WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

23 – 29 August 2009

Preface

As part of its new monitoring roles for the National Gas Market Bulletin Board (bulletin board) and Victorian Gas Market, the AER is publishing 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, which is currently the only declared wholesale gas market in Australia.

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. The participants report daily forecast and actual operational data.

Average gas production and pipeline flows during the week were similar to the previous week. There were increases in demand from Victoria and South Australia, along with increased Gas Powered Generation (GPG) in each state except NSW.

Overall production in Queensland remained consistent with the previous week, despite a small increase in GPG. A decrease in the aggregate pipeline flows into New South Wales for the week saw a larger proportion of gas produced at Moomba transported through the Moomba to Adelaide pipeline to cater for the increased gas demand and GPG usage in South Australia. Increased flows through the SEAGas Pipeline into South Australia also occurred despite a decrease in gas production at the Otway Basin. This resulted in a larger proportion of gas supply in Victoria being sourced from the Eastern production facilities.

Following on from the previous week, the Tasmanian Gas Pipeline again failed to report flows on the Bulletin Board for the 23 and 24 August gas days. The AER monitors and reviews patterns of late submission of data and will continue to engage with participants to ensure that in future the data requirements of the bulletin board are satisfied.

Victorian Gas Market

Significant amounts of demand overrides were applied by AEMO to market participant demand forecasts this week on the 24, 25 and 27 August gas days. AEMO forecast thresholds were exceeded on these days, requiring the market operator to adjust forecasts to maintain system security.

Total gas injections and withdrawals in the Victorian gas market increased by around three per cent from the previous week. Despite the demand increase, there was a fall in the average daily price this week from $1.25/GJ to $1.01/GJ. Notably, the average daily price of gas was well below $1.00/GJ on each of Sunday, Monday, Thursday and Friday.

Part A: National Gas Market Bulletin Board

Summary of pipeline and production flows

Figure 1 sets out the average daily pipeline flows for each key demand region across the National Gas Market. It compares the average flows for each region with the previous week, and also the calendar year to date averages. (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 (23 - 29 Aug)	374	69	762	278	30	173	88	68
Previous week (16 - 22 Aug)	327	121	741	260	27	179	87	69
% change from previous week*	14.3	-42.8	2.9	7.1	14.6	-3.7	1	-1.7
Calendar Year-to-date 2009**	359	29	642	292	29	161	85	68

*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin Board http://www.gasbb.com.au

Notes:

1. Data for NSW calculated from flows on the Moomba-Sydney and Eastern Gas pipelines adjusted for net flows on the NSW-VIC interconnect and deducting flows into ACT. This figure may include gas taken at EGP off-takes in Victoria such as Bairnsdale.
2. Data for ACT calculated using off-take flows from the Moomba-Sydney and Eastern Gas pipelines
3. Data for VIC calculated by adding flows on Longford-Melbourne and South West pipelines adjusted for net flows on the NSW-VIC interconnect. This excludes Victorian off-takes from the EGP (between Longford and the NSW-VIC border).
4. Data for SA calculated by adding flows on the Moomba-Adelaide and SEAGas pipelines.
5. Data for TAS taken from flows on the Tasmanian Gas Pipeline.
6. Data for Brisbane, Mt Isa, and Gladstone calculated using flows along the Roma-Brisbane Pipeline, Carpentaria Gas Pipeline and Queensland Gas Pipeline respectively.

A significant driver of gas demand is the usage by gas-powered generation (GPG). Figure 2 provides the average daily amount of gas used for GPG in each demand region for the current week, in comparison to the previous week and the calendar year to date average.

Figure 2: Average daily gas (TJ) used by gas-powered generators in each demand region

Average daily gas for GPG usage*	**NSW**	**VIC**	**SA**	**TAS**	**QLD**
Current week (23 - 29 Aug)	66	24	140	11	136
Previous week (16 - 22 Aug)	75	12	130	9	131
% change from previous week**	-11.8	98.8	7.9	21.5	3.7
Calendar Year-to-date 2009***	66	57	173	18	116

*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' (Available at: http://www.aciltasman.com.au/News/news.html)
**The percentage change in the average daily gas usage from the previous week to the current week
**Average daily estimated gas consumption measured from 1 January 2009 to the current week (inclusive)
Source: http://www.aemo.com.au

Notes:

1. Data for NSW calculated using data from the following gas-powered generators (GPGs): Smithfield Energy, Uranquinty, Hunter Valley GT, Colongra and Tallawarra power stations
2. Data for VIC calculated using data from the following GPGs: Laverton North, Valley Power, Jeeralang A, Jeeralang B, Somerton, Bairnsdale, and Newport power stations.
3. Data for SA calculated using data from the following GPGs: Dry Creek GT, Hallet, Pelican Point, Torrens Island, Mintaro, Osborne, Ladbroke Grove, and Quarantine power stations.
4. Data for TAS calculated using data from the following GPGs: Bell Bay, and Bell Bay Power (Tamar Valley) power stations.
5. Data for QLD calculated using data from the following GPGs: 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 (23 - 29 Aug)	434	742	336	346
Previous week (16 - 22 Aug)	434	699	381	348
% change from previous week*	0.1	6.2	-11.8	-0.7
Calendar Year-to-date 2009**	428	690	334	294

