



MOS ESTIMATES REPORT

MOS PERIODS: JUNE 2020, JULY
2020 & AUGUST 2020

Important notice

PURPOSE

This document has been prepared for the sole purpose of the Short Term Trading Market ('STTM') in accordance with rule 397 of the National Gas Rules (STTM rules).

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Acknowledgement

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VERSION CONTROL

Version	Release date	Changes
1.0	04/09/2019	New document published quarterly

1. Introduction

MOS (Market Operator Service) estimates provide a guide of the largest daily increase and decrease MOS quantities that market participants may reasonably expect for each STTM pipeline. The MOS estimate is based on historical data and therefore does not limit the quantity of MOS that may be experienced in the future.

The MOS estimates also determine the value of any overrun MOS. If the MOS estimate (increase or decrease) for an STTM pipeline exceeds the total quantity of MOS offered for that pipeline (increase or decrease respectively), then any overrun MOS is paid at the weighted average price within the relevant MOS stack. Otherwise, if the total quantity of MOS offered for an STTM pipeline exceeds the MOS estimate then overrun MOS is paid at the highest priced offer within the stack.

In accordance with rule 397 of the National Gas Rules (STTM Rules), AEMO publishes MOS increase and decrease estimates for each STTM pipeline prior to the commencement of each monthly MOS period. In determining the MOS estimates for each MOS period, AEMO must use the data specified in Section 5.2 (b) of the STTM Procedures.

2. The MOS period

MOS periods are defined in section 5.1 of the STTM Procedures. The MOS estimates contained in this document relate to MOS periods: June 2020, July 2020 and August 2020.

The MOS quantities for each STTM pipeline and each gas day are as determined in accordance with the published methodology for determining MOS estimates¹.

2.1 Sydney, Adelaide and Brisbane hubs

The Sydney and Adelaide STTM hubs commenced operations on 1 September 2010, while the Brisbane STTM hub commenced operations on 1 December 2011. Therefore, the MOS estimate quantities are based on 'Method 3' for year 6 + of an STTM hub². This means they are derived using the actual daily MOS allocation quantities for the periods December from 2014 to 2018; January from 2015 to 2019; and February from 2015 to 2019; for the following STTM pipelines:

- Moomba to Sydney Pipeline (MSP) and Eastern Gas Pipeline (EGP) – these pipelines supply gas to the Sydney STTM hub; and
- Moomba to Adelaide Pipeline (MAP) and SEA Gas pipeline (SEA) – these pipelines supply gas to the Adelaide STTM hub.
- Roma to Brisbane Pipeline (RBP) – the sole pipeline that supplies gas to the Brisbane STTM hub.

The input data collected from the previous years was combined to create a larger and more representative sample of MOS allocations.

2.2 Explanation of MOS quantities and summary statistics

Positive MOS quantities indicate the requirements for increase MOS, whereas negative MOS quantities indicate the requirements for decrease MOS.

¹ AEMO, *Methodology for determining MOS estimates*, Available at: <http://www.aemo.com.au/Gas/Short-Term-Trading-Market-STTM/Market-operations/Market-Operator-Service>.

² AEMO, *Methodology for determining MOS estimates*, pg 22

STTM Rule 397(1)(a) requires AEMO to publish its estimate of the maximum quantity of MOS (by way of increase and decrease) likely to be required on any gas day in the relevant MOS period. This is provided in Table 1 below.

STTM Rule 397(1)(b) requires AEMO to publish its estimate of the range of daily quantities of MOS likely to be required, together with the number of gas days in the MOS period to which each of those estimated quantities applies. This is provided by month in the following sections tables and charts.

3. MOS Estimates

3.1 MOS Period June 2020

Table 1 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	12,956	12,256	12,253	135	5,017
MOS decrease	23,284	4,168	8,687	17,632	10,911

