

MOS ESTIMATES REPORT: MOS PERIODS JUNE 2019, JULY 2019 & AUGUST 2019

Prepared By: Gas System Operations

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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 2019, July 2019 and August 2019.

The MOS quantities for each STTM pipeline and each gas day are as determined in accordance with the published methodology for determining MOS estimates.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 hub.² This means they are derived using the actual daily MOS allocation quantities for the periods June from 2014 to 2018; July from 2014 to 2018; and August from 2014 to 2018; 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.

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

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.³

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 in the following tables and charts:

- Table 2 shows summary statistics of MOS quantity distributions, including the means, standard deviations, 5 and 95 percentile of the distributions, range and inter-quartile range,⁴ and the proportions of days in the MOS period with positive and negative MOS quantities.
- Table 3 shows the daily MOS quantities sorted in descending order and the number of day(s) associated with each estimated quantity.
- Figure 1 displays the curves of daily MOS quantities sorted in descending order from the highest to the lowest values.
- Figure 2 shows the Box plots which provide a graphical summary of the data and are useful tools for comparing the MOS increase and decrease quantities of the different STTM pipelines.

³ Note MOS increase and decrease offers must comply with the requirements in section 5.4(b)(ii) and section 5.4(c)(ii) of the STTM Procedures, and should be greater than zero for the purpose of creating the MOS stacks.

⁴ The inter-quartile range is the range of values between the first (25%) and third quartiles (75%) of the distributions.

MOS Period June 2019

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	13,192	10,349	15,727	147	5,063
MOS decrease	23,284	4,168	8,687	17,632	10,911

Figure 1 – Curves of daily MOS quantities

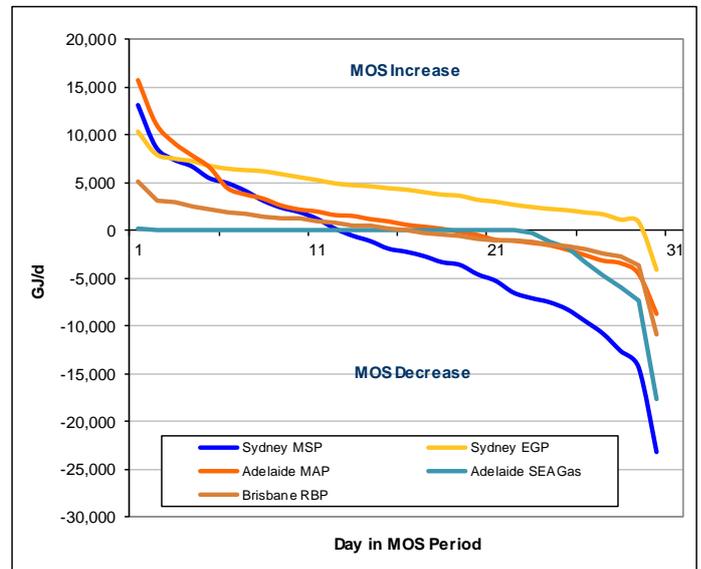


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	13,192	10,349	15,727	147	5,063
95%	8,194	7,777	10,297	109	3,048
75%	2,963	6,108	3,171	64	1,383
50%	-2,067	4,321	793	28	123
25%	-6,957	2,488	-1,214	-141	-1,209
5%	-13,616	959	-4,016	-6,755	-3,242
Minimum	-23,284	-4,168	-8,687	-17,632	-10,911
Mean	-2,185	4,217	1,533	-1,367	-126
Std deviation	7,723	2,748	4,899	3,636	2,805
% days positive	40%	97%	60%	73%	53%
% days negative	60%	3%	40%	27%	47%

