

4 - 10 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 aer inquiry@ aer.gov.au, and headed 'Comments on weekly gas report.'

Summary

National Gas Market Bulletin Board

Queensland Gas Company (QGC) again failed to provide actual flow data for the Berwyndale South and Kenya production facilities within the specified polling times during the week. In addition, two daily flows were identified to be missing for APA Group facilities. The Moomba to Sydney Pipeline and the Kogan North production facility flows were not present this week for Sunday 4 October and Saturday 10 October respectively. 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 at Roma. The AER monitors and reviews patterns of late submission of data and will raise data issues with QGC to ensure that in future the data requirements of the bulletin board are satisfied.

With the exception of flows to Mt Isa, average daily gas demand increased in each region for the week ending 10 October 2009. With reduced flows on the South West Pipeline, higher production from the Bass Gas facility helped to facilitate an increase in flows through the Longford to Melbourne Pipeline to cater for increased demand in Victoria. In addition, flows through the NSW-Victoria interconnect during the current week reversed to a flow into NSW at an average daily rate of 26 TJ from Wednesday 7 October (see additional information below). A slight decrease in temperatures throughout the week most likely influenced the increased demand for gas in Victoria. Increased gas-powered generation in New South Wales and South Australia also had a significant effect on higher levels of demand in those regions.

Victorian Gas Market

Total gas injections and withdrawals in the Victorian gas market rose by close to 3 per cent from the previous week (See also Figure V3). This increased demand was met by increased daily injections from Longford and Bass Gas facilities of approximately 63 TJ and correlated with an increase in the average daily price this week from \$2.65/GJ to \$2.96/GJ. Higher prices this week may also have arisen because of the scheduled maintenance at Iona, where a zero constraint applied all week and hence no bidding occurred. Also, gas was scheduled from LNG for the second time during the current financial year. Around 20 TJ of gas was scheduled to be injected over the three days from Tuesday 6 October.

There was a significant increase in the volume of gas bid in to the market at Longford at \$0, leading to an overall higher percentage of gas bid in at \$0 compared to the previous week. In addition to Supply Demand Point Constraints (SDPC) issued at Iona noted above, SDPCs

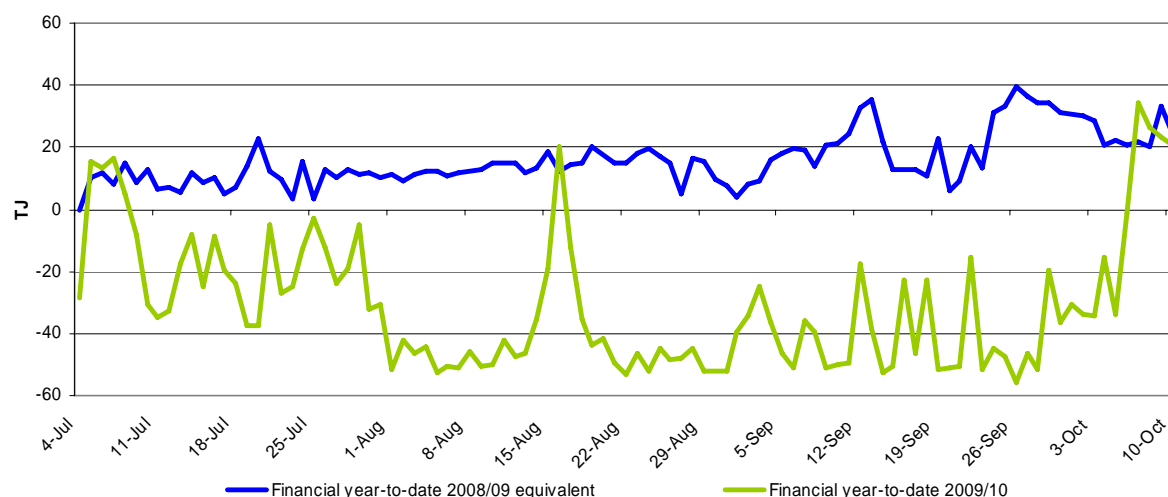
were issued for injections at the Longford, Culcairn and Bass Gas facilities during the period from 6 to 8 October.

