

27 September - 3 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 aerinqury@aer.gov.au, and headed 'Comments on weekly gas report.'

Summary

National Gas Market Bulletin Board

Queensland Gas Company again failed to provide actual flow data for the Berwyndale South and Kenya production facilities within the specified polling times on several days during the week. Flows were also submitted late on one occasion by BHP Billiton for the Minerva gas plant. Actual flow data for the Queensland Gas Pipeline and the Lang Lang gas plant which were deemed 'out of range' by the bulletin board, have been revised for the purposes of this report. (See Figures A1 and A2 of the Appendix for actual flow data for each bulletin board facility). 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.

Average daily gas demand increased in each of the mainland regions for the week ending 3 October 2009. Higher production from Longford and the subsequent increase in flows from Longford to Melbourne made up for the decreased flows along the South West pipeline. This drop was primarily due to Iona Underground Storage being shut down for maintenance. Despite the colder temperatures, average daily gas demand in Tasmania fell marginally due to a drop in gas-powered generation. However, the newly commissioned combined cycle generator at the Tamar Valley Power Station continued to consume gas at an average daily rate of around 22 TJ.

Victorian Gas Market

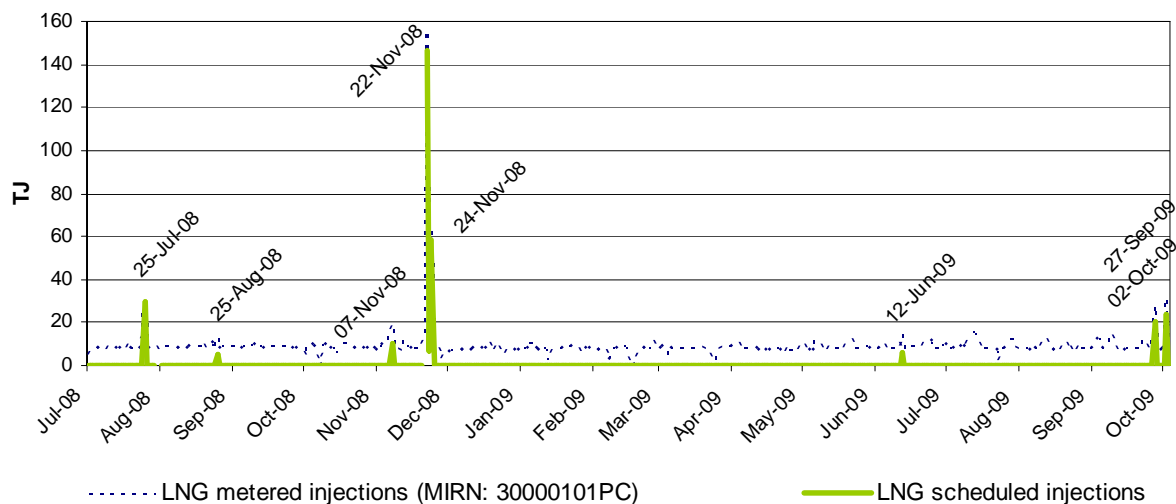
Total gas injections and withdrawals in the Victorian gas market rose by a little over 3 per cent from the previous week (See also Figure V3). This increased demand correlated with an increase in the average daily price this week from \$1.48/GJ to \$2.65/GJ. Due to the maintenance outage at Iona, daily injections from Longford increased considerably by around 160 TJ this week. Also, gas was scheduled from LNG for the first time this financial year. (See also Figure S1 below).

Overall, there was a higher percentage of gas bid in at \$0 compared to the previous week, including at Longford and SEA Gas. Supply Demand Point Constraints (SDPC) were issued for injections at the Culcairn, Bass Gas and LNG facilities on various days throughout the week. As mentioned above, due to the scheduled maintenance at Iona, both injections and withdrawals at this facility were constrained to an hourly rate of 0 TJ over the entire week. AEMO issued a positive demand override of 10 TJ on the 27 September gas day due to market participant demand forecasts being lower than AEMO demand forecast thresholds.

Additional information — Injections at LNG Dandenong facility

Figure S1 displays the actual metered flows from the Liquefied Natural Gas (LNG) facility in Dandenong into the Victorian Principal Transmission System from 1 July 2008. Also shown are the LNG injections which have been scheduled by the market operator on various occasions during this time.