Figure 2 – Distribution of daily MOS quantities

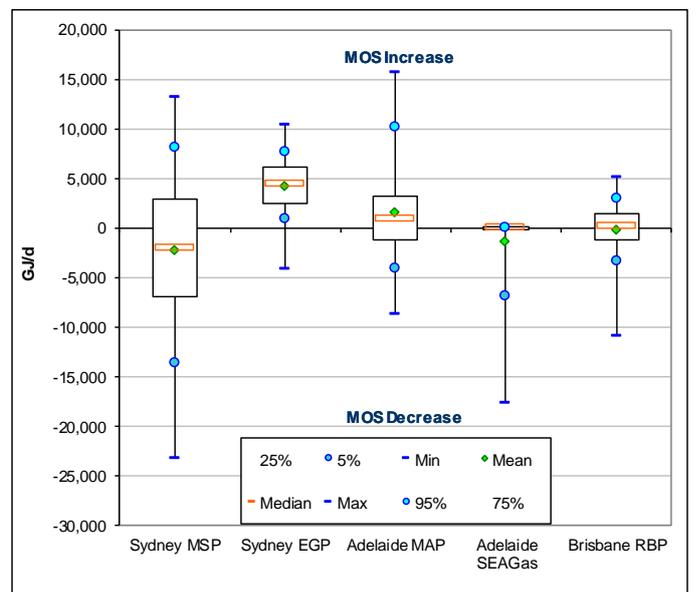


Table 3 – Daily MOS quantities (GJ/d) for June 2019

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	13,192	10,349	15,727	147	5,063
1	8,789	7,991	11,196	114	3,155
1	7,466	7,515	9,199	102	2,917
1	6,758	7,247	7,886	93	2,574
1	5,504	6,756	6,625	86	2,183
1	4,990	6,451	4,454	81	1,869
1	4,182	6,297	3,787	69	1,671
1	3,145	6,184	3,351	65	1,403
1	2,415	5,879	2,632	62	1,322
1	1,951	5,564	2,216	54	1,236
1	1,256	5,260	2,001	52	1,003
1	221	4,909	1,633	47	753
1	-539	4,713	1,538	42	572
1	-1,112	4,599	1,201	38	448
1	-1,902	4,394	972	29	218
1	-2,232	4,248	613	26	27
1	-2,688	3,980	416	24	-303
1	-3,321	3,729	191	21	-382
1	-3,605	3,603	-124	20	-501
1	-4,606	3,179	-462	18	-812
1	-5,286	2,978	-952	15	-977
1	-6,524	2,666	-1,054	10	-1,104
1	-7,101	2,428	-1,267	-191	-1,244
1	-7,527	2,225	-1,516	-1,198	-1,509
1	-8,280	2,089	-1,989	-1,739	-1,723
1	-9,513	1,851	-2,550	-3,382	-1,912
1	-10,827	1,659	-3,133	-4,720	-2,423
1	-12,679	1,093	-3,402	-6,002	-2,794
1	-14,382	849	-4,518	-7,371	-3,609
1	-23,284	-4,168	-8,687	-17,632	-10,911

MOS Period July 2019

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	13,363	12,315	11,425	2,022	5,081
MOS decrease	28,839	901	11,412	7,793	6,774

Figure 1 – Curves of daily MOS quantities

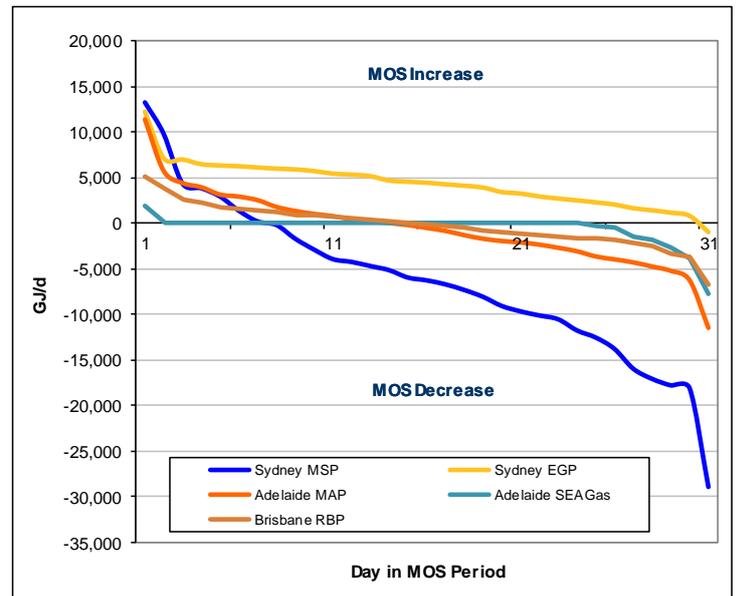


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	13,363	12,315	11,425	2,022	5,081
95%	7,169	7,131	5,114	140	3,171
75%	-845	6,024	1,613	85	1,158
50%	-6,169	4,516	-465	37	-125
25%	-11,052	2,682	-2,831	11	-1,476
5%	-17,853	1,059	-5,684	-3,224	-3,447
Minimum	-28,839	-901	-11,412	-7,793	-6,774
Mean	-6,249	4,407	-486	-466	-195
Std deviation	8,762	2,510	4,177	1,679	2,296
% days positive	23%	97%	45%	77%	48%
% days negative	77%	3%	55%	23%	52%

