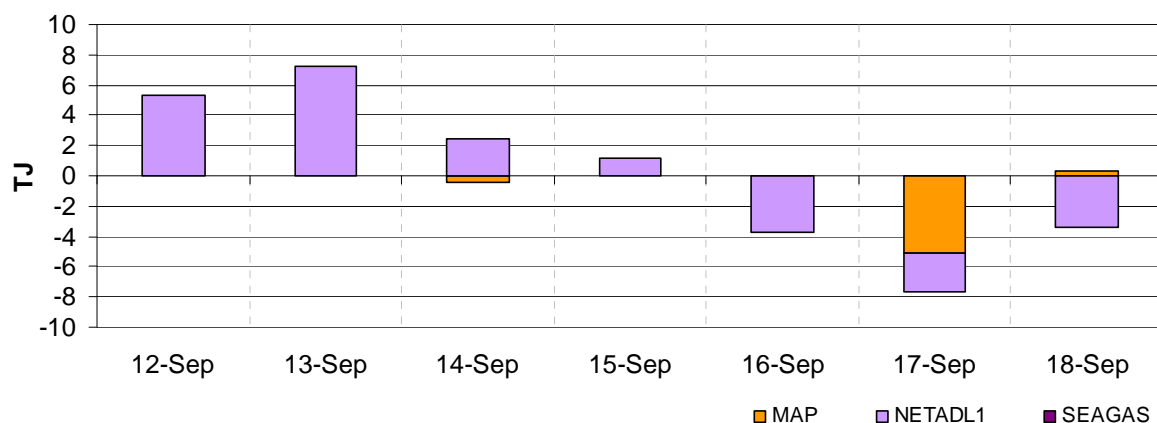
Figure S19 Net Deviations – Sydney Hub



Source: <http://www.aemo.com.au> INT652

NOTE: This figure includes both market trial data (until 31 August) and live data

Figure S20 Net Deviations – Adelaide Hub



Source: <http://www.aemo.com.au> INT652

Market Schedule Variations

When a shipper deviates from the ex ante schedule, it can submit a “market schedule variation” to AEMO. The variation must be matched by an opposite variation from either another shipper or a user. Market schedule variations allow shippers to adjust their schedules in line with their pipeline allocations and so avoid deviation charges. A variation can include flows from the hub, which must also be matched with variation of flows to the hub.

Variations that cause a change in withdrawals at the hub attract a variation charge (but no deviation charge), which is designed to encourage more accurate day-ahead forecasting. The variation charge has a sliding scale such that the bigger the variation, the bigger the charge. However, variations that do not change the demand at the hub are exempt.

Figures S21 and S22 show market schedule variation quantities and charges at the STTM Hubs.

Figure S21 Average Daily Market Variations - Sydney Hub

	12 Sep - 18 Sep	5 Sep - 11 Sep	2010-11 Financial YTD
Quantity (TJ)	4.77	4.82	N/A
Charges (\$)	195	94	N/A

Source: <http://www.aemo.com.au> INT663

Figure S22 Average Daily Market Variations - Adelaide Hub

	12 Sep - 18 Sep	5 Sep - 11 Sep	2010-11 Financial YTD
Quantity (TJ)	2.20	1.21	N/A
Charges (\$)	85	24	N/A

Source: <http://www.aemo.com.au> INT663

APPENDIX

Figures A1 and A2 display the daily gas flows from each pipeline and production/storage facility in the National Gas Market over the current week. The nameplate capacity or MDQ (Maximum Daily Quantity) for each facility are also provided, along with the proportion of MDQ used on average over the current week and the year to date at each facility. Flow data not provided by bulletin board polling time is indicated by N/A.

Figure A1: Daily flows (TJ) for pipeline facilities

Demand zone and pipeline facility	Sun	Mon	Tue	Wed	Thu	Fri	Sat	MDQ (TJ)	YTD average capacity usage (%)	Current week average daily flows	Current YTD average daily flows*	Previous YTD average daily flows**
QLD												
Carpentaria Pipeline	97	99	95	95	92	94	95	117	79	95	93	90
QLD Gas Pipeline	116	122	122	122	123	123	120	142	72	121	102	68
Roma to Brisbane Pipeline	171	197	195	199	196	194	163	219	86	188	188	150
South West QLD Pipeline	97	94	106	98	112	109	93	181	72	101	130	159
NSW/ACT												
Eastern Gas Pipeline	202	220	230	222	222	219	201	268	84	217	226	202
Moomba to Sydney Pipeline	169	160	229	217	243	250	213	420	63	211	265	276
NSW-VIC Interconnect [^]	6	2	23	13	0	0	12	92	6	8	6	-31
VIC												
Longford to Melbourne	549	651	661	728	718	701	619	1030	72	661	739	593
South West Pipeline	117	141	126	93	140	181	142	347	47	134	163	199
SA												
Moomba to Adelaide Pipeline	123	132	152	143	148	140	137	253	56	139	141	128
SEA Gas Pipeline	171	204	193	194	198	193	150	314	58	186	182	153
TAS												
Tasmanian Gas Pipeline	42	50	53	49	48	31	10	129	38	40	49	24

*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

[^]Negative figure represents a reverse flow of gas along the pipeline

Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>

Notes: Operational ranges for each pipeline facility range from a minimum of 20 per cent to a maximum of 120 per cent of the respective MDQs. The exceptions are the South West Queensland Pipeline and the NSW-VIC Interconnect which have operational ranges 40 per cent to 120 per cent and 0 to 120 per cent of MDQ respectively.

