WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

15 - 21 November 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 no missing flow data on the Bulletin Board this week.

There was an increase in demand for gas for Gas Power Generation (GPG) in the Queensland and New South Wales (NSW)/Australian Capital Territory (ACT) regions this week compared to the previous week (with a 23 TJ increase in average daily GPG demand in the NSW/ACT region). This is consistent with the very high electricity demand and prices in these regions compared to the week before.

Gas demand in Victoria, increased with the slightly cooler average minimums. The majority of this gas was supplied through increased production at Longford (See Figure V3). In SA, however, overall demand fell by 35 TJ, which was driven largely by the reduction in average daily GPG demand of 44 TJ.

Production from Santos's Orbost Gas Plant in Eastern Victoria continued at slightly over 30 TJ per day. Flows across the NSW-VIC interconnect continued to deliver gas north into New South Wales at an increased rate from last week.

Victorian Gas Market

Total average daily gas injections in the Victorian gas market increased from 468 TJ to 500 TJ (around 6 per cent) this week. (See Figure V3).

There was a drop in the total volume of gas offered in to the market this week at any price. However, the total volume of gas offered into the market at $0/GJ slightly increased. This was largely influenced by an increase in $0/GJ bids at the IONA and Longford facilities. Overall, given higher demand in the state, the average imbalance price increased from $0.97/GJ in the previous week to $1.18/GJ.

AEMO issued a negative demand override of 3 TJ on the 18 November gas day, due to market participant demand forecasts falling outside (Australian Energy Market Operator) AEMO demand forecast thresholds. A Supply Demand Point Constraint (SDPC) was applied at the Bass Gas injection point on the 21 November gas day from 3 pm. In addition a number of SDPCs were applied at the Culcairn system withdrawal point on the 16, 19 and 20 November gas days.

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 (15 - 21 November)	342	7	494	358	51	185	82	70
Financial Year-to-date 2009-10*	404	30	712	294	35	163	85	69
Financial Year-to-date 2008-09**	354	30	769	327	33	175	80	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 (15 - 21 November)	111	115	243	36	208
Financial Year-to-date 2009-10*	85	43	166	19	146
Financial Year-to-date 2008-09**	29	78	199	22	113

^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).

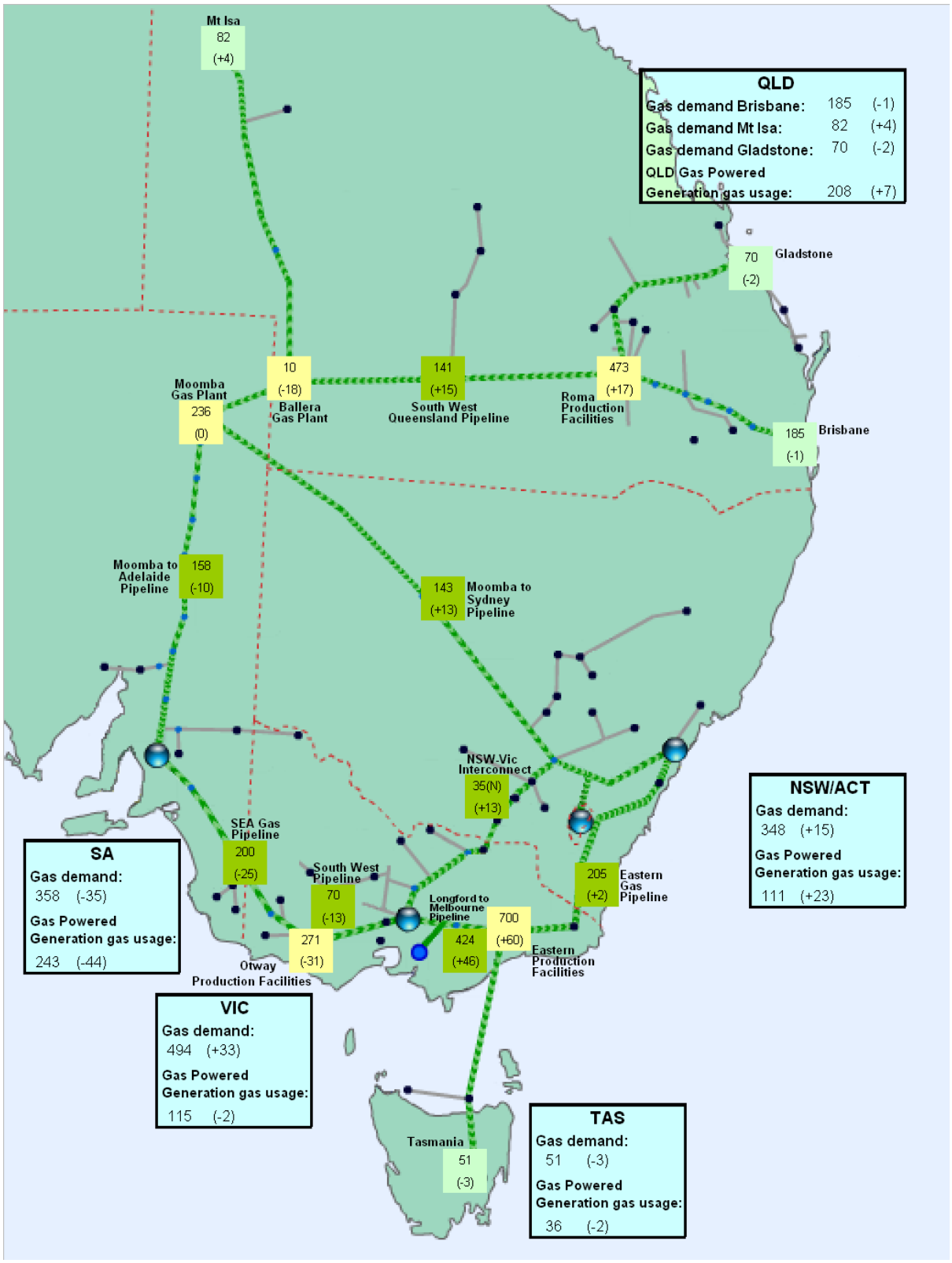
Figure 3: Daily average production flows (TJ) for each production zone

