

MSCP Market Watch

Fourth Quarter (Oct-Dec) 2017

Issue 46

Table 1: Indicators of Market Performance

	2016	2017	
	Q4	Q3	Q4
Price Indicators			
<i>Energy (\$/MWh)</i>			
- USEP	77.77	75.79	82.94
- WEP	78.05	76.11	83.27
- Allocated Vesting Price	126.44	138.10	137.29
- LNG Vesting Price	130.39	140.42	139.78
- Balance Vesting Price	116.26	132.10	131.17
<i>Ancillary Services (\$/MWh)</i>			
- Primary Reserve	0.11	0.06	0.24
- Secondary Reserve	0.31	0.19	N.A.*
- Contingency Reserve	5.27	5.75	4.78
- Regulation	8.03	12.08	12.71
HSFO Spot (US\$/barrel)	48.65	54.05	61.73
Demand Indicators			
<i>Forecast Demand (MW)</i>			
- Average	5,710	5,877	5,751
- Peak	6,782	6,967	6,789
<i>Metered Energy (MW)</i>			
- Average	5,596	5,821	5,683
- Peak	6,699	6,958	6,803
Supply Indicators			
Average Supply (MW)	7,907	8,181	8,050
Supply Cushion (%)	27.79	28.15	28.55
<i>Capacity Ratio (%)</i>			
- CCGT	58.63	66.84	60.62
- OCGT	0.08	0.00	0.00
- OT	47.69	48.57	50.27
- ST	0.91	0.12	0.10
<i>Total Outages (MWh Cumulative)</i>			
- Planned	2,075,932	2,975,819	2,440,247
- Forced	95,369	46,252	37,507
Offers made at or below \$100/MWh (%)	76.57	77.81	77.18

Market Performance

The Uniform Singapore Energy Price (USEP) increased 9.43 percent from \$75.79/MWh in Q3 2017 to \$82.94/MWh in Q4 2017. The Wholesale Electricity Price (WEP) also increased 9.41 percent to \$83.27/MWh this quarter.

All vesting prices decreased in Q4 2017. The Balance Vesting Price showed the largest change; it decreased 0.70 percent to \$131.17/MWh in Q4 2017.

Q4 2017 was the first quarter reflecting the removal of the secondary reserve class since it took effect on 1 October 2017. As this quarter's primary reserve class combined the previous primary reserve and secondary reserve classes, there is no insightful comparison of the primary reserve prices. Contingency reserve price declined 16.84 percent while regulation price moved up 5.19 percent this quarter.

The High Sulphur Fuel Oil (HSFO) spot price increased 14.21 percent from US\$54.05/barrel in Q3 2017 to US\$61.73/barrel this quarter.

Demand decreased 2.15 percent to 5,751 MW. Supply also dropped 1.60 percent to 8,050 MW. The supply cushion, which measures supply adequacy, increased 0.40 percentage point from 28.15 percent in Q3 2017 to 28.55 percent in Q4 2017.

While the capacity ratio of OCGT remained the same, the capacity ratios of CCGT and ST decreased while that of OT increased 1.70 percent this quarter. The capacity ratio of CCGT had the largest decrease of 6.21 percent.

Planned outage volume decreased 18.00 percent to 2,440,247MWh in Q4 2017. Forced outage volume also dropped 18.91 percent to 37,507MWh this quarter.

Overall, the percentage of offers made at or below \$100/MWh decreased 0.63 percentage point to 77.18 percent in Q4 2017.

On 15 November 2017, the Market Surveillance and Compliance Panel (MSCP) issued a rule breach determination against Energy Market Company Pte Ltd for its incorrect offer submission on behalf of a market participant on 9 June 2017.

Please note that all figures are rounded off to two decimal places.

* With effect from 1 October 2017, the primary reserve and secondary reserve classes were combined into a new single primary reserve class.

