

7 – 13 February 2010

## Preface

As part of its monitoring roles for the National Gas Market Bulletin Board (Bulletin Board) and 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.

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 [aerinquiry@aer.gov.au](mailto:aerinquiry@aer.gov.au), and headed 'Comments on weekly gas report'.

## Summary

### National Gas Market Bulletin Board

There was one instance of missing flow data on the Bulletin Board this week. BHP Billiton Petroleum failed to submit data for the Minerva Gas Plant on the Saturday gas day (see Figure A2).

Figure 4 shows changes in gas demand and production and pipeline flows compared to the previous week. Total average daily demand for gas increased by 115 TJ (9 per cent) compared to the previous week. All regions except for Queensland recorded increases with significant increases of 74 TJ (23 per cent) and 34 TJ (11 per cent) recorded in Victoria and South Australia respectively.

Total Gas Powered Generation (GPG) gas usage increased by 118 TJ (23 per cent) compared to the previous week. All regions recorded increases with significant increases of 44 TJ (50 per cent) and 38 TJ (20 per cent) recorded in Victoria and South Australia respectively.

Average production volumes increased by 67 TJ (4 per cent) compared to the previous week. The largest increase was in Victoria 84 TJ (11 per cent). A 23 TJ (5 per cent) fall was recorded at the Queensland production facilities. Average daily flows were higher than the previous week with increases in flow occurring on all pipelines except the NSW-Vic Interconnect. A significant increase was recorded across the Longford to Melbourne pipeline (29 per cent).

### Victorian Gas Market

Total average gas injections in the Victorian gas market increased by 50 TJ (13 per cent) compared to the previous week. The largest increases were recorded at SEAGas 31 TJ (310 per cent) and Longford 43 TJ (32 per cent). The largest fall was recorded at Otway 24 TJ (53 per cent) (See Figure V3).

The average imbalance price increased from \$1.75/GJ in the previous week to \$2.77/GJ in line with the increase in demand.

AEMO issued negative demand overrides of 11 TJ on Sunday, due to market participant demand forecasts falling outside AEMO demand forecast thresholds.

There were no bids from Bass Gas this week due to a scheduled maintenance outage. Supply Demand Point Constraints (SDPCs) were applied to injections / withdrawals at VicHub and injections at Longford on Wednesday. In addition, SDPCs were issued for Otway injections on this day. SDPCs were also issued for withdrawals at Culcairn on Friday and Iona on Saturday.

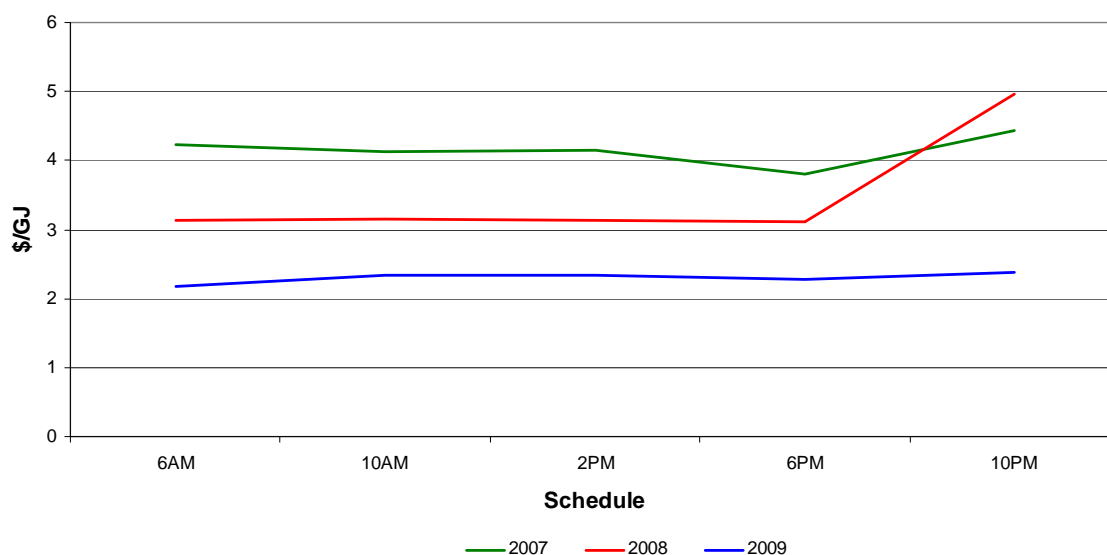
### Additional information —Market Schedule Prices – Inter year comparisons

Figure S1 sets out the yearly average of each of the schedule prices for 2007, 2008 and 2009. Since the Victorian Gas Market changed to 5 prices a day on 1 March 2007, in general the average of each of the schedule prices has decreased each year. The only exception is the 10 pm schedule where in 2008, one maximum price of \$800/GJ on 22 November 2008 contributed to this being the highest average priced schedule over all three years.