*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin Board http://www.gasbb.com.au

Notes:

1. Data for Roma/Ballera taken from the combined actual production flows from Ballera gas plant and the various production facilities in Roma (a full list of these facilities is provided in the Glossary)
2. Data for Eastern (VIC) taken from the combined actual production flows from Orbost, Lang Lang, and Longford gas plants, along with LNG flows (if any).
3. Data for Otway Basin (VIC) taken from the combined actual production flows from Minerva and Otway gas plants, along with flows from Iona Underground Storage.
4. The Moomba (SA) figure taken from the actual production flows from the Moomba gas plant in South Australia.

Queensland

There are four bulletin board registered pipelines in Queensland (Figure 4). Average flows on the South West Queensland Pipeline were significantly higher than the previous week and year-to-date levels, with increased flows also occurring on the Carpentaria Gas Pipeline. Despite the increase in Queensland GPG, decreased regional demand from other industry sectors resulted in lower flows through the Queensland Gas Pipeline and Roma to Brisbane Pipeline.

Figure 4: Average daily flows (TJ) for Queensland pipelines

Average daily flows	Carpentaria Pipeline	Queensland Gas Pipeline	South West Queensland Pipeline^	Roma to Brisbane Pipeline
Current week (23 - 29 Aug)	88	68	165	173
Previous week (16 - 22 Aug)	87	69	151	179
% change from previous week*	1	-1.7	9.1	-3.7
Calendar Year-to-date 2009**	85	68	133	161

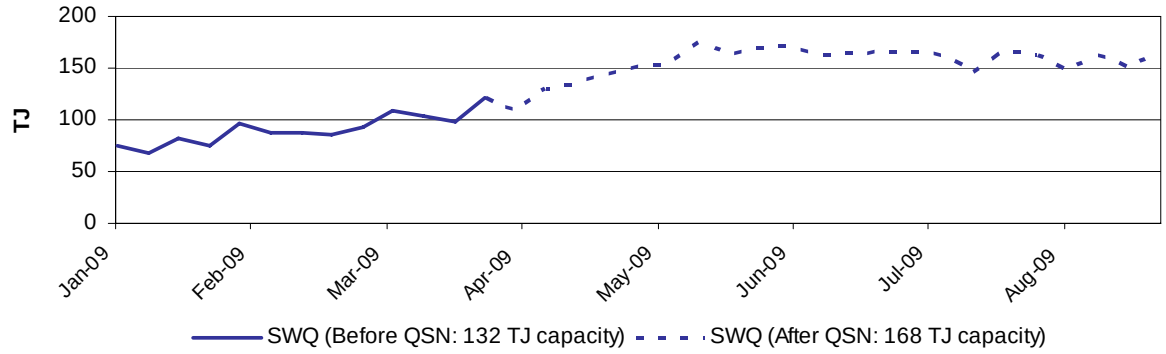
^Includes the Ballera to Moomba section of the pipeline (QSN Link)
*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin Board http://www.gasbb.com.au

Commissioning of the QSN link

Since the commissioning of the QSN link in January 2009, there has been a significant increase in westerly flows along the South West Queensland Pipeline (SWQP), which feed into the QSN link (and the Carpentaria Gas Pipeline to Mt Isa). Figure 5 shows the average daily flows along the SWQP, with the dotted line marking the additional flows along the SWQP since the introduction of the QSN link allowed Queensland gas to flow to Moomba.

Average daily flows on the SWQP for the week ending 29 August 2009 were around 90 TJ higher than the average flows on the SWQP during the same period in August 2008. This reflects the larger amount of gas able to flow down to the southern states, via the QSN link.

Figure 5: South West Queensland Pipeline (includes QSN Link flows to Moomba, SA)



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

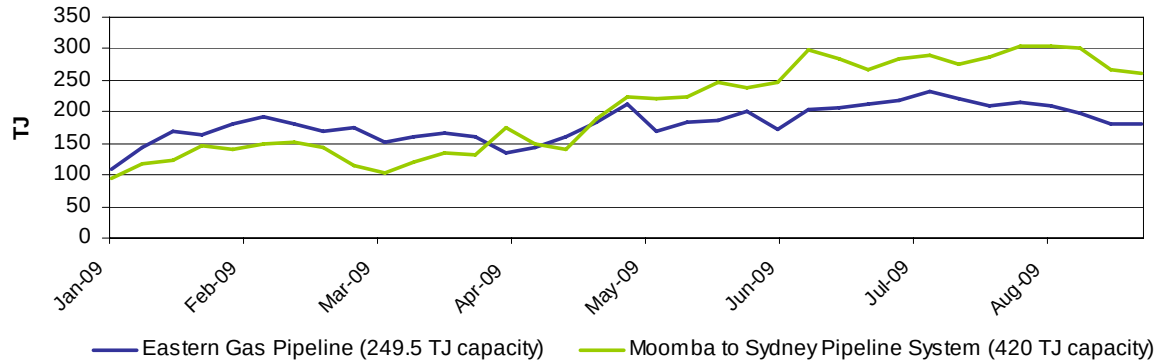
Notes: Reporting of flow data for the QSN link only began on the 31 March 2009, despite being commissioned in January 2009.