Supply Indicators

Chart 1: Capacity Ratio of Generation Plants

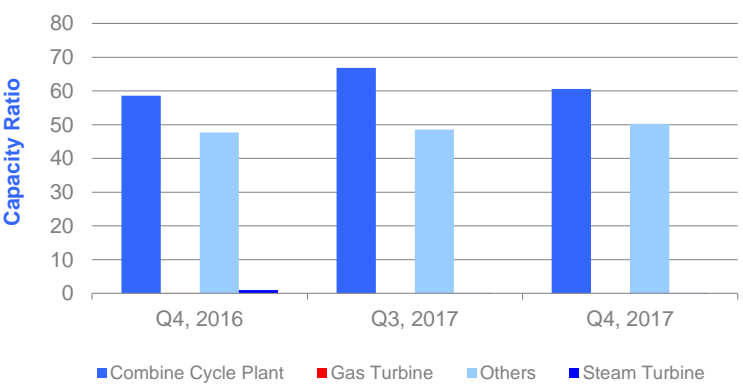


Chart 2: Relationship between USEP and Energy Supply Cushion - Q4 2017

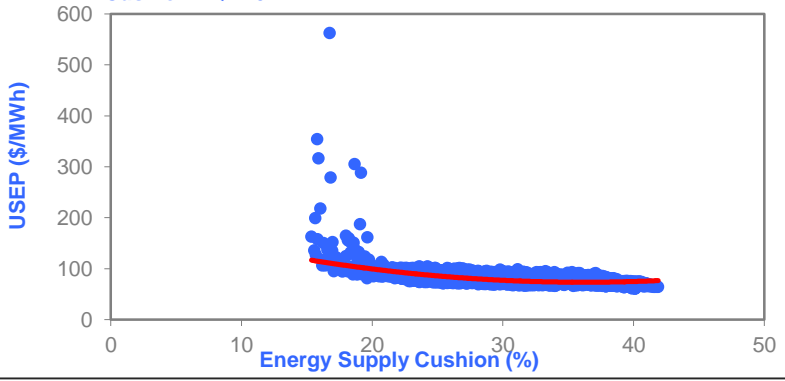


Chart 3: Comparison of Average Market Share by Generation Company Q4 2017

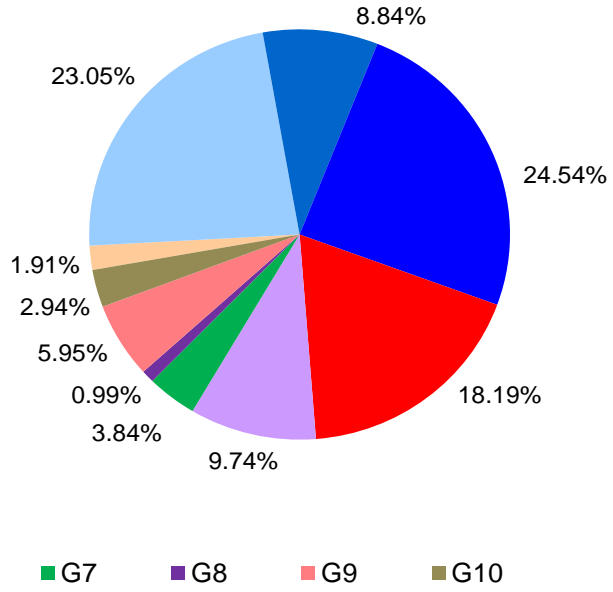
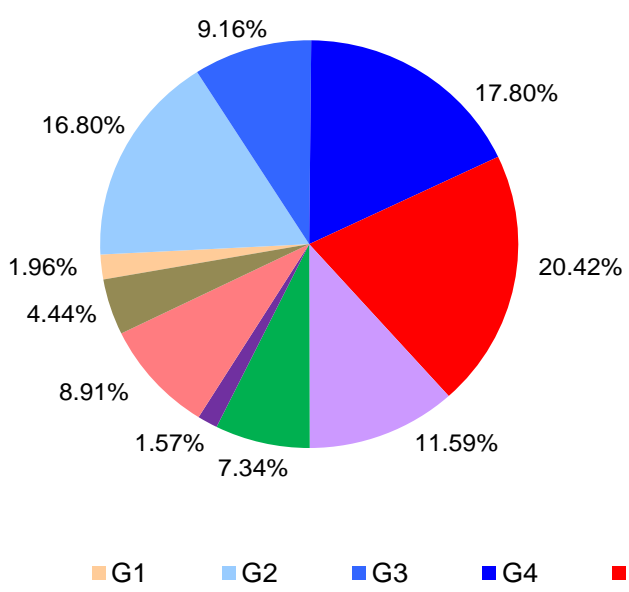
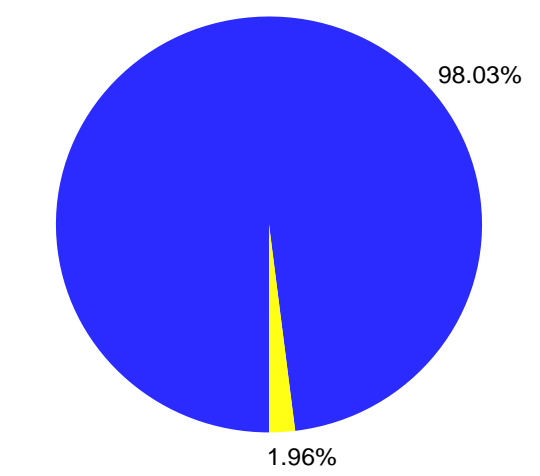
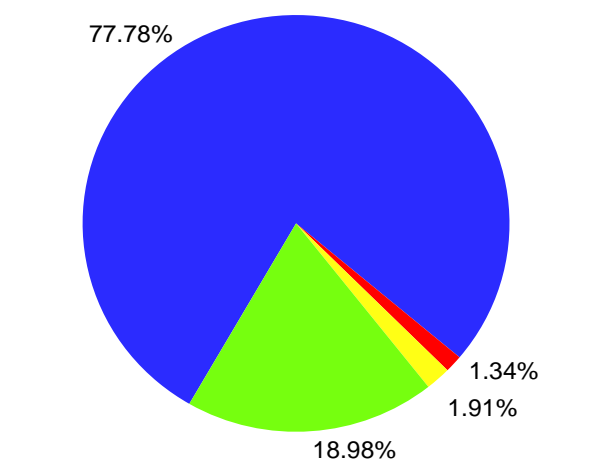


