WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

13 - 19 September 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

Bulletin board participants include pipeline operators and production/storage facilities in southern and eastern Australia. Participants report daily forecast and actual operational data. Queensland Gas Company again failed to provide 7-day daily flow data to the Bulletin Board Operator (BBO) for the Berwyndale South and Kenya production facilities within the specified timeframe during the week ending 19 September. Flows were also submitted late for Tasmanian Gas Pipeline by Tas Gas Networks. Available data submitted late to the BBO has been included in the weekly analysis, and these daily flows have been included in Appendix table A2. The AER monitors and reviews patterns of late submission of data and is engaging with facilities to ensure that in future the data requirements of the bulletin board are satisfied.

Victorian Gas Market

No demand overrides or Directional Flow Point Constraints were imposed this week. Supply Demand Point Constraints (SDPCs) were imposed on withdrawals at SEA Gas on Saturday 19 September gas day and injections at Culcairn and Bass Gas on 17 and 15 September gas days respectively.

Total gas injections and withdrawals in the Victorian gas market decreased by around fifteen per cent from the previous week. Reduced demand coincided with a decrease in the average daily imbalance price this week from $2.07/GJ to $1.15/GJ. On Sunday spot prices remained below 3 cents /GJ over four intervals, not exceeding 50 cents /GJ for the gas day. Notably, a lower percentage of gas was bid in at $0 compared to the previous week. Average daily injections at Longford decreased significantly this week by 185 TJ, and gas on the NSW-Victoria Interconnect continued to flow into Victoria.

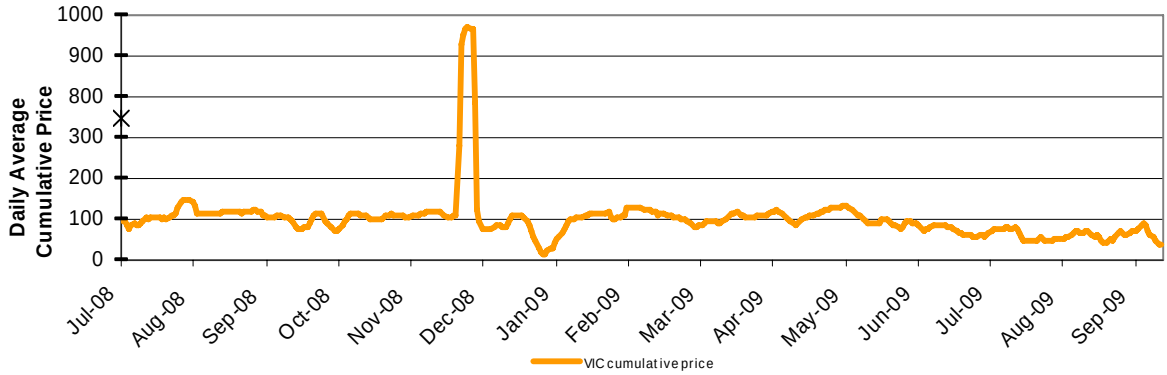
Additional information — Victorian Cumulative Price

In the Victorian Gas Market a cumulative price threshold (CPT) of $3,700/GJ exists. Cumulative prices must be summed over 35 consecutive scheduling intervals and if the sum exceeds the CPT, then for as long as the sum exceeds the CPT, AEMO must apply an Administered Price Cap of $40/GJ to the market price.

Since the commencement of the CPT on 1 June 2008, the closest instance of the CPT being exceeded involved price outcomes on Saturday 22 November 2008 when the Victorian gas market price went to $800/GJ in the 10 pm schedule. On this day prices in the Victorian gas market reached VOLL due to higher than expected demand influenced by colder weather in the state, and a supply shortfall caused by multiple coincident planned and unplanned outages. These events pushed the Victorian cumulative price for gas close to $1,000 over the following week, with subsequent levels returning to normal when the high price fell out of the cumulative price period.

Following theses events, the cumulative price for gas in Victoria has remained at relatively stable levels, exhibiting an overall downward trend since the beginning of 2009.