Figure 2 – Distribution of daily MOS quantities

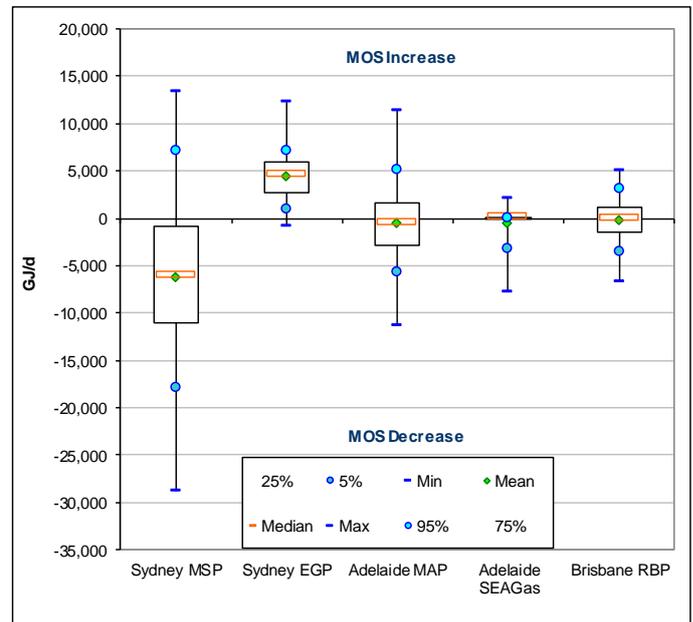


Table 3 – Daily MOS quantities (GJ/d) for July 2019

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	13,363	12,315	11,425	2,022	5,081
1	9,886	7,193	5,771	147	3,792
1	4,451	7,069	4,456	132	2,550
1	3,946	6,553	3,998	111	2,234
1	3,034	6,410	3,187	101	1,716
1	1,473	6,327	2,968	99	1,638
1	298	6,191	2,579	97	1,501
1	-91	6,068	1,837	88	1,310
1	-1,598	5,981	1,389	81	1,005
1	-2,789	5,799	1,071	74	917
1	-3,834	5,516	831	68	757
1	-4,147	5,411	490	63	589
1	-4,597	5,235	286	55	348
1	-5,050	4,756	67	52	165
1	-5,860	4,628	-151	42	23
1	-6,169	4,516	-465	37	-125
1	-6,608	4,348	-790	34	-306
1	-7,222	4,186	-1,257	31	-498
1	-7,979	3,987	-1,645	26	-804
1	-8,982	3,495	-1,898	23	-916
1	-9,574	3,331	-2,056	21	-1,143
1	-10,024	3,012	-2,297	19	-1,303
1	-10,439	2,782	-2,639	14	-1,412
1	-11,664	2,583	-3,022	7	-1,540
1	-12,445	2,365	-3,591	-223	-1,633
1	-13,693	2,125	-3,907	-345	-1,774
1	-15,867	1,722	-4,241	-1,369	-2,150
1	-16,979	1,492	-4,690	-1,707	-2,399
1	-17,695	1,232	-5,168	-2,694	-3,276
1	-18,011	885	-6,199	-3,754	-3,618
1	-28,839	-901	-11,412	-7,793	-6,774

MOS Period August 2019

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	20,346	10,914	13,551	890	11,859
MOS decrease	21,807	440	10,860	12,765	7,133

