



MOS ESTIMATES REPORT

MOS PERIODS: SEPTEMBER 2021,
OCTOBER 2021 & NOVEMBER 2021

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

AEMO acknowledges the support, co-operation and contribution of all participants in providing data and information used in this publication.

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VERSION CONTROL

Version	Release date	Changes
1.0	05/12/2019	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: September 2021, October 2021 and November 2021.

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 September from 2016 to 2020; October from 2016 to 2020; and November from 2016 to 2020; 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 September 2021

Table 1 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	23,911	14,725	12,849	186	5,604
MOS decrease	26,105	14,402	10,919	17,311	4,096

Figure 1 Curves of daily MOS quantities

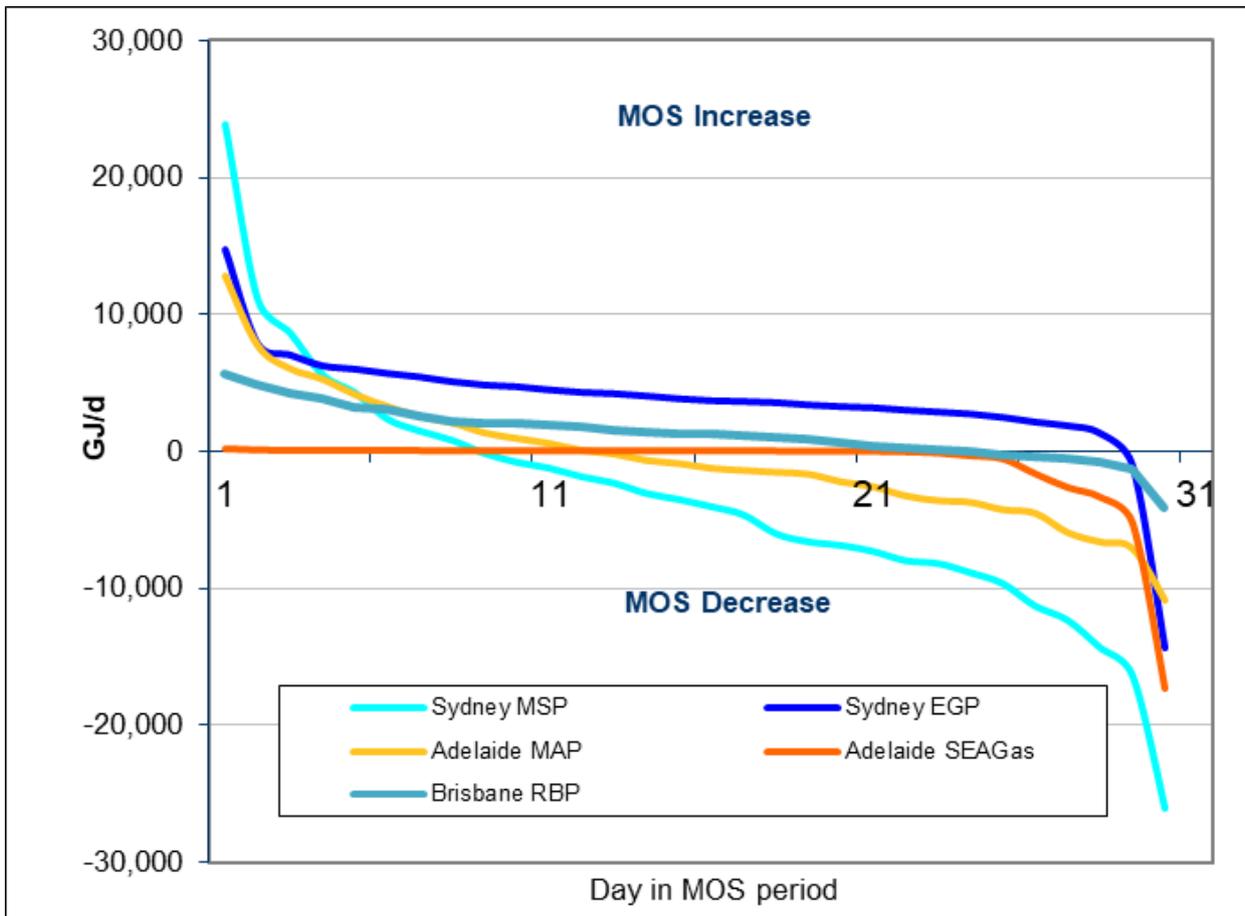


Table 2 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	23,911	14,725	12,849	186	5,604
95%	10,035	7,468	7,008	92	4,599
75%	579	5,009	1,913	55	2,204
50%	-3,771	3,756	-1,064	35	1,267
25%	-8,147	2,890	-3,517	-96	150
5%	-15,483	-1	-6,901	-4,386	-1,030
Minimum	-26,105	-14,402	-10,919	-17,311	-4,096
Mean	-3,510	3,658	-510	-1,002	1,340
Std deviation	9,194	4,315	4,814	3,313	1,961
% days positive	27%	93%	40%	70%	80%
% days negative	73%	7%	60%	30%	20%

