WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

6 – 12 December 2009

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.

Summary

National Gas Market Bulletin Board

Maximum average daily temperatures for the week were roughly in line with December averages in all regions. Figure A3 shows average daily temperatures for the week.

While average daily demand for gas for gas powered electricity generation (GPG) in Victoria fell by almost 50 per cent compared to the previous week, demand for GPG in Queensland increased by around 10 per cent. In other regions changes in GPG were minimal.

Average daily total gas demand was down by 18 TJ (or 1.3 per cent) compared to the previous week. Small increases were recorded in South Australia, NSW/ACT and Queensland (South Australia had the largest increase of 5 TJ), while decreases were recorded in Victoria and Tasmania (18 TJ and 13 TJ respectively).

Average daily production volumes across the regions increased by 27 TJ compared to the previous week with 19 TJ of increased production at Moomba and 25 TJ of increased production at nearby Ballera. Figure 4 shows changes in demand and production and pipeline flows.

Victorian Gas Market

Total average gas injections in the Victorian gas market were similar to the previous week. (See Figure V3).

There was a reduction of gas bid into the market at both $0/GJ and in the $0-$4/GJ price range and slightly less gas bid in overall. The average imbalance price increased from $1.61/GJ in the previous week to $1.94/GJ.

Due to a scheduled maintenance outage there were no bids from Bass Gas this week. Bids and injections through the Otway Injection Point, resumed this week. Previously this year Otway Basin gas has only been injected through other injection points (Iona and SEAGas). Now, given the lower line pack required over the summer period, and consequent reductions in pressure at the Otway Injection Point, injections may also occur at this location.

A Demand Point Constraint was issued at the Culcairn withdrawal point on the 8 December gas day, and a Supply Point Constraint applied to the Longford injection point for the 9 December gas day. The Australian Energy Market Operator (AEMO) issued a negative demand override of 10 TJ for the 11 December gas day, due to market participant demand forecasts falling outside AEMO demand forecast thresholds (see Figure A5).

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

						QLD		
Average daily flows	**NSW**	**ACT**	**VIC**	**SA**	**TAS**	Brisbane	Mt Isa	Gladstone
Current week (6 - 12 December)	333	7	417	251	38	180	83	73
Financial Year-to-date 2009-10*	394	27	678	289	37	165	84	69
Financial Year-to-date 2008-09**	347	28	730	319	33	174	81	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^	**NSW**	**VIC**	**SA**	**TAS**	**QLD**
Current week (6 - 12 December)	91	28	134	31	207
Financial Year-to-date 2009-10*	87	45	164	21	152
Financial Year-to-date 2008-09**	30	72	193	22	111

^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.)

