WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

25 - 31 October 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. 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, 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, with TasGas Networks failing to report correct flows for the Tasmanian Gas Pipeline on Thursday 29 October.

In Victoria the average maximum temperature for the week increased by over 4◦C. Continuing higher temperatures contributed to increased demand for gas powered electricity generation in all regions except NSW/ACT, however overall the higher temperatures led to a decrease in demand for gas - particularly in Victoria. Average production at gas processing facilities fell by 22TJ this week.

This week saw production from Santos's Orbost Gas Plant in Eastern Victoria re-commence. Elsewhere, marginal increases in average production at Moomba and Otway Basin were offset by reduced production in the Eastern Victoria and Roma zones. Flows across the NSW-VIC interconnect continued to deliver gas north into New South Wales at a slightly reduced rate from last week.

Victorian Gas Market

Total gas injections and withdrawals in the Victorian gas market declined by a further 6 per cent from the previous week. (See Figure V3).

The total volume of gas offered at $0/GJ and above $4/GJ both increased. While no gas was offered at $0/GJ at VicHub in the previous week, the majority of gas offered this week at VicHub was offered at $0/GJ. The increased volume of gas offered at $0/GJ and low demand during the week again resulted in a significantly reduced average daily price, with the price falling from $0.76/GJ in the previous week to $0.33/GJ.

AEMO issued a negative demand override of 2 TJ on the 26 October gas day due to market participant demand forecasts falling outside AEMO demand forecast thresholds. A Directional Flow Point Constraint (DFPC) was applied to the SEA Gas system point on the 31 October gas day. Supply Demand Point Constraints (SDPC) were also applied to the VicHub, Longford, SEAGas and BassGas system points during the week.

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 (25 - 31 October)	348	15	468	295	44	170	76	66
Financial Year-to-date 2009-10*	417	34	753	286	32	159	87	69
Financial Year-to-date 2008-09**	359	34	813	331	32	175	77	66

*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 (25 - 31 October)	80	35	181	34	192
Financial Year-to-date 2009-10*	83	35	155	16	136
Financial Year-to-date 2008-09**	25	81	200	21	115

^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 - Bell Bay, Bell Bay Three, and 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.)

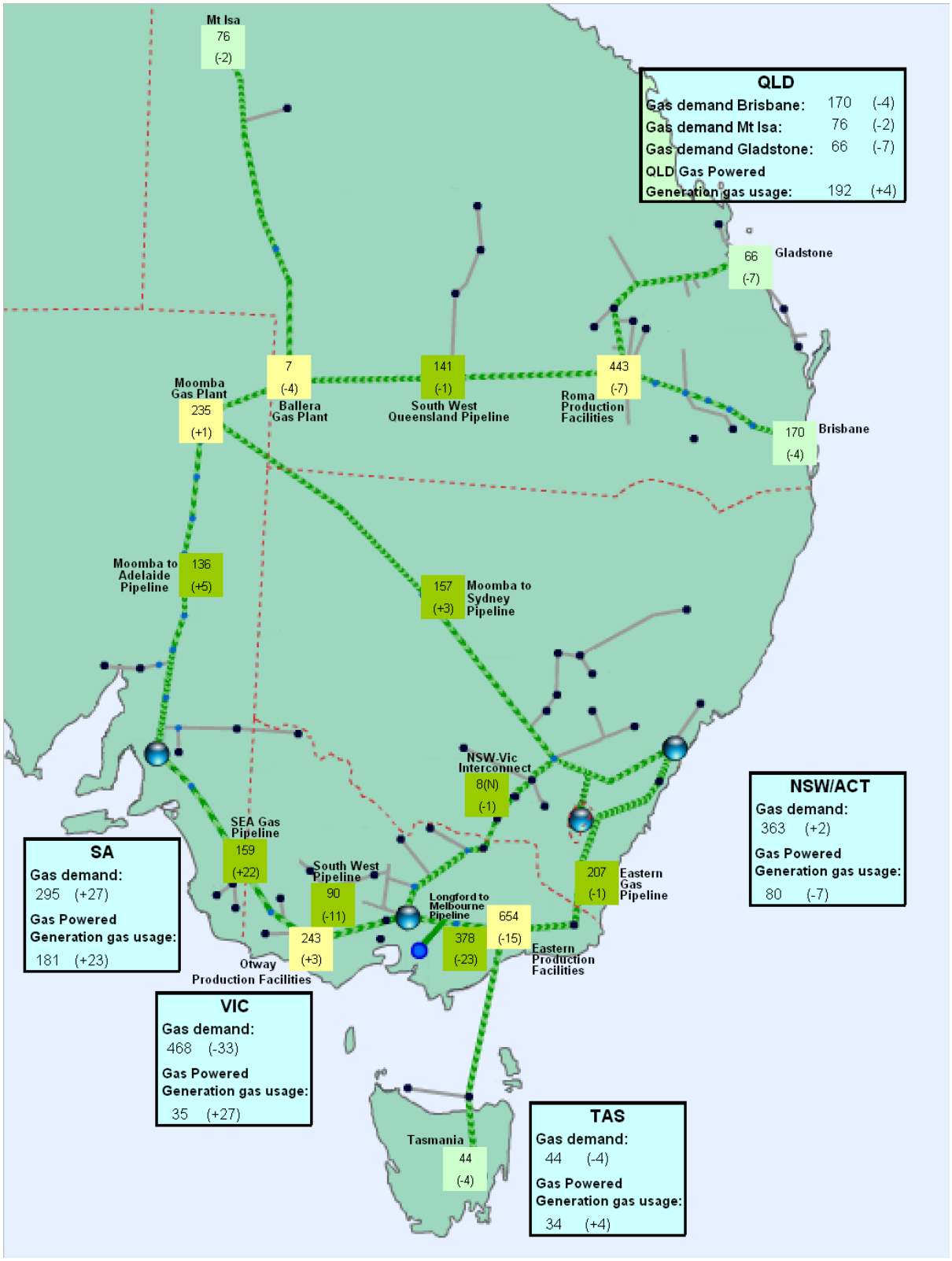
Figure 3: Daily average production flows (TJ) for each production zone