New South Wales / Australian Capital Territory

There are two main pipelines providing gas to the NSW and ACT demand regions. As shown in Figure 6, flows trended slightly downwards this week on the higher capacity Moomba Sydney Pipeline (MSP) due to the lower demand in the NSW demand region, while flows on the lower capacity Eastern Gas Pipeline (EGP) remained stable. A factor in the decreased GPG demand was decreased output this week from the recently commissioned Colongra Power Station.

The direction of gas flow on the bi-directional NSW-VIC interconnect changes depending on whether the demand for Victorian gas is higher than the demand for gas to be shipped into Victoria from NSW. Similar to the previous week, daily average flows through the NSW-Victoria Interconnect pipeline were in the 'reverse' direction into Victoria on each day of the week. Gas flowed south at an average rate of 48 TJ/day, a significant increase from the average of 31 TJ during the previous week. However, average flows on the NSW-VIC interconnect on a calendar year-to-date basis have been north, at 7 TJ/day.

Figure 6: Average daily flows (TJ) to NSW/ACT demand region



Average Daily Flows	Eastern Gas Pipeline	Moomba to Sydney Pipeline	NSW-VIC Interconnect^
Current week (23 - 29 Aug)	182	261	-48
Previous week (16 - 22 Aug)	182	267	-31
% change from previous week*	0.1	-2	56.4
Calendar Year-to-date 2009**	182	206	1

^Flows on the NSW-VIC Interconnect can flow in reverse direction from NSW into Victoria (represented by negative values)
*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin Board http://www.gasbb.com.au

Notes: The figure for the EGP includes some gas that is consumed in Victoria, from Victorian EGP off-takes.

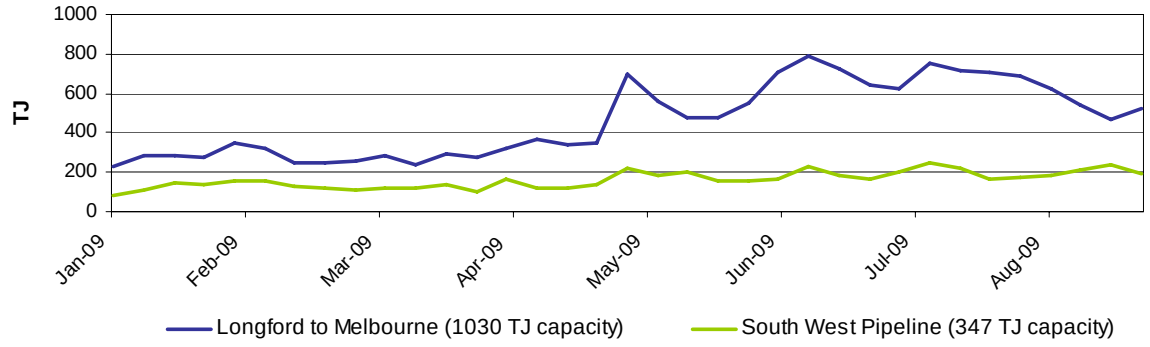
Victoria / Tasmania

There are two main pipelines providing gas into the Victorian demand region. As shown in Figure 7, average weekly flows on the smaller capacity South West Pipeline (SWP) have varied between 100 and 250 TJ since January 2009. Flows on the larger capacity Longford to Melbourne Pipeline (LMP) increased markedly at the end of April, but have since declined over August.

There was a significant increase in production at facilities in eastern Victoria (Longford) and a subsequent increase in flows down the LMP of over 50 TJ. This supplied the increased demand across Victoria and offset reductions to flows down the South West Pipeline, as the decreased amount of gas produced in the Otway Basin was transported interstate.

The Tasmanian Gas Pipeline (TGP), which is connected to Victorian production facilities, provides gas into the Tasmania demand region. The increase in Tasmanian GPG usage led to slightly higher flows along the TGP.