Average daily flows	**Roma (QLD)**	**Eastern Victoria**	**Otway Basin (VIC)**	**Moomba (SA/QLD)**
Current week (15 - 21 November)	473	700	271	245
Financial Year-to-date 2009-10*	438	783	311	317
Financial Year-to-date 2008-09**	319	881	339	350

*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)



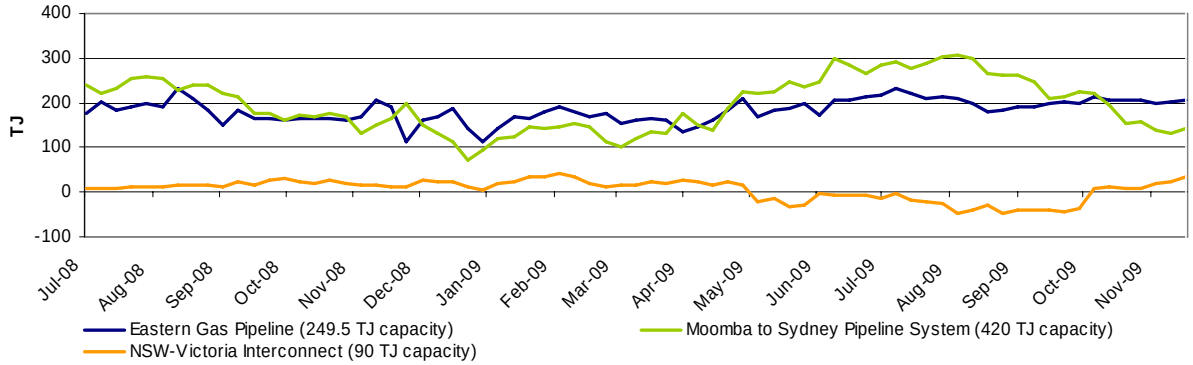
Source: Natural Gas Market Bulletin Board http://www.gasbb.com.au
Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).

Overall production increased this week, with an additional 60 TJ of production from Eastern Victoria supplying increased demand in Victoria and NSW/ACT. The increased production more than offset the more than 30 TJ fall in production from the Otway Basin. While overall production in the other regions remained relatively stable compared to the previous week.