AEMO issued negative demand overrides of 9 TJ on the 4 October gas day and 10 TJ on the 10 October gas day due to market participant demand forecasts falling outside AEMO demand forecast thresholds.

Additional information — Default Flows on the NSW-VIC interconnect

Figure S1 displays the actual metered flows on the NSW-VIC interconnect in the 2008/09 and 2009/10 financial years-to-date.

Figure S1: Financial year-to-date flow comparison for the NSW-VIC interconnect



Source: <http://www.gasbb.com.au>

Note: Positive flow values illustrated indicate gas flowing north into NSW, whereas negative flows travel south to the Victorian Gas Market.

In 2008/09, flows on the NSW-VIC interconnect were exclusively into NSW. In contrast 2009/10 flows have been predominantly into Victoria. The change in flow direction into Victoria in 2009/10 appears to result from increased quantities of gas scheduled for injection at Culcairn at or below the market clearing price.

A change in flow direction into NSW has occurred in the past week. This change in flow coincided with a change in bidding behaviour by Origin Energy. Origin had typically been scheduled to inject 20TJ per day at the interconnect, but changed its bidding behaviour from 6 October to be scheduled to withdraw 20TJ to 30TJ per day.

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 (4 - 10 October)	400	33	712	322	42	182	83	71
Financial Year-to-date 2009-10*	429	37	795	286	28	156	89	68
Financial Year-to-date 2008-09**	365	38	869	335	30	175	73	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 (4 - 10 October)	77	21	173	22	159
Financial Year-to-date 2009-10*	53	57	177	20	118
Financial Year-to-date 2008-09**	23	82	205	33	112

^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 (4 - 10 October)	461	859	232	252
Financial Year-to-date 2009-10*	429	824	331	341
Financial Year-to-date 2008-09**	367	954	375	329

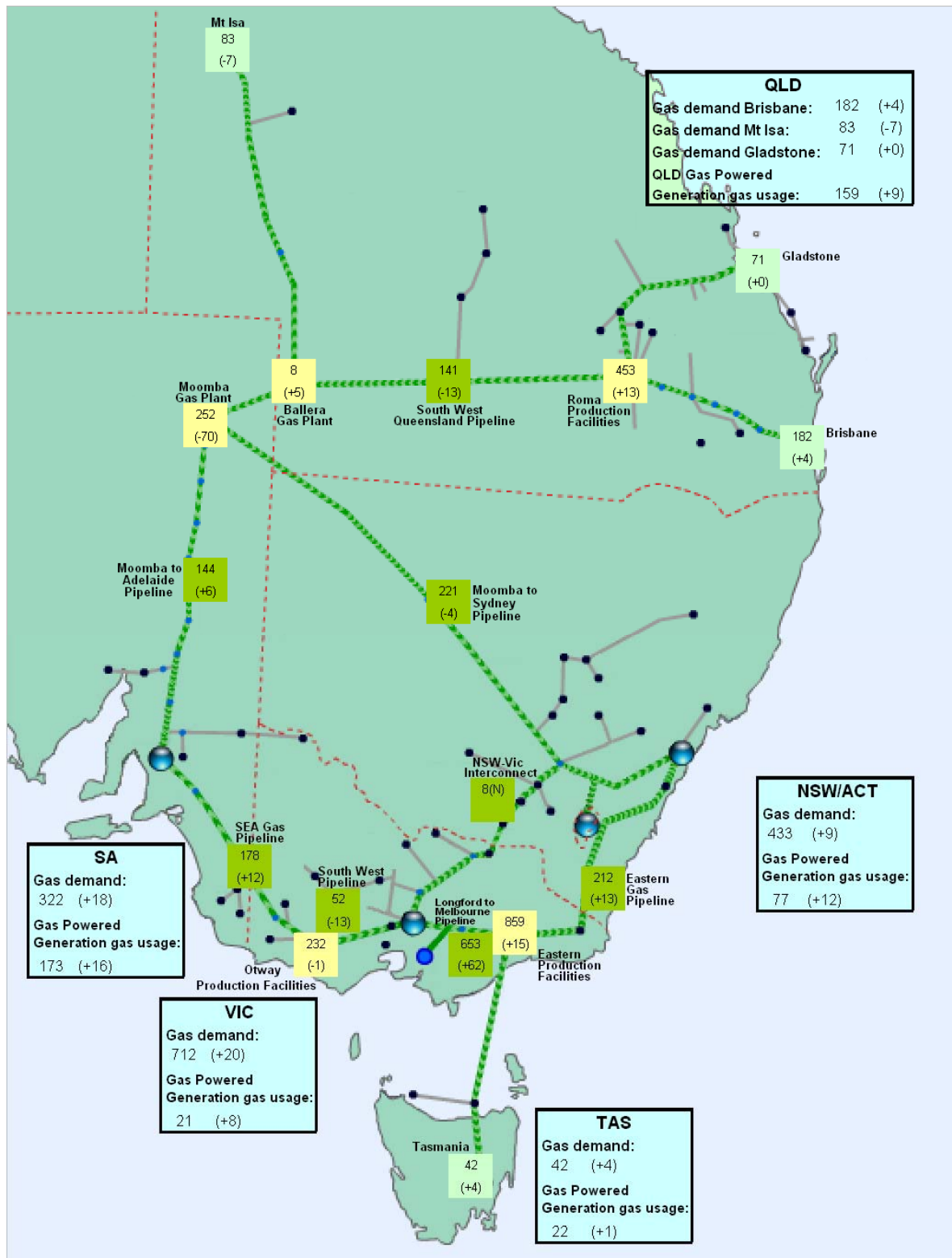
*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)