Average daily flows	**Roma (QLD)**	**Eastern Victoria**	**Otway Basin (VIC)**	**Moomba (SA/QLD)**
Current week (25 - 31 October)	443	654	243	242
Financial Year-to-date 2009-10*	432	805	318	329
Financial Year-to-date 2008-09**	321	910	358	359

*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).

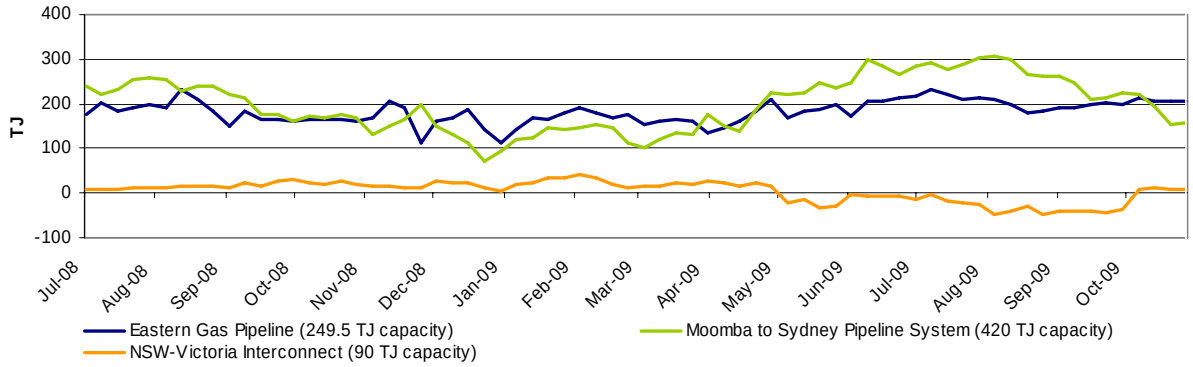
As overall production decreased this week, flows generally decreased across Bulletin Board pipelines although there was a significant increase of 22TJ on the SEAGas pipeline. There

were also significantly reduced flows on pipelines supplying gas to Melbourne, despite a relatively large increase in the demand for gas powered generation in Victoria.

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.

