WEEKLY GAS MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

16 – 22 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 one percent lower than the previous week, largely driven by a decrease in regional demand and Gas Powered Generation (GPG) occurring in each state except Queensland and Tasmania. The higher demand for gas in theses two regions corresponded to an increase in GPG, with higher volumes of gas injected at the Roma production facilities and increased flows along the Queensland Gas Pipeline (QGP), Roma to Brisbane Pipeline (RBP) and the Tasmanian Gas Pipeline (TGP).

The Tasmanian Gas Pipeline failed to report flows on the Bulletin Board for 16 to 21 August. The AER monitors and reviews patterns of late submission of data and will continue to engage with facilities to ensure that in future the data requirements of the bulletin board are satisfied.

Victorian Gas Market

The Market Operator adjusted market participants' demand forecasts on one occasion during the week, with a 6 TJ demand override for 21 August..

Total gas injections and withdrawals in the Victorian gas market decreased by around seven per cent from the previous week. Along with this decrease in demand there was a significant fall in the average daily price this week from $1.88/GJ to $1.25/GJ.

Notably, the average daily price of gas was under $1/GJ on Tuesday, Wednesday, Thursday and Friday. On these days there was a significant amount of rebidding at Longford by the three largest retailers (AGL, Origin and TRUenergy). This rebidding led to considerable fluctuations in prices across all four days with 6 am prices being less than $1/GJ but following schedules prices reaching as high as $3.70/GJ at 10 pm on 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 (16 - 22 Aug)	409	39	741	260	27	179	87	69
Previous week (9 - 15 Aug)	455	44	798	265	18	153	84	57
% change from previous week*	-10.1	-11	-7.2	-2	46.6	17	3.4	21.1
Calendar Year-to-date 2009**	362	24	639	292	28	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.

One important driver of gas demand is the gas 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 (16 - 22 Aug)	75	12	130	9	131
Previous week (9 - 15 Aug)	97	9	131	5	99
% change from previous week**	-23	38	-1	92	32
Calendar Year-to-date 2009***	66	58	174	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. It compares these average flows for each zone with flow outcomes from the previous week and the year to date average (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 (16 - 22 Aug)	434	699	381	348
Previous week (9 - 15 Aug)	408	781	341	371
% change from previous week*	6.2	-10.4	11.8	-6.2
Calendar Year-to-date 2009**	426	689	334	293

*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.

Overview of gas demand across South and Eastern Australia

Along with GPG, temperature patterns are another important driver of gas demand, particularly in Victoria where there is large residential gas heating demand, and to a lesser extent in Tasmania, South Australia (SA), New South Wales (NSW) and the ACT. Slightly warmer temperatures for the week ending 22 August, combined with an overall drop in GPG, may have led to lower pipeline flows into the majority of those regions compared to the previous week. (See also Figure A3 in the Appendix)

This week, decreased GPG explained a significant drop in gas demand in NSW. Increased GPG supported increased demand in Tasmania, where GPG accounted for around half of the total increase in consumption for the state. There was a slight increase in flows down the SEAGas Pipeline corresponding to increased production in the Otway Basin, yet the vast majority of this additional gas flowed through the South West Pipeline to Melbourne. Demand in Victoria decreased significantly with an 80 TJ drop in production from the Eastern Victorian production zone.

Queensland

There are four bulletin board registered pipelines in Queensland (Figure 4). Average flows on each pipeline were slightly higher than the previous week and year-to-date levels, with the exception of the South West Queensland Pipeline (SWQP). An increase in GPG and a slight increase in regional demand resulted in an increase in Queensland gas production. Increased production in Roma delivered higher volumes of gas down the QGP and RBP to Gladstone and Brisbane respectively.