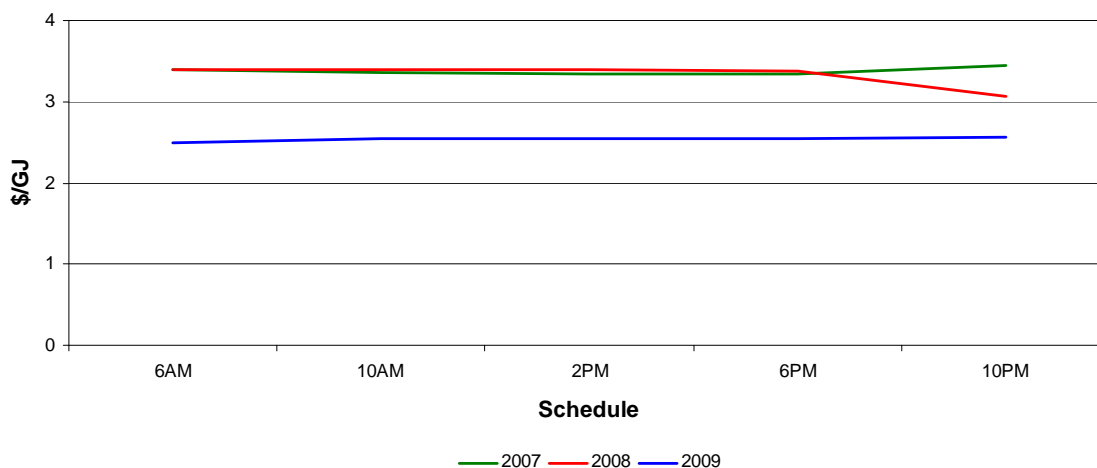
Figure S2 looks alternatively at the median gas price for each schedule. In comparison to average prices, the median prices over 2007 and 2008 are a lot closer. In 2007 there was a period of sustained high winter prices, influencing the outcome that the average 2007 price is markedly higher than the 2008 average despite similar median prices.

Notably, in 2009 both the median and average price was much lower than in the previous two years across all schedules.

**Figure S1: Average yearly price by schedule**



**Figure S2: Median yearly price by schedule**



# Part A: National Gas Market Bulletin Board

## Overview of pipeline and production flows

Figure 1 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 1: Average daily pipeline flows (TJ) into each demand region**

Average daily flows	NSW	ACT	VIC	SA	TAS	Brisbane	QLD	
							Mt Isa	Gladstone
Current week (7 - 13 Feb)	349	6	394	337	49	174	76	77
Financial Year-to-date 2009-10*	372	21	581	285	38	167	85	70
Financial Year-to-date 2008-09**	328	21	639	309	34	171	82	67

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

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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

Figure 2 provides the average daily amount of gas used for GPG (gas-powered generators) in each state.

**Figure 2: Average daily gas (TJ) used by gas-powered generators in each state**

Average daily gas for GPG usage <sup>^</sup>	NSW	VIC	SA	TAS	QLD
Current week (7 - 13 Feb)	99	88	231	32	186
Financial Year-to-date 2009-10*	85	47	166	23	160
Financial Year-to-date 2008-09**	37	73	191	24	111

<sup>^</sup>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 2009 to the current week (inclusive)

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (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 3 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 of the Appendix.)