Figure 7: Average daily flows (TJ) to Victoria demand region



Average Daily Flows	Longford to Melbourne Pipeline	South West Pipeline	Tasmanian Gas Pipeline^
Current week (23 - 29 Aug)	522	192	30
Previous week (16 - 22 Aug)	471	236	27
% change from previous week*	10.9	-18.8	14.6
Calendar Year-to-date 2009**	468	163	29

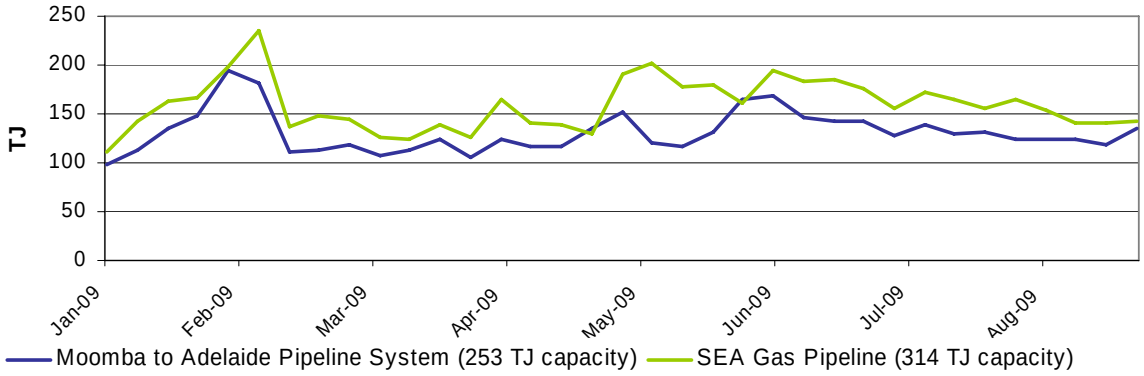
^Gas on the Tasmanian Gas Pipeline flows from Eastern Victoria into Tasmania, ending in Hobart.
*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin Board http://www.gasbb.com.au

South Australia

There are two main gas pipelines flowing into the South Australia (SA) demand region. As shown in Figure 8, the Moomba to Adelaide Pipeline (MAP) and SEAGas Pipeline have followed broadly similar flow trends from January 2009 to the current week. Flows along the SEAGas and Moomba to Adelaide pipelines increased this week to cater for an increase in demand and GPG despite lower amounts of gas being produced at both the Otway Basin. Gas supplied to the state increased by more than 18 TJ compared to the previous week, which was largely attributable to the increase in GPG.

Both SEAGas and MAP continue to not operate near pipeline nominated Maximum Daily Quantity (MDQ), which is a measure of total pipeline capacity. (Refer also to the Appendix for average usage of pipeline facilities)

Figure 8: Average daily flows (TJ) to South Australia demand region



Average Daily Flows	Moomba to Adelaide Pipeline	SEAGas Pipeline
Current week (23 - 29 Aug)	135	143
Previous week (16 - 22 Aug)	118	141
% change from previous week*	13.8	1.5
Calendar Year-to-date 2009**	132	160

*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National 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.

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	Market Customer	1							NS					S
AGL (Qld)	Retailer	1				NS								
AGL	Retailer	4		NS	NS	NS	S				NS	NS		
Aust. Power & Gas	Retailer	2				NS	S							
Country Energy	Retailer	1									S			
Energy Australia	Retailer	1					S							
International Power	Producer, Retailer	1											S	
Simply Energy	Retailer	4			S	NS	S	NS						
Origin (Vic)	Trader	6	S	S	NS	NS	S	S			S	S		
Origin (Uranquinty)	Retailer	1					S							
Red Energy	Producer	2				NS	S							
Santos	Retailer	2						S						
TRU Energy	Retailer	3			S	NS	S					S		
Victoria Electricity	Retailer	1										S		
Victoria Electricity	Market Customer	5		S	S	NS	S	S						
Visy Paper	Market 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. Weekly changes are highlighted a different colour.

Similar to last week, no injection bids were scheduled from LNG, reflecting the higher-priced LNG bids when compared with bids at other injection points. At Culcairn the amount of gas scheduled for injection continued to remain high to support the significant amount of gas flow southward (see Figure V4 below).

Market Prices and Ancillary Payments

In the Victorian gas market, gas volumes (imbalances) are traded five times a day with most volume being traded at the beginning of day (6am) pricing schedule. Smaller amounts of gas are traded at later 10am, 2pm, 6pm and 10pm pricing schedules. Figure V2 displays volume-weighted average daily imbalance prices, compared to the previous week and longer-term calendar year-to-date averages. Daily imbalance prices for each day during the current week are also noted.

