

MOS ESTIMATES REPORT: MOS PERIODS SEPTEMBER 2018, OCTOBER 2018 & NOVEMBER 2018

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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: September 2018, October 2018 and November 2018.

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 September from 2013 to 2017; October from 2013 to 2017; and November from 2013 to 2017; 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 September 2018

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	25,212	10,121	12,849	196	6,739
MOS decrease	23,149	14,402	11,397	17,616	6,612

Figure 1 – Curves of daily MOS quantities

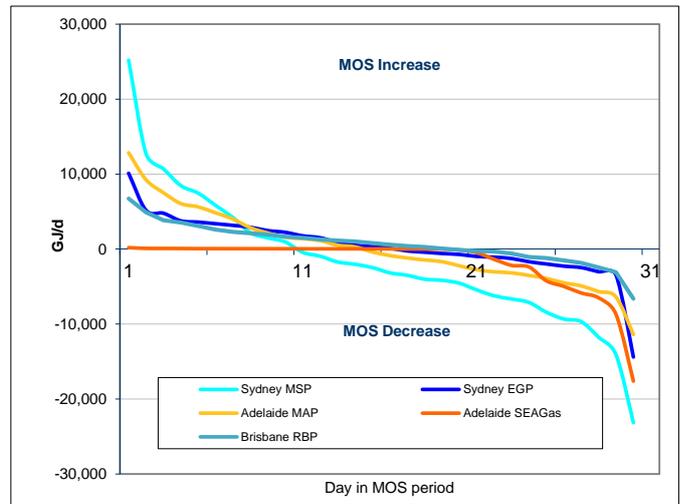


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	25,212	10,121	12,849	196	6,739
95%	11,822	4,996	8,476	91	4,438
75%	2,001	2,801	2,667	52	2,059
50%	-2,819	227	-619	25	692
25%	-6,553	-1,210	-3,136	-1,971	-524
5%	-13,044	-3,261	-6,069	-7,713	-2,808
Minimum	-23,149	-14,402	-11,397	-17,616	-6,612
Mean	-1,657	406	101	-1,781	691
Std deviation	9,089	4,040	5,077	3,818	2,564
% days positive	33%	53%	47%	60%	63%
% days negative	67%	47%	53%	40%	37%

Figure 2 – Distribution of daily MOS quantities

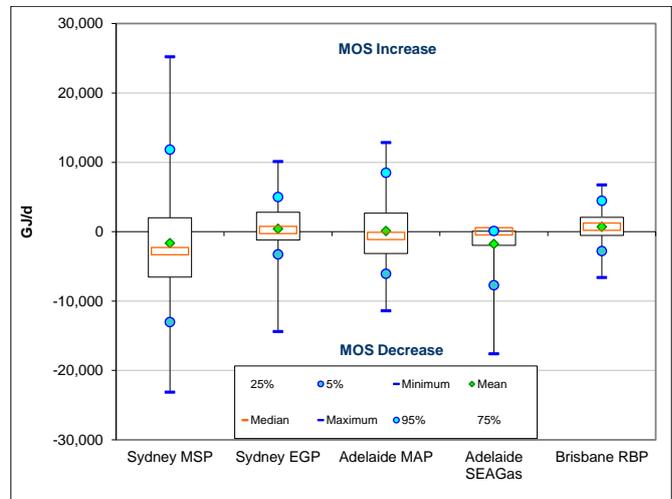


Table 3 – Daily MOS quantities (GJ/d) for September 2018

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	25,212	10,121	12,849	196	6,739
1	12,733	5,170	9,253	94	4,911
1	10,708	4,783	7,526	87	3,860
1	8,464	3,768	6,072	77	3,534
1	7,459	3,602	5,632	61	3,086
1	5,822	3,383	4,834	60	2,594
1	4,206	3,168	3,997	56	2,294
1	2,171	2,912	2,845	53	2,103
1	1,492	2,468	2,134	50	1,925
1	954	2,237	1,580	45	1,669
1	-435	1,770	1,376	38	1,494
1	-949	1,514	1,136	36	1,301
1	-1,712	873	521	33	1,131
1	-2,033	511	299	28	1,023
1	-2,468	337	-378	27	795
1	-3,170	116	-859	22	588
1	-3,497	-246	-1,179	10	422
1	-4,017	-413	-1,453	3	281
1	-4,173	-585	-1,675	-1	61
1	-4,552	-715	-2,230	-115	-121
1	-5,454	-981	-2,750	-472	-273
1	-6,234	-1,072	-3,031	-1,369	-333
1	-6,659	-1,256	-3,171	-2,172	-588
1	-7,119	-1,690	-3,516	-2,382	-1,048
1	-8,428	-1,985	-3,911	-4,235	-1,213
1	-9,334	-2,272	-4,500	-4,973	-1,516
1	-9,680	-2,469	-4,908	-5,856	-1,836
1	-11,765	-3,018	-5,671	-6,505	-2,465
1	-14,090	-3,460	-6,395	-8,701	-3,089
1	-23,149	-14,402	-11,397	-17,616	-6,612