**Figure 3: Daily average production flows (TJ) for each production zone**

Average daily flows	Roma (QLD)	Eastern Victoria	Otway Basin (VIC)	Moomba (SA/QLD)
Current week (7 - 13 Feb)	433	564	300	279
Financial Year-to-date 2009-10*	446	686	288	283
Financial Year-to-date 2008-09**	316	750	315	324

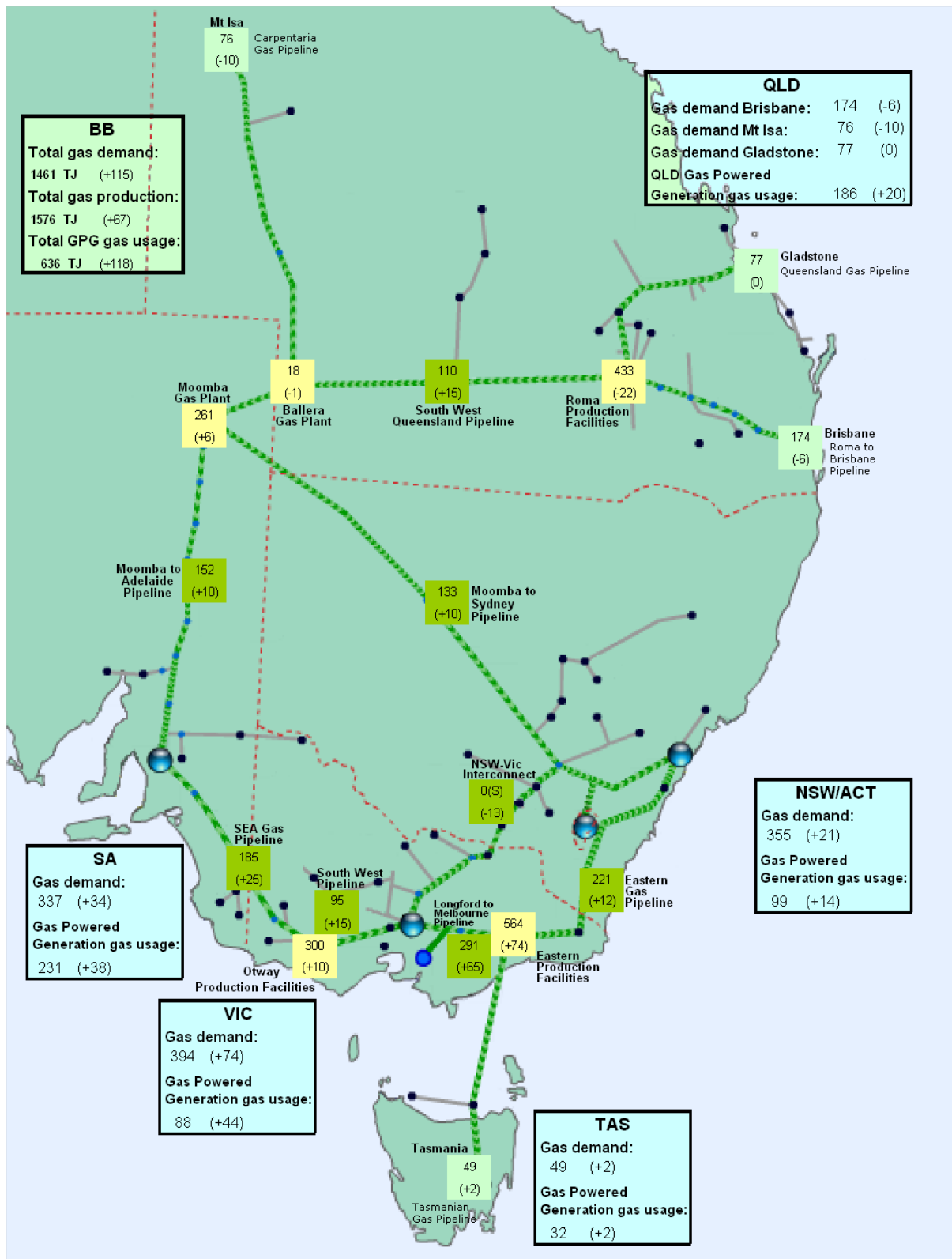
\*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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

Figure 4 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 4: Changes in gas demand and production and pipeline flows (TJ)**