Figure V2: Imbalance Weighted Prices ($/GJ)

	Current Week (23 - 29 Aug)	Previous Week (16-22 Aug)	2009 Calendar Year*	2008 Calendar Year**
Average daily price	1.01	1.25	2.52	*3.37*

Current Week (23 - 29 Aug)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	0.02	0.50	2.50	1.80	0.68	0.07	1.55

*Average daily imbalance weighted average price from 1 Jan 2009 to the current week (inclusive)
**Average daily imbalance weighted average price from 1 Jan 2008 over equivalent period.
Source: http://www.aemo.com.au (INT 041)

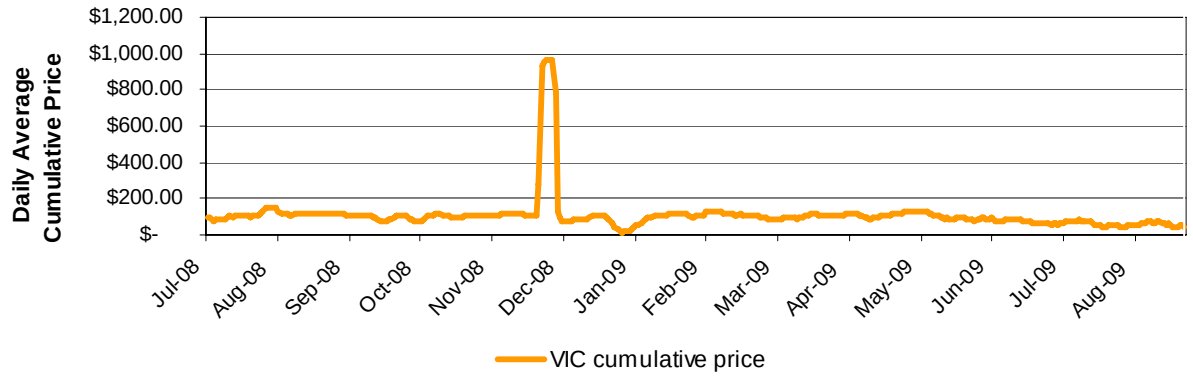
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

The imbalance weighted average price of $1.01/GJ was lower than the previous week. On four days this week the daily average price was less than $1.00/GJ. On more than one occasion the price for gas fell below 5 cents /GJ, effectively falling to $0/GJ during the 10 pm schedule on Friday 28 August.

As shown in Appendix A4, prices fluctuated considerably across the week between $0/GJ at 10pm on Friday to $4.14/GJ at 10 pm on Tuesday.

Figure V3 shows the daily average cumulative price from 1 July 2008 to the current week (inclusive). If the cumulative price exceeds $3700, the administered price cap of $40/GJ applies (compared to the usual $800/GJ).

Figure V3: Daily average cumulative price



Notes: The Cumulative Price is the weekly rolling cumulative price paid for gas injected into the transmission system. The Cumulative Price is calculated over 35 scheduling intervals.
Source: http://www.aemo.com.au (INT 199)

Ancillary Payments

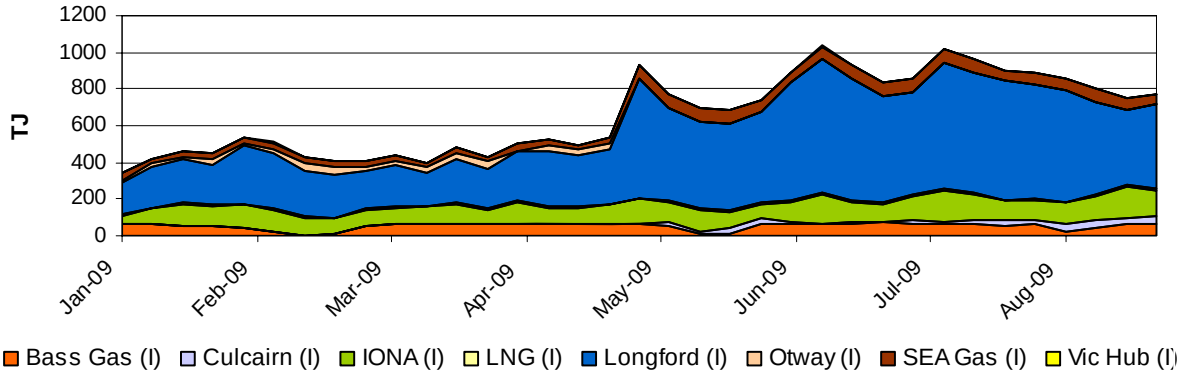
As with last week, there were no significant ancillary payments made during the week ending 29 August.

System Injections

Figure V4 provides the average daily amount of gas injected into the Victorian Principal Transmission System (VPTS) for the current week, the previous week, along with the calendar year-to-date average injections from each injection point on the system.