**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>

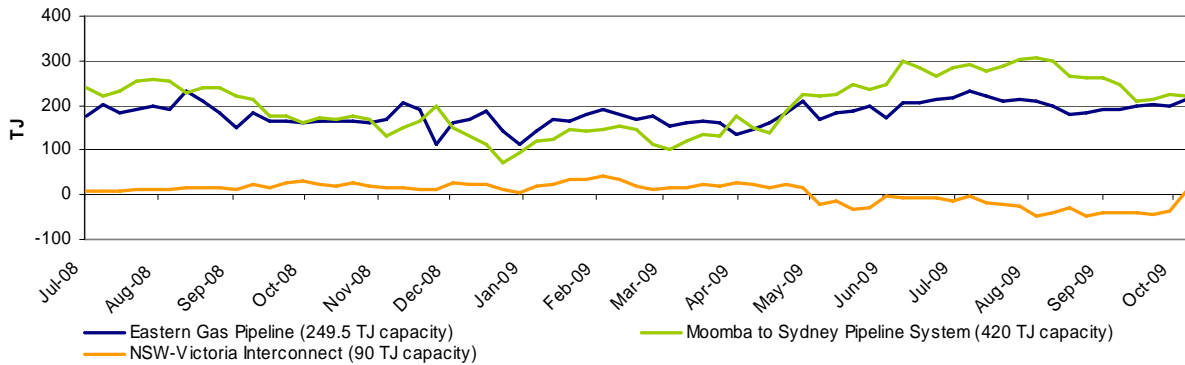
Notes: Direction of aggregate daily flows along the NSW-Vic Interconnect indicated on map by S (South) or N (North).

Eastern Victorian production increased this week, providing a substitute for the drop in supply from the Otway production facilities (largely due to the maintenance outage at Iona). Gas supplied to Victoria from the north decreased as the NSW-VIC interconnect returned to a northwards flow direction. This assisted the supply of gas into NSW/ACT as flows decreased along the Moomba to Sydney Pipeline, coinciding with a decrease in production at Moomba. Gas usage for gas powered electricity generation increased in all states.

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.