Figure 2 Distribution of daily MOS quantities

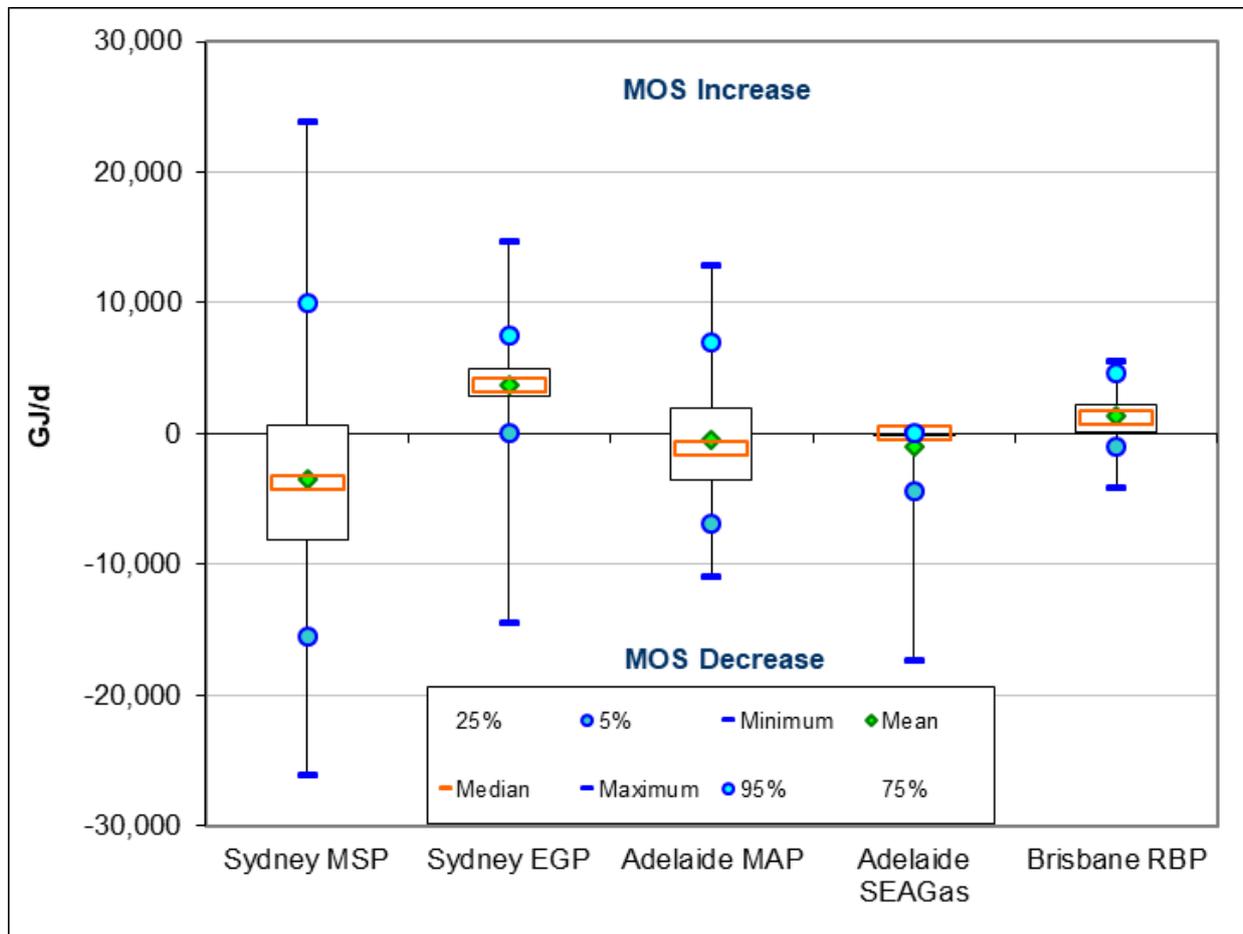


Table 3 Daily MOS quantities (GJ/d) for September 2021

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	23,911	14,725	12,849	186	5,604
1	11,142	7,830	7,773	104	4,911
1	8,683	7,025	6,072	77	4,218
1	5,609	6,235	5,300	70	3,833
1	4,301	5,992	4,170	63	3,233
1	2,372	5,677	3,293	60	3,086
1	1,492	5,417	2,568	59	2,630
1	819	5,069	2,096	56	2,241
1	-140	4,831	1,364	53	2,094
1	-788	4,705	953	51	1,999
1	-1,222	4,471	578	49	1,921
1	-1,847	4,293	82	47	1,745
1	-2,314	4,197	-188	40	1,528
1	-3,076	4,027	-661	38	1,385
1	-3,507	3,824	-892	36	1,301
1	-4,035	3,687	-1,235	34	1,232
1	-4,645	3,621	-1,392	32	1,112
1	-6,023	3,542	-1,528	28	985
1	-6,610	3,372	-1,675	22	874
1	-6,868	3,247	-2,230	11	665
1	-7,310	3,158	-2,589	3	356
1	-7,987	2,992	-3,259	-38	266
1	-8,200	2,856	-3,603	-115	111
1	-8,871	2,707	-3,731	-316	26
1	-9,669	2,460	-4,272	-550	-220
1	-11,317	2,116	-4,528	-1,635	-327
1	-12,348	1,848	-5,952	-2,632	-490
1	-14,355	1,290	-6,635	-3,344	-782
1	-16,406	-1,057	-7,119	-5,239	-1,232
1	-26,105	-14,402	-10,919	-17,311	-4,096

3.2 MOS Period October 2021

Table 4 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	23,404	8,423	10,597	534	40,375
MOS decrease	27,473	10,263	5,408	14,708	11,027