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 (16 - 22 Aug)	87	69	151	179
Previous week (9 - 15 Aug)	84	57	162	153
% change from previous week*	3.4	21.1	-6.8	17
Calendar Year-to-date 2009**	85	68	132	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

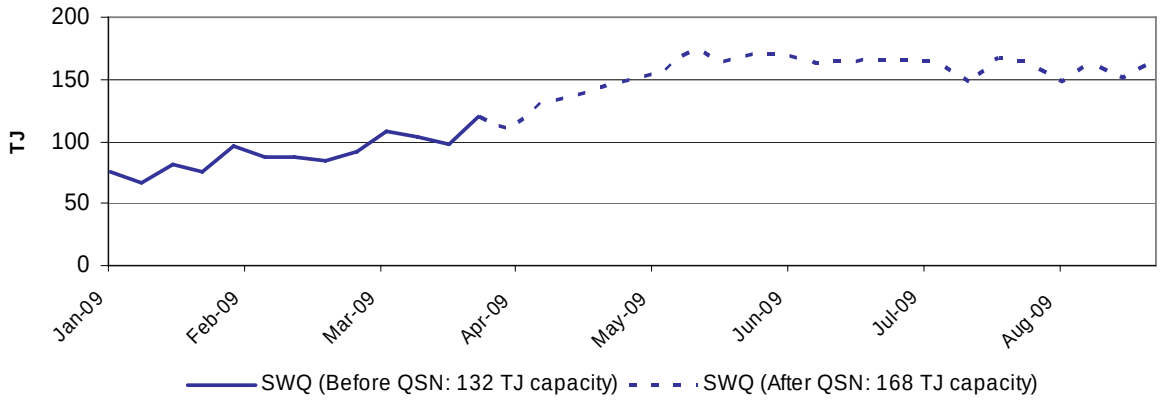
Commissioning of the QSN link

In January 2009, the new QSN Link (Ballera to Moomba) was commissioned, creating for the first-time the ability to deliver dry-gas between Queensland and the southern states. This link is an important source of new inter-basin competition, as Queensland-sourced coal seam gas can now be delivered to compete with gas from Moomba and the southern basins.

Since the commissioning of the QSN link, there has been a significant increase in westerly flows along the 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 22 August 2009 were around 80 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

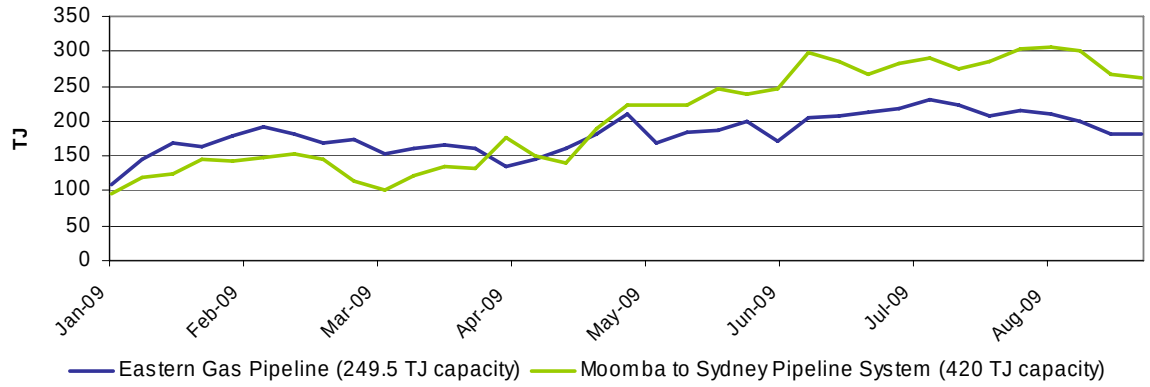
Notes: Reporting of flow data for the QSN link only began on the 31 March 2009, despite being commissioned in January 2009.

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 both the higher capacity Moomba Sydney Pipeline (MSP) and lower capacity Eastern Gas Pipeline (EGP), due to the lower demand in the NSW demand region. This lower demand in NSW was in part due to warmer average temperatures decreasing demand for gas for heating as well as decreased GPG demand. 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, the majority of flows through the NSW-Victoria Interconnect pipeline were in the 'reverse' direction into Victoria, with the exception of positive flows delivering gas into NSW on 16 August. Gas flowed south at an average rate of around 30 TJ/day. 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 (16 - 22 Aug)	182	267	-31
Previous week (9 - 15 Aug)	199	300	-42
% change from previous week*	-8.5	-11.2	-26.1
Calendar Year-to-date 2009**	182	204	2