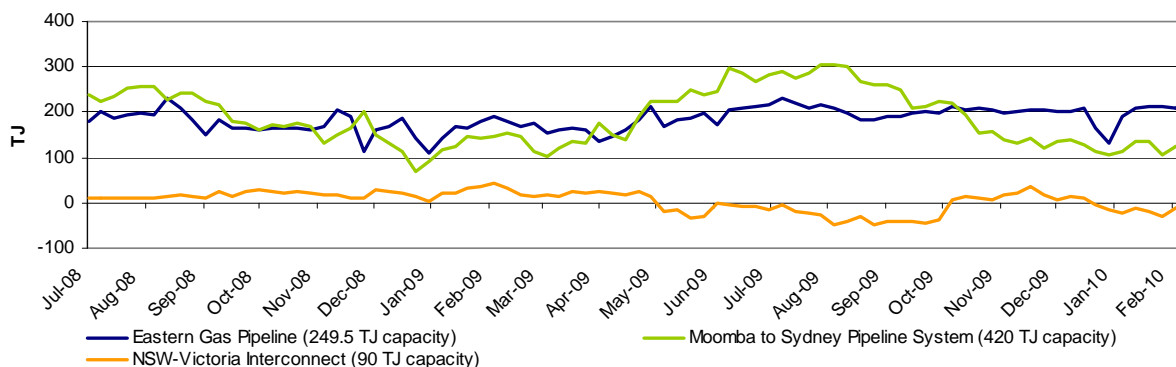
Source: Natural Gas Market Bulletin Board <http://www.gasbb.com.au>

Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).

## 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.

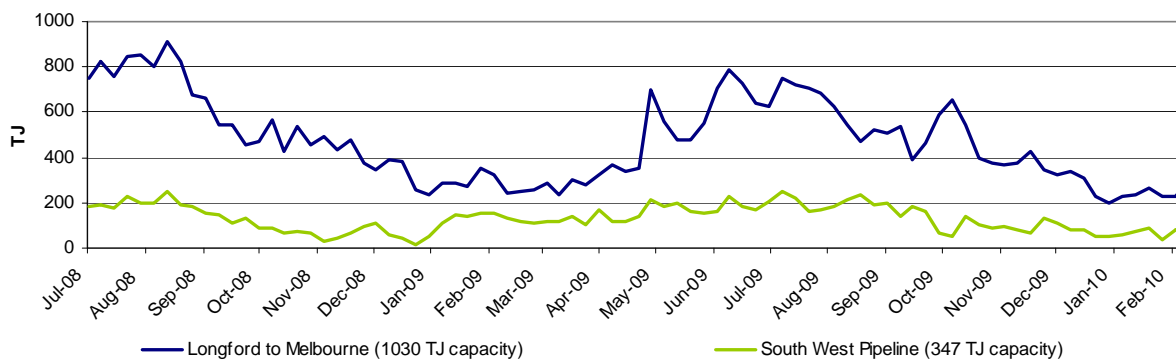
**Figure 5: Average daily flows (TJ) into NSW/ACT demand region**



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

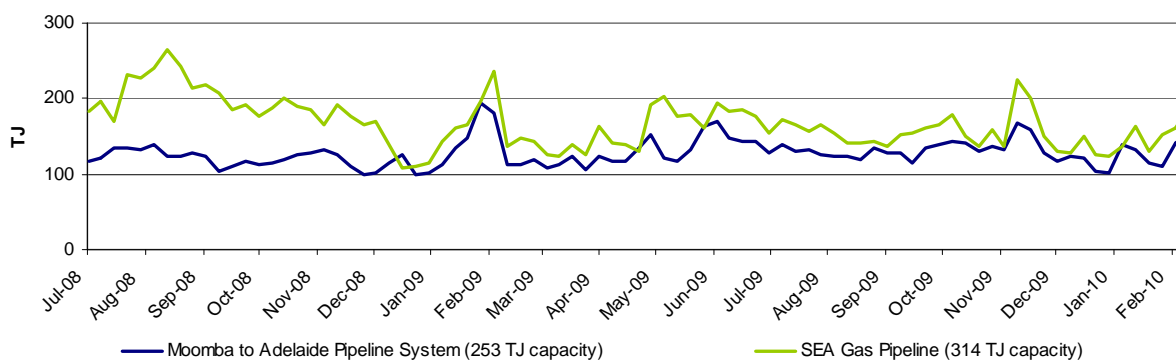
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

**Figure 6: Average daily flows (TJ) into VIC demand region**



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

**Figure 7: 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 (6am) 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 below indicates where a change has occurred from the previous week.