Figure 1 Curves of daily MOS quantities

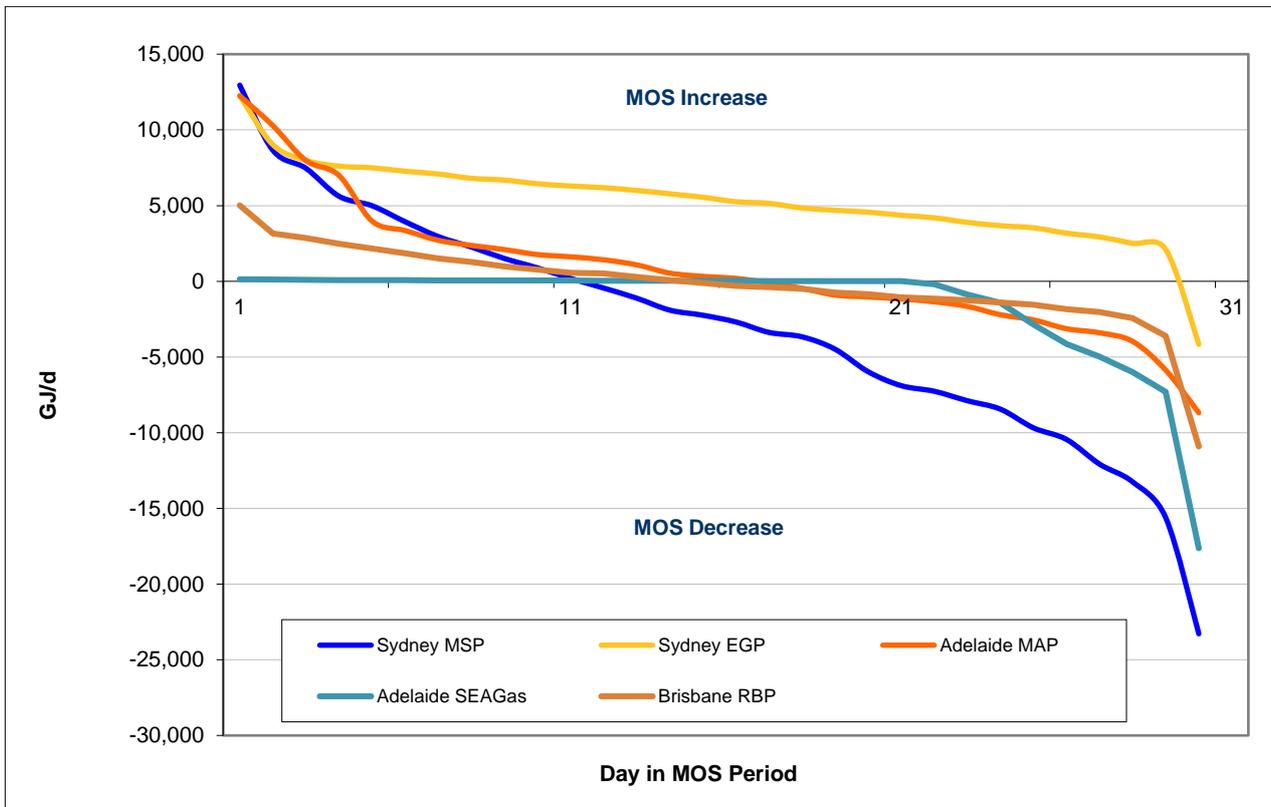


Table 2 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	12,956	12,256	12,253	135	5,017
95%	8,123	8,562	9,248	100	3,021
75%	2,076	6,775	2,302	58	1,212
50%	-2,464	5,406	259	28	-218
25%	-7,733	3,967	-1,582	-704	-1,221
5%	-14,551	2,288	-5,015	-6,721	-3,076
Minimum	-23,284	-4,168	-8,687	-17,632	-10,911
Mean	-2,976	5,307	749	-1,477	-220
Std deviation	7,799	2,777	4,441	3,657	2,741
% days positive	37%	97%	53%	70%	47%
% days negative	63%	3%	47%	30%	53%