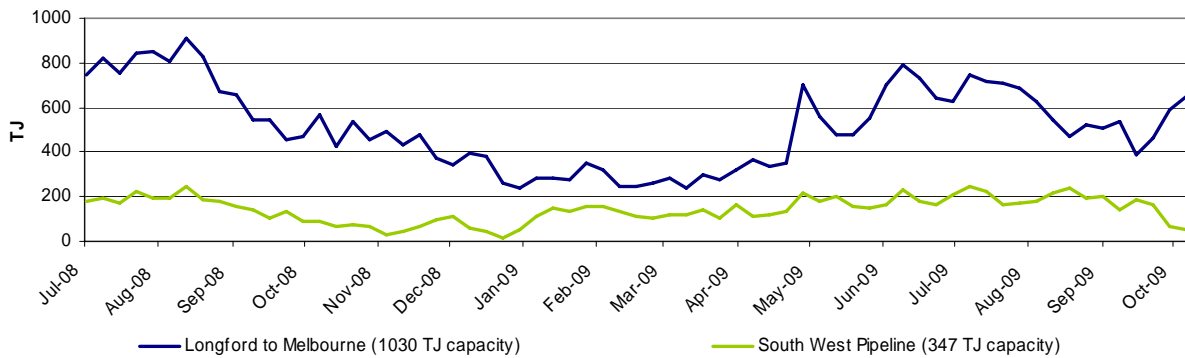
Figure 5: Average daily flows (TJ) into NSW/ACT demand region



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

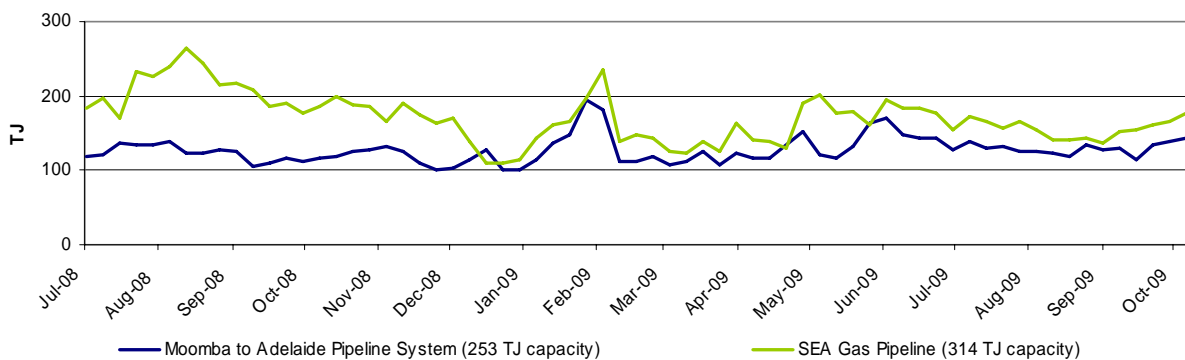
Notes: Negative flows on the NSW-Victoria Interconnect represent flows out of NSW into VIC.

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	VicHub	Otway	Culcairn	IONA	SEA Gas	VicHub
AETV Power	Trader	1							S					NS
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	3		NS		NS	S				NS			
Aust. Power & Gas	Retailer	2				NS	S							
Energy Australia	Retailer	1					S							
International Power	Transmission Customer	1											S	
Simply Energy	Retailer	3				NS	S	NS						
Origin (Vic)	Retailer	5	S	S		NS	S	S			S			
Origin (Uranquinty)	Trader	1					S							
Red Energy	Retailer	2				NS	S							
Santos	Retailer	1						S						
TRU Energy	Retailer	3				NS	S		NS					
Victoria Electricity	Retailer	4		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 (4 - 10 October)	Previous Week (27 Aug - 3 Oct)	2009-10 Financial YTD*	2008-09 Financial YTD**
Average daily price	2.96	2.65	1.82	3.02

Current Week (4 - 10 October)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	3.00	1.73	3.53	3.54	3.14	3.11	2.68

*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)

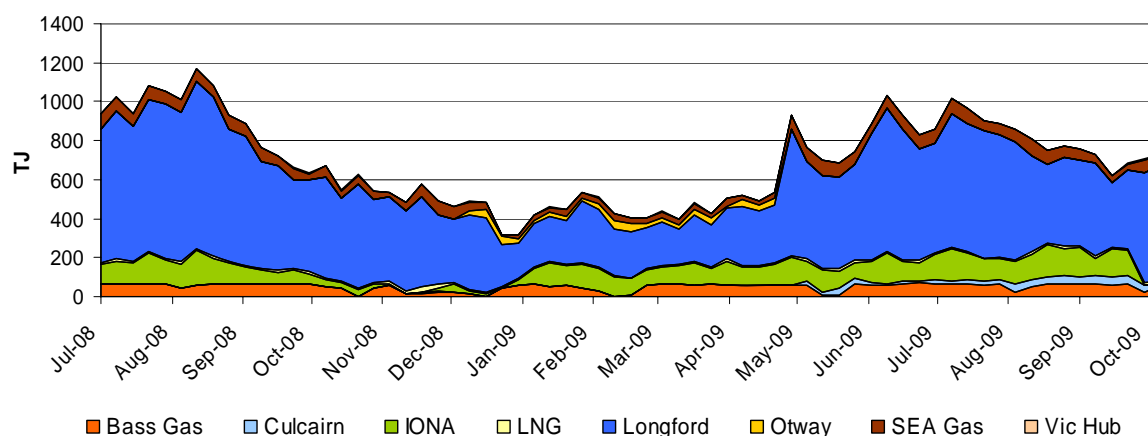
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