Figure S1: LNG metered flows and scheduled injections (1 July 2008 – 3 October 2009)



Sources: <http://www.aemo.com.au> (INT 150), <http://www.gasbb.com.au>

The LNG metered injections are attributed to the amounts of gas flows which are metered, but not specifically scheduled by the market operator. These gas flows indicate the amount of LNG that flowed into the VPTS due to activities to manage the LNG facility's tank level, such as peak-shaving. In addition, LNG is also regularly used by the connected BOC plant.

Since 1 July 2008, the market operator has scheduled LNG injections on several occasions. Over this period, some of the reasons for scheduling LNG included:

25 July 2008 – A loss of supply from Longford, and subsequent delays in getting the plant back on line, resulted in LNG injections being scheduled by the market operator in order to maintain safe linepack levels, as the gas day approached the evening peak.

22 November 2008 – Due to a combination of various planned and unplanned outages, and colder than forecast weather, LNG injections were scheduled at full capacity in order to meet the higher than forecast demand.

12 June 2009 – Higher than expected demand during the evening peak caused a reduction in system linepack, after which an ad-hoc schedule was issued to inject 6 TJ of LNG in order to maintain minimum pressure levels.

27 September and 2 October 2009 – Demand levels on these days were higher than the weekly averages. Combined with the zero flow capacity at Iona due to scheduled maintenance, the market operator scheduled LNG injections in order to meet demand. Notably, the injection bid of \$0/GJ made by Victoria Electricity on 27 September ensured that their LNG injections were scheduled by the market. On the same day, the LNG bid of \$5.98/GJ from AGL set the market clearing price at the 10pm schedule and was subsequently scheduled. Similarly, Origin Energy's LNG bid of \$4.86/GJ which set the market price at the 10pm schedule on 2 October was also scheduled.

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	QLD		
						Brisbane	Mt Isa	Gladstone
Current week (27 Sep - 3 Oct)	396	29	692	304	37	178	89	70
Financial Year-to-date 2009-10*	431	37	801	283	27	154	89	68
Financial Year-to-date 2008-09**	370	40	883	338	30	177	70	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 (27 Sep - 3 Oct)	76	15	179	22	171
Financial Year-to-date 2009-10*	82	39	150	12	122
Financial Year-to-date 2008-09**	24	82	199	18	121

^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 (27 Sep - 3 Oct)	440	844	233	325
Financial Year-to-date 2009-10*	425	822	338	350
Financial Year-to-date 2008-09**	330	965	383	375

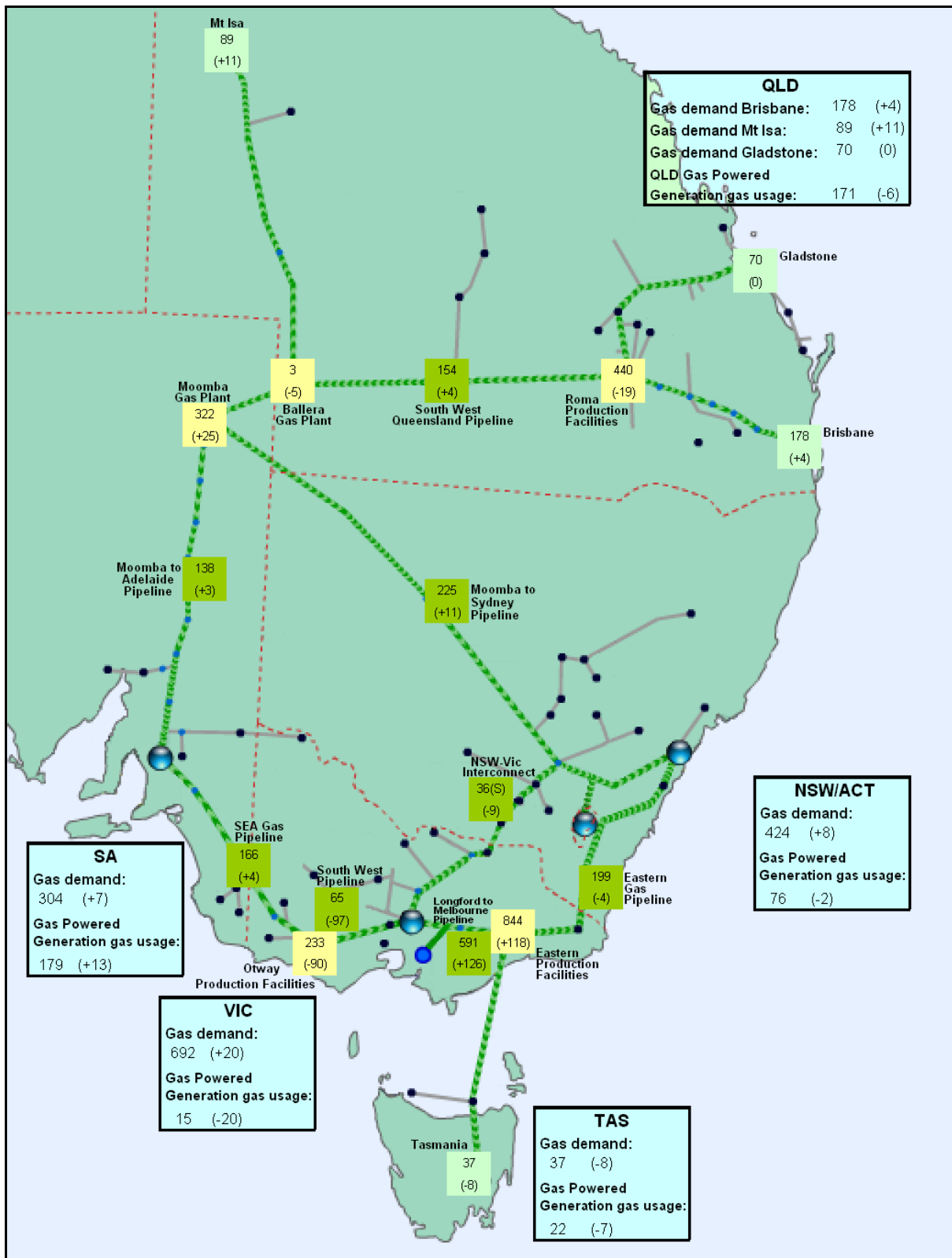
*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)