**Figure V1: Injection and withdrawal point bids in the VIC Gas Market<sup>^</sup>**

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	VichHub	Otway	Culcairn	IONA	SEA Gas	VichHub	
AETV Power	Trader	1								S					S
AGL (Qld)	Retailer	1				NS									
AGL	Retailer	4		NS	NS	NS	S				NS	S			
Aust. Power & Gas	Retailer	3				NS	S					S			
Country Energy	Transmission Customer	1									S				
Energy Australia	Retailer	2			S		S								
International Power	Transmission Customer	1												S	
Simply Energy	Retailer	3				NS	S	S							
Origin (Vic)	Retailer	6		S	S	NS	S	S		S	S	S			
Origin (Uranquinty)	Trader	1					S								
Red Energy	Retailer	1					S								
Santos	Retailer	3		S				S	S						
TRU Energy	Retailer	4			S	NS	S		NS			NS			
Victoria Electricity	Trader	1										NS			
Victoria Electricity	Retailer	5		S	S	NS		S	S						
Visy Paper	Distribution Customer	2					S				S				
Coogee Energy	Transmission Customer	1					S								

<sup>^</sup>Bids taken from 6am data for each gas day during the current week.

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

Notes: Comparison is approximate since data represents whether bids were under or over the scheduled market clearing price at 6am. 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.

### Market Prices

Figure V2 displays volume-weighted average daily imbalance prices, compared to the 2009-10 financial year-to-date average and the 2008-09 financial year-to-date equivalent. Daily imbalance prices for each day during the current week are also noted.

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

	Current week (7 - 13 Feb)	Previous Week (31 Jan - 6 Feb)	2009-10 Financial YTD*	2008-09 Financial YTD**
<b>Average daily price</b>	2.77	1.75	1.62	3.13

Current week (7 - 13 Feb)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
<b>Daily price</b>	1.80	2.62	2.71	2.73	3.95	3.99	1.63

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

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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

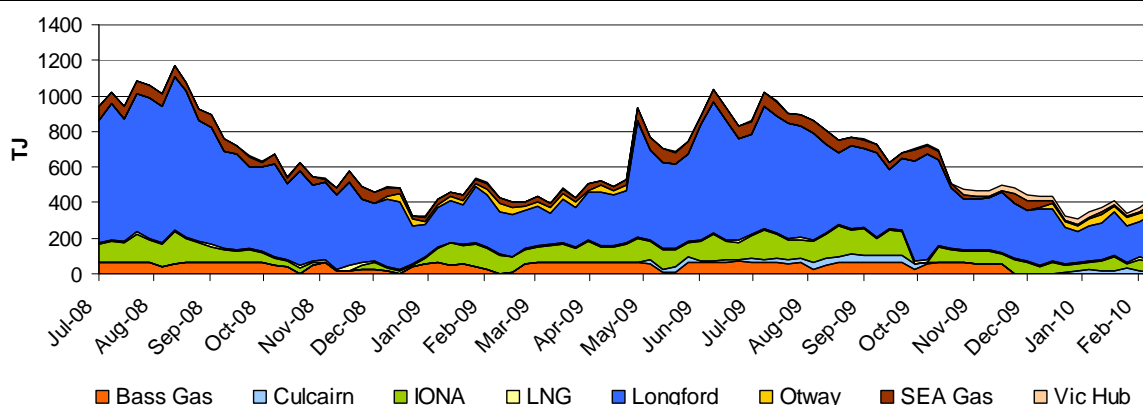
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

## System Injections

Figure V3 notes the average daily injections into the VPTS for the current week, compared with the 2009-10 and 2008-09 equivalent financial year-to-date daily averages.

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

Injection Point:	Current week (7 - 13 Feb)	Previous Week (31 Jan - 6 Feb)	2009-10 Financial YTD*	2008-09 Financial YTD**
<b>Culcairn</b>	8	13	18	0.3
<b>Longford</b>	264	200	389	487
<b>LNG</b>	9	8	8	9
<b>IONA</b>	54	70	85	73
<b>VicHub</b>	29.5	28.0	15.1	1.9
<b>SEAGas</b>	41	10	39	49
<b>Bass Gas</b>	0	0	36	45
<b>Otway</b>	21	45	11	8
<b>TOTAL</b>	<b>425</b>	<b>375</b>	<b>601</b>	<b>674</b>