^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

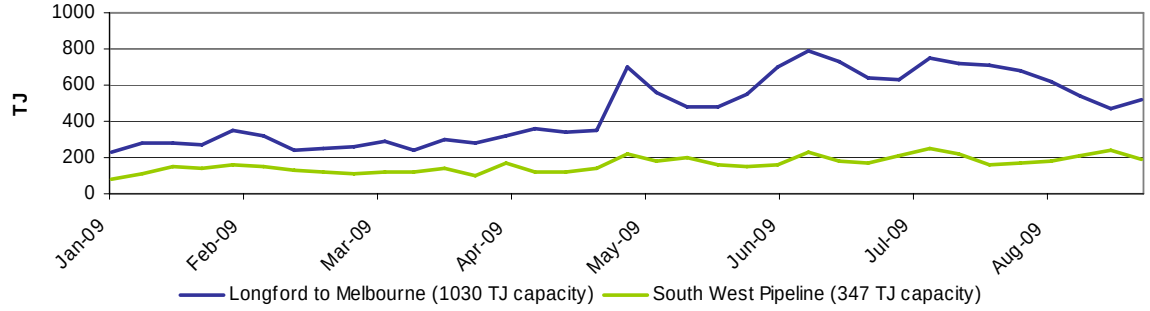
Notes: The figure for the EGP includes some gas that is consumed in Victoria, from Victorian EGP off-takes.

Victoria / Tasmania

There are two main pipelines providing gas into the Victorian demand region. As shown in Figure 7, flows on the smaller capacity South West Pipeline (SWP) have varied between 100 and 250 TJ since January 2009, whilst 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 decrease in production at facilities in eastern Victoria (Longford) and a subsequent reduction in flows down the LMP of around 80 TJ. The decrease in demand across Victoria was less than the reduction in flow down the LMP. An increased amount of gas from Otway basin facilities, flowing through the SWP, offset reductions down the LMP.

The Tasmanian Gas Pipeline (TGP), which is connected to Victorian production facilities, provides gas into the Tasmania demand region. The increase in Tasmanian gas demand led to marginally increased flows along the TGP. This may have been driven by an increase in gas-powered electricity generation which accounted for around half of the increase in gas demand for the state from the previous week.

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 (16 - 22 Aug)	471	236	27
Previous week (9 - 15 Aug)	542	215	18
% change from previous week*	-13.1	10	46.6
Calendar Year-to-date 2009**	467	162	28

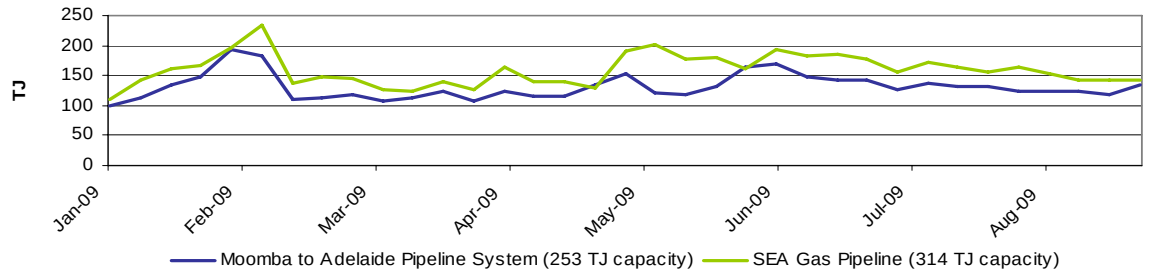
^Gas on the Tasmanian Gas Pipeline flows from Eastern Victoria into Tasmania, ending in Hobart.
*The percentage change in the average daily flow from the previous week to the current week
**Average daily injection flows from 1 January 2009 to the current week (inclusive)
Source: National Gas Market Bulletin 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 pipeline remained relatively stable compared to the previous week, while flows along the MAP decreased slightly.

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 (16 - 22 Aug)	118	141
Previous week (9 - 15 Aug)	124	141
% change from previous week*	-4.4	0.1
Calendar Year-to-date 2009**	132	161

*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			
			Bass Gas	Culcairn	IONA	LNG	Longford	SEA Gas	VicHub	Otway	Culcairn	IONA	SEA Gas	VicHub
AETV Power	Market Customer	1							NS					NS
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			NS	NS		
Origin (Uranquinty)	Retailer	1					S							
Red Energy	Producer	2				NS	S							
Santos	Retailer	2						S						S
TRU Energy	Retailer	3			S	NS	S					NS		
Victoria Electricity 2	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.