**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>

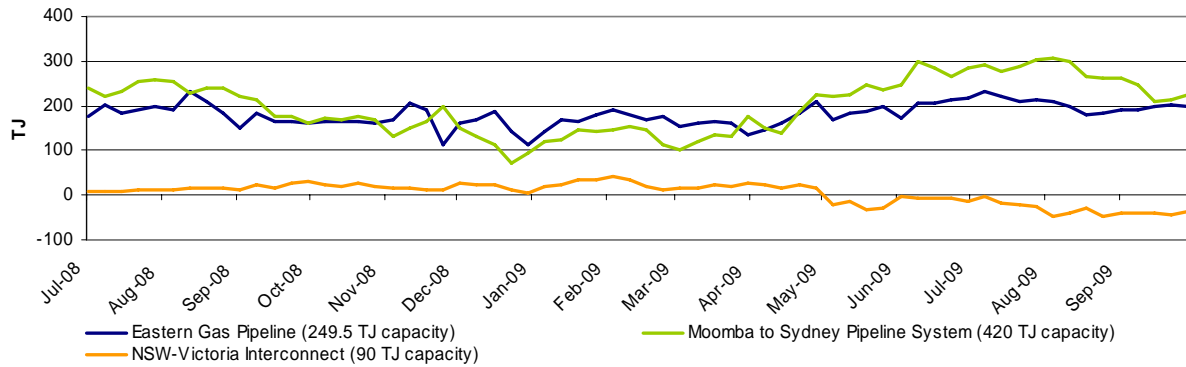
Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).

Eastern Victorian production increased by 118 TJ this week, providing a substitute for the drop in supply from the Otway production facilities (largely due to the maintenance outage at Iona). The increased demand in NSW/ACT was supplied by increased flows along the Moolamba to Sydney Pipeline along with a lower volume of gas flowing south through the NSW-VIC interconnect. Gas usage for gas powered electricity generation fell in all states except South Australia.

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.