Figure A2: Daily flows (TJ) for production / storage facilities compared to operational ranges and use of production/storage capacity

Production zone production / storage facility	Sun	Mon	Tue	Wed	Thu	Fri	Sat	MDQ (TJ)	YTD average capacity usage* (%)	Current week average daily flows	Current YTD average daily flows*	Previous YTD average daily flows**
Roma (QLD)												
Berwyndale South	107	108	107	108	107	107	107	140	71	107	100	82
Fairview	129	130	131	126	130	121	129	130	94	128	123	109
Kenya Gas Plant	68	68	70	65	70	70	62	160	38	67	62	26
Kincora	0	0	0	0	0	0	0	25	17	0	4	1
Kogan North	10	10	10	11	11	11	11	12	81	10	10	7
Peat	11	11	11	11	11	10	11	15	69	11	10	10
Rolleston	12	11	11	11	11	10	11	30	38	11	11	11
Scotia	29	29	29	29	29	29	29	29	96	29	28	15
Spring Gully	48	54	58	58	58	54	46	69	78	54	54	52
Strathblane	48	54	58	58	58	54	46	69	78	54	54	52
Taloona	29	32	35	35	35	32	28	42	77	32	32	32
Wallumbilla	9	9	9	10	9	9	9	20	47	9	9	9
Yellowbank	12	12	13	13	13	13	12	30	42	13	13	15
Talinga	29	37	37	35	35	43	36	81	67	36	54	
Moomba (SA/QLD)												
Moomba Gas Plant	258	301	300	289	311	306	285	430	81	293	346	356
Ballera	55	38	22	26	18	29	44	150	9	33	14	2
Eastern (VIC)												
Orbost Gas Plant	0	0	0	0	0	0	0	100	0	0	0	0
Lang Lang Gas Plant	51	51	51	50	50	50	51	70	71	51	50	57
Longford Gas Plant	740	853	907	967	940	898	828	1145	85	876	978	774
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0	0
Otway Basin (VIC)												
Minerva Gas Plant	73	73	73	73	88	68	68	94	85	74	80	76
Otway Gas Plant	136	175	173	168	174	176	146	206	70	164	143	142
Iona Underground Gas Storage	89	104	88	41	78	104	78	440	28	83	123	132

*Average daily estimated gas consumption measured from 1 July 2010 to the current week (inclusive)

**Average daily estimated gas consumption measured from 1 July 2009 to the equivalent week in 2009 (inclusive)

Notes: Operational ranges for each production and storage facility range from minimum of 0 per cent to a maximum of 120 per cent of the respective MDQs. The exception is the Longford Gas Plant which has a minimum operational range of 20 per cent to 120 per cent of its MDQ.

Figure A3 provides the average minimum and maximum temperatures for each of the demand regions for the current week. The average temperatures for the previous week are also provided. (Note: only the demand regions where temperature is a driver of gas demand are included.)

Figure A3: Average daily temperatures (°C) at each demand region

Average daily temperatures (°C)		QLD (Brisbane)	NSW (Sydney)	ACT (Canberra)	VIC (Melbourne)	SA (Adelaide)	TAS (Hobart)
12 September – 18 September	Average min.	15.0	11.0	3.1	9.2	10.1	6.1
	Average max.	24.4	20.7	15.1	15.8	17.0	13.8
5 September – 11 September	Average min.	15.1	11.2	3.7	8.4	9.4	5.9
	Average max.	24.7	19.9	14.5	16.7	16.9	15.0

Source: <http://www.bom.gov.au/climate/dwo>

Figure A4 shows the market prices at each of the scheduling intervals on each day during the current week. The imbalance weighted average prices for each gas day are also provided.

Figure A4: Daily Victorian gas market prices (\$/GJ) at each scheduling interval

12 September – 18 September	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	0.32	0.32	0.46	0.46	1.50	0.33
Mon	1.00	1.01	1.81	1.00	1.17	1.02
Tue	1.12	1.17	0.47	0.01	0.01	1.07
Wed	2.83	0.53	0.55	0.44	0.35	2.57
Thu	1.42	1.00	0.40	0.40	2.89	1.40
Fri	2.90	2.96	2.97	2.97	1.62	2.90
Sat	1.44	1.18	1.10	0.55	2.82	1.44

Source: <http://www.aemo.com.au> (INT 041).

Figure A5 compares the market participants and market operator demand forecasts and each of the scheduling intervals on each gas day during the current week. Total actual demand for each gas day is also provided, along with the total demand override (if any) from AEMO.

Figure A5: Daily demand forecasts (TJ) and daily demand overrides (TJ)

Gas Day	Demand Forecasts (TJ)	Schedule					Total Demand Override (TJ)
		1	2	3	4	5	
12-Sep	MP:	651	638	646	651	653	0
	AEMO:	638	627	628	591	658	
	MP as % of AEMO	102	102	103	110	99	
13-Sep	MP:	822	806	821	818	818	0
	AEMO:	797	806	824	850	800	
	MP as % of AEMO	103	100	100	96	102	
14-Sep	MP:	856	842	847	845	850	-7
	AEMO:	848	806	788	747	744	
	MP as % of AEMO	101	104	108	113	114	
15-Sep	MP:	917	862	859	871	865	-17
	AEMO:	853	750	754	807	809	
	MP as % of AEMO	108	115	114	108	107	
16-Sep	MP:	904	891	881	879	881	0
	AEMO:	825	816	837	853	863	
	MP as % of AEMO	110	109	105	103	102	
17-Sep	MP:	852	853	861	858	847	-11
	AEMO:	774	818	867	869	848	
	MP as % of AEMO	110	104	99	99	100	
18-Sep	MP:	764	772	771	756	764	0
	AEMO:	710	788	765	761	735	
	MP as % of AEMO	108	98	101	99	104	

Source: <http://www.aemo.com.au> (INT 108, INT 126, INT 153)