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 and to support a 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 (16 - 22 Aug)	Previous Week (9-15 Aug)	2009 Calendar Year*	2008 Calendar Year**
Average daily price	1.25	1.88	2.57	*3.37*

Current Week (16 - 22 Aug)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Daily price	1.23	2.43	0.72	0.67	0.57	0.60	2.52

*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)

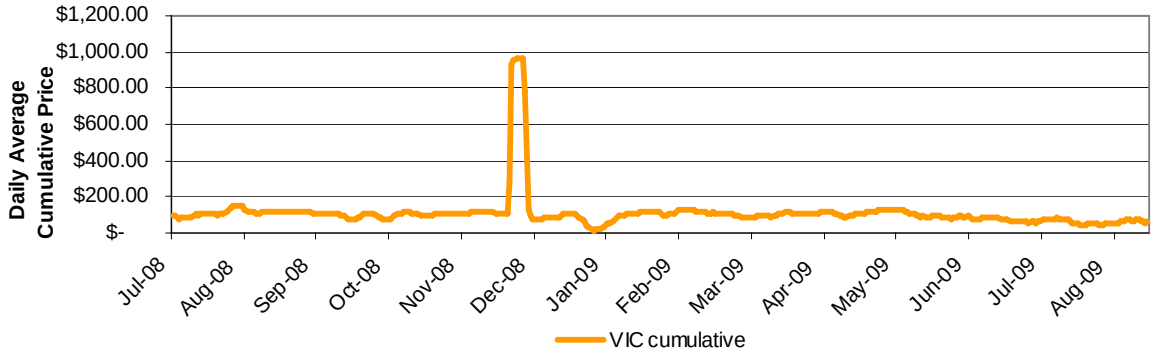
Notes: The daily average market price is a volume weighted imbalance price taking account of trading amounts at five times through the gas day — 6am, 10am, 2pm, 6pm and 10pm.

The imbalance weighted average price of $1.25/GJ was lower than the previous week. On four days this week the daily average price was less than $1/GJ. On one of these days, Thursday, the 10 pm price for gas was just 1 cent /GJ.

As shown in appendix A4, prices fluctuated considerably across the week between 1 cent/GJ at 10pm on Thursday to $3.70/GJ at 10 pm on Friday.

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

Significant ancillary payments can occur in the market on occasion, particularly if the capacity to deliver gas is limited because of high demand or plant outages, and higher-priced gas is required to be scheduled out of price merit order. Ancillary payments can be made to

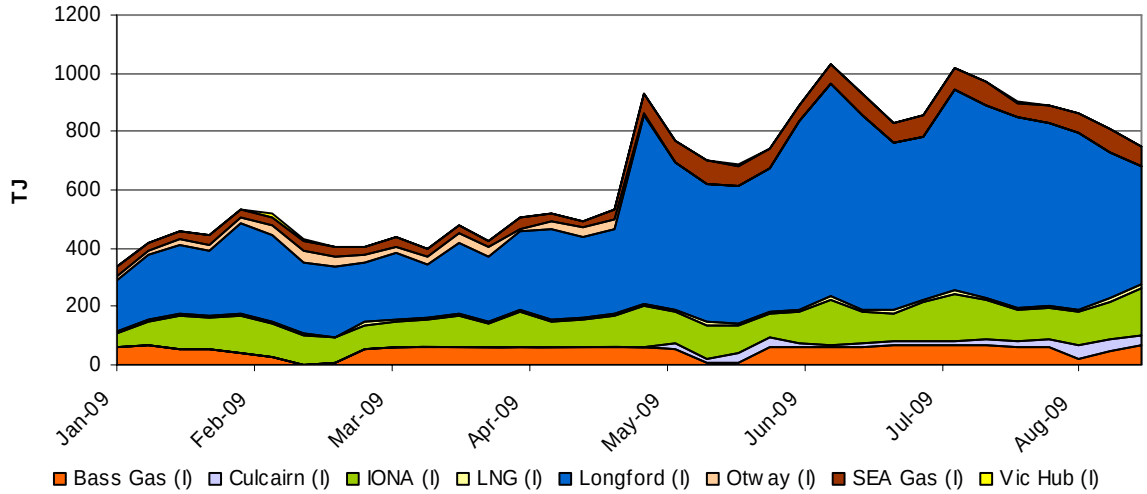
participants who are called upon to provide gas to alleviate system constraints. As with last week, there were no significant ancillary payments made during the week ending 22 August.