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 (4 - 10 October)	Previous Week (27 Aug - 3 Oct)	2009-10 Financial YTD*	2008-09 Financial YTD**
Culcairn	8	35	32	0.1
Longford	593	565	532	673
LNG	11	14	9	8
IONA	0	0	115	104
VicHub	3.7	4.4	1.3	1.1
SEAGas	52	65	60	61
Bass Gas	58	24	56	62
Otway	0	0	0	0
TOTAL	726	707	805	909

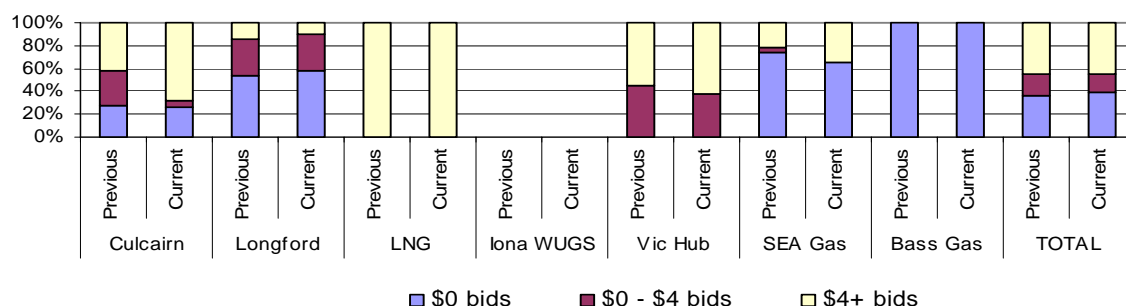


*Average daily estimated gas consumption measured from 1 July 2009 to the current week (inclusive)

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	Origin		AGL	AGL	VE		
Longford	AGL Origin TRU	AGL TRU	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU	Origin TRU
LNG			VE	Origin	APG	APG	Origin TRU APG
Iona							
VicHub	TRU	AETV	TRU	AETV	TRU	AETV TRU	AETV TRU
SEAGas	Simply	Simply	Simply	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 | VE = Victoria Electricity | APG = Australian Power & Gas

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 (4 - 10 October)	Previous Week (27 Aug - 3 Oct)	2009 Financial YTD*	2008 Financial YTD**
Ballarat	33	30	37	38
Geelong^	81	83	92	108
Gippsland	57	49	55	62