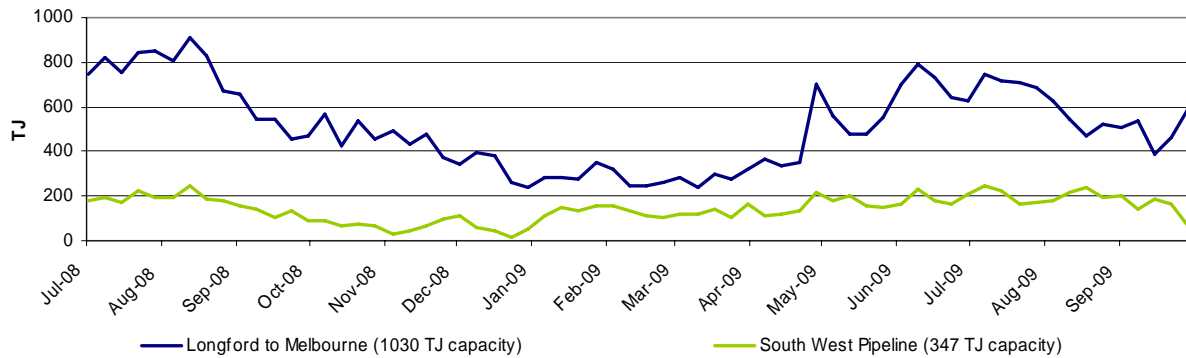
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

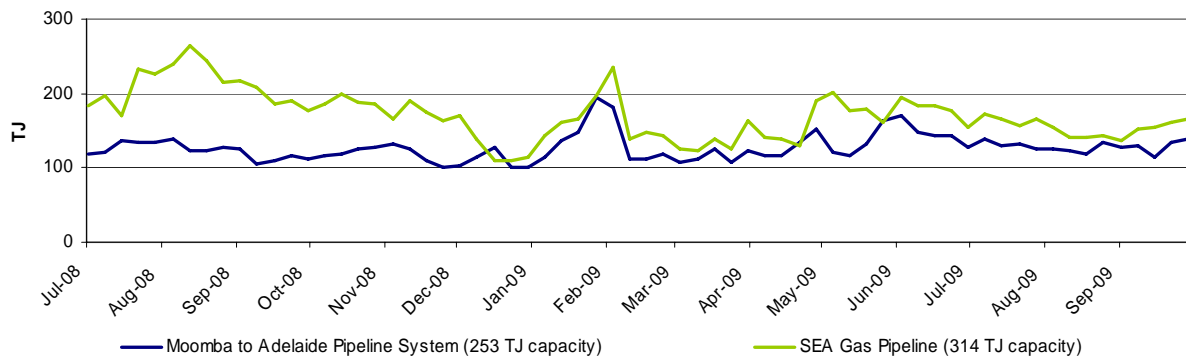
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

Figure 6: Average daily flows (TJ) into 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	VichHub	Otway	Culcairn	IONA	SEA Gas	VichHub
AETV Power	Trader	1								S				NS
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	4		NS		NS#	S				NS			
Aust. Power & Gas	Retailer	2				NS#	S							
Energy Australia	Transmission Customer	1									S			
International Power	Retailer	1					S							
Simply Energy	Transmission Customer	1											S	
Origin Energy (VIC)	Retailer	4				NS#	S	S						
Origin Energy (Uranquinty)	Retailer	6	S	S		NS	S	S			NS			
Red Energy	Trader	1					S							
Santos	Retailer	2				NS	S							
TRU Energy	Retailer	2						S						
Victoria Electricity 2	Retailer	4				NS	S		NS					
Victoria Electricity	Retailer	5		S		S	S	S						
Visy Paper	Distribution Customer	2					S				S			

[^]Bids taken from 6am data for each gas day during the current week.

[#]Bids were not scheduled at 6am but were later scheduled at the 10pm interval where the market price was higher

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 (27 Sep - 3 Oct)	Previous Week (20 - 26 Sep)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	2.65	1.48	1.74	3.01

Current Week (27 Sep - 3 Oct)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	3.26	3.17	2.60	1.51	1.70	3.18	3.11

*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)