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 financial 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 (16 - 22 August)	Previous Week (9 – 15 August)	2009 Calendar Year to date*
Culcairn^	33.3	41.7	10.7
Longford	407	498	417
LNG	9	10	8
IONA^	166	129	110
VicHub^	1.26	0.28	1.16
SEAGas^	68	84	49
Bass Gas	66	47	52
Otway	0	0	14
TOTAL	**750**	**809**	**662**



^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)

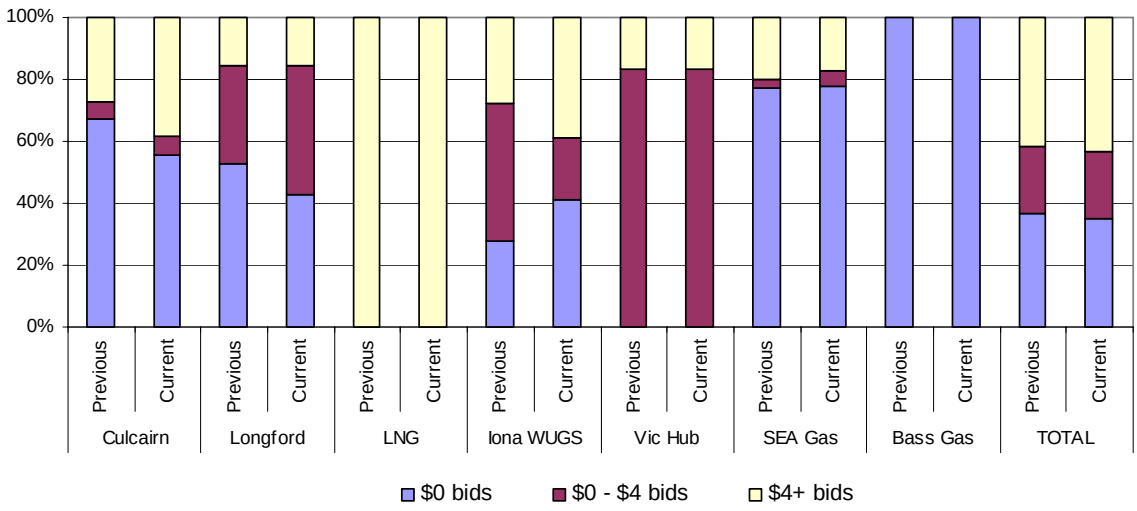
Notes: LNG injections were not scheduled by the market operator, but the reported flows from the LNG injection point indicate the amount of LNG that flowed into the system due to activities to manage the LNG facility's tank level. LNG is also regularly used by the connected BOC plant.

Overall, average daily injections into the VPTS fell by about seven percent for the week ending 22 August, continuing a downwards trend from the previous week. There were however significant increases in the amount of gas scheduled from Iona. This corresponded with the increased amount of gas offered into the market in the zero dollar price band as reported on in figure V5 below. Injections from Culcairn are starting to decline from the extremely high levels reported at the beginning of August.

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 increased injection bids at Longford and Culcairn in the $0/GJ price band. For the week ending 22 August there were less zero dollar bids at Longford and Culcairn. Instead there was a lot more gas being priced in the $0 - $4 price band. However, this week at Iona, considerably less gas was bid in between the $0 -$4 price band, and considerably more gas was bid in at $0.

Figure V6 provides a table of injections point 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			Origin				
Longford	AGL TRU	AGL	AGL Origin TRU	AGL Origin TRU	AGL Origin TRU	Origin TRU	AGL TRU
LNG							
Iona	TRU	TRU	TRU	TRU	TRU	TRU	
VicHub							
SEAGas	IP	IP 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 | VE = Victoria Electricity