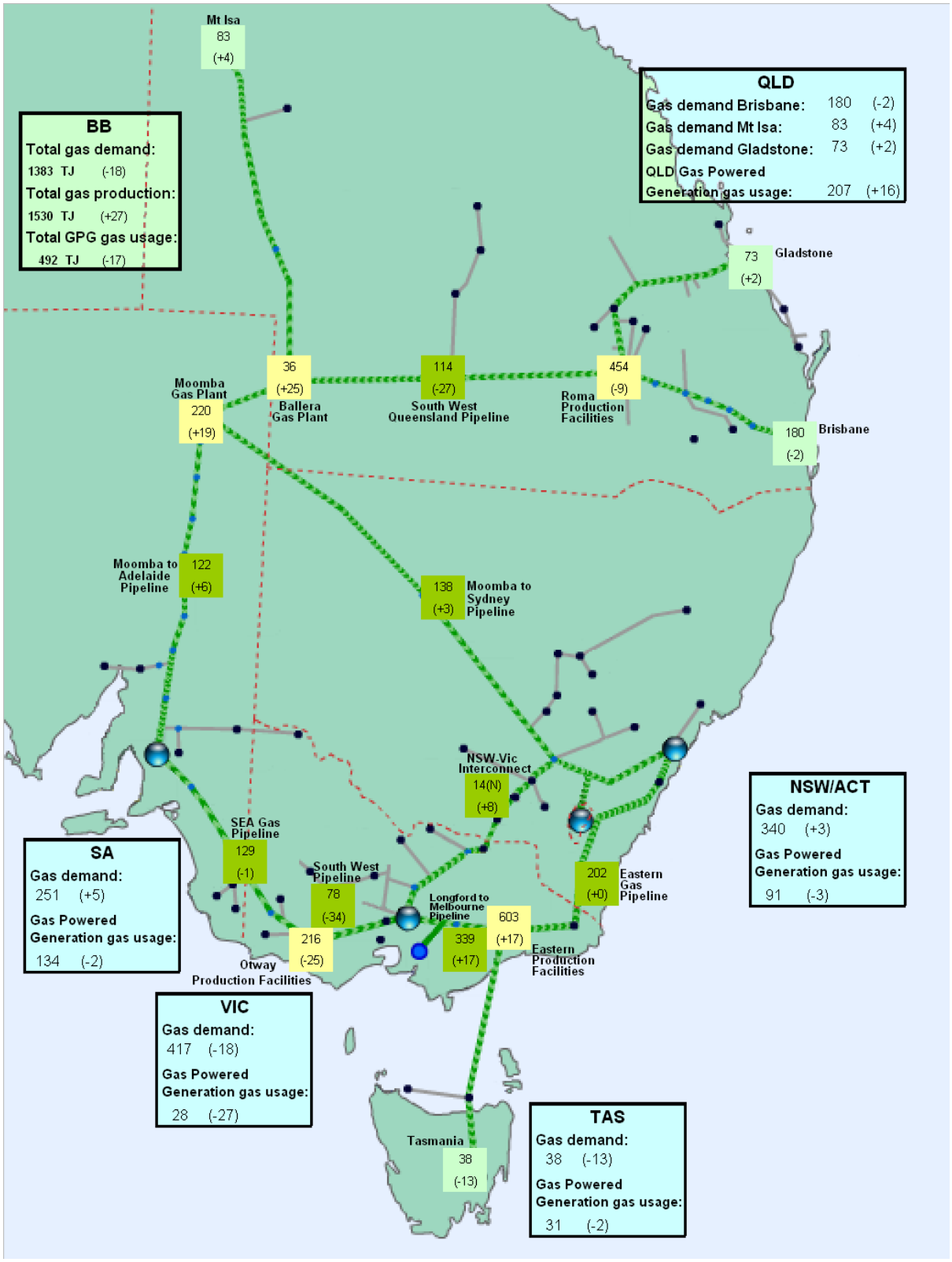
Figure 3: Daily average production flows (TJ) for each production zone

Average daily flows	**Roma (QLD)**	**Eastern Victoria**	**Otway Basin (VIC)**	**Moomba (SA/QLD)**
Current week (6 - 12 December)	454	603	216	257
Financial Year-to-date 2009-10*	442	761	302	304
Financial Year-to-date 2008-09**	315	841	327	346

*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).

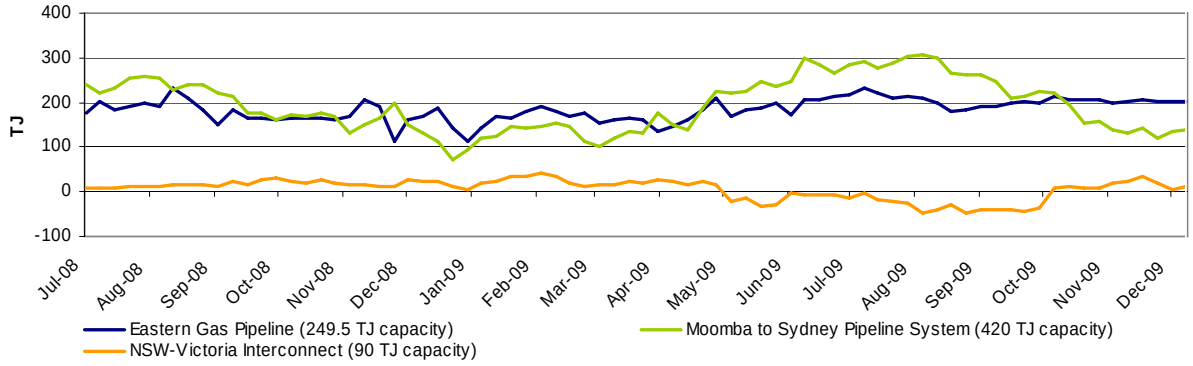
Increased gas production this week at Moomba and Ballera far exceeded increased demand in the downstream regions of South Australia and NSW. As well as supplying Mount Isa it is

possible that some of this extra gas produced has temporarily been stored in the underground storage which exists at Moomba.