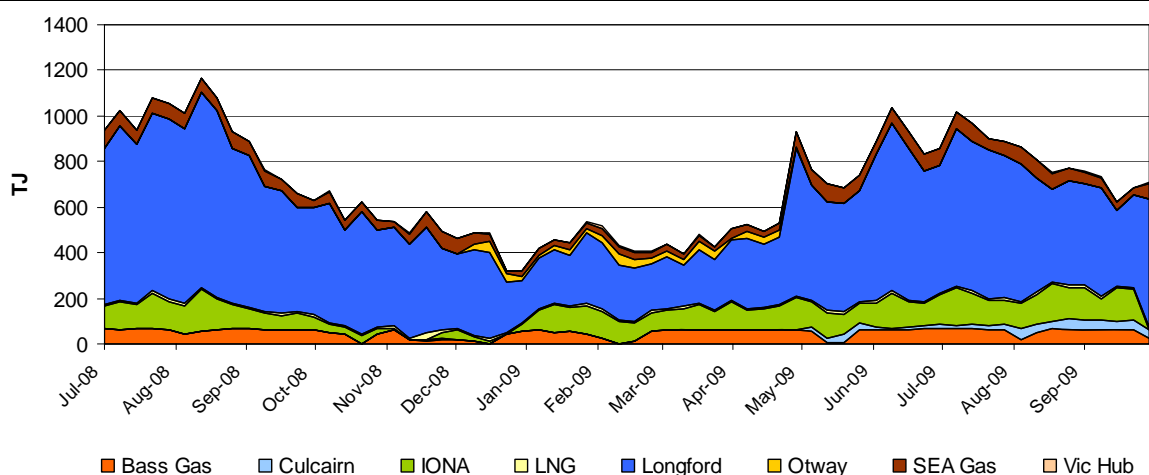
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

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 (27 Sep - 3 Oct)	Previous Week (20 - 26 Sep)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	35	44	34	0.1
Longford	565	405	527	682
LNG	14	10	9	9
IONA	0	131	123	108
VicHub	4.4	1.6	1.1	0.8
SEAGas	65	30	60	62
Bass Gas	24	63	56	62
Otway	0	0	0	0
TOTAL	707	683	811	924



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

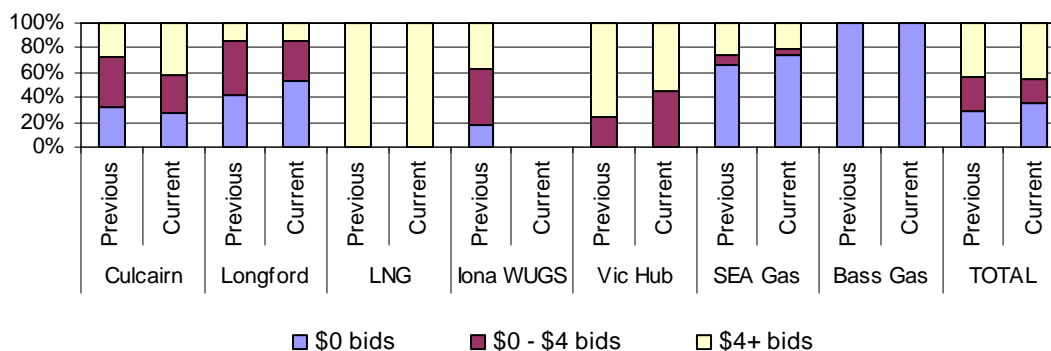
**Average daily estimated gas consumption measured from 1 July 2008 to the equivalent week in 2008 (inclusive)

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	TRU	AGL Origin TRU	AGL TRU	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU
LNG		Origin VE AGL		TRU			
Iona							
VicHub	AETV TRU					AETV TRU	AETV TRU
SEAGas	Simply	Simply	Simply	Simply	Simply Origin	Simply	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

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 (27 Sep - 3 Oct)	Previous Week (20 - 26 Sep)	2009 Financial YTD*	2008 Financial YTD**
Ballarat	30	29	37	39
Geelong^	83	83	93	109
Gippsland	49	51	56	62
Melbourne	481	484	575	632
Northern	57	55	68	85
TOTAL	700	704	829	926

^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	90	90	90	89	87	90	90	117	76	89	89	70
QLD Gas Pipeline	1070	69	72	71	69	72	69	79	87	70	80	66
Roma to Brisbane Pipeline	157	194	186	188	182	180	157	208	74	178	154	177
South West QLD Pipeline	155	144	148	141	161	159	171	168	94	154	158	72
NSW/ACT										424	468	410
Eastern Gas Pipeline	168	200	211	215	213	195	194	250	81	199	202	186
Moomba to Sydney Pipeline	255	295	221	199	186	219	199	420	63	225	266	224
NSW-VIC Interconnect [^]	-46	-52	-20	-37	-31	-34	-34	90	-37	-36	-33	15
VIC										692	801	883
Longford to Melbourne	810	776	537	419	485	605	502	1030	56	591	581	710
South West Pipeline	96	68	70	49	54	75	46	347	54	65	186	173
SA										304	283	338
Moomba to Adelaide Pipeline	148	171	134	117	132	152	115	253	51	138	129	124
SEA Gas Pipeline	159	197	164	172	168	164	138	314	49	166	155	214
TAS												
Tasmanian Gas Pipeline	50	52	51	33	46	19	11	129	21	37	27	30