Figure 3 Curves of daily MOS quantities

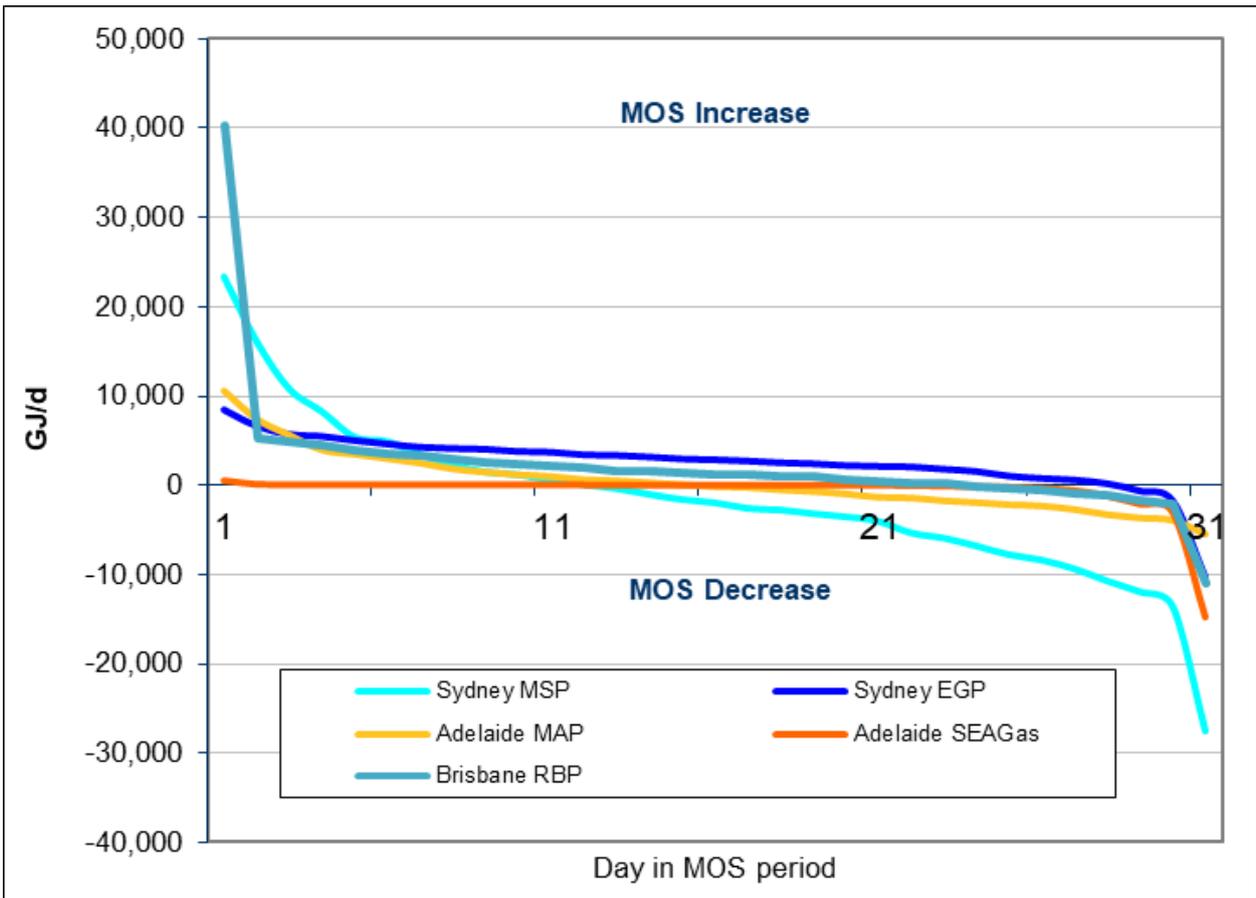


Table 5 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	23,404	8,423	10,597	534	40,375
95%	13,498	6,160	6,547	120	5,035
75%	1,932	4,067	1,700	67	2,803
50%	-1,890	2,851	-94	38	1,255
25%	-6,299	1,683	-1,773	-101	63
5%	-12,688	-1,174	-3,730	-2,529	-1,918
Minimum	-27,473	-10,263	-5,408	-14,708	-11,027
Mean	-1,571	2,542	405	-660	2,279
Std deviation	9,251	3,170	3,382	2,697	7,646
% days positive	39%	90%	48%	71%	74%
% days negative	61%	10%	52%	29%	26%