Figure 2 Distribution of daily MOS quantities

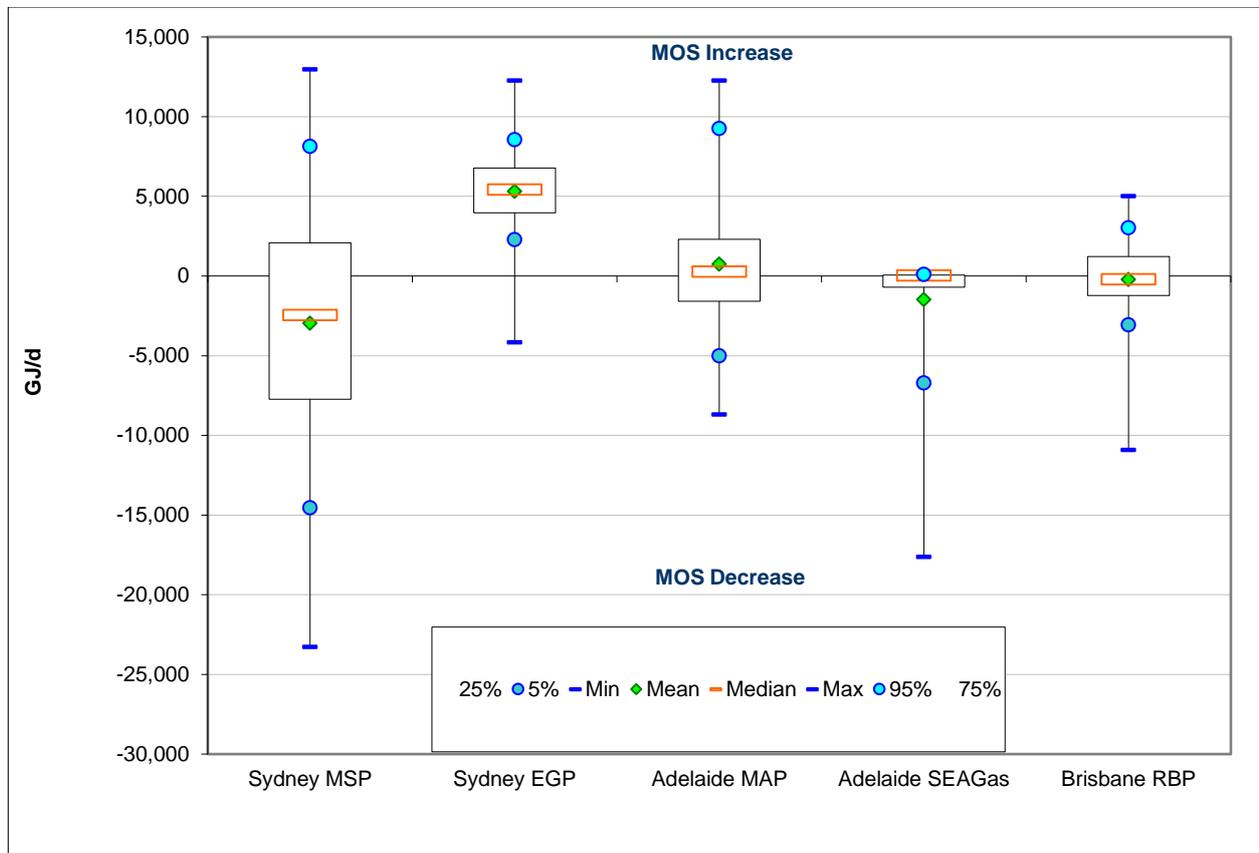


Table 3 Daily MOS quantities (GJ/d) for June 2020

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	12,956	12,256	12,253	135	5,017
1	8,661	9,030	10,286	110	3,155
1	7,466	7,991	7,980	88	2,858
1	5,621	7,607	6,998	82	2,475
1	4,990	7,499	3,977	70	2,155
1	3,935	7,270	3,351	68	1,848
1	2,958	7,087	2,708	65	1,519
1	2,265	6,804	2,370	59	1,285
1	1,509	6,686	2,096	54	991
1	887	6,444	1,767	52	770
1	193	6,297	1,617	47	572
1	-445	6,184	1,421	45	529
1	-1,112	6,001	1,087	42	286
1	-1,902	5,780	540	40	81
1	-2,242	5,553	326	30	-123
1	-2,685	5,260	191	26	-312
1	-3,375	5,147	-98	23	-382
1	-3,666	4,845	-462	21	-490
1	-4,485	4,694	-909	19	-750
1	-5,970	4,567	-1,034	18	-856
1	-6,893	4,363	-1,166	10	-1,067
1	-7,264	4,192	-1,355	-191	-1,150
1	-7,889	3,891	-1,657	-875	-1,244
1	-8,447	3,674	-2,208	-1,429	-1,404
1	-9,682	3,532	-2,550	-2,859	-1,557
1	-10,446	3,179	-3,133	-4,145	-1,837
1	-12,076	2,929	-3,402	-4,975	-2,036
1	-13,251	2,506	-3,972	-6,002	-2,425
1	-15,614	2,109	-5,868	-7,309	-3,609
1	-23,284	-4,168	-8,687	-17,632	-10,911

3.2 MOS Period July 2020

Table 4 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	6,274	18,639	11,425	2,022	5,081
MOS decrease	30,618	901	11,412	7,793	5,960