MOS Period October 2018

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	13,464	6,621	10,410	564	8,538
MOS decrease	27,473	10,263	8,901	14,708	14,142

Figure 1 – Curves of daily MOS quantities

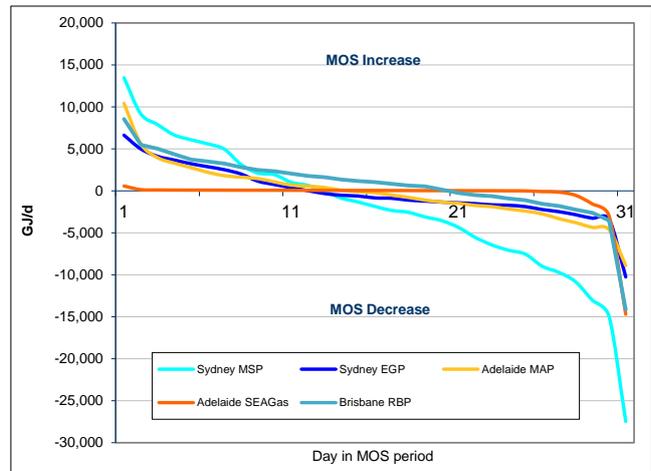


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	13,464	6,621	10,410	564	8,538
95%	8,533	4,548	4,782	119	5,245
75%	2,623	1,573	1,535	67	2,645
50%	-1,860	-849	-234	38	1,044
25%	-6,770	-1,700	-2,032	3	-778
5%	-13,996	-3,330	-4,497	-2,276	-3,088
Minimum	-27,473	-10,263	-8,901	-14,708	-14,142
Mean	-2,229	-239	-185	-591	747
Std deviation	8,186	3,139	3,483	2,693	3,805
% days positive	39%	39%	45%	74%	65%
% days negative	61%	61%	55%	26%	35%

Figure 2 – Distribution of daily MOS quantities

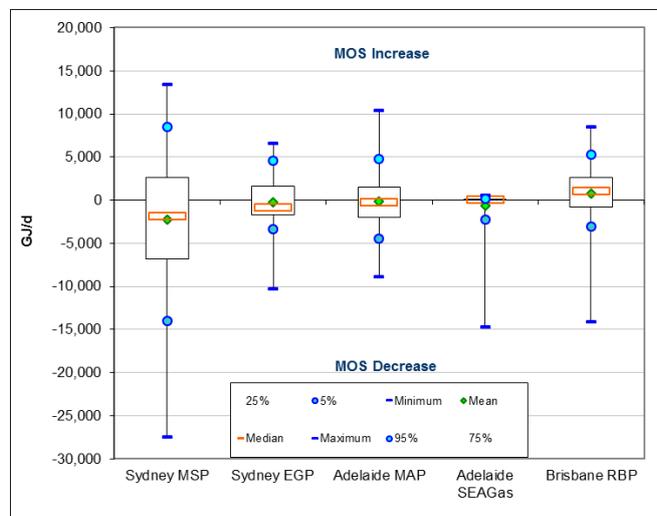


Table 3 – Daily MOS quantities (GJ/d) for October 2018

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	13,464	6,621	10,410	564	8,538
1	9,174	4,989	5,615	137	5,481
1	7,892	4,107	3,949	101	5,009
1	6,651	3,662	3,294	86	4,360
1	6,079	3,224	2,761	80	3,716
1	5,594	2,870	2,202	78	3,492
1	4,956	2,513	1,799	73	3,248
1	3,129	1,999	1,613	68	2,821
1	2,117	1,147	1,457	65	2,469
1	1,921	743	1,062	63	2,318
1	1,009	370	680	61	2,058
1	649	12	548	54	1,775
1	-56	-331	386	48	1,612
1	-882	-532	70	44	1,343
1	-1,339	-622	-112	41	1,166
1	-1,860	-849	-234	38	1,044
1	-2,338	-891	-514	34	830
1	-2,563	-1,116	-785	29	625
1	-3,112	-1,226	-1,105	21	518
1	-3,558	-1,343	-1,340	20	136
1	-4,365	-1,434	-1,498	17	-252
1	-5,551	-1,531	-1,747	11	-525
1	-6,452	-1,674	-1,891	7	-642
1	-7,088	-1,727	-2,172	-2	-914
1	-7,547	-1,886	-2,419	-10	-1,129
1	-8,989	-2,233	-2,752	-96	-1,559
1	-9,723	-2,487	-3,324	-163	-1,813
1	-10,840	-2,848	-3,793	-540	-2,244
1	-13,040	-3,266	-4,359	-1,571	-2,632
1	-14,952	-3,394	-4,634	-2,980	-3,544
1	-27,473	-10,263	-8,901	-14,708	-14,142