Figure 4 Distribution of daily MOS quantities

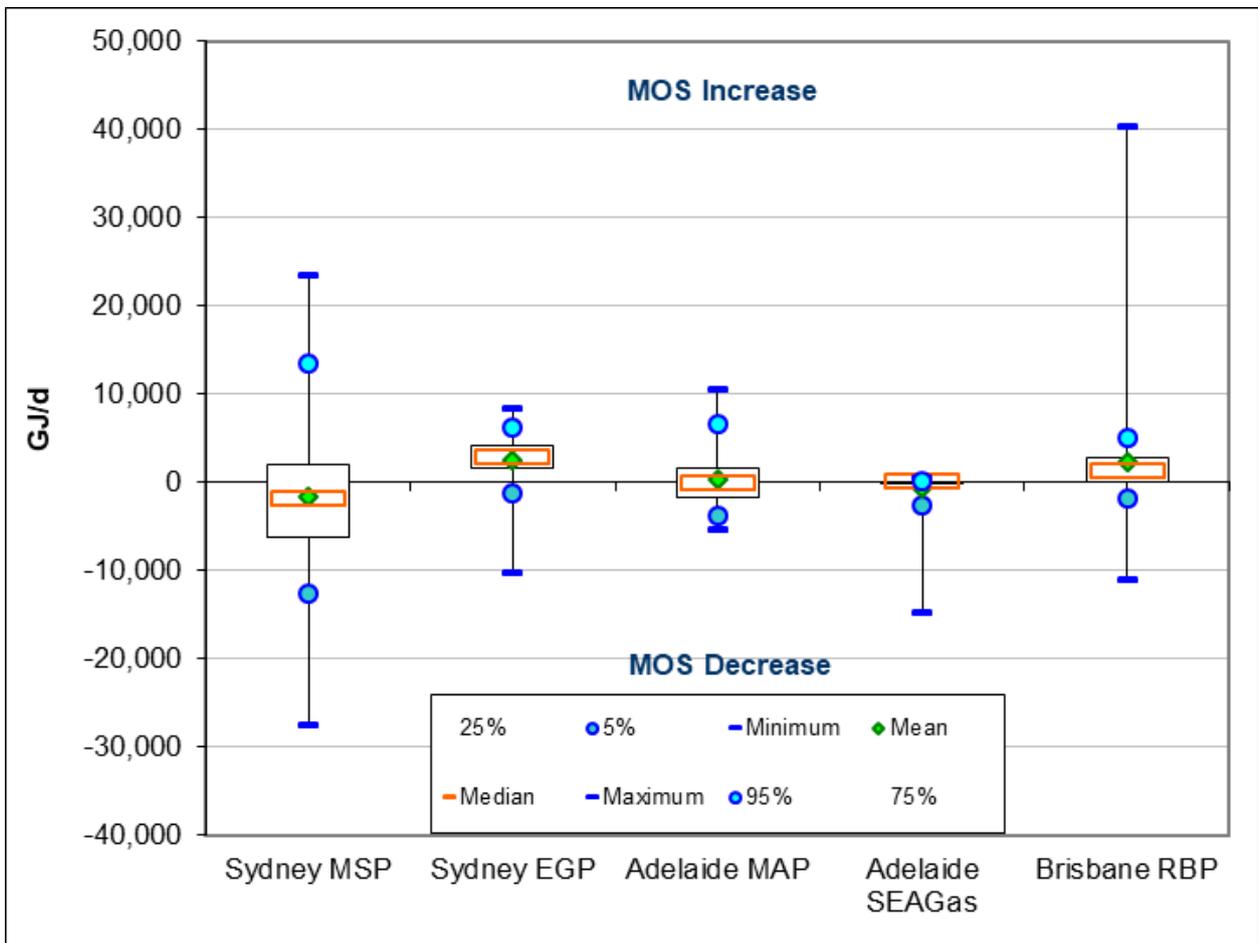


Table 6 Daily MOS quantities (GJ/d) for October 2021

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	23,404	8,423	10,597	534	40,375
1	16,154	6,621	7,447	133	5,258
1	10,841	5,699	5,646	107	4,811
1	8,300	5,466	3,996	97	4,400
1	5,449	4,992	3,516	83	3,971
1	4,964	4,613	3,034	78	3,613
1	3,515	4,263	2,526	74	3,380
1	2,316	4,107	1,886	68	2,993
1	1,548	4,026	1,514	65	2,612
1	1,247	3,782	1,230	64	2,382
1	614	3,696	1,039	62	2,213
1	122	3,405	680	56	1,883
1	-315	3,335	554	51	1,621
1	-952	3,164	346	48	1,561
1	-1,539	2,945	118	44	1,446
1	-1,890	2,851	-94	38	1,255
1	-2,520	2,710	-196	38	1,133
1	-2,703	2,527	-455	34	975
1	-3,118	2,404	-636	29	908
1	-3,464	2,212	-905	26	711
1	-3,966	2,123	-1,276	19	518
1	-5,270	2,056	-1,359	0	302
1	-5,853	1,812	-1,676	-66	230
1	-6,745	1,555	-1,869	-135	-105
1	-7,708	1,039	-2,112	-188	-264
1	-8,313	788	-2,256	-320	-569
1	-9,298	598	-2,646	-561	-903
1	-10,661	187	-3,220	-1,176	-1,207
1	-11,875	-622	-3,598	-2,078	-1,653
1	-13,500	-1,725	-3,861	-2,980	-2,183
1	-27,473	-10,263	-5,408	-14,708	-11,027

3.3 MOS Period November 2021

Table 7 Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	11,656	9,148	21,336	388	5,113
MOS decrease	32,604	11,821	5,446	22,311	6,363