Figure 3 Curves of daily MOS quantities

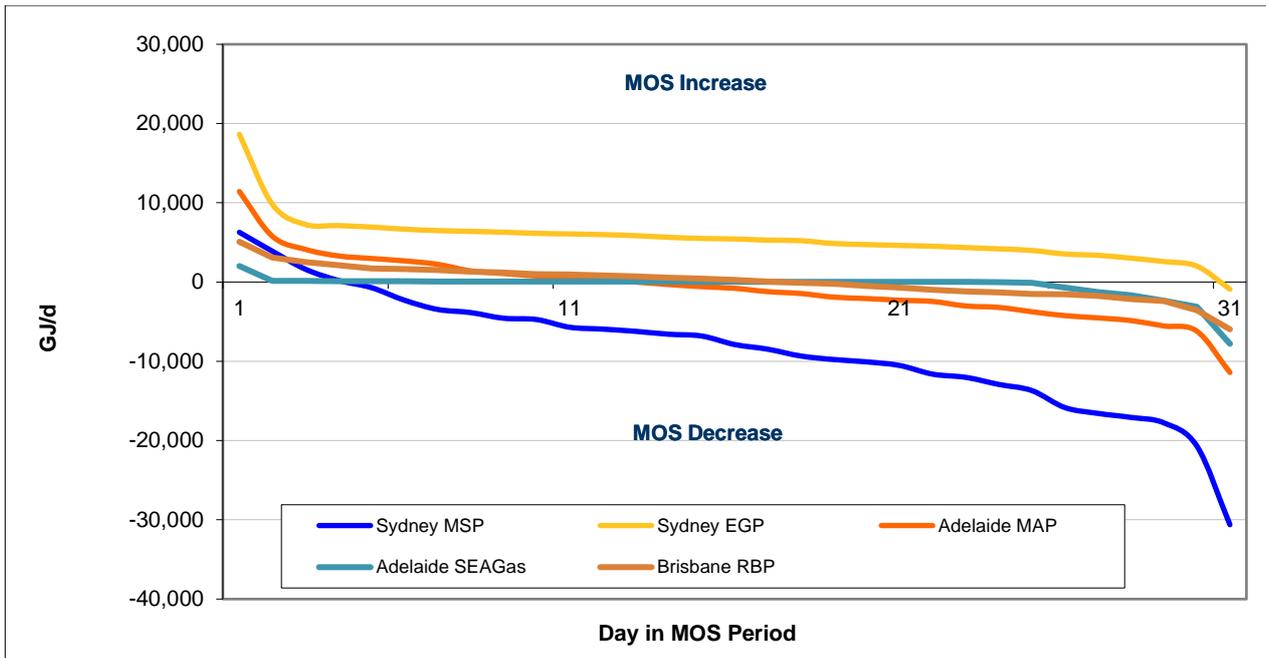


Table 5 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	6,274	18,639	11,425	2,022	5,081
95%	2,753	8,532	4,946	136	2,796
75%	-4,209	6,342	1,240	74	1,253
50%	-7,883	5,436	-790	38	261
25%	-12,473	4,267	-3,110	-9	-1,250
5%	-19,238	2,294	-5,871	-2,751	-2,971
Minimum	-30,618	-901	-11,412	-7,793	-5,960
Mean	-8,509	5,535	-753	-441	33
Std deviation	7,630	3,100	4,155	1,625	2,097
% days positive	13%	97%	42%	74%	55%
% days negative	87%	3%	58%	26%	45%