Figure S1: Victorian Cumulative Price (Cumulative Price Threshold is $3,700/GJ)



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 (13 - 19 Sep)	391	17	614	270	21	173	91	71
Financial Year-to-date 2009-10*	437	39	821	280	24	150	90	68
Financial Year-to-date 2008-09**	379	44	935	342	32	198	64	65

*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 (13 - 19 Sep)	68	35	135	3	147
Financial Year-to-date 2009-10*	82	41	144	9	111
Financial Year-to-date 2008-09**	24	85	201	21	122

^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, and Bell Bay Power (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).

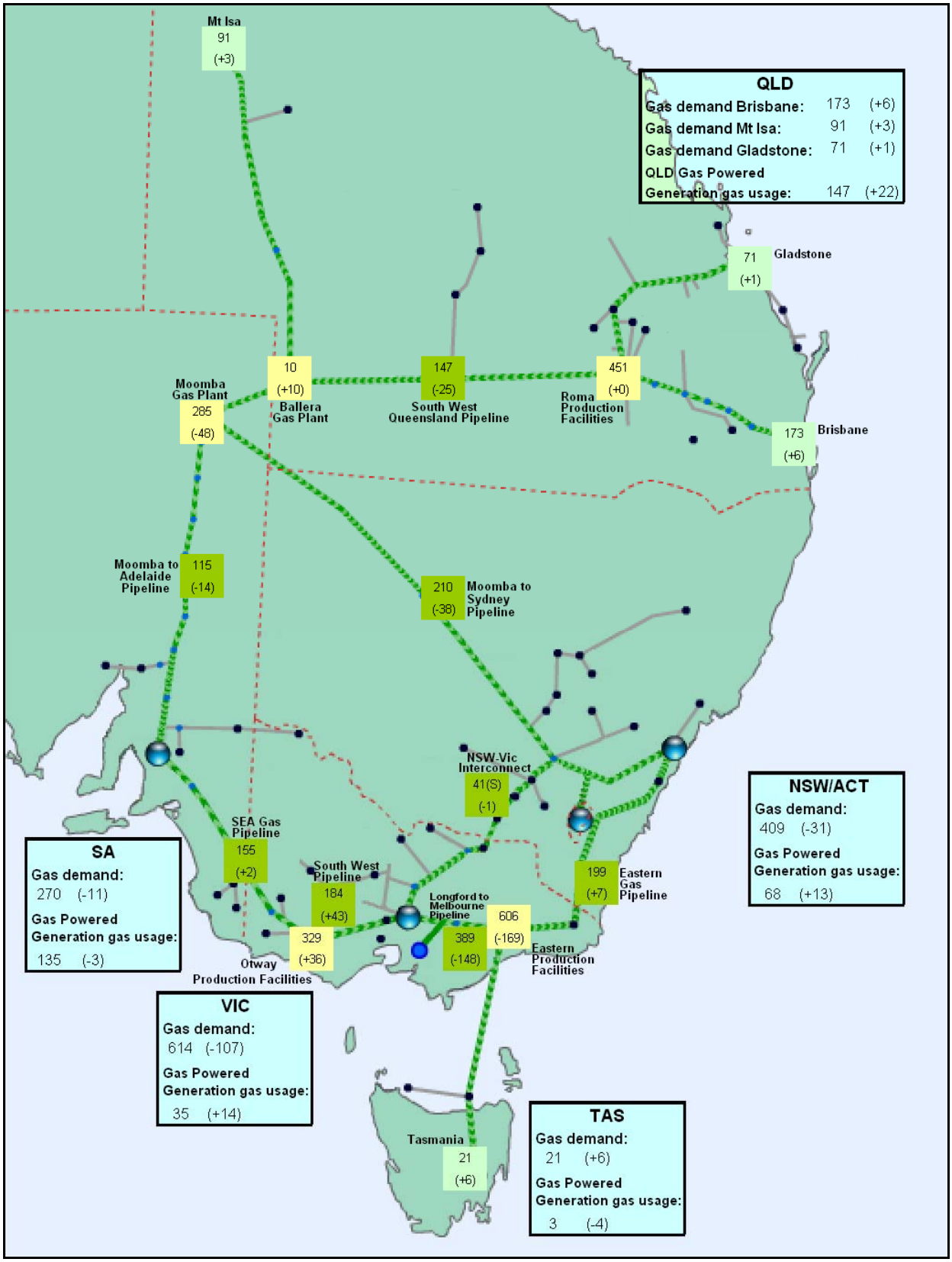
Figure 3: Daily average production flows (TJ) for each production zone