Figure V4: Average daily flows (TJ) from Injection Points on the VPTS

Injection Point:	Current Week (23 - 29 August)	Previous Week (16 – 22 August)	2009 Calendar Year to date*
Culcairn^	47.6	33.3	11.8
Longford	461	407	418
LNG	8	9	8
IONA^	137	166	111
VicHub^	1.10	1.26	1.16
SEAGas^	53	68	49
Bass Gas	64	66	52
Otway	0	0	13
TOTAL	**771**	**750**	**665**



^The reported flows from these bi-directional system points reflect actual daily injection flows. Reverse flows are not accounted for in this data unlike the Bulletin Board data presented in Part A of the report.
*Average daily injection flows across weeks from 1 January 2009 to the current week (inclusive)
**Figures have been rounded off to 2 decimal places to reflect the relatively small amount of gas flows (i.e. under 1 TJ)
Source: http://www.aemo.com.au (INT 150)

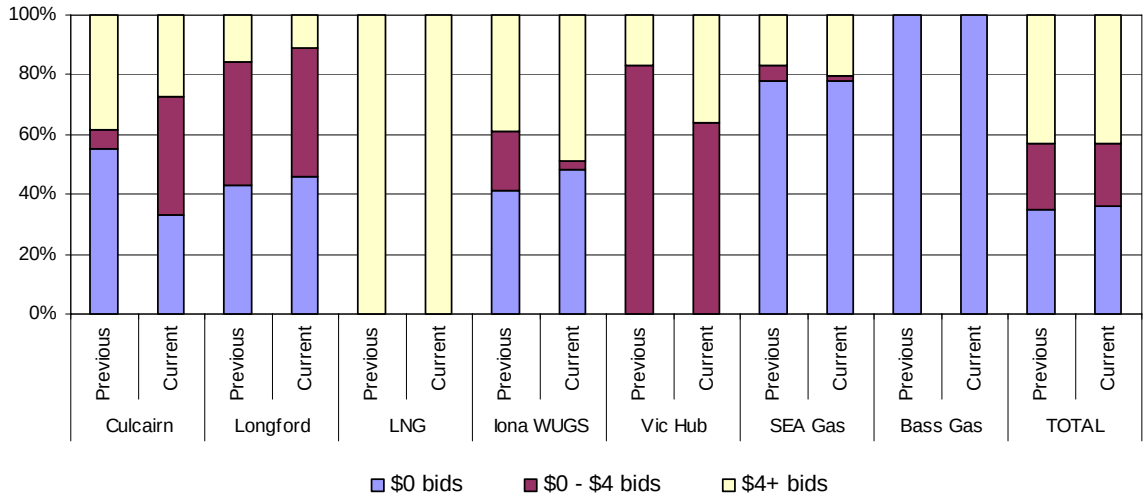
Notes: LNG injections were not scheduled by the market operator, but the reported flows from the LNG injection point indicate the amount of LNG that flowed into the system due to activities to manage the LNG facility's tank level. LNG is also regularly used by the connected BOC plant.

Overall, average daily injections into the VPTS increased by about three percent for the week ending 29 August. There were significant increases in the amount of gas scheduled from Longford. This corresponded with the increased proportion of gas offered into the market in the zero dollar price band as reported on in figure V5 below.

Bidding Activity

Figure V5 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 V5: 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.

The previous week's report noted a reduction in injection bids at Longford in the $0/GJ price band. For the week ending 29 August a larger volume of gas was bid into the market at zero dollars at Longford. This contributed to a lot more gas being priced in the $0 - $4 price band.

Figure V6 provides a table of injection points on the VPTS where market participants submitted intra-day renominations, for each day of the week.

Figure V6: Intra-day rebidding of gas injections

Injection Point:	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Culcairn							
Longford	AGL Origin TRU	Origin TRU	AGL Origin TRU	AGL TRU	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU
LNG				APG			
Iona	TRU	TRU				TRU	TRU
VicHub	AETV	AETV	AETV		AETV		
SEAGas		Simply	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 | APG = Australian Power & Gas

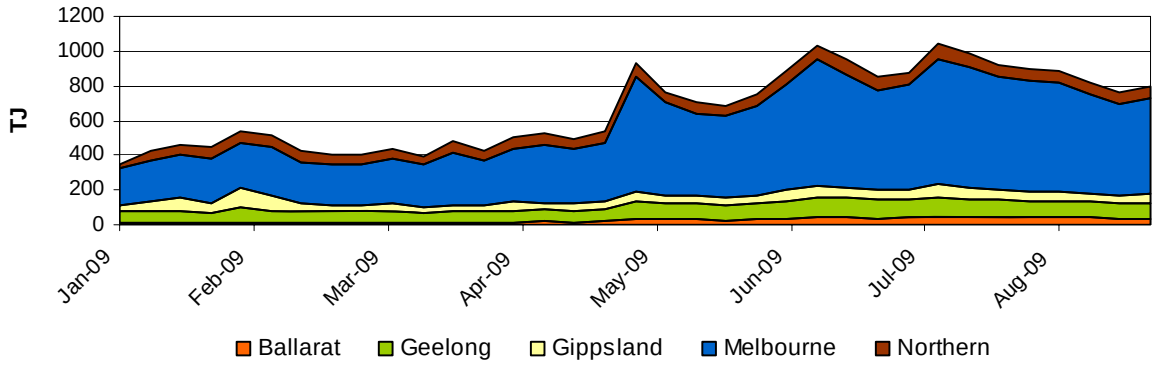
Rebidding was again dominated by the largest three retailers, with all three rebidding at Longford on various days. Intra-day rebidding was also seen by Australian Power and Gas at Dandenong LNG, Simply Energy at SEAGas, and by AETV Power at Vic Hub.