Chart 4: Comparison of Average Market Share by Generation Type Q4 2017



Based on Metered Energy Quantities

Combine Cycle Plant



Based on Maximum Generation Capacity

Gas Turbine Others Steam Turbine

Demand Indicators

Chart 5: Monthly Load Forecast Variation

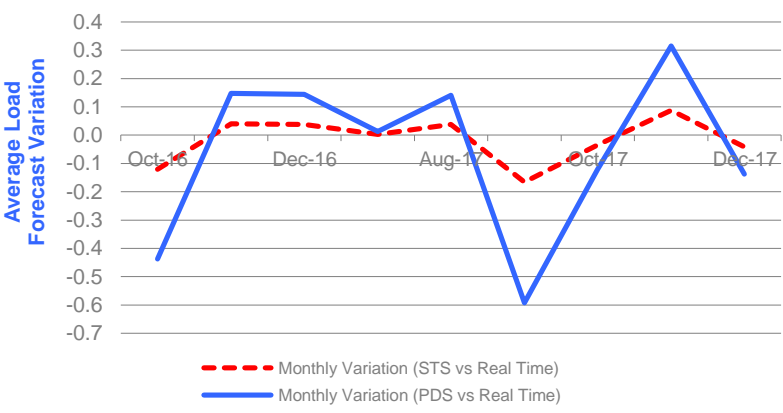
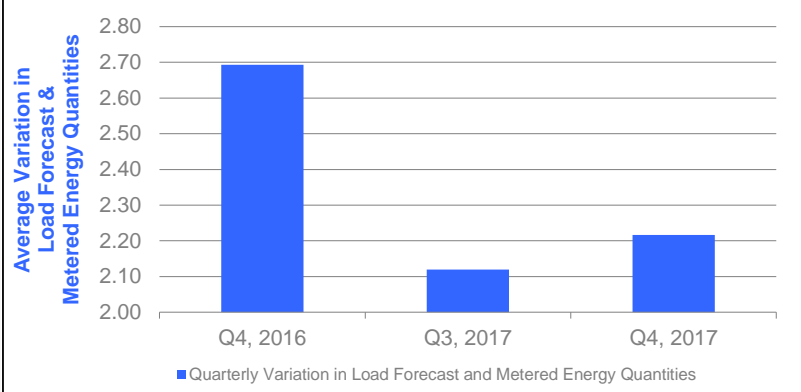


Chart 6: Variation in Real Time Load Forecast & Metered Energy Quantities



Energy Prices

Chart 7: WEP vs Vesting Contract Hedge Price (VCHP)