Average daily flows	**Roma/Ballera (QLD)**	**Eastern (VIC)**	**Otway Basin (VIC)**	**Moomba (SA)**
Current week (13 - 19 Sep)	460	606	329	285
Financial Year-to-date 2009*	424	828	349	354
Financial Year-to-date 2008**	378	1008	398	349

*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 below 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)



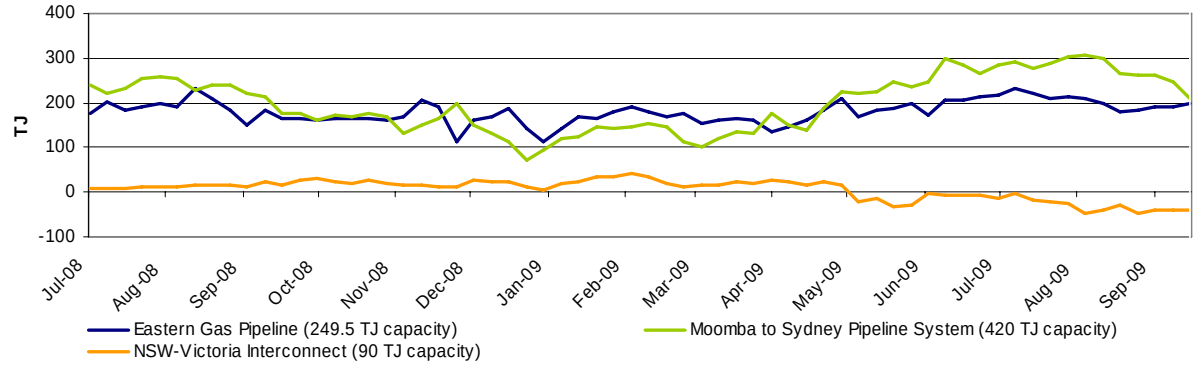
Source: Natural Gas Market Bulletin Board http://www.gasbb.com.au
Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).

Average daily production at Eastern (VIC) declined by 169 TJ compared to the previous week, whereas production in the Otway Basin (VIC) was 36 TJ higher and 10 TJ higher at Ballera (QLD). Gas-powered generators used more gas on average in Victoria (14 TJ), New South Wales (13 TJ) and Queensland (22 TJ) 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.

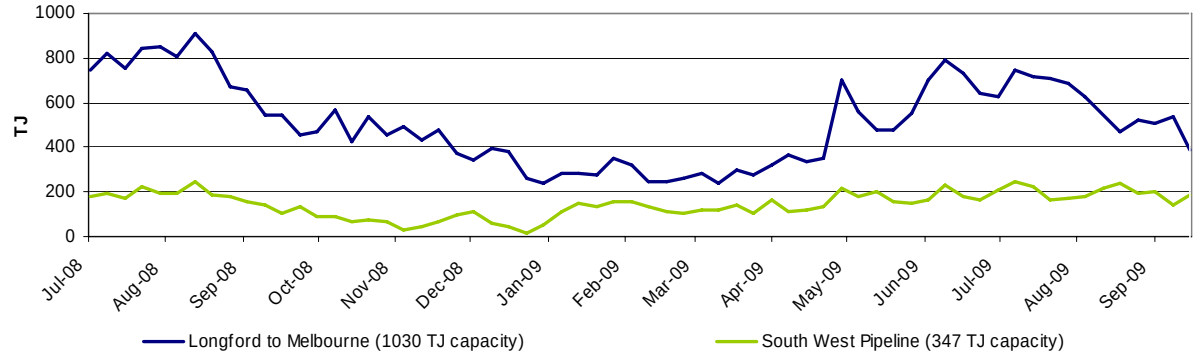
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