*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

#QGP figure for Sunday revised to 70 TJ for the analysis in this report

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)										442	428	369
Berwyndale South	82	N/A	N/A	N/A	N/A	N/A	N/A	140	59	82	83	69
Fairview	113	24	113	118	115	115	115	115	95	102	109	64
Kenya [^]	50	N/A	N/A	N/A	N/A	N/A	N/A	160	18	50	28	
Kincora	0	6	0	0	0	0	0	25	4	1	1	9
Kogan North	9	9	9	9	9	9	25	12	61	11	7	12
Peat	7	11	12	7	6	7	7	15	65	8	10	10
Rolleston	12	12	11	11	9	5	11	30	37	10	11	12
Scotia	25	25	25	25	23	25	25	27	62	25	17	23
Spring Gully	47	51	51	52	49	42	42	60	86	48	52	56
Strathblane	47	51	51	52	49	42	42	60	86	48	52	48
Talooona	29	31	31	31	29	26	26	36	87	29	31	0
Wallumbilla	12	12	12	11	12	12	12	20	48	12	10	12
Yellowbank	13	13	13	14	13	14	14	30	50	13	15	14
Ballera	0	5	9	6	1	0	0	150	2	3	2	40
Eastern (VIC)										844	822	965
Orbost Gas Plant	0	0	0	0	0	0	0	10	0	0	0	0
Lang Lang Gas Plant#	62900	44500	0	0	0	7	48	70	79	23	55	62
Longford Gas Plant	939	978	852	702	722	842	668	1140	67	815	766	902
LNG Storage Dandenong	20	0	0	0	0	24	0	158	0	6	0	0
Otway Basin (VIC)										233	338	383
Minerva Gas Plant	87	87	87	N/A	86	76	87	94	81	85	76	96
Otway Gas Plant	158	181	193	147	100	130	130	206	68	148	140	173
Iona Underground Gas Storage	0	0	0	0	0	0	0	320	38	0	122	114
Moomba (SA)												
Moomba Gas Plant	363	396	351	320	280	267	280	380	92	322	348	335

*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)

#Lang Lang figures for Sunday and Monday revised to 62.9 TJ and 44.5 TJ respectively for the analysis in this report.

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 (27 Sep - 3 Oct)	Average min.	15.6	6.0	10.4	10.0	7.2
	Average max.	24.9	17.6	18.1	17.3	15.3
Previous Week (20 - 26 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

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 (27 Sep - 3 Oct)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	3.19	3.49	3.73	3.73	5.98	3.26
Mon	3.17	3.17	3.19	3.17	1.69	3.17
Tue	2.69	1.49	1.49	1.49	0.00	2.60
Wed	1.49	1.68	3.15	2.70	0.62	1.51
Thu	1.70	1.68	1.49	1.21	3.15	1.70
Fri	3.16	3.15	3.15	3.15	4.86	3.18
Sat	3.12	3.12	3.12	2.00	2.00	3.11

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	
27-Sep	MP Demand:	866	859	895	878	874	10
	AEMO Demand:	863	865	953	955	955	
	MP demand forecast as % of AEMO	100%	99%	94%	92%	92%	
28-Sep	MP:	882	873	881	882	882	0
	AEMO:	912	910	940	928	884	
	MP demand forecast as % of AEMO	97%	96%	94%	95%	100%	
29-Sep	MP:	691	670	675	678	678	0
	AEMO:	678	673	694	663	635	
	MP demand forecast as % of AEMO	102%	100%	97%	102%	107%	
30-Sep	MP:	501	497	499	498	499	0
	AEMO:	506	502	516	519	497	
	MP demand forecast as % of AEMO	99%	99%	97%	96%	100%	
1-Oct	MP:	571	572	574	586	588	0
	AEMO:	568	560	556	567	577	
	MP demand forecast as % of AEMO	101%	102%	103%	103%	102%	
2-Oct	MP:	686	687	685	701	700	0
	AEMO:	717	710	710	744	751	
	MP demand forecast as % of AEMO	96%	97%	96%	94%	93%	
3-Oct	MP:	583	580	580	578	578	0
	AEMO:	617	631	582	589	558	
	MP demand forecast as % of AEMO	94%	92%	100%	98%	104%	

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