Gas flows into demand regions

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

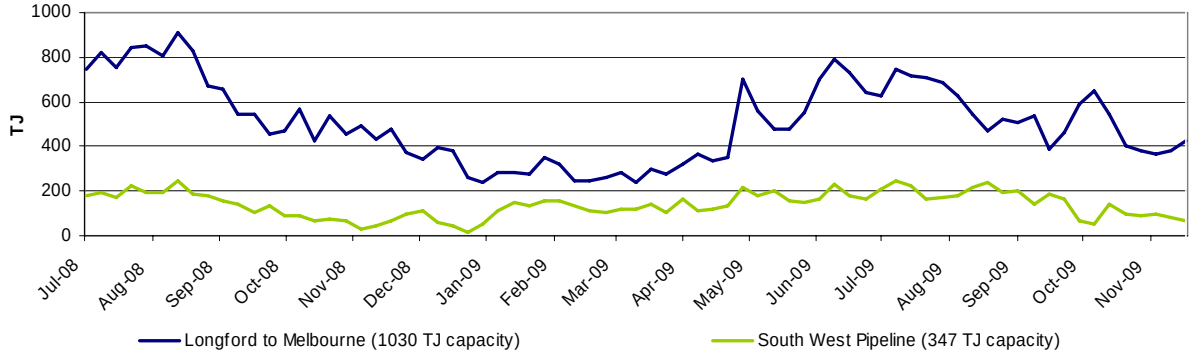
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

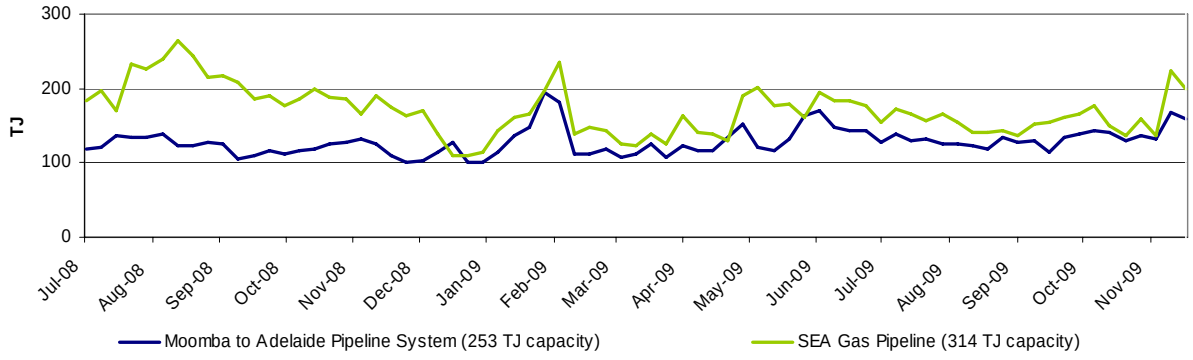
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

Figure 6: Average daily flows (TJ) into Victoria 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					NS
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	4		NS	NS	NS	S				S	S		
Aust. Power & Gas	Retailer	3				NS	S					S		
Country Energy	Transmission Customer	1		S										
Energy Australia	Retailer	1					S							
International Power	Transmission Customer	1											S	
Simply Energy	Retailer	3				NS	S	NS						
Origin (Vic)	Retailer	6	S	NS	NS	NS	S	S			S	S	S	
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	2				NS	S							
Santos	Retailer	1						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 (15 - 21 November)	Previous Week (8 - 14 November)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	1.18	0.97	1.58	*3.03*

*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)

Current Week (15 - 21 November)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	0.23	0.58	1.51	1.05	1.57	2.91	0.41

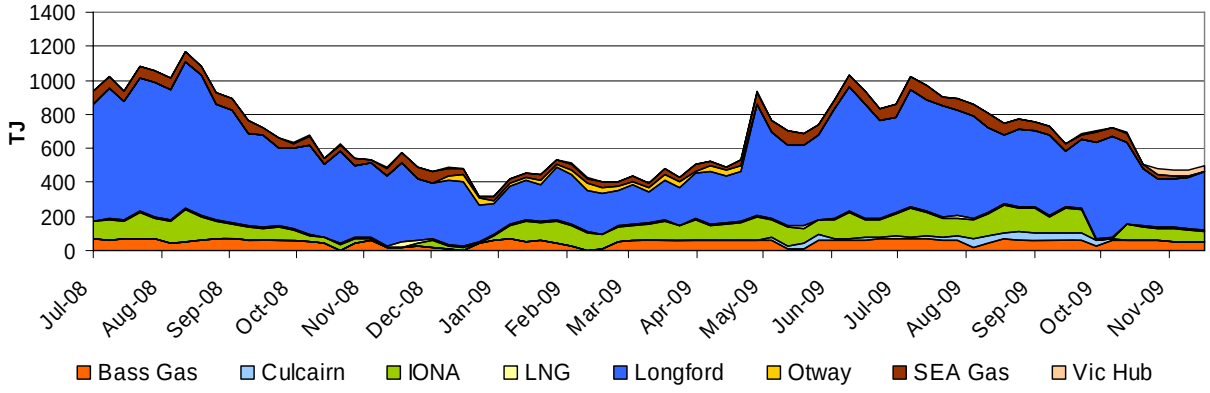
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