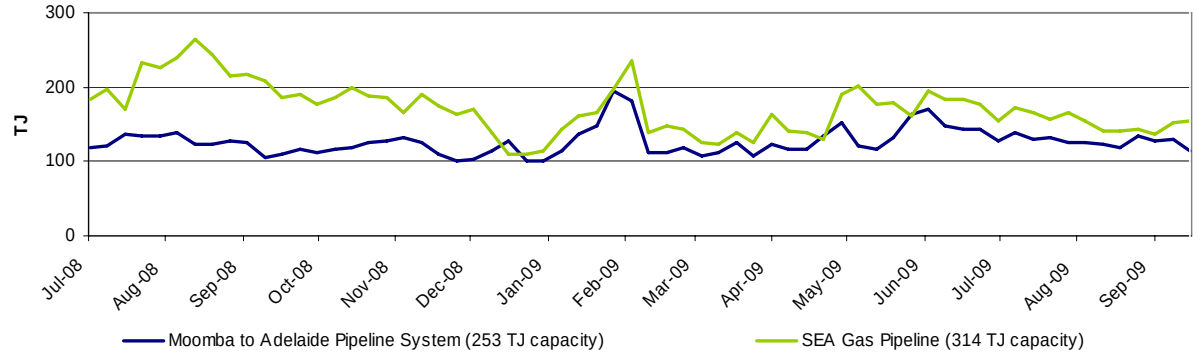
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

Figure 5: 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 below 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 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				NS	S		
Aust. Power & Gas	Retailer	2				NS	S							
Country Energy	Transmission Customer	1									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	S	NS	NS	S	S			NS	NS		
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	2				NS	S							
Santos	Retailer	1						S						
TRU Energy	Retailer	4			S	NS	S		NS			NS		
Victoria Electricity 2	Trader	1										S		
Victoria Electricity	Retailer	5		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 and Ancillary Payments

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

Figure V2: Imbalance Weighted Prices ($/GJ)

	Current Week (13 - 19 Sep)	Previous Week (6 - 12 Sep)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	1.15	2.07	1.68	*3.09*

Current Week (13 - 19 September)	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Daily price	0.46	1.66	1.62	0.70	0.69	1.47	1.47

*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)

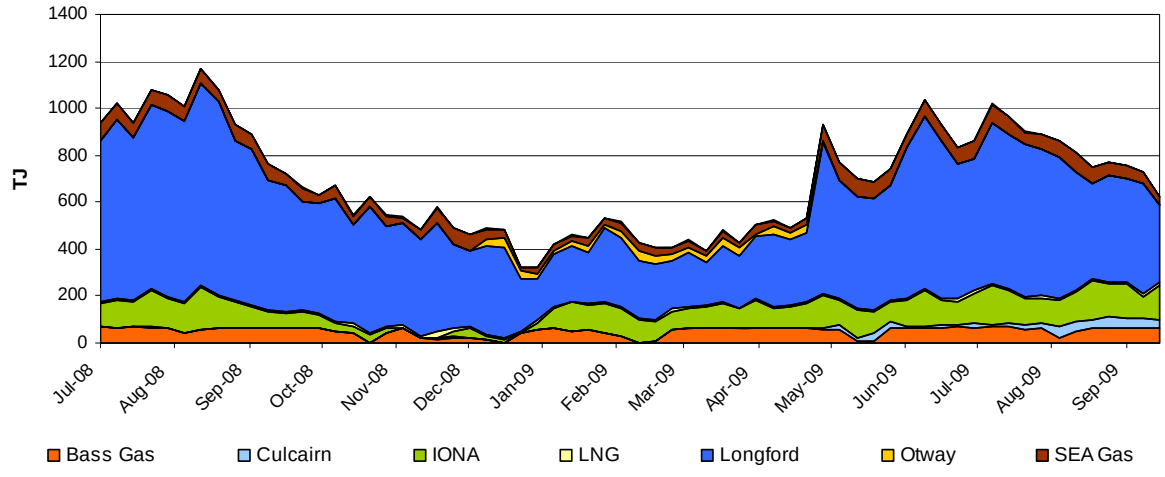
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

System Injections

Figure V3 provides the average daily amount of gas injected into the VPTS for the current week, along with the financial year-to-date averages from each injection point on the VPTS.