Figure 4 Distribution of daily MOS quantities

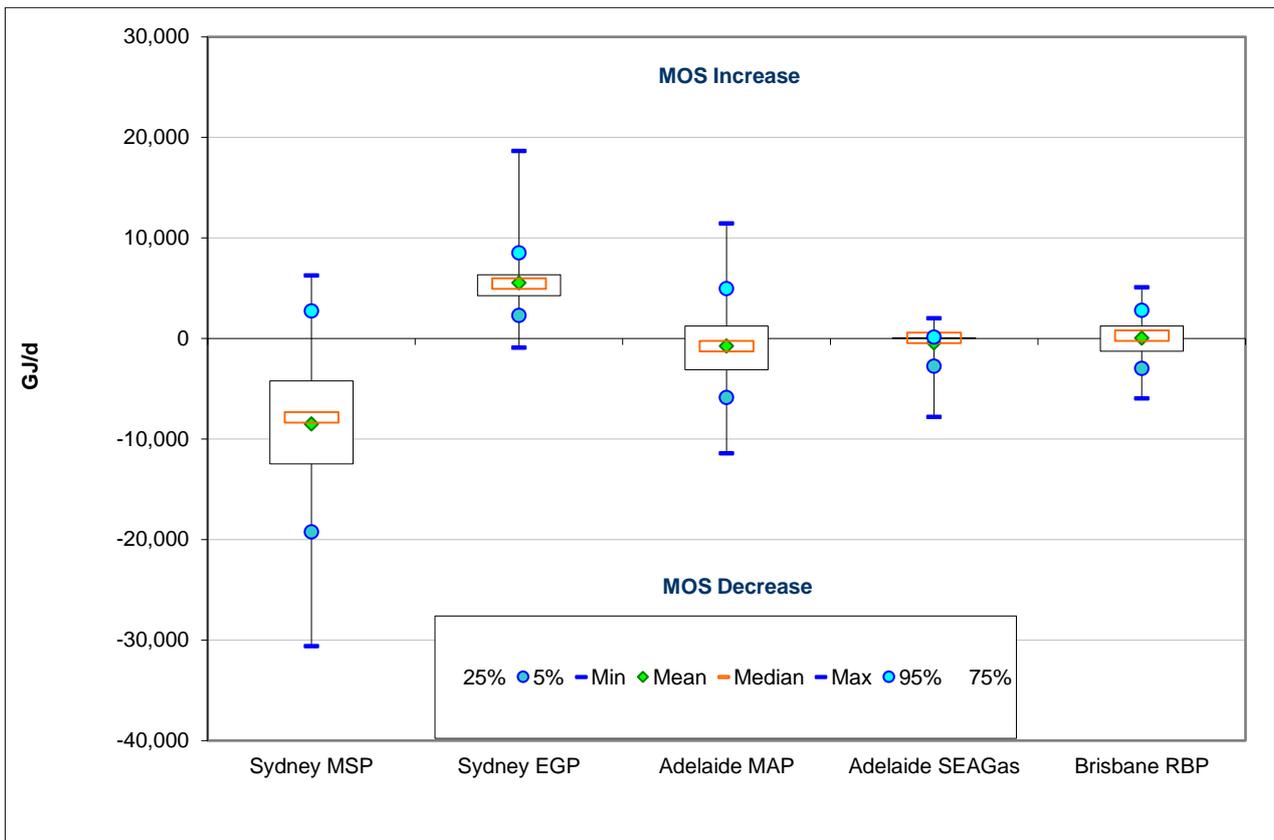


Table 6 Daily MOS quantities (GJ/d) for July 2020

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	6,274	18,639	11,425	2,022	5,081
1	3,889	9,801	5,771	142	3,078
1	1,616	7,264	4,121	130	2,513
1	203	7,123	3,296	117	2,119
1	-707	6,938	2,971	103	1,716
1	-2,297	6,666	2,669	96	1,634
1	-3,453	6,493	2,236	84	1,501
1	-3,852	6,394	1,409	78	1,311
1	-4,566	6,290	1,071	70	1,195
1	-4,730	6,141	763	68	1,005
1	-5,702	6,068	490	66	949
1	-5,938	5,984	261	61	824
1	-6,219	5,852	0	55	702
1	-6,586	5,644	-315	52	544
1	-6,810	5,499	-583	42	419
1	-7,883	5,436	-790	38	261
1	-8,470	5,287	-1,211	35	55
1	-9,330	5,217	-1,448	32	-88
1	-9,779	4,863	-1,906	27	-234
1	-10,073	4,728	-2,083	23	-489
1	-10,528	4,619	-2,297	21	-705
1	-11,625	4,516	-2,454	17	-975
1	-12,026	4,348	-3,019	13	-1,193
1	-12,919	4,186	-3,200	-31	-1,307
1	-13,693	3,987	-3,745	-92	-1,523
1	-15,836	3,540	-4,241	-695	-1,566
1	-16,572	3,371	-4,522	-1,278	-1,753
1	-17,079	3,012	-4,861	-1,658	-2,150
1	-17,769	2,583	-5,543	-2,371	-2,399
1	-20,706	2,005	-6,199	-3,131	-3,543
1	-30,618	-901	-11,412	-7,793	-5,960