Figure 5 Curves of daily MOS quantities

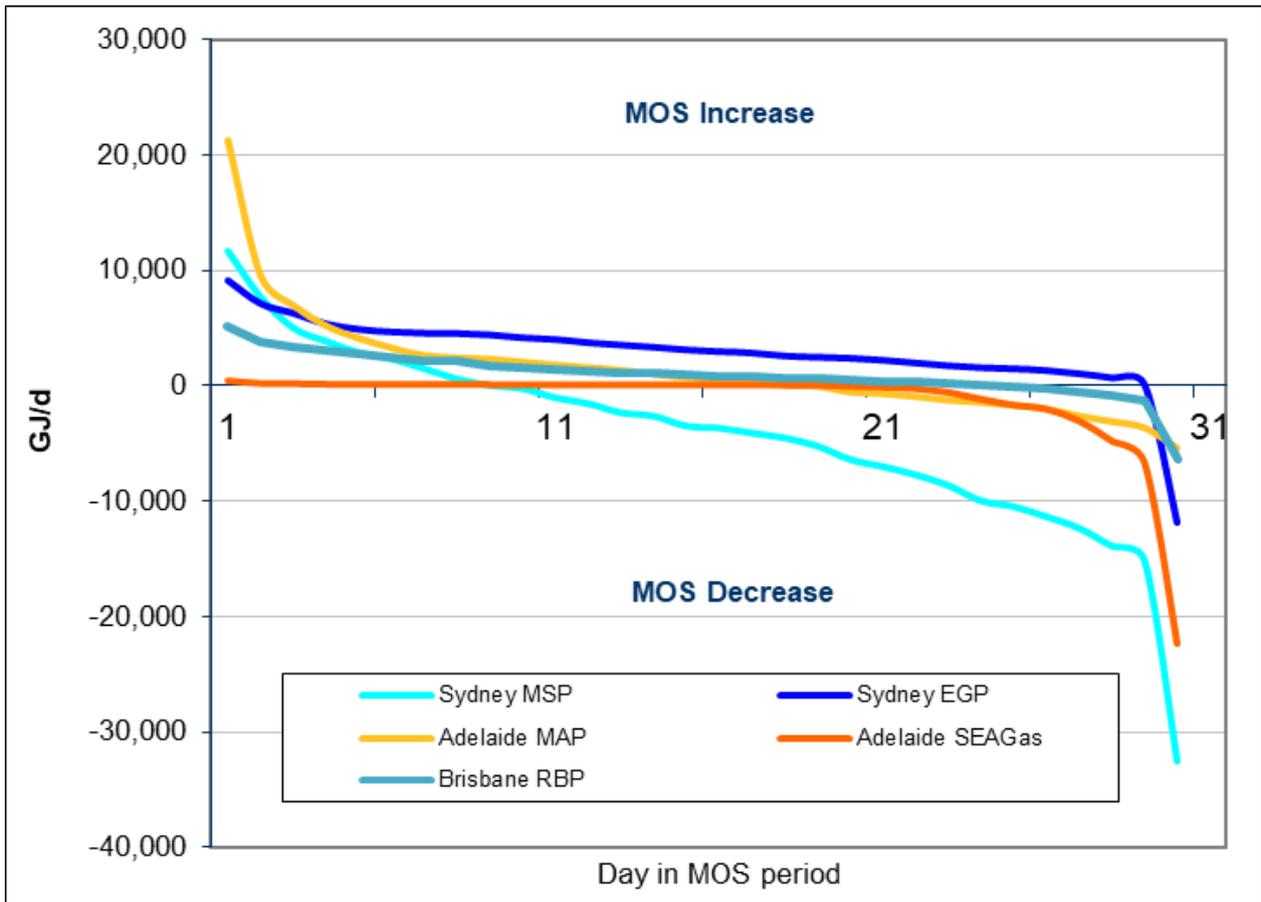


Table 8 Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	11,656	9,148	21,336	388	5,113
95%	6,457	6,771	8,410	154	3,654
75%	422	4,525	2,401	57	2,026
50%	-3,613	3,070	595	28	867
25%	-8,440	1,826	-1,186	-535	282
5%	-14,617	396	-3,421	-5,842	-1,033
Minimum	-32,604	-11,821	-5,446	-22,311	-6,363
Mean	-4,323	2,908	1,451	-1,387	976
Std deviation	8,313	3,404	4,882	4,262	1,985
% days positive	30%	97%	60%	63%	80%
% days negative	70%	3%	40%	37%	20%