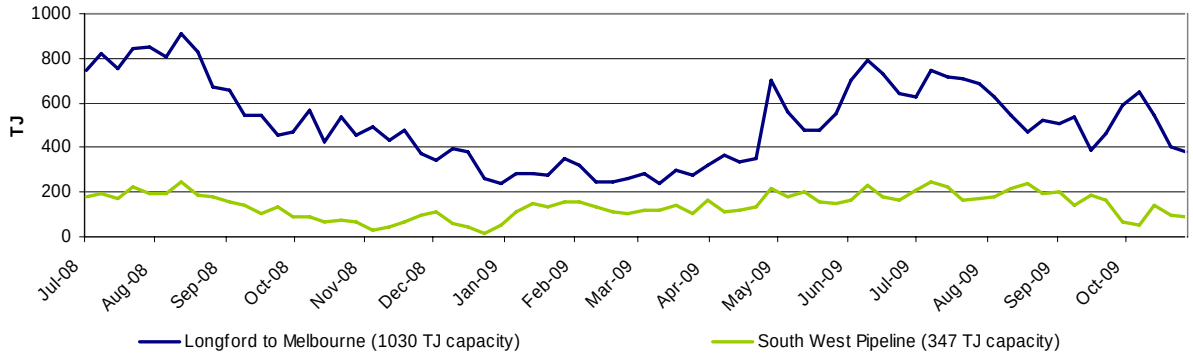
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

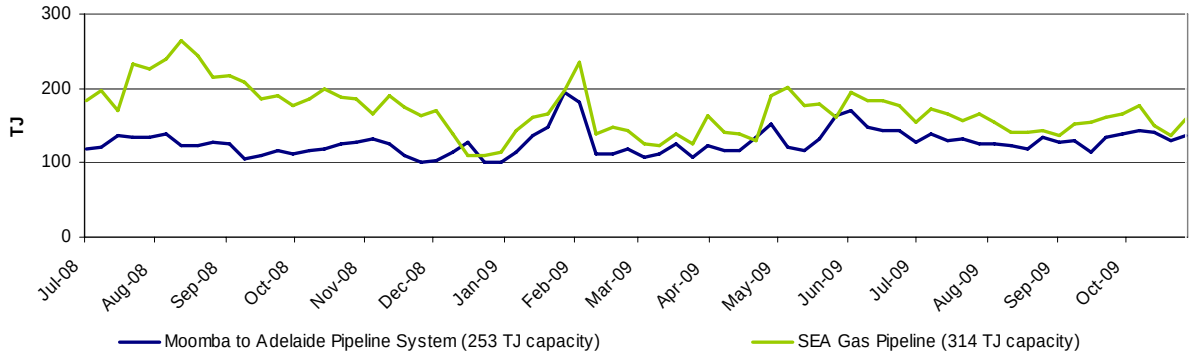
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

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 (6 am) at injection and withdrawal points on the Victorian Principal Transmission System (VPTS). The 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							NS					S
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	4		NS	NS	NS	S				S	S		
Aust. Power & Gas	Retailer	3				NS	S					S		
Energy Australia	Retailer	1					S							
International Power	Transmission Customer	1											S	
Simply Energy	Retailer	4			S	NS	S	NS						
Origin (Vic)	Retailer	6	S	NS	NS	NS	S	S			S	S		
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	2				NS	S							
Santos	Retailer	3					S	S	S					
TRU Energy	Retailer	4			S	NS	S		NS			S		
Victoria Electricity	Trader	1			NS							S		
Victoria Electricity	Retailer	6		S	S	NS	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 (25 - 31 October)	Previous Week (18 - 24 October)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	0.33	0.76	1.69	*3.02*

Current Week (25 - 31 October)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	0.49	0.15	0.51	0.08	0.50	0.54	0.05

*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)

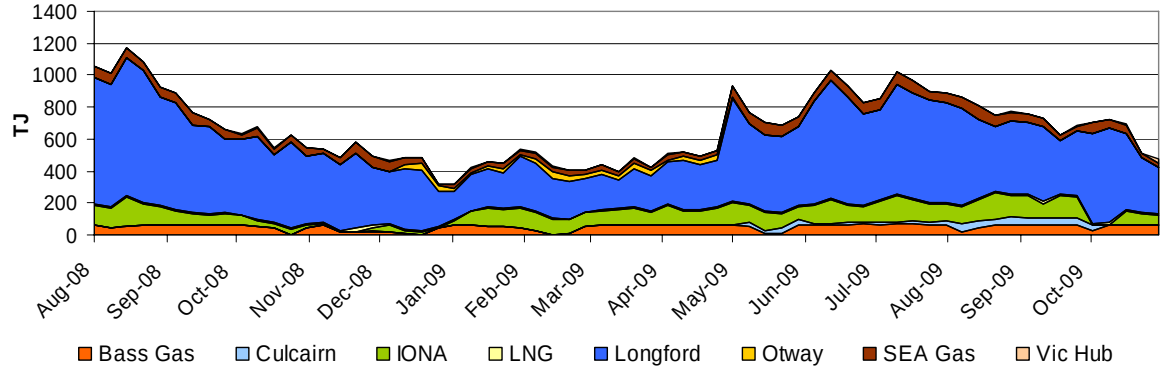
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