3.3 MOS Period August 2020

Table 7 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	16,076	10,914	11,396	890	11,859
MOS decrease	21,577	440	10,860	9,939	7,133

Figure 5 Curves of daily MOS quantities

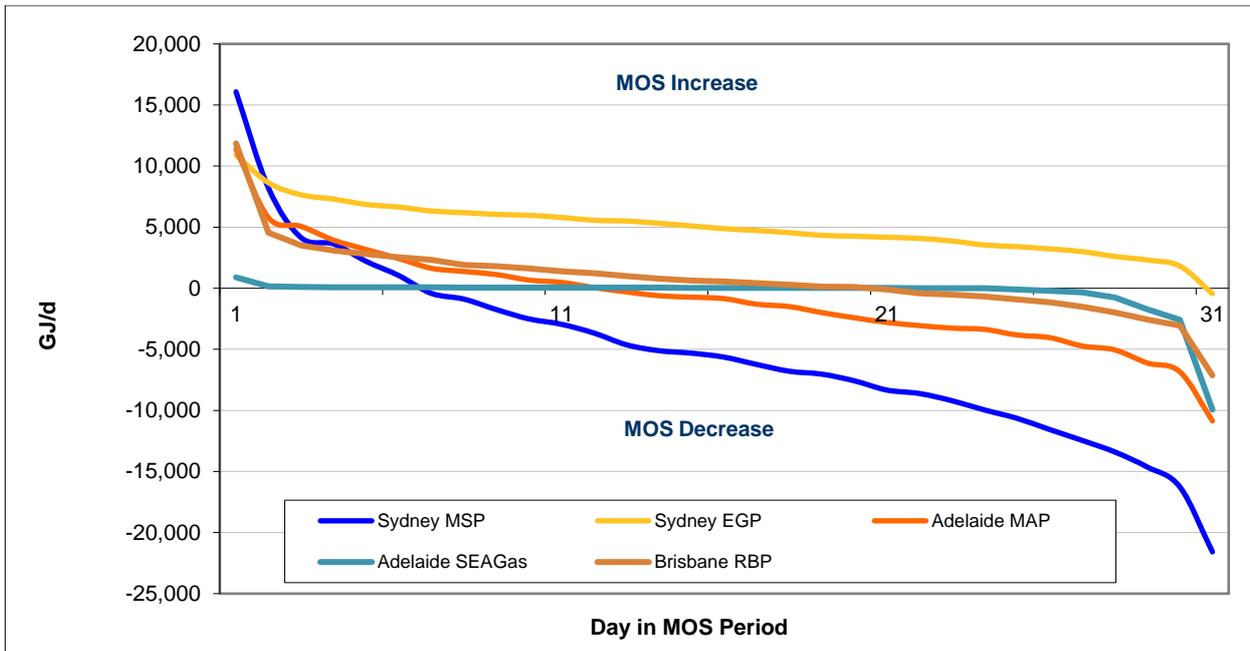


Table 8 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	16,076	10,914	11,396	890	11,859
95%	6,167	8,138	5,415	129	4,027
75%	-1,318	6,118	1,249	60	1,857
50%	-5,642	4,874	-852	35	540
25%	-9,589	3,703	-3,318	-3	-598
5%	-15,454	2,060	-6,480	-2,152	-2,797
Minimum	-21,577	-440	-10,860	-9,939	-7,133
Mean	-5,225	4,971	-858	-438	727
Std deviation	7,533	2,174	4,241	1,863	3,044
% days positive	19%	97%	39%	74%	65%
% days negative	81%	3%	61%	26%	35%