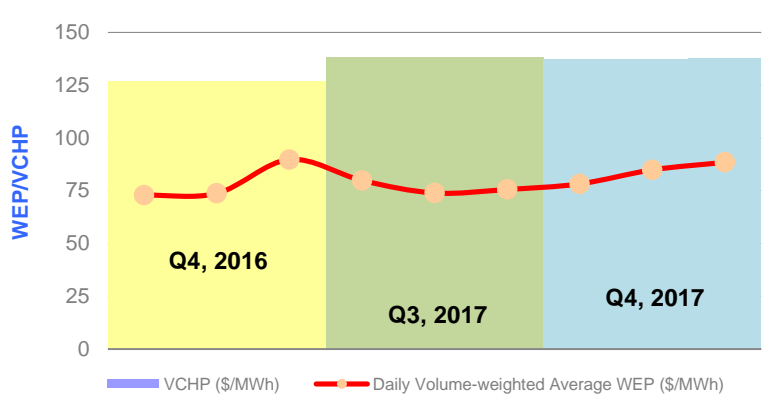


Chart 8: Comparison of Metered Energy Quantities

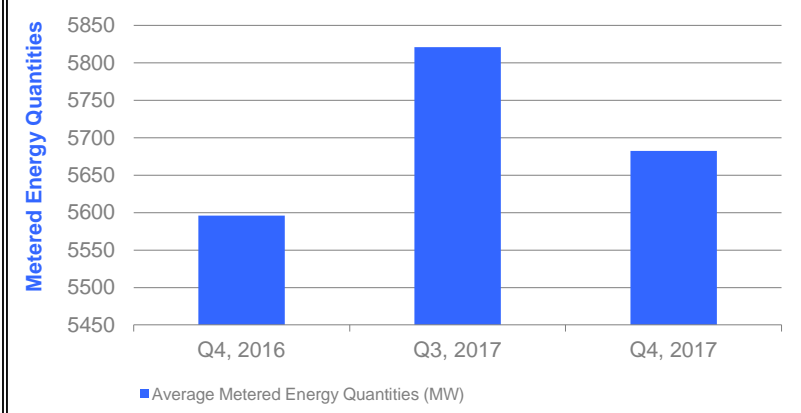


Chart 9: Percentage of Hours when WEP Falls into a Particular Price Range

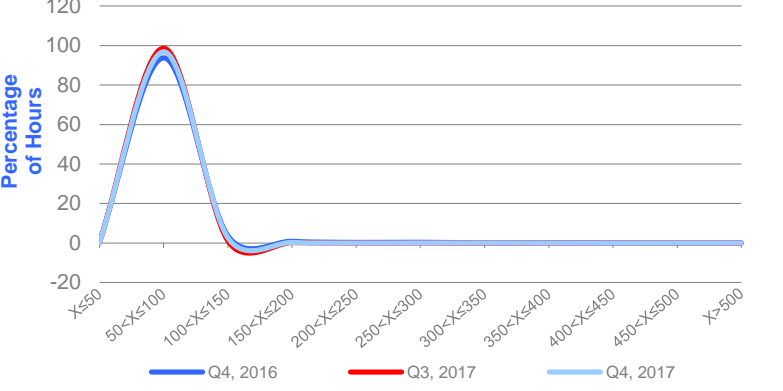


Chart 10: Percentage of Metered Energy Quantities when WEP Falls into a Particular Price Range