Figure 6 Distribution of daily MOS quantities

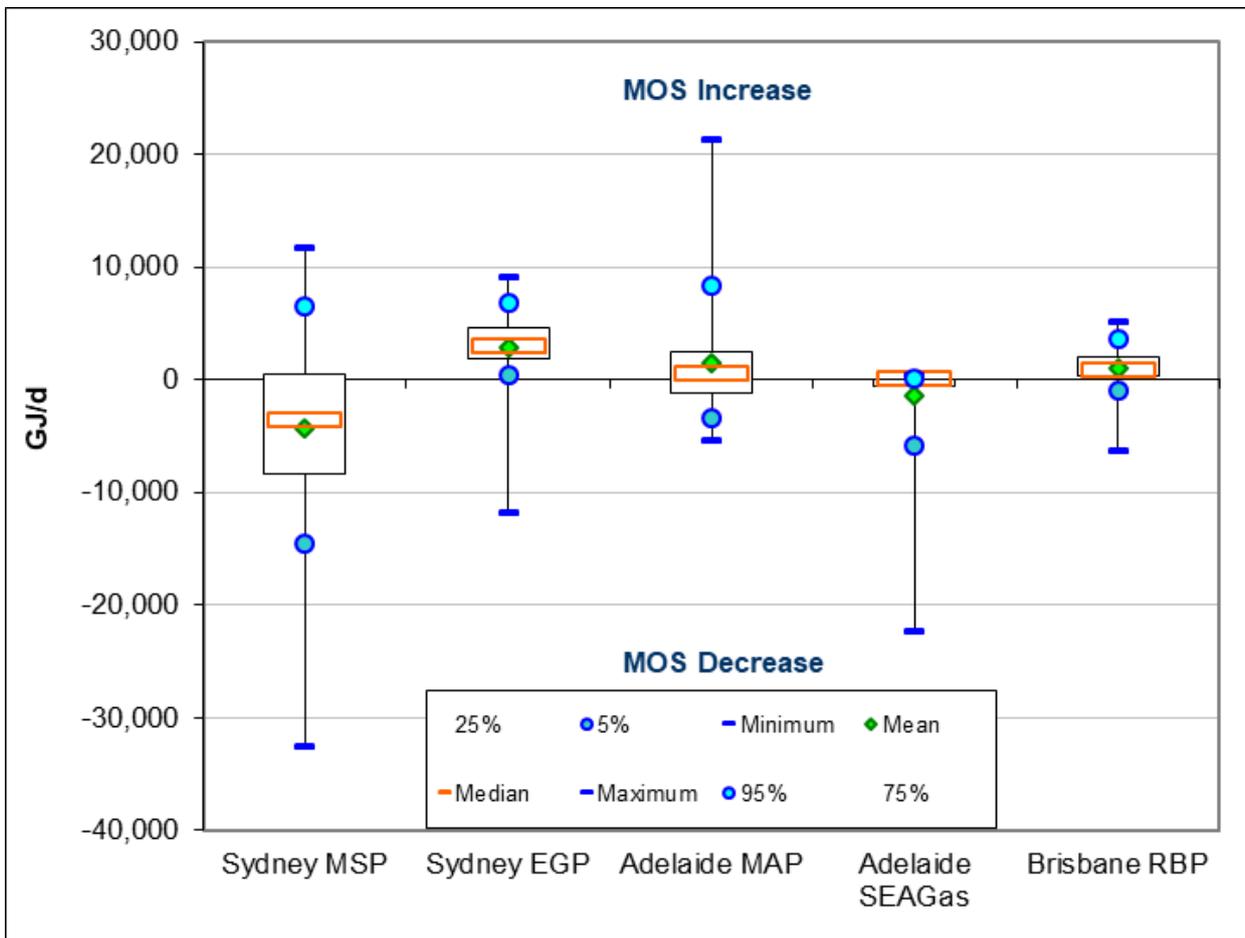


Table 9 Daily MOS quantities (GJ/d) for November 2021

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	11,656	9,148	21,336	388	5,113
1	7,663	7,147	9,585	168	3,847
1	4,983	6,312	6,974	136	3,418
1	3,828	5,391	5,200	94	3,062
1	2,845	4,919	4,122	82	2,684
1	2,299	4,699	3,286	67	2,509
1	1,448	4,586	2,616	62	2,214
1	562	4,555	2,432	58	2,113
1	0	4,435	2,307	52	1,766
1	-266	4,187	2,049	48	1,627
1	-1,069	4,042	1,796	42	1,361
1	-1,574	3,763	1,575	40	1,232
1	-2,371	3,564	1,350	35	1,165
1	-2,656	3,365	994	33	1,077
1	-3,523	3,144	699	31	904
1	-3,702	2,996	490	25	829
1	-4,130	2,871	288	21	746
1	-4,553	2,615	18	16	665
1	-5,254	2,503	-48	9	583
1	-6,416	2,417	-561	-85	501
1	-7,035	2,242	-705	-168	355
1	-7,751	2,014	-948	-289	328
1	-8,670	1,763	-1,265	-617	267
1	-10,010	1,595	-1,450	-1,196	104
1	-10,511	1,495	-1,713	-1,712	-77
1	-11,391	1,359	-2,028	-2,050	-214
1	-12,383	1,077	-2,638	-3,081	-518
1	-13,934	716	-3,118	-4,810	-791
1	-15,176	134	-3,669	-6,687	-1,231
1	-32,604	-11,821	-5,446	-22,311	-6,363