Melbourne	484	481	560	618
Northern	72	57	69	84
TOTAL	727	700	813	911

^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	84	79	82	81	82	83	117	76	83	89	73
QLD Gas Pipeline	72	74	71	70	69	72	70	79	87	71	68	65
Roma to Brisbane Pipeline	166	186	193	195	197	176	162	208	75	182	156	175
South West QLD Pipeline	156	128	134	132	138	152	146	168	94	141	157	70
NSW/ACT										433	466	404
Eastern Gas Pipeline	197	200	226	217	226	223	195	250	81	212	203	185
Moomba to Sydney Pipeline	N/A	184	217	265	243	240	177	420	63	221	264	219
NSW-VIC Interconnect [^]	-16	-34	-1	34	26	23	21	90	-34	8	-30	16
VIC										712	795	869
Longford to Melbourne	480	568	776	762	745	710	528	1030	57	653	586	701
South West Pipeline	50	19	71	61	65	60	39	347	51	52	177	168
SA										322	286	335
Moomba to Adelaide Pipeline	133	131	166	163	151	143	125	253	51	144	130	123
SEA Gas Pipeline	106	170	199	193	209	220	149	314	50	178	156	212
TAS												
Tasmanian Gas Pipeline	13	13	54	53	54	54	51	129	22	42	28	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)										461#	436	367
Berwyndale South	N/A	N/A	N/A	N/A	109	109	102	140	59	107	83	67
Fairview	115	115	117	116	117	127	117	115	95	118	110	64
Kenya^	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160	18	28^^	28	
Kincora	0	0	4	0	0	0	0	25	4	1	1	9
Kogan North	25	25	25	27	8	8	8	12	67	18	8	12
Peat	7	7	7	7	7	7	7	15	64	7	10	10
Rolleston	12	13	12	12	12	12	12	30	37	12	11	12
Scotia	25	25	25	27	27	27	25	27	65	26	17	22
Spring Gully	42	42	42	42	42	42	42	60	85	42	51	56
Strathblane	42	42	42	42	42	42	42	60	85	42	51	48
Talooka	26	26	26	26	26	26	25	36	86	26	31	0
Wallumbilla	12	12	13	13	12	12	12	20	49	12	10	12
Yellowbank	14	14	14	14	15	14	15	30	75	50	22	14
Ballera	0	24	9	16	5	0	0	150	2	8	3	40
Eastern (VIC)										859	824	954
Orbost Gas Plant	0	0	0	0	0	0	0	10	0	0	0	0
Lang Lang Gas Plant	57	60	63	46	55	61	61	70	79	58	55	61
Longford Gas Plant	631	721	912	952	965	664	746	1140	67	799	768	892
LNG Storage Dandenong	0	0	6	15	1	0	0	158	0	3	1	0
Otway Basin (VIC)										232	331	375
Minerva Gas Plant	66	61	87	87	87	87	87	94	81	80	76	96
Otway Gas Plant	120	118	153	168	200	188	114	206	68	152	141	170
Iona Underground Gas Storage	0	0	0	0	0	0	0	320	35	0	114	110
Moomba (SA)												
Moomba Gas Plant	285	273	266	264	315	95	268	430	79	252	341	329

*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)

^^Production volume estimated using year-to-date flow data

#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 (4 - 10 October)	Average min.	12.6	4.5	10.4	10.8	6.8
	Average max.	22.0	16.0	17.1	18.8	14.9
Previous 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

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 (4 - 10 October)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	3.12	3.12	1.50	0.60	4.35	3.00
Mon	1.68	2.69	2.50	1.68	4.35	1.73
Tue	3.49	3.73	3.19	4.86	4.86	3.53
Wed	3.73	3.73	0.48	0.00	4.69	3.54
Thu	3.13	3.13	3.06	3.06	4.81	3.14
Fri	3.19	3.73	1.50	0.20	0.00	3.11
Sat	2.70	3.11	2.71	1.50	0.00	2.68

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	
4-Oct	MP Demand:	566	595	596	568	589	-9
	AEMO Demand:	542	576	572	502	518	
	MP demand forecast as % of AEMO	104%	103%	104%	113%	114%	
5-Oct	MP:	682	672	674	680	681	0
	AEMO:	653	636	636	643	641	
	MP demand forecast as % of AEMO	104%	106%	106%	106%	106%	
6-Oct	MP:	837	845	858	864	861	0
	AEMO:	795	834	857	857	855	
	MP demand forecast as % of AEMO	105%	101%	100%	101%	101%	
7-Oct	MP:	841	841	835	822	822	0
	AEMO:	834	832	827	830	807	
	MP demand forecast as % of AEMO	101%	101%	101%	99%	102%	
8-Oct	MP:	802	781	780	793	794	0
	AEMO:	791	789	790	790	798	
	MP demand forecast as % of AEMO	101%	99%	99%	100%	99%	
9-Oct	MP:	744	758	749	743	743	0
	AEMO:	759	739	747	710	704	
	MP demand forecast as % of AEMO	98%	103%	100%	105%	106%	
10-Oct	MP:	565	551	555	549	558	-10
	AEMO:	523	526	542	537	541	
	MP demand forecast as % of AEMO	108%	105%	102%	102%	103%	

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