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.

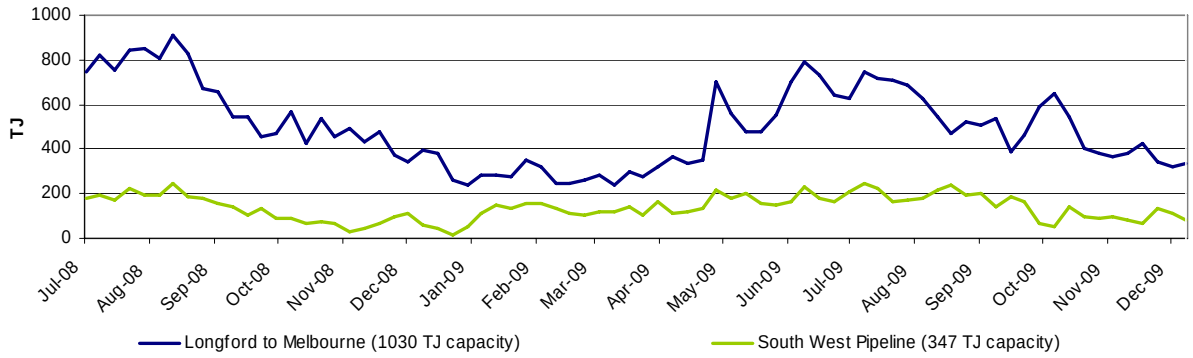
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

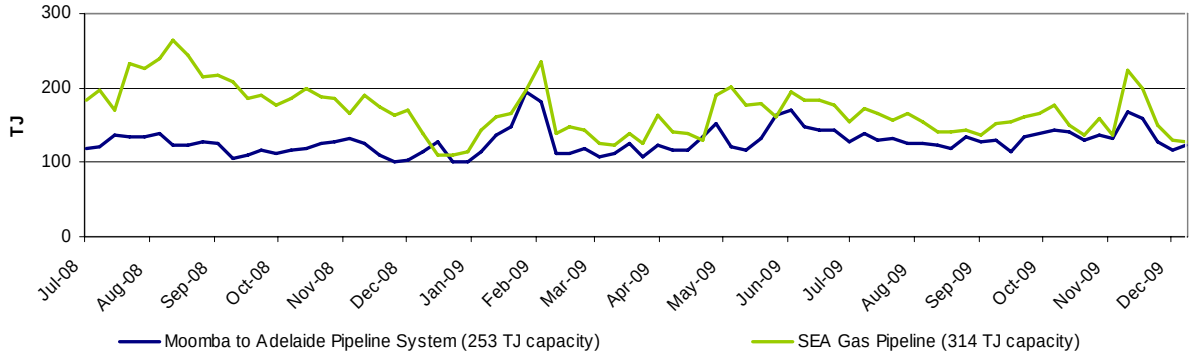
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

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^

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	NS	NS	S				NS	S		
Aust. Power & Gas	Retailer	3				NS	S					S		
Energy Australia	Retailer	1					S							
International Power	Transmission Customer	1											S	
Simply Energy	Retailer	3				NS	S	NS						
Origin (Vic)	Retailer	6		NS	NS	NS	S	S		S	S	S		
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	2				NS	S							
Santos	Retailer	2							S					
TRU Energy	Retailer	3			S	NS	S					NS		
Victoria Electricity	Trader	1										S		
Victoria Electricity	Retailer	5			S	NS	S	S	S					
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)
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 (6 - 12 December)	Previous Week (29 Nov - 5 Dec)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	1.94	1.61	1.60	*3.29*

Current Week (6 - 12 December)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	1.53	1.51	3.05	1.52	1.48	3.01	1.51

*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)