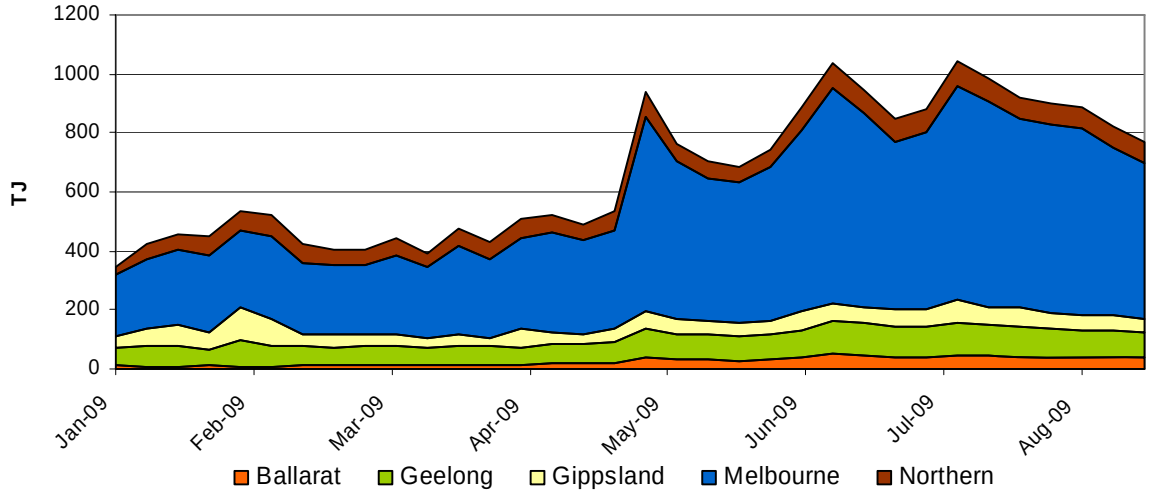
In the previous week, Origin submitted rebids at Bass Gas on three occasions, but for the week ending 22 August 2009 submitted no rebids. Rebidding was again dominated by the largest three retailers, with all three rebidding at Longford on Tuesday, Wednesday and Thursday. On each of these days the beginning of day price was under $1 but subsequently rose from the following 10 am schedule.

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 (16 - 22 August)	Previous Week (9 – 15 August)	2009 Calendar Year to date**
Ballarat	36	39	26
Geelong*	85	92	82
Gippsland	50	51	54
Melbourne*	526	567	441
Northern	70	70	65
TOTAL	**768**	**820**	**668*** **



*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).
*** The INT 150 data from which system withdrawals are taken has been amended to correct for a double counting problem and this explains the reduction in the year to date withdrawal figure of 22TJ when compared to the figure reported on in the previous week.

Following on from a sizable decrease in the previous week, system withdrawals fell again this week. Last week's fall was attributable to decreased GPG usage in Victoria, whereas this week it appears to have been caused by the warmer average temperatures (see appendix 4). Decreased withdrawals were most prominent in the Melbourne and Geelong zones where consumption is likely to be particularly skewed towards residential heating demand.

Demand Forecasts and Demand Overrides

In the Victorian Gas Market, the market operator, AEMO, determines its own hourly demand forecasts for uncontrollable demand. Market Participants also submit their own forecast demand, which is aggregated and used by AEMO for scheduling subject to any Demand Override it applies.

If the Market Participant Total Demand Forecast is too high or too low relative to the AEMO Total Demand Forecast, then an amount may be added (or subtracted) to the Market Participant Forecast Demand to create the Total Demand, so as to ensure that an appropriate amount of gas is scheduled to maintain system security.

There was a 6 TJ demand override on 21 August. 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 Culcairn injections, which were limited by an hourly maximum injection capacity slightly over 7.9 TJ on 17 August from 10 pm.

