

# MSCP Market Watch

Third Quarter (Jul-Sep) 2011

Issue 21

Table 1: Indicators of Market Performance

|  | 2010      | 2011      |           |
|--|-----------|-----------|-----------|
|  | Q3        | Q2        | Q3        |
| <b>Price Indicators</b>                |           |           |           |
| <i>Energy (\$/MWh)</i>                 |           |           |           |
| - USEP                                 | 147.74    | 243.36    | 250.72    |
| - WEP                                  | 150.19    | 244.15    | 251.01    |
| - VCHP                                 | 175.92    | 193.11    | 210.66    |
| <i>Ancillary Services (\$/MWh)</i>     |           |           |           |
| - Primary Reserve                      | 0.14      | 0.59      | 0.34      |
| - Secondary Reserve                    | 1.34      | 3.62      | 3.52      |
| - Contingency Reserve                  | 5.33      | 17.98     | 32.37     |
| - Regulation                           | 86.12     | 65.51     | 74.57     |
| HSFO Spot (US\$/barrel)                | 71.07     | 103.22    | 102.70    |
| <b>Demand Indicators</b>               |           |           |           |
| <i>Forecast Demand (MW)</i>            |           |           |           |
| - Average                              | 5,020     | 5,129     | 5,184     |
| - Peak                                 | 6,095     | 6,312     | 6,289     |
| <i>Metered Energy (MW)</i>             |           |           |           |
| - Average                              | 4,890     | 5,065     | 5,052     |
| - Peak                                 | 6,001     | 6,289     | 6,231     |
| <b>Supply Indicators</b>               |           |           |           |
| <i>Capacity Ratio (%)</i>              |           |           |           |
| - CCGT                                 | 75.57     | 74.64     | 76.53     |
| - OCGT                                 | 0.12      | 0.17      | 0.62      |
| - OT                                   | 41.30     | 41.34     | 48.32     |
| - ST                                   | 29.31     | 35.34     | 32.39     |
| Supply Cushion (%)                     | 24.46     | 24.29     | 22.17     |
| <i>Total Outages (MWh Cumulative)</i>  |           |           |           |
| - Planned                              | 1,313,408 | 1,294,044 | 1,305,282 |
| - Unplanned                            | 313,045   | 398,904   | 135,114   |
| - Forced                               | 47,976    | 35,994    | 46,015    |
| Offers made at and below \$100/MWh (%) | 56.72     | 54.75     | 56.65     |

## Market Performance

The Uniform Singapore Energy Price (USEP) and Wholesale Electricity Price (WEP) in Q3 2011 gained about 3% on average over Q2 2011. The USEP increased 3.02 percent from \$243.36/MWh in Q2 2011 to \$250.72/MWh in Q3 2011. The WEP increased from \$244.15/MWh to \$251.01/MWh. Meanwhile, the Vesting Contract Hedge price (VCHP) rose 9.09 percent from \$193.11/MWh in Q2 2011 to \$210.66/MWh in Q3 2011.

Price movements for ancillary services were mixed. The largest price movement was in Contingency Reserve, which rose by 80.03% on average from \$17.98/MWh in Q2 2011 to \$32.37/MWh in Q3 2011.

The High Sulphur Fuel Oil (HSFO) spot price dipped very slightly from US\$103.22/barrel to US\$102.70/barrel.

Forecast demand increased 1.07 percent from 5,129MW to 5,184MW. Supply decreased by 1.68 percent, causing the supply cushion to decline 2.12 percentage points to settle at 22.17 percent for Q3 2011.

Planned outage volume and forced outage volume in Q3 2011 increased 0.87 percent and 27.84 percent to 1,305,282MWh and 46,015MWh respectively. Unplanned outage volume decreased 66.13 percent to 135,114MWh in Q3 2011. On 15 August 2011, lightning-related damage caused a gas disruption at an Onshore Receiving Facility receiving gas from West Natuna. Three combined cycle gas turbine plant (CCGT) units underwent forced outages when performing gas-to-diesel fuel change-over. These forced outages propelled the average USEP to \$855/MWh for the day.

Price spikes above \$1,000/MWh were observed for 10 periods in Q3 2011, seven of which occurred from Periods 23 to 29 on 15 August 2011 when USEP hit a high of \$4,500/MWh following shortfalls in energy supply. Three other periods of price spikes occurred on Periods 23 to 24 on 4 July 2011 and Period 21 on 19 August 2011. These coincided with forced outage, higher demand and offer changes.

## Supply Indicators

Chart 1: Capacity Ratio of Generation Plants