System withdrawals

Figure V7 notes the average daily gas withdrawals from the VPTS compared with the previous week and 2009 calendar year to date daily averages.

Figure V7: Average daily withdrawals (TJ) from system demand zones on the VPTS

System withdrawal zone:	Current Week (23 - 29 August)	Previous Week (16 – 22 August)	2009 Calendar Year to date**
Ballarat	38	36	26
Geelong*	89	85	82
Gippsland	54	50	54
Melbourne*	553	526	444
Northern	66	70	65
TOTAL	**799**	**768**	**672**



*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 withdrawal flows across weeks from 1 January 2009 to the current week (inclusive)
Source: http://www.aemo.com.au (INT 150).

Following on from a sizable decrease in the previous week, system withdrawals increased this week. Last week's fall was attributable to warmer average temperatures, whereas this week a decrease in temperature and increased GPG resulted in increased withdrawals (see Figure 2 and Appendix A4). Increased withdrawals were most prominent in Melbourne where consumption is likely to be particularly skewed towards residential heating demand.

Demand Forecasts and Demand Overrides

Significant amounts of override were applied by AEMO to market participant demand forecasts this week on 24, 25 and 27 August gas days. AEMO forecast thresholds were exceeded on these days, requiring the market operator to adjust forecasts to maintain system security. The demand override is shown in Figure A5 in the appendix along with comparisons between market participant demand forecasts and AEMO demand forecasts.

System Outages and Constraints

No Directional Flow Point Constraints (DFPCs) were issued for the current week. A Supply Demand Point Constraint (SDPC) was imposed on Bass Gas injections, which were limited by a daily maximum injection capacity of 60 TJ on 26 August.

Australian Energy Regulator
September 2009

APPENDIX

Figures A1 and A2 display the daily gas flows from each pipeline and production/storage facility and pipeline facility (in TJ) in the National Gas Market over the current week. 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)	Current week average capacity usage (%)	Previous week average capacity usage (%)	Year to date average capacity usage* (%)
QLD											
Carpentaria Pipeline	90	90	87	82	86	87	93	117	75	74	73
QLD Gas Pipeline	69	68	62	64	68	71	71	79	86	87	85
Roma to Brisbane Pipeline	159	185	178	180	180	170	156	208	83	86	77
South West QLD Pipeline	160	152	158	160	151	185	191	168	98	90	79
QSN link**	54	54	53	53	53	53	53	-	-	-	-
NSW/ACT											
Eastern Gas Pipeline	144	198	203	205	200	192	133	250	73	73	73
Moomba to Sydney Pipeline	193	279	299	311	283	251	213	420	62	63	49
NSW-VIC Interconnect^	-46	-52	-45	-49	-48	-45	-52	90	-53	-34	1
VIC											
Longford to Melbourne	363	528	709	669	479	450	457	1030	51	46	45
South West Pipeline	173	200	253	209	171	162	176	347	55	68	47
SA											
Moomba to Adelaide Pipeline	101	144	148	146	140	136	128	253	53	47	52
SEA Gas Pipeline	103	149	157	148	162	152	133	314	46	45	51
TAS											
Tasmanian Gas Pipeline	N/A	N/A	29	31	48	20	25	129	24	21	22

NB. Actual flow data not reported by Bulletin Board polling time is indicated by N/A
*Average daily injection flows from 1 January 2009 to the current week (inclusive)
**Flows on the QSN-link are included in the flow figures for the South West Qld Pipeline
^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)	Current week average capacity usage (%)	Previous week average capacity usage (%)	Year to date average capacity usage* (%)
Roma / Ballera (QLD)											
Berwyndale South	79	70	73	68	79	82	77	140	54	50	64
Fairview	113	113	110	113	110	113	114	115	97	97	83
Kenya^	33	34	33	32	34	35	34	160	21	19	15
Kincora	0	0	0	0	0	0	0	25	0	0	5
Kogan North	8	8	8	8	8	4	6	12	58	72	71
Peat	5	7	7	12	12	12	11	15	63	64	70
Rolleston	10	10	11	11	10	10	11	30	35	35	35
Scotia	26	27	27	27	27	27	27	27	100	99	76
Spring Gully	48	49	51	53	51	53	53	60	85	87	98
Strathblane	48	49	51	53	51	53	53	60	85	87	88
Taloona	29	30	31	32	31	32	32	36	86	88	45
Wallumbilla	11	11	11	10	11	11	10	20	55	52	54
Yellowbank	14	15	15	16	15	15	15	30	50	52	50
Ballera	0	0	0	0	0	0	0	150	0	2	9
Eastern (VIC)											
Orbost Gas Plant	0	0	0	0	0	0	0	10	0	0	0
Lang Lang Gas Plant	65	65	65	60	61	62	66	70	91	93	73
Longford Gas Plant	477	678	849	858	668	638	584	1140	60	56	56
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0
Otway Basin (VIC)											
Minerva Gas Plant	68	68	73	78	73	68	68	94	76	78	89
Otway Gas Plant	126	132	140	129	129	127	109	206	62	67	66
Iona Underground Gas Storage	107	139	174	153	130	112	147	320	43	53	36
Moomba (SA)											
Moomba Gas Plant	277	322	357	393	396	356	319	380	91	92	77