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 (25 - 31 October)	Previous Week (18 - 24 October)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	0	0	26	0.1
Longford	288	339	504	635
LNG	9	7	9	8
IONA	66	74	108	91
VicHub	32.3	1.7	3.2	1.5
SEAGas	23	26	55	58
Bass Gas	60	62	57	56
Otway	0	0	0	0
TOTAL	**478**	**509**	**763**	**850**

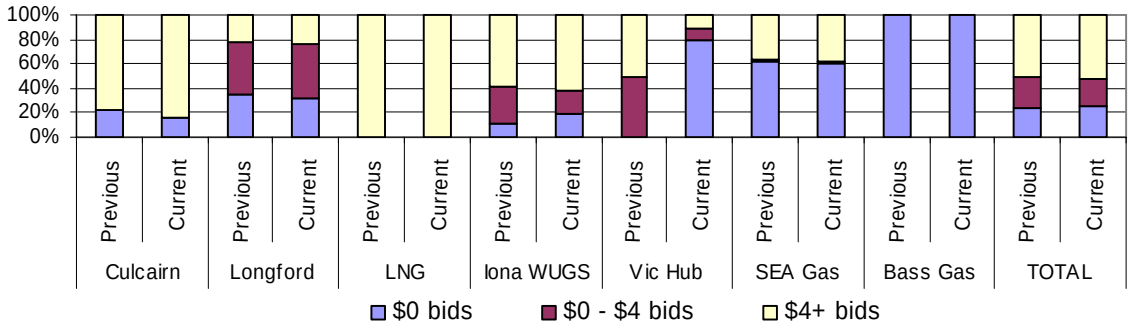


*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)
**Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)
Source: http://www.aemo.com.au (INT 150)

Bidding Activity

Figure V4 compares the price structure of gas bids 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				CE			
Longford	AGL Origin TRU	Origin TRU	Origin TRU	AGL Origin TRU	AGL TRU	AGL TRU	TRU
LNG							
Iona	Simply TRU	Simply TRU	Simply TRU	Simply Origin TRU	Simply TRU	Simply Origin	Simply
VicHub			TRU	TRU			
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 | CE = Country Energy

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 (25 - 31 October)	Previous Week (18 - 24 October)	2009 Financial YTD*	2008 Financial YTD**
Ballarat	16	21	35	34
Geelong^	66	72	89	104
Gippsland	39	47	53	67
Melbourne	320	323	523	567
Northern	43	48	66	80
TOTAL	**484**	**510**	**765**	**852**

^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	77	78	83	85	77	68	66	117	74	76	87	77
QLD Gas Pipeline	67	68	60	63	66	69	69	79	87	66	69	66
Roma to Brisbane Pipeline	165	184	186	184	161	156	156	208	77	170	159	175
South West QLD Pipeline	135	145	150	141	129	146	140	168	92	141	155	64
NSW/ACT										**363**	**451**	**393**
Eastern Gas Pipeline	193	228	230	232	239	183	142	250	81	207	203	181
Moomba to Sydney Pipeline	109	194	179	162	175	170	108	420	59	157	247	212
NSW-VIC Interconnect^	8	19	10	4	0	7	7	90	-26	8	-23	17
VIC										**468**	**753**	**813**
Longford to Melbourne	443	478	407	355	352	332	281	1030	54	378	561	661
South West Pipeline	96	86	97	87	97	99	67	347	48	90	165	151
SA										**295**	**286**	**331**
Moomba to Adelaide Pipeline	116	142	137	130	152	159	115	253	52	136	131	123
SEA Gas Pipeline	100	150	170	176	166	171	182	314	49	159	155	209
TAS												
Tasmanian Gas Pipeline	52	56	7	52	0	48	50	129	25	44	32	32

*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
Flow on Tasmanian Gas Pipeline for Thursday has not been included in average flow calculations for the current week. Indicated by a red '0' in the above table.