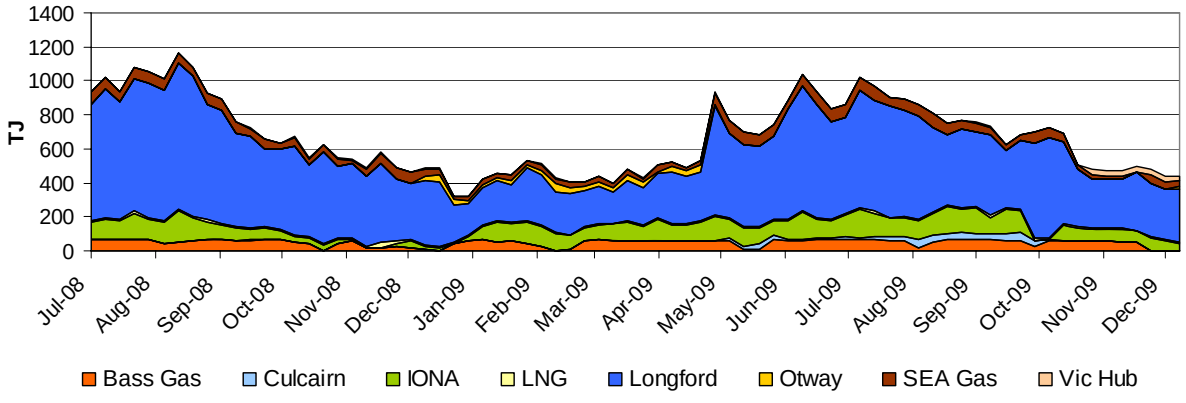
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

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 (6 - 12 December)	Previous Week (29 Nov - 5 Dec)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	0	0	20	0.5
Longford	314	290	453	575
LNG	8	7	9	10
IONA	41	62	97	71
VicHub	27.2	34.3	10.5	1.6
SEAGas	36	49	49	57
Bass Gas	0	0	49	48
Otway	12	0	1	1
TOTAL	**439**	**443**	**688**	**763**

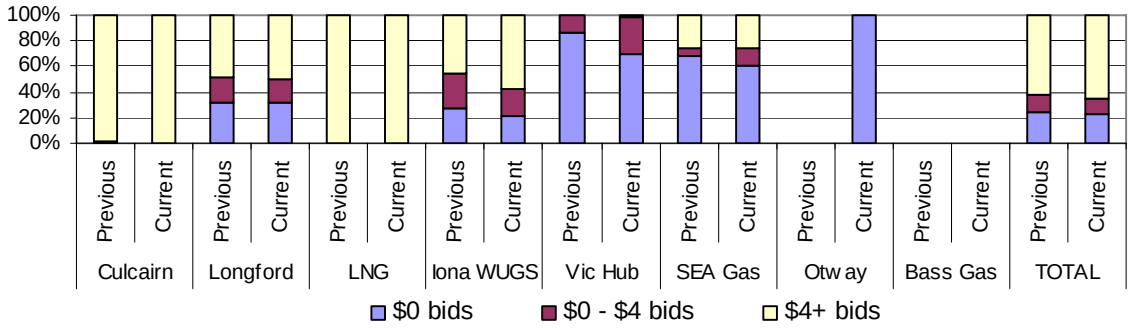


*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)
**Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)
Source: http://www.aemo.com.au (INT 150)

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
Culcairn				Origin			
Longford	AGL TRU	AGL Origin	AGL Origin	AGL Origin	AGL Origin	AGL	
LNG							
Iona	TRU	TRU	TRU	TRU	TRU	TRU	TRU
VicHub		AETV	AETV	AETV	AETV	AETV	
SEAGas	Simply		Simply	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

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 (6 - 12 December)	Previous Week (29 Nov - 5 Dec)	2009-10 Financial YTD*	2008-09 Financial YTD**
Ballarat	14	13	29	30
Geelong^	77	84	87	97
Gippsland	35	35	50	66
Melbourne	264	275	460	499
Northern	48	40	62	74
TOTAL	**437**	**446**	**688**	**765**

^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**
QLD												
Carpentaria Pipeline	83	86	87	87	88	74	73	117	72	83	84	81
QLD Gas Pipeline	73	77	72	71	75	74	71	79	87	73	69	67
Roma to Brisbane Pipeline	170	194	194	186	179	180	160	208	79	180	165	174
South West QLD Pipeline	129	117	117	109	103	111	109	181	82	114	149	62
NSW/ACT												
Eastern Gas Pipeline	179	206	208	221	207	207	186	250	81	202	203	178
Moomba to Sydney Pipeline	99	171	188	156	127	131	94	420	52	138	218	197
NSW-VIC Interconnect^	0	28	39	24	4	0	0	90	-14	14	-13	17
VIC												
Longford to Melbourne	260	357	434	359	344	355	264	1030	50	339	511	601
South West Pipeline	47	91	112	84	66	73	75	347	42	78	147	129
SA												
Moomba to Adelaide Pipeline	104	133	136	132	123	124	106	253	52	122	133	121
SEA Gas Pipeline	123	151	135	135	133	136	87	314	50	129	157	198
TAS												
Tasmanian Gas Pipeline	49	43	33	32	27	36	43	129	29	38	37	33