System Injections

Figure V3 notes the average daily injections into the VPTS for the current week, compared to 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 (15 - 21 November)	Previous Week (8 - 14 November)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	0	0	22	0.1
Longford	343	295	475	607
LNG	5	7	9	9
IONA	63	69	102	78
VicHub	32.3	30.7	7.4	1.6
SEAGas	5	12	49	55
Bass Gas	52	54	57	52
Otway	0	0	0	0
TOTAL	**500**	**468**	**722**	**803**

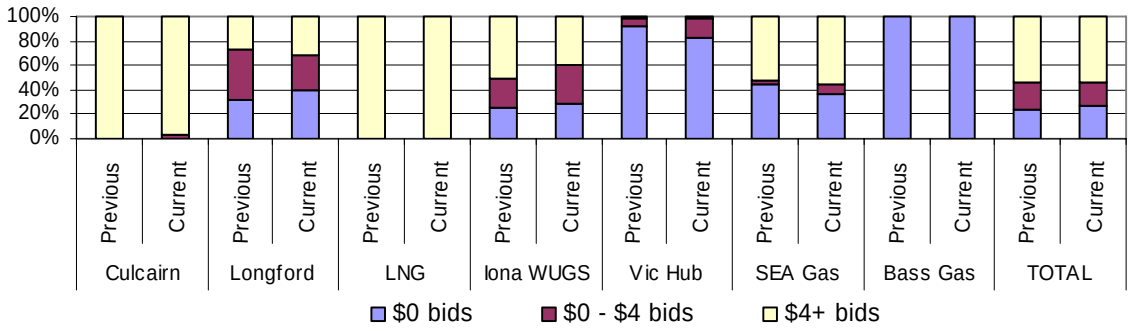


*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)
**Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)
Source: http://www.aemo.com.au (INT 150)

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	CE		CE	CE			
Longford	AGL Origin	AGL Origin	Origin	AGL Origin	Origin	AGL Origin	Origin TRU
LNG							
Iona	TRU	Origin TRU	Origin TRU	TRU	TRU	Origin TRU	TRU
VicHub		AETV	AETV	AETV	AETV		AETV
SEAGas	Simply	Origin	Simply			Simply Origin	Simply
Bass Gas					Origin		

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

Notes: Origin = Origin Energy | AGL = AGL Sales | TRU = TRUenergy | Simply = Simply Energy | AETV = AETV Power | CE = Country Energy

System withdrawals

Figure V6 notes the average daily gas usage on the VPTS for this week, compared to 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 (15 - 21 November)	Previous Week (8 - 14 November)	2009 Financial YTD*	2008 Financial YTD**
Ballarat	10	9	31	32
Geelong^	87	66	87	101
Gippsland	49	56	52	68
Melbourne	279	279	487	528
Northern	64	51	64	76
TOTAL	**489**	**461**	**722**	**804**

^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	79	80	80	84	85	84	84	117	73	82	85	80
QLD Gas Pipeline	69	69	70	72	67	71	69	79	87	70	69	66
Roma to Brisbane Pipeline	157	193	191	186	195	195	174	208	78	185	163	175
South West QLD Pipeline	161	145	149	137	123	149	123	168	90	141	151	64
NSW/ACT										**348**	**434**	**384**
Eastern Gas Pipeline	185	194	207	212	219	218	202	250	81	205	203	182
Moomba to Sydney Pipeline	97	152	134	145	204	175	95	420	55	143	231	202
NSW-VIC Interconnect^	18	30	36	23	46	47	46	90	-18	35	-16	17
VIC										**494**	**712**	**769**
Longford to Melbourne	325	445	451	427	458	469	395	1030	52	424	536	634
South West Pipeline	54	78	67	53	85	89	63	347	44	70	153	135
SA										**358**	**294**	**327**
Moomba to Adelaide Pipeline	147	184	172	167	184	143	110	253	53	158	134	123
SEA Gas Pipeline	214	173	171	216	231	219	176	314	51	200	160	204
TAS												
Tasmanian Gas Pipeline	51	52	50	49	51	53	51	129	27	51	35	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
Flow on Tasmanian Gas Pipeline for Thursday has not been included in average flow calculations for the current week