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 / Ballera (QLD)										**450**	**436**	**361**
Berwyndale South	90	96	99	94	96	94	91	140	62	94	87	66
Fairview	118	116	116	116	118	126	122	115	96	119	111	63
Kenya^	54	53	53	53	54	49	45	160	21	51	33	
Kincora	0	0	0	0	5	0	0	25	3	1	1	9
Kogan North	7	7	7	7	7	7	7	12	67	7	8	12
Peat	7	7	7	7	7	7	7	15	61	7	9	10
Rolleston	11	12	12	12	12	12	12	30	38	12	11	12
Scotia	27	27	27	27	27	27	27	27	71	27	19	21
Spring Gully	35	41	41	42	36	34	36	60	82	38	49	55
Strathblane	35	41	41	42	36	34	36	60	82	38	49	47
Taloona	21	25	25	25	22	21	22	36	83	23	30	0
Wallumbilla	13	13	13	13	13	13	13	20	51	13	10	12
Yellowbank	14	14	13	13	13	13	13	30	49	13	15	14
Ballera	21	9	10	5	6	0	0	150	2	7	4	40
Eastern (VIC)										**654**	**805**	**910**
Orbost Gas Plant	29	34	34	34	34	34	34	92	2	33	2	0
Lang Lang Gas Plant	62	61	61	63	61	55	55	70	81	60	56	56
Longford Gas Plant	651	670	563	415	609	606	412	1140	65	561	747	854
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	1	0
Otway Basin (VIC)										**243**	**318**	**358**
Minerva Gas Plant	61	77	66	61	61	61	61	94	80	64	75	94
Otway Gas Plant	85	138	151	152	75	114	102	206	66	116	136	164
Iona Underground Gas Storage	30	11	58	66	101	106	65	320	34	62	107	100
Moomba (SA)												
Moomba Gas Plant	179	228	241	260	270	280	187	430	76	235	326	319

*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)
#Year-to-date flows for Kenya Gas Plant and late data submitted for Berwyndale South and Kogan North facilities has been used to estimate the total production for the Roma/Ballera region.
Source: Natural Gas Market Bulletin Board http://www.gasbb.com.au

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)		NSW (Sydney)	ACT (Canberra)	VIC (Melbourne)	SA (Adelaide)	TAS (Hobart)
Current Week (25 - 31 October)	Average min.	16.3	9.5	12.9	14.7	9.3
	Average max.	21.1	22.1	24.6	27.7	18.1
Previous Week (18 - 24 October)	Average min.	15.5	8.3	11.0	11.8	9.1
	Average max.	23.4	24.4	20.3	26.0	18.2

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 (25 - 31 October)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	0.48	1.50	0.48	0.04	0.04	0.49
Mon	0.03	2.68	0.49	0.49	0.03	0.15
Tue	0.48	1.42	1.42	1.49	0.63	0.51
Wed	0.01	0.03	0.03	2.65	3.48	0.08
Thu	0.48	0.48	1.42	0.48	0.03	0.50
Fri	0.48	0.48	1.49	2.65	2.65	0.54
Sat	0.00	0.01	0.03	1.50	3.10	0.05

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 Applied (TJ)
		1	2	3	4	5	
25-Oct	**MP**	559	565	564	563	563	**0**
	AEMO	546	541	531	527	517	
	MP as % of AEMO	102%	104%	106%	107%	109%	
26-Oct	**MP**	573	578	571	566	566	**-2**
	AEMO	613	547	538	542	557	
	MP as % of AEMO	93%	106%	106%	104%	102%	
27-Oct	**MP**	489	485	484	485	484	**0**
	AEMO	502	507	477	484	487	
	MP as % of AEMO	97%	96%	101%	100%	99%	
28-Oct	**MP**	437	435	437	439	440	**0**
	AEMO	450	440	441	436	458	
	MP as % of AEMO	97%	99%	99%	101%	96%	
29-Oct	**MP**	446	446	458	455	455	**0**
	AEMO	454	453	450	445	432	
	MP as % of AEMO	98%	98%	102%	102%	105%	
30-Oct	**MP**	420	420	429	439	439	**0**
	AEMO	443	432	447	443	421	
	MP as % of AEMO	95%	97%	96%	99%	104%	
31-Oct	**MP**	346	362	367	369	368	**0**
	AEMO	344	362	382	387	379	
	MP as % of AEMO	101%	100%	96%	95%	97%	

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