MOS Period November 2018

Table 1 – Maximum MOS quantities (GJ)

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
MOS increase	18,367	9,148	21,336	584	10,666
MOS decrease	32,304	9,823	5,349	22,311	6,363

Figure 1 – Curves of daily MOS quantities

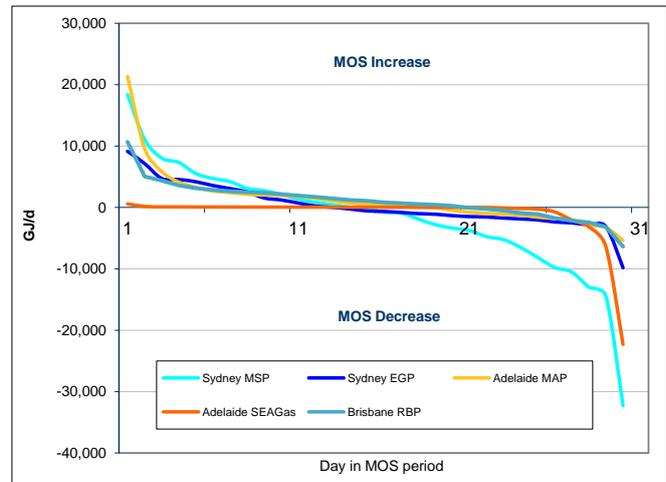


Table 2 – Summary statistics of daily MOS quantities

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	18,367	9,148	21,336	584	10,666
95%	9,722	6,052	7,905	138	4,743
75%	3,014	2,276	2,111	64	2,483
50%	-453	-607	450	36	957
25%	-5,110	-1,686	-1,089	-59	-456
5%	-13,806	-3,005	-3,086	-4,944	-2,849
Minimum	-32,304	-9,823	-5,349	-22,311	-6,363
Mean	-1,610	252	1,333	-1,115	1,030
Std deviation	9,135	3,588	4,737	4,221	2,999
% days positive	47%	43%	60%	73%	67%
% days negative	53%	57%	40%	27%	33%

Figure 2 – Distribution of daily MOS quantities

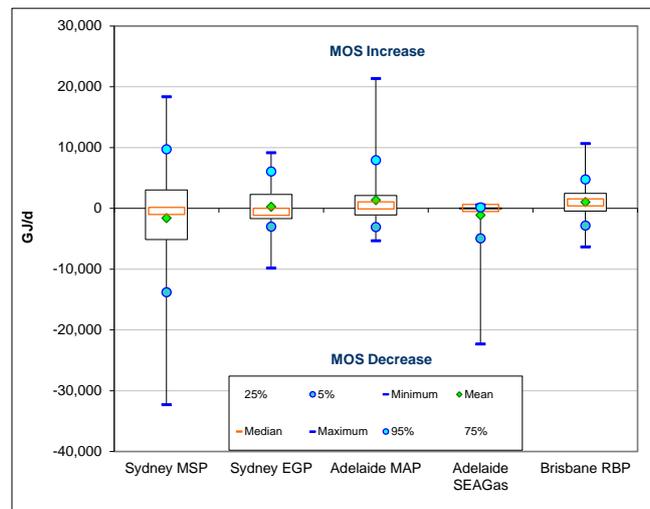


Table 3 – Daily MOS quantities (GJ/d) for November 2018

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	18,367	9,148	21,336	584	10,666
1	11,099	7,147	9,585	169	5,037
1	8,038	4,713	5,852	101	4,383
1	7,332	4,557	4,122	93	3,606
1	5,510	4,179	3,283	80	3,132
1	4,725	3,564	2,676	76	2,838
1	4,196	3,078	2,423	70	2,625
1	3,108	2,521	2,142	64	2,509
1	2,733	1,542	2,017	62	2,403
1	2,114	1,213	1,945	58	2,160
1	1,359	716	1,767	52	1,940
1	838	231	1,462	49	1,720
1	439	13	1,078	43	1,464
1	65	-251	740	41	1,233
1	-144	-561	492	39	1,081
1	-762	-653	408	33	832
1	-902	-807	157	31	671
1	-1,858	-1,003	42	25	556
1	-2,792	-1,102	-42	21	450
1	-3,345	-1,331	-455	15	267
1	-3,734	-1,481	-787	8	-48
1	-4,743	-1,553	-947	0	-230
1	-5,232	-1,730	-1,136	-79	-531
1	-6,496	-1,875	-1,233	-170	-916
1	-8,139	-2,035	-1,586	-276	-1,097
1	-9,778	-2,365	-1,798	-729	-1,708
1	-10,531	-2,519	-2,061	-2,041	-2,159
1	-12,995	-2,857	-2,858	-3,153	-2,450
1	-14,469	-3,126	-3,272	-6,410	-3,175
1	-32,304	-9,823	-5,349	-22,311	-6,363