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)										**473**	**438**	**319**
Berwyndale South	91	110	111	100	113	113	88	140	64	104	90	66
Fairview	101	101	111	121	105	119	120	115	97	111	112	62
Kenya^	57	57	55	56	59	63	62	160	24	58	38	
Kincora	0	0	8	10	0	0	0	25	4	3	1	8
Kogan North	7	7	7	7	8	7	7	12	65	7	8	12
Peat	7	6	6	6	7	7	7	15	58	7	9	10
Rolleston	12	11	11	13	11	11	11	30	38	11	11	11
Scotia	27	27	27	27	27	27	27	27	75	27	20	21
Spring Gully	46	50	47	43	46	47	42	60	80	46	48	55
Strathblane	46	50	47	43	46	47	42	60	80	46	48	47
Taloona	28	30	29	26	28	29	25	36	81	28	29	0
Wallumbilla	12	12	12	12	12	12	12	20	52	12	10	13
Yellowbank	13	13	13	13	14	14	14	30	47	13	14	14
Eastern (VIC)										**700**	**783**	**881**
Orbost Gas Plant	35	32	32	32	32	32	32	92	7	32	6	0
Lang Lang Gas Plant	54	53	53	53	53	53	42	70	80	52	56	52
Longford Gas Plant	481	639	658	638	612	660	626	1140	63	616	721	829
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0	0
Otway Basin (VIC)										**271**	**311**	**339**
Minerva Gas Plant	73	88	94	94	94	94	94	94	80	90	75	91
Otway Gas Plant	139	91	91	91	104	95	87	206	64	100	133	161
Iona Underground Gas Storage	58	74	73	94	120	99	55	320	32	82	103	87
Moomba (SA/QLD)										**245**	**317**	**350**
Moomba Gas Plant	191	262	266	242	251	261	176	430	72	236	311	310
Ballera	0	6	0	8	26	0	28	150	4	10	5	41

*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)
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 (ºC)		QLD (Brisbane)	NSW (Sydney)	ACT (Canberra)	VIC (Melbourne)	SA (Adelaide)	TAS (Hobart)
Current Week (15 - 21 November)	Average min.	20.7	19.4	14.4	17.6	19.5	10.6
	Average max.	31.2	27.3	33.5	29.1	33.5	21.4
Previous Week (8 - 14 November)	Average min.	17.3	17.2	10.0	18.7	23.7	12.9
	Average max.	26.9	23.8	31.6	32.5	38.5	22.0

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

Current Week (15 - 21 November)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	0.21	1.49	0.11	0.12	0.05	0.23
Mon	0.55	0.68	1.49	0.65	1.61	0.58
Tue	1.50	1.50	2.38	1.50	1.50	1.51
Wed	1.00	1.49	2.38	2.70	2.38	1.05
Thu	1.50	1.50	3.12	1.49	0.56	1.57
Fri	3.00	3.00	2.70	1.50	1.50	2.91
Sat	0.33	1.00	0.33	1.49	2.98	0.41

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	
15-Nov	**MP**	369	375	377	381	381	**0**
	AEMO	351	358	365	366	368	
	MP as % of AEMO	105	105	103	104	104	
16-Nov	**MP**	493	501	506	506	506	**0**
	AEMO	491	499	508	504	501	
	MP as % of AEMO	100	100	100	100	101	
17-Nov	**MP**	478	483	488	495	495	**0**
	AEMO	466	472	476	474	474	
	MP as % of AEMO	103	102	103	104	104	
18-Nov	**MP**	454	459	458	458	455	**-3**
	AEMO	436	441	439	451	439	
	MP as % of AEMO	104	104	104	102	104	
19-Nov	**MP**	507	522	518	517	516	**0**
	AEMO	494	506	519	503	500	
	MP as % of AEMO	103	103	100	103	103	
20-Nov	**MP**	503	506	505	501	501	**0**
	AEMO	497	500	510	493	496	
	MP as % of AEMO	101	101	99	102	101	
21-Nov	**MP**	382	381	382	392	391	**0**
	AEMO	378	378	381	396	405	
	MP as % of AEMO	101	101	100	99	97	

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