Figure 1 – Curves of daily MOS quantities

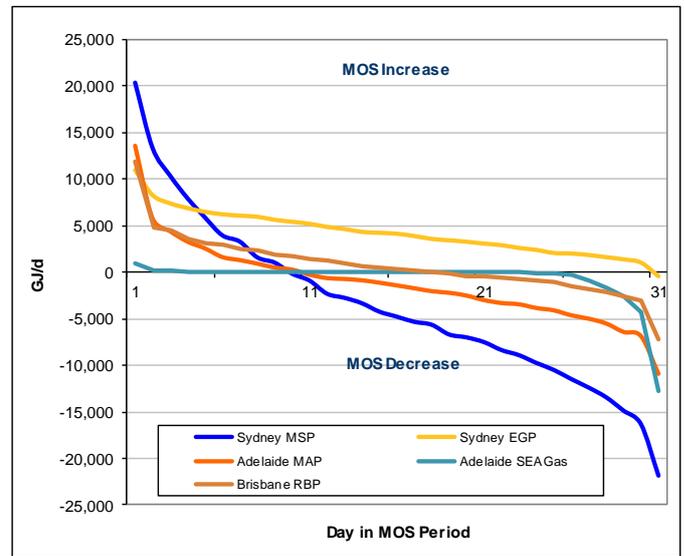


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	20,346	10,914	13,551	890	11,859
95%	11,860	7,804	5,085	157	4,635
75%	1,323	5,764	724	70	2,083
50%	-4,755	4,112	-1,399	32	366
25%	-9,303	2,485	-3,618	-46	-790
5%	-15,569	1,194	-6,610	-3,437	-2,797
Minimum	-21,807	-440	-10,860	-12,765	-7,133
Mean	-3,554	4,215	-1,153	-667	717
Std deviation	9,107	2,390	4,414	2,443	3,168
% days positive	29%	97%	32%	74%	58%
% days negative	71%	3%	68%	26%	42%

Figure 2 – Distribution of daily MOS quantities

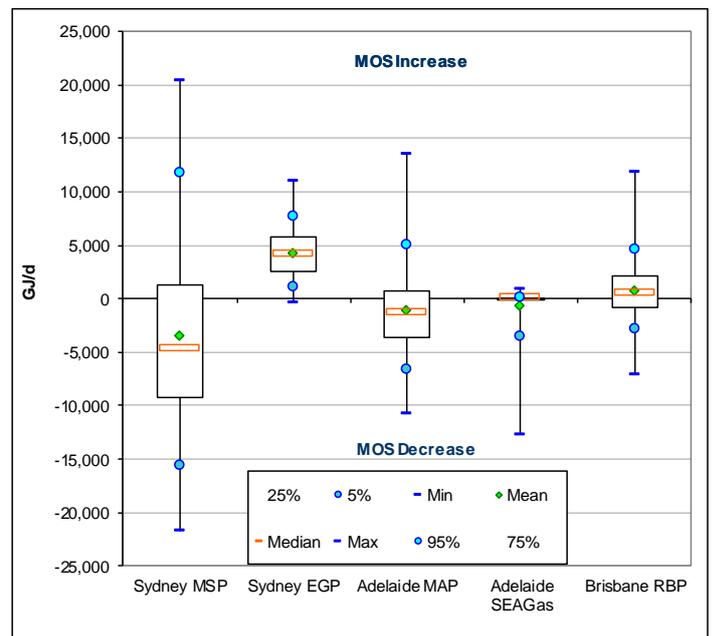


Table 3 – Daily MOS quantities (GJ/d) for August 2019

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	20,346	10,914	13,551	890	11,859
1	13,337	8,243	5,766	187	4,819
1	10,383	7,364	4,404	127	4,451
1	7,953	6,857	3,288	105	3,604
1	5,896	6,456	2,568	97	3,093
1	3,968	6,191	1,636	86	2,896
1	3,299	6,044	1,310	75	2,465
1	1,605	5,926	932	73	2,273
1	1,041	5,601	516	66	1,893
1	-150	5,389	291	59	1,691
1	-891	5,172	-254	56	1,449
1	-2,296	4,841	-614	52	1,229
1	-2,734	4,613	-708	48	947
1	-3,318	4,307	-852	41	620
1	-4,221	4,209	-1,107	35	509
1	-4,755	4,112	-1,399	32	366
1	-5,309	3,866	-1,703	31	141
1	-5,622	3,557	-2,018	28	97
1	-6,667	3,408	-2,189	26	-104
1	-6,979	3,254	-2,491	23	-359
1	-7,486	3,055	-2,974	19	-452
1	-8,337	2,889	-3,284	14	-559
1	-8,885	2,592	-3,420	0	-668
1	-9,720	2,379	-3,816	-91	-911
1	-10,471	2,051	-4,071	-197	-1,019
1	-11,448	1,991	-4,597	-329	-1,474
1	-12,363	1,834	-4,960	-882	-1,806
1	-13,402	1,602	-5,474	-1,713	-2,106
1	-14,838	1,368	-6,379	-2,590	-2,550
1	-16,299	1,021	-6,840	-4,283	-3,044
1	-21,807	-440	-10,860	-12,765	-7,133