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

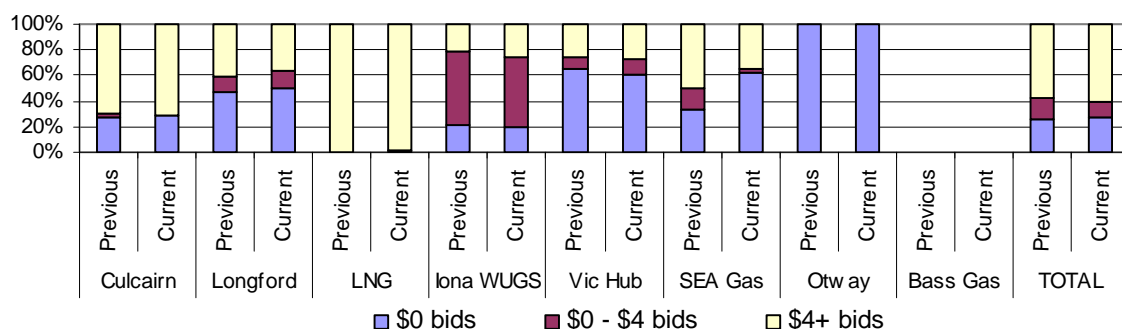
\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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
<b>Culcairn</b>		Origin	Origin		Origin	AGL	
<b>Longford</b>	Origin	AGL Origin	AGL	AGL TRU	AGL TRU	AGL TRU Origin	TRU
<b>LNG</b>						Origin	
<b>Iona</b>	TRU	Origin TRU	Origin TRU	Origin TRU			
<b>VicHub</b>		AETV	AETV		AETV TRU	AETV	AETV
<b>SEAGas</b>		Simply		Simply	Simply	Simply	Simply

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

## System withdrawals

Figure V6 notes the average daily gas usage on the VPTS for this week, compared with the 2009-10 financial year-to-date daily average, as well as the 2008-09 equivalent.

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

System withdrawal zone:	Current week (7 - 13 Feb)	Previous Week (31 Jan - 6 Feb)	2009-10 Financial YTD*	2008-09 Financial YTD**
<b>Ballarat</b>	10	10	23	24
<b>Geelong^</b>	82	69	82	89
<b>Gippsland</b>	56	35	47	65
<b>Melbourne</b>	239	235	395	428
<b>Northern</b>	36	29	53	69
<b>TOTAL</b>	<b>423</b>	<b>377</b>	<b>601</b>	<b>675</b>

^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 2009 to the current week (inclusive)

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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



# 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 capacity**

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**
<b>QLD</b>												
Carpentaria Pipeline	73	76	70	67	75	80	89	117	73	76	85	82
QLD Gas Pipeline	77	74	94	71	71	72	78	79	89	77	70	67
Roma to Brisbane Pipeline	165	173	186	181	182	177	158	214	78	174	167	171
South West QLD Pipeline	131	119	110	106	133	87	87	181	79	110	143	66
<b>NSW/ACT</b>												
Eastern Gas Pipeline	198	216	294	217	213	208	182	250	81	221	201	174
Moomba to Sydney Pipeline	108	151	154	167	144	155	56	420	46	133	192	176
NSW-VIC Interconnect <sup>^</sup>	-15	-18	-1	-20	9	42	0	90	-14	0	-12	19
<b>VIC</b>												
Longford to Melbourne	189	282	304	310	368	353	234	1030	42	291	437	516
South West Pipeline	42	89	162	134	84	94	63	347	36	95	125	123
<b>SA</b>												
Moomba to Adelaide Pipeline	112	174	195	187	161	129	104	253	51	152	130	125
SEA Gas Pipeline	152	211	218	235	203	167	110	314	49	185	154	185
<b>TAS</b>												
Tasmanian Gas Pipeline	46	48	48	48	52	49	46	129	29	49	38	34

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

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

<sup>^</sup>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% to a maximum of 120% of the respective MDQs. The exceptions are the South West Queensland Pipeline and the NSW-VIC Interconnect which have minimum operational ranges of 40% and 0% of MDQ respectively.