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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. 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, previous 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)	Current week average capacity usage (%)	Previous week average capacity usage (%)	Year to date average capacity usage* (%)
QLD											
Carpentaria Pipeline	86	86	85	81	88	92	91	117	74	72	73
QLD Gas Pipeline	63	69	71	71	70	68	69	79	87	72	85
Roma to Brisbane Pipeline	154	189	191	191	190	182	159	208	86	74	78
South West QLD Pipeline	177	133	127	144	151	158	171	168	90	97	79
QSN link**	54	47	52	47	54	54	54	-	-	-	-
NSW/ACT											
Eastern Gas Pipeline	148	188	190	211	203	196	136	250	72	80	73
Moomba to Sydney Pipeline	185	250	303	299	296	293	240	420	63	72	49
NSW-VIC Interconnect^	20	-13	-35	-44	-41	-49	-53	90	-34	-46	2
VIC											
Longford to Melbourne	436	502	497	434	478	463	487	1030	46	53	45
South West Pipeline	229	291	246	233	188	243	224	347	68	62	47
SA											
Moomba to Adelaide Pipeline	110	132	135	110	123	115	104	253	47	49	52
SEA Gas Pipeline	94	158	155	160	156	150	116	314	45	45	51
TAS											
Tasmanian Gas Pipeline	N/A	N/A	N/A	N/A	N/A	N/A	27	129	21	14	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	71	66	69	65	67	70	80	140	50	47	65
Fairview	110	107	109	112	112	117	115	115	97	95	83
Kenya^	30	32	28	30	31	31	34	160	19	18	14
Kincora	0	0	0	0	0	0	0	25	0	0	6
Kogan North	10	10	10	8	8	8	8	12	72	59	72
Peat	11	10	10	11	11	7	7	15	64	73	71
Rolleston	11	11	11	10	10	10	11	30	35	37	35
Scotia	27	26	27	27	26	27	27	27	99	64	75
Spring Gully	51	51	53	52	53	53	53	60	87	85	98
Strathblane	51	51	53	52	53	53	53	60	87	85	88
Taloona	31	31	32	32	32	32	32	36	88	86	44
Wallumbilla	11	10	10	10	10	10	10	20	52	46	54
Yellowbank	16	16	16	15	15	15	16	30	52	52	50
Ballera	0	8	16	0	0	0	0	150	2	0	9
Eastern (VIC)											
Orbost Gas Plant	0	0	0	0	0	0	0	10	0	0	0
Lang Lang Gas Plant	65	65	65	66	66	66	65	70	93	67	72
Longford Gas Plant	552	669	649	650	657	644	615	1140	56	64	56
LNG Storage Dandenong	0	0	0	0	0	0	0	158	0	0	0
Otway Basin (VIC)											
Minerva Gas Plant	68	78	83	78	68	68	68	94	78	87	89
Otway Gas Plant	119	140	137	143	156	146	120	206	67	69	67
Iona Underground Gas Storage	166	225	166	169	163	152	154	320	53	37	35
Moomba (SA)											
Moomba Gas Plant	311	324	364	376	384	333	344	380	92	98	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 (16 - 22 August)	Average min.	10.7	1.4	9.9	10.6	8.8
	Average max.	21.8	14.6	17.5	18.8	16.3
Previous Week (9 – 15 August)	Average min.	8.5	0.4	8.5	9.8	7.7
	Average max.	19.1	14.8	16.6	19.5	13.3

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 (16 - 22 August)	Scheduling Interval					Daily Imbalance Weighted Average Price
	6am	10am	2pm	6pm	10pm	
Sun	1.13	1.10	1.68	1.68	3.54	1.23
Mon	2.40	3.30	2.99	2.50	3.29	2.43
Tue	0.55	1.60	3.11	2.50	3.11	0.72
Wed	0.56	3.15	1.60	1.49	1.60	0.67
Thu	0.56	1.49	1.49	0.50	0.01	0.57
Fri	0.56	0.50	0.58	0.58	3.70	0.60
Sat	2.56	3.00	1.69	1.51	0.50	2.52

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

Figure A5: Daily demand forecasts (TJ) and daily demand overrides (TJ)

Gas Day	Forecasts (TJ)	Schedule					Demand Override Applied (TJ)
		1	2	3	4	5	
16-Aug	**MP Demand:**	635	598	640	636	636	0
	AEMO Demand:	600	572	691	663	674	
	MP demand forecast as % of AEMO	106%	105%	93%	96%	94%	
17-Aug	**MP:**	812	817	823	818	817	0
	AEMO:	841	841	784	760	782	
	MP demand forecast as % of AEMO	97%	97%	105%	108%	104%	
18-Aug	**MP:**	743	743	775	781	781	0
	AEMO:	730	763	804	795	798	
	MP demand forecast as % of AEMO	102%	97%	96%	98%	98%	
19-Aug	**MP:**	720	723	729	718	718	0
	AEMO:	710	739	723	726	729	
	MP demand forecast as % of AEMO	101%	98%	101%	99%	98%	
20-Aug	**MP:**	756	760	764	756	755	0
	AEMO:	736	736	727	716	695	
	MP demand forecast as % of AEMO	103%	103%	105%	106%	109%	
21-Aug	**MP:**	807	803	818	814	820	6
	AEMO:	842	777	769	757	817	
	MP demand forecast as % of AEMO	96%	103%	106%	108%	100%	
22-Aug	**MP:**	787	780	778	776	776	0
	AEMO:	780	759	767	753	740	
	MP demand forecast as % of AEMO	101%	103%	101%	103%	105%	