Figure 6 Distribution of daily MOS quantities

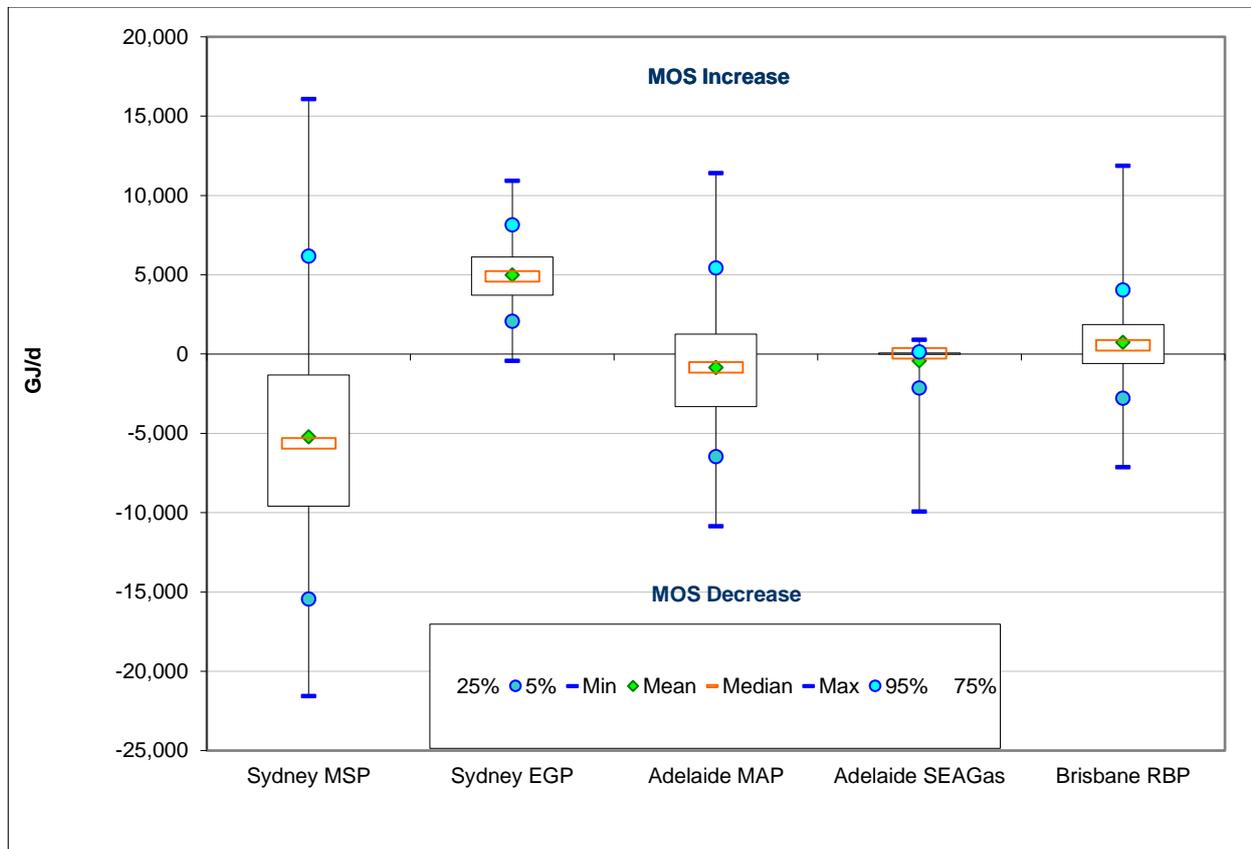


Table 9 Daily MOS quantities (GJ/d) for August 2020

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	16,076	10,914	11,396	890	11,859
1	8,191	8,628	5,766	147	4,553
1	4,142	7,648	5,063	111	3,500
1	3,624	7,297	3,937	86	3,093
1	2,197	6,857	3,168	75	2,795
1	1,041	6,647	2,428	73	2,527
1	-421	6,321	1,636	67	2,340
1	-887	6,191	1,375	61	1,903
1	-1,748	6,044	1,122	59	1,811
1	-2,509	5,970	670	57	1,629
1	-2,951	5,796	476	56	1,383
1	-3,670	5,562	52	52	1,239
1	-4,632	5,501	-301	48	983
1	-5,115	5,316	-614	44	781
1	-5,316	5,098	-729	39	620
1	-5,642	4,874	-852	35	540
1	-6,242	4,727	-1,309	32	432
1	-6,796	4,550	-1,502	30	297
1	-7,034	4,326	-1,993	28	140
1	-7,579	4,259	-2,419	23	97
1	-8,337	4,175	-2,800	19	-110
1	-8,618	4,078	-3,059	13	-416
1	-9,210	3,866	-3,266	4	-527
1	-9,967	3,541	-3,369	-10	-668
1	-10,653	3,402	-3,828	-91	-911
1	-11,566	3,220	-4,044	-199	-1,136
1	-12,459	3,000	-4,731	-329	-1,511
1	-13,402	2,601	-5,048	-764	-1,992
1	-14,639	2,310	-6,120	-1,713	-2,550
1	-16,268	1,809	-6,840	-2,590	-3,044
1	-21,577	-440	-10,860	-9,939	-7,133