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

Production zone and 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**
<b>Roma (QLD)</b>												
Berwyndale South	71	68	76	90	92	105	89	140	65	84	90	64
Fairview	100	101	100	101	98	62	54	115	98	88	113	63
Kenya^	69	72	67	63	70	72	72	160	32	69	51	
Kincora	0	0	0	0	8	0	0	25	5	1	1	6
Kogan North	9	10	10	10	11	11	11	12	68	10	8	11
Peat	10	11	11	10	10	11	10	15	55	10	8	11
Rolleston	11	12	12	12	12	12	12	30	38	12	11	11
Scotia	29	29	24	21	26	22	20	27	83	24	22	21
Spring Gully	42	42	42	42	46	42	34	60	73	41	44	55
Strathblane	42	42	42	42	46	42	34	60	73	41	44	46
Talooka	25	25	26	25	28	26	21	36	74	25	27	0
Wallumbilla	11	11	11	11	11	12	11	20	53	11	11	13
Yellowbank	14	14	15	14	14	15	15	30	47	14	14	14
<b>Moomba (SA/QLD)</b>												
Moomba Gas Plant	256	283	296	302	310	225	156	430	64	261	274	282
Ballera	-9	21	31	44	9	16	14	150	6	18	9	42
<b>Eastern (VIC)</b>												
Orbost Gas Plant	37	37	37	30	37	37	37	92	17	36	16	0
Lang Lang Gas Plant	0	0	0	0	0	0	0	70	50	0	35	45
Longford Gas Plant	441	516	541	416	619	629	531	1140	56	528	635	703
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0	1
<b>Otway Basin (VIC)</b>												
Minerva Gas Plant	76	87	87	87	94	94	N/A	94	79	87	74	90
Otway Gas Plant	107	160	179	157	204	166	88	206	62	152	128	145
Iona Underground Gas Storage	41	75	147	163	0	0	0	320	27	61	85	80

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

\*\*Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

^Commissioned as a Bulletin Board facility from 6 July 2009 (Facility began reporting flows from 7 July 2009)

Notes: Operational ranges for each production and storage facility range from minimum of 0% 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% 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)
<b>Current week (7 - 13 Feb)</b>	Average min.	21.6	21.8	17.7	19.0	21.5	14.1
	Average max.	29.7	28.5	28.9	29.8	34.2	21.9
<b>Previous Week (31 Jan - 6 Feb)</b>	Average min.	22.4	22.0	17.1	18.7	18.2	14.9
	Average max.	30.0	26.5	28.4	30.0	30.6	25.4

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**

Current Week (24 - 30 January)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
<b>Sun</b>	1.76	3.02	2.71	3.02	1.81	1.80
<b>Mon</b>	2.56	2.55	3.49	3.14	3.26	2.62
<b>Tue</b>	2.56	3.50	3.24	3.49	3.65	2.71
<b>Wed</b>	2.56	3.26	3.51	3.24	3.60	2.73
<b>Thu</b>	3.94	3.77	3.80	4.11	3.80	3.95
<b>Fri</b>	4.11	3.80	3.25	3.25	2.25	3.99
<b>Sat</b>	1.61	1.76	1.76	1.76	3.20	1.63

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	
7-Feb	MP:	276	275	274	274	263	<b>-11</b>
	AEMO:	262	267	268	273	258	
	MP as % of AEMO	105%	103%	102%	100%	102%	
8-Feb	MP:	416	399	412	411	411	<b>0</b>
	AEMO:	415	397	408	430	430	
	MP as % of AEMO	100%	101%	101%	96%	96%	
9-Feb	MP:	419	458	464	466	466	<b>0</b>
	AEMO:	413	452	472	487	489	
	MP as % of AEMO	101%	101%	98%	96%	95%	
10-Feb	MP:	427	470	486	484	484	<b>0</b>
	AEMO:	417	465	487	493	489	
	MP as % of AEMO	102%	101%	100%	98%	99%	
11-Feb	MP:	454	455	458	458	458	<b>0</b>
	AEMO:	449	453	460	464	462	
	MP as % of AEMO	101%	100%	100%	99%	99%	
12-Feb	MP:	410	404	405	404	404	<b>0</b>
	AEMO:	422	420	423	418	385	
	MP as % of AEMO	97%	96%	96%	97%	105%	
13-Feb	MP:	294	294	294	293	293	<b>0</b>
	AEMO:	299	296	301	301	300	
	MP as % of AEMO	98%	99%	98%	97%	98%	

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