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

Injection Point:	Current Week (13 - 19 Sep)	Previous Week (6 – 12 Sep)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	40	42	33	0.1
Longford	332	475	535	719
LNG	8	10	9	9
IONA	147	92	133	116
VicHub	0.4	1.9	0.8	0.4
SEAGas	35	47	63	65
Bass Gas	61	63	58	62
Otway	0	0	0	0
TOTAL	**623**	**731**	**831**	**970**

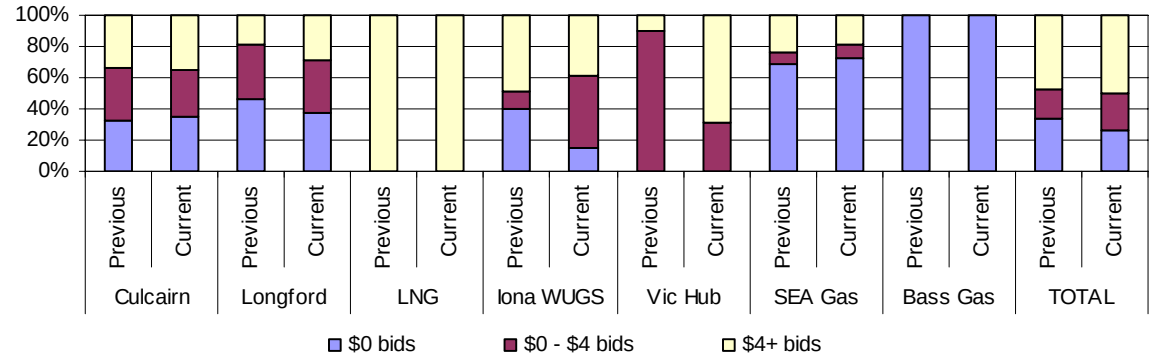


*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)
**Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)
Source: http://www.aemo.com.au (INT 150)

Bidding Activity

Figure V4 shows 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.

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							
Longford	Origin TRU	AGL TRU	TRU	TRU	AGL TRU	AGL Origin TRU	AGL TRU
LNG							
Iona	Simply Origin TRU	Simply Origin TRU	Simply Origin TRU	Simply Origin TRU	Simply Origin TRU	Simply Origin	Simply Origin TRU
VicHub		AETV	AETV	AETV			AETV
SEAGas	Simply	Simply	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 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 (13 - 19 Sep)	Previous Week (6 - 12 Sep)	2009 Financial YTD*	2008 Financial YTD**
Ballarat	26	34	39	42
Geelong^	80	92	95	113
Gippsland	48	53	57	59
Melbourne	444	508	590	674
Northern	52	61	70	86
TOTAL	**650**	**748**	**851**	**973**

^Data presented for the Geelong also includes withdrawals for the Western system withdrawal zone or Western Transmission System (WTS). Typical WTS demand is understood to be around 10 TJ based on AEMO planning documents.
*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	97	95	90	90	90	89	90	117	77	91	90	64
QLD Gas Pipeline	72	72	66	70	73	70	72	79	86	71	68	65
Roma to Brisbane Pipeline	151	183	190	186	182	171	149	208	72	173	150	198
South West QLD Pipeline	152	126	149	146	138	145	173	168	95	147	160	74
NSW/ACT										**409**	**477**	**423**
Eastern Gas Pipeline	171	198	193	217	211	210	190	250	81	199	202	190
Moomba to Sydney Pipeline	157	237	242	216	241	197	179	420	65	210	275	233
NSW-VIC Interconnect^	-38	-53	-51	-23	-47	-23	-52	90	-35	-41	-32	13
VIC										**614**	**821**	**935**
Longford to Melbourne	363	422	423	351	415	408	345	1030	57	389	590	752
South West Pipeline	48	205	195	235	251	205	148	347	57	184	198	183
SA										**270**	**280**	**342**
Moomba to Adelaide Pipeline	101	144	132	113	123	115	79	253	50	115	127	125
SEA Gas Pipeline	125	180	167	158	180	134	141	314	49	155	153	216
TAS												
Tasmanian Gas Pipeline	N/A	N/A	14	15	15	22	38	129	19	21	24	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