NB. Actual flow data not reported by Bulletin Board polling timelines is indicated by N/A
*Average daily injection flows from 1 January 2009 to the current week (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 (°C)		NSW (Sydney)	ACT (Canberra)	VIC (Melbourne)	SA (Adelaide)	TAS (Hobart)
Current Week (23 - 29 August)	Average min.	13.5	6.5	9.5	9.2	5.6
	Average max.	23.2	15.4	17.3	17.4	13.1
Previous Week (16 – 22 Aug)	Average min.	10.7	1.4	9.9	10.6	8.8
	Average max.	21.8	14.6	17.5	18.8	16.3

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 (23 - 29 August)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	0.01	0.18	0.05	0.07	0.07	0.02
Mon	0.50	0.50	0.01	0.50	1.69	0.50
Tue	2.50	1.70	1.52	1.53	4.14	2.50
Wed	1.76	3.00	3.01	3.17	1.65	1.80
Thu	0.53	2.99	2.40	1.49	0.03	0.68
Fri	0.01	1.49	1.49	0.54	0.00	0.07
Sat	1.51	1.51	2.29	2.45	2.97	1.55

Source: http://www.aemo.com.au (INT 041).

Figure A5 provides the daily demand forecasts by market participants and AEMO at each of the five schedules, including the aggregate market participant forecasts as a percentage of AEMO demand forecasts. The total demand override applied by AEMO (if any) are also shown for each gas day over the week. (Note: these can be positive or negative, depending on whether AEMO considers MP demand forecasts as too low or too high).

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	
23-Aug	**MP Demand:**	624	625	627	631	632	**0**
	AEMO Demand:	642	627	616	634	594	
	MP demand forecast as % of AEMO	97%	100%	102%	100%	106%	
24-Aug	**MP:**	835	832	838	851	1487	**-6**
	AEMO:	786	787	769	776	797	
	MP demand forecast as % of AEMO	106%	106%	109%	110%	187%	
25-Aug	**MP:**	1028	1006	1007	1020	1026	**-11**
	AEMO:	952	943	924	938	986	
	MP demand forecast as % of AEMO	108%	107%	109%	109%	104%	
26-Aug	**MP:**	905	905	343	343	343	**0**
	AEMO:	883	879	879	879	879	
	MP demand forecast as % of AEMO	102%	103%	39%	39%	39%	
27-Aug	**MP:**	767	791	769	771	764	**-7**
	AEMO:	747	772	745	740	711	
	MP demand forecast as % of AEMO	103%	102%	103%	104%	107%	
28-Aug	**MP:**	705	712	710	706	706	**0**
	AEMO:	674	675	687	687	647	
	MP demand forecast as % of AEMO	105%	105%	103%	103%	109%	
29-Aug	**MP:**	688	687	698	710	710	**0**
	AEMO:	676	641	687	702	690	
	MP demand forecast as % of AEMO	102%	107%	102%	101%	103%	

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

GLOSSARY

Figures G1 to G4 below provide geographical information for the various pipeline, production and storage facilities covered by the bulletin board. Figure G1 lists the production facilities that fall under the Roma zone. The majority of these facilities are Coal Seam Gas (CSG) plants.

Figure G1: Production facilities in the Roma Zone

Roma zone production facilities	
Berwyndale South	Scotia
Dawson Valley	Silver Springs
Fairview	Spring Gully
Kenya	Strathblane
Kincora	Taloona
Kogan North	Wallumbilla
Peat	Yellowbank
Rolleston	

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

Figure G2: Pipeline facilities

Map ID	Pipeline facility	Map ID	Pipeline facility
CGP	Carpentaria Gas Pipeline	RBP	Roma to Brisbane Pipeline
EGP	Eastern Gas Pipeline	QGP	Queensland Gas Pipeline
MAP	Moomba to Adelaide pipeline	SEAGas	South East Australian Gas pipeline
MSP	Moomba to Sydney pipeline	SWQP	South West QLD Pipeline
LMP	Longford to Melbourne pipeline	TGP	Tasmanian Gas Pipeline

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

Figure G3: Location of production and storage facilities

Facility	Location
Camden CSM	Located near Sydney
Minerva, Otway, Iona UGS	Located near Port Campbell
LNG Storage Dandenong	Located near Melbourne

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

Figure G4: Map of Bulletin Board Pipeline and Production Facility Locations

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