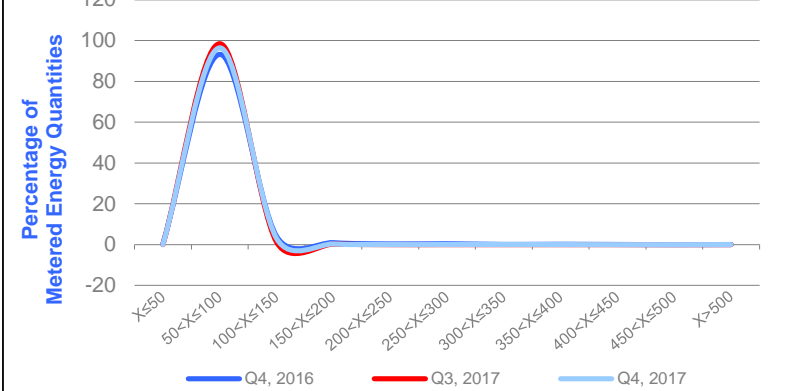


Chart 11: Correlation between WEP & Metered Energy Quantities

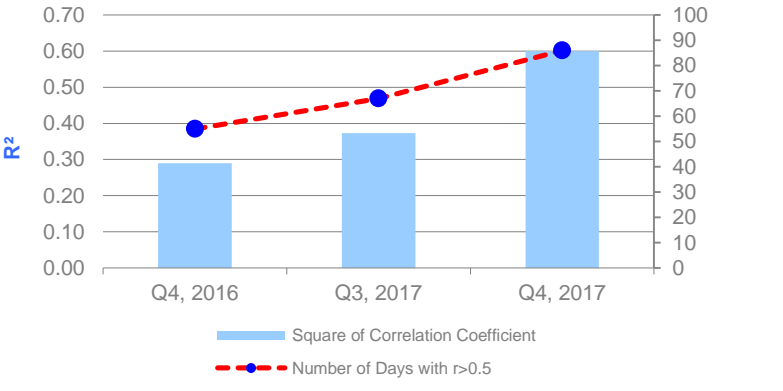
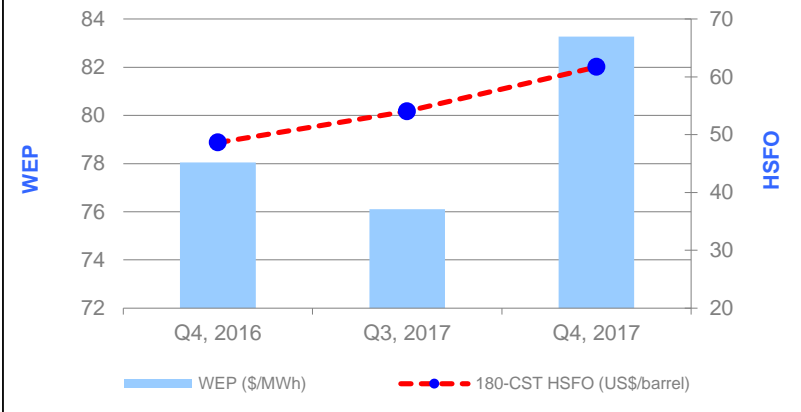


Chart 12: WEP vs Fuel Oil Price (HSFO)



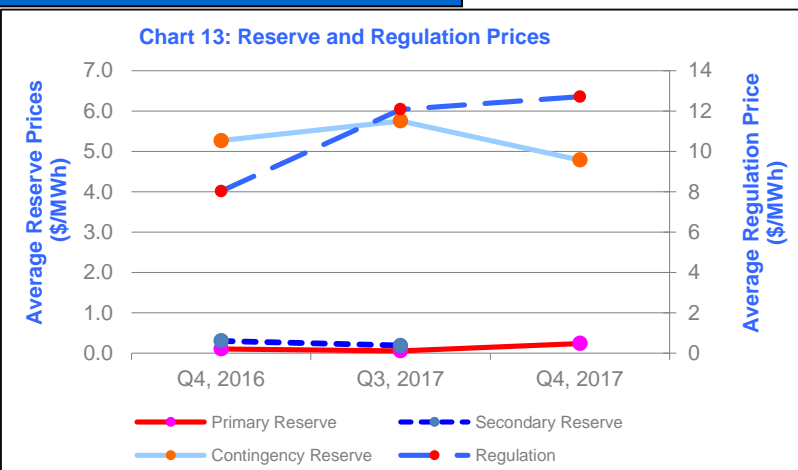


Table 2: Compliance Statistics for Q4 2017

No. of cases of potential rule breaches	214
Self-reports	0
Referrals/Complaints	214
MSCP initiatives	0
No. of determinations	190
Rule breach	1
No rule breach	186
No further action	3
Enforcement	
No. of cases with enforcement action	1
-Financial penalty	0
-Letter of non-compliance	1
Total amount of financial penalties	\$0
Total amount of costs	\$1,500

A User Guide on terms used in this publication is available for download from the Energy Market Company website at www.emcsg.com.

The Market Surveillance and Compliance Panel is comprised of the following persons:

- T P B Menon, Chair
- Lee Keh Sai
- Philip Chua
- Professor Euston Quah
- Professor Walter Woon

It is supported by the Market Assessment Unit of Energy Market Company.