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)										**460**	**424**	**378**
Berwyndale South	N/A	N/A	N/A	91	N/A	94	94	140	59	93	82	72
Fairview	117	117	117	118	110	110	113	115	95	115	109	66
Kenya^	N/A	N/A	N/A	34	37	39	39	160	16	37	26	
Kincora	0	0	0	0	0	0	0	25	4	0	1	10
Kogan North	9	9	9	9	9	9	9	12	57	9	7	13
Peat	5	6	7	7	8	8	8	15	68	7	10	10
Rolleston	10	11	10	9	11	11	11	30	37	10	11	12
Scotia	25	25	25	25	25	25	25	27	57	25	15	23
Spring Gully	42	46	50	52	53	53	46	60	87	49	52	57
Strathblane	42	46	50	52	53	53	46	60	87	49	52	49
Taloona	25	28	30	32	32	32	28	36	88	30	32	0
Wallumbilla	12	12	12	12	12	12	12	20	46	12	9	12
Yellowbank	15	15	15	16	16	16	15	30	51	15	15	15
Ballera	0	26	12	15	10	4	0	150	1	10	2	39
Eastern (VIC)										**606**	**828**	**1008**
Orbost Gas Plant	0	0	0	0	0	0	0	10	0	0	0	0
Lang Lang Gas Plant	64	63	47	63	65	64	63	70	82	61	57	62
Longford Gas Plant	464	582	560	529	567	586	526	1140	68	545	771	946
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0	0
Otway Basin (VIC)										**329**	**349**	**398**
Minerva Gas Plant	61	61	76	61	61	61	87	94	81	67	76	98
Otway Gas Plant	95	149	188	189	136	113	78	206	68	135	141	176
Iona Underground Gas Storage	27	158	122	122	154	167	140	320	41	127	132	125
Moomba (SA)												
Moomba Gas Plant	273	313	313	280	305	274	234	380	93	285	354	349

*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)		NSW (Sydney)	ACT (Canberra)	VIC (Melbourne)	SA (Adelaide)	TAS (Hobart)
Current Week (13 - 19 September)	Average min.	16.2	6.5	10.6	10.8	8.6
	Average max.	24.4	21.3	19.8	20.6	17.7
Previous Week (6 - 12 September)	Average min.	10.9	2.1	9.8	10.7	7.4
	Average max.	21.9	15.7	18.5	21.4	15.6

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 (13 - 19 September)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	0.50	0.03	0.02	0.02	0.002	0.46
Mon	1.70	2.45	1.49	0.06	0.06	1.66
Tue	1.70	2.45	0.58	0.06	0.03	1.62
Wed	0.59	1.49	1.21	2.44	2.39	0.70
Thu	0.60	0.60	0.60	2.29	4.13	0.69
Fri	1.49	1.49	1.49	0.60	0.07	1.47
Sat	1.49	0.60	0.60	0.60	2.19	1.47

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	Forecasts (TJ)	Schedule					Total Demand Override Applied (TJ)
		1	2	3	4	5	
13-Sep	**MP Demand:**	515	514	520	519	525	**0**
	AEMO Demand:	528	520	495	470	460	
	MP demand forecast as % of AEMO	98%	99%	105%	110%	114%	
14-Sep	**MP:**	718	722	730	731	733	**0**
	AEMO:	709	707	697	708	683	
	MP demand forecast as % of AEMO	101%	102%	105%	103%	107%	
15-Sep	**MP:**	732	732	724	720	730	**0**
	AEMO:	734	718	703	680	674	
	MP demand forecast as % of AEMO	100%	102%	103%	106%	108%	
16-Sep	**MP:**	547	550	552	563	566	**0**
	AEMO:	530	539	542	561	569	
	MP demand forecast as % of AEMO	103%	102%	102%	100%	99%	
17-Sep	**MP:**	688	688	703	708	708	**0**
	AEMO:	659	658	667	714	714	
	MP demand forecast as % of AEMO	104%	105%	105%	99%	99%	
18-Sep	**MP:**	656	648	649	654	654	**0**
	AEMO:	659	666	664	648	650	
	MP demand forecast as % of AEMO	100%	97%	98%	101%	101%	
19-Sep	**MP:**	537	525	521	522	522	**0**
	AEMO:	528	506	506	513	533	
	MP demand forecast as % of AEMO	102%	104%	103%	102%	98%	

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