*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)
^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**
Roma (QLD)												
Berwyndale South	100	109	107	111	96	94	98	140	65	102	91	65
Fairview	122	122	121	119	119	117	119	115	98	119	113	61
Kenya^	68	69	69	70	70	58	58	160	26	66	42	
Kincora	8	8	7	7	7	0	0	25	5	5	1	8
Kogan North	9	9	9	8	7	8	8	12	65	8	8	12
Peat	7	7	7	7	7	7	7	15	57	7	9	10
Rolleston	11	10	9	10	11	12	12	30	38	11	11	11
Scotia	27	27	27	27	27	27	27	27	78	27	21	21
Spring Gully	35	35	34	34	35	34	34	60	78	34	47	55
Strathblane	35	35	34	34	35	34	34	60	78	34	47	46
Taloona	21	21	21	21	21	21	21	36	78	21	28	0
Wallumbilla	11	11	11	0	11	11	12	20	53	10	11	13
Yellowbank	9	9	10	8	7	9	9	30	46	9	14	14
Eastern (VIC)												
Orbost Gas Plant	28	29	27	26	32	26	35	92	10	27	9	0
Lang Lang Gas Plant	0	0	0	0	0	0	0	70	70	0	49	48
Longford Gas Plant	571	572	652	547	600	610	480	1140	62	577	702	792
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0	2
Otway Basin (VIC)												
Minerva Gas Plant	68	73	88	75	64	64	94	94	80	69	76	91
Otway Gas Plant	84	117	119	111	114	111	97	206	63	107	130	158
Iona Underground Gas Storage	30	55	37	49	47	29	29	320	30	39	97	79
Moomba (SA/QLD)												
Moomba Gas Plant	173	250	244	227	278	205	240	430	69	220	298	303
Ballera	22	29	36	41	54	47	29	150	5	36	7	42

*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)
Current week (6 - 12 Dec)	Average min.	22.4	19.3	10.9	13.3	13.0	10.8
	Average max.	31.8	27.2	28.2	22.9	23.0	20.7
Previous week (29 Nov - 5 Dec)	Average min.	19.9	16.6	9.6	13.1	13.4	10.0
	Average max.	30.4	24.0	24.1	24.6	24.0	17.5

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 (6 - 12 December)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	1.53	1.50	1.50	1.52	2.79	1.53
Mon	1.51	1.51	1.50	1.50	2.39	1.51
Tue	3.05	3.16	3.17	3.17	1.55	3.05
Wed	1.49	1.49	1.49	1.49	3.17	1.52
Thu	1.50	0.49	1.49	1.53	3.14	1.48
Fri	3.05	3.13	3.13	3.10	0.51	3.01
Sat	1.49	1.49	1.49	2.39	3.14	1.51

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	
6-Dec	**MP:**	315	313	312	311	311	**0**
	AEMO:	305	305	308	311	313	
	MP as % of AEMO	103%	103%	101%	100%	99%	
7-Dec	**MP:**	456	458	449	446	445	**0**
	AEMO:	464	469	458	460	423	
	MP as % of AEMO	98%	98%	98%	97%	105%	
8-Dec	**MP:**	472	490	493	510	509	**0**
	AEMO:	482	495	520	530	500	
	MP as % of AEMO	98%	99%	95%	96%	102%	
9-Dec	**MP:**	473	470	468	467	467	**0**
	AEMO:	475	476	450	440	432	
	MP as % of AEMO	100%	99%	104%	106%	108%	
10-Dec	**MP:**	446	445	459	459	458	**0**
	AEMO:	435	425	426	434	438	
	MP as % of AEMO	103%	105%	108%	106%	105%	
11-Dec	**MP:**	448	452	446	446	435	**-10**
	AEMO:	420	416	444	436	407	
	MP as % of AEMO	107%	109%	100%	102%	107%	
12-Dec	**MP:**	353	351	350	350	350	**0**
	AEMO:	334	332	352	354	356	
	MP as % of AEMO	106%	106%	99%	99%	98%	

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