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

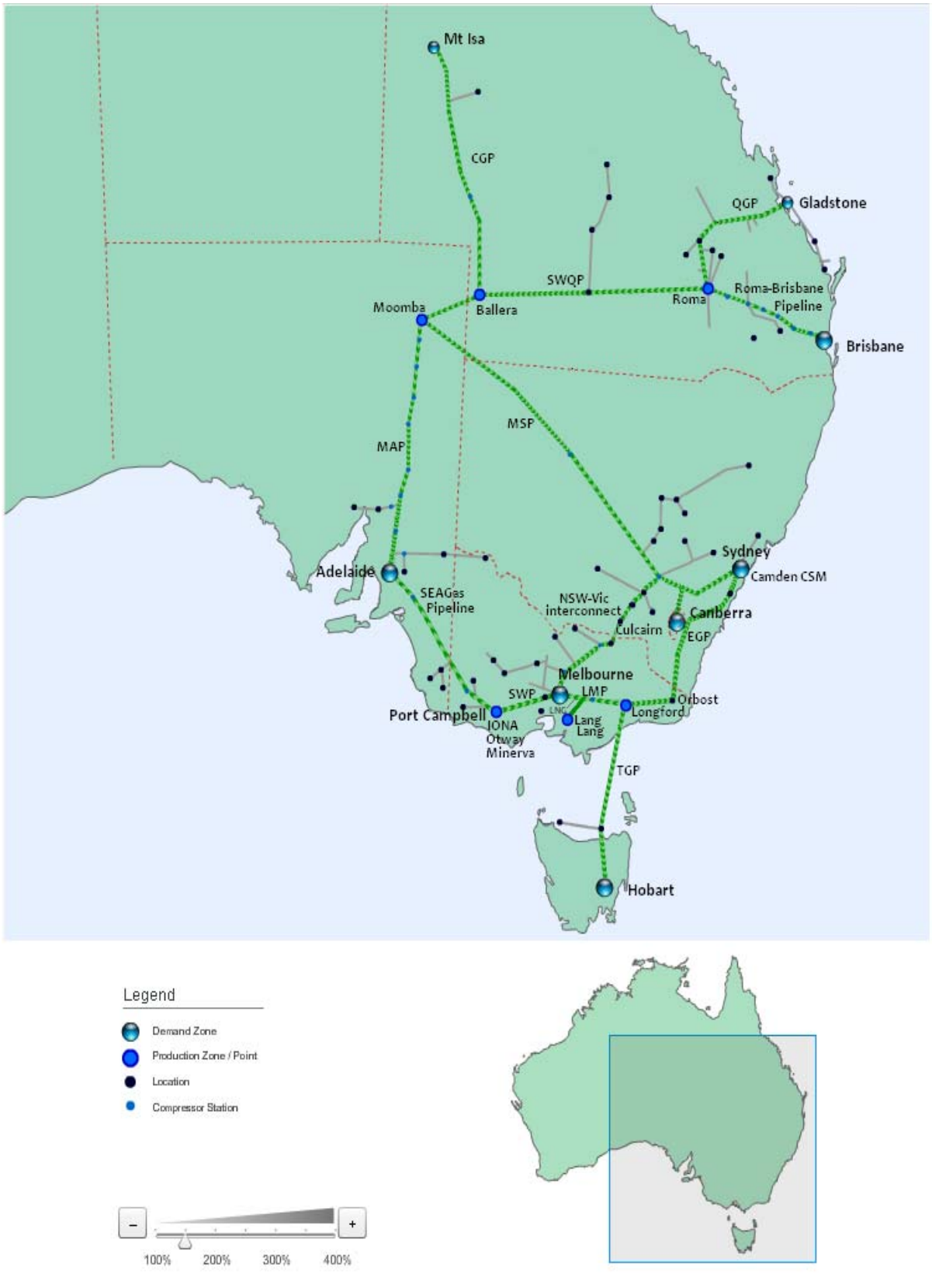
Source: Natural Gas Market Bulletin Board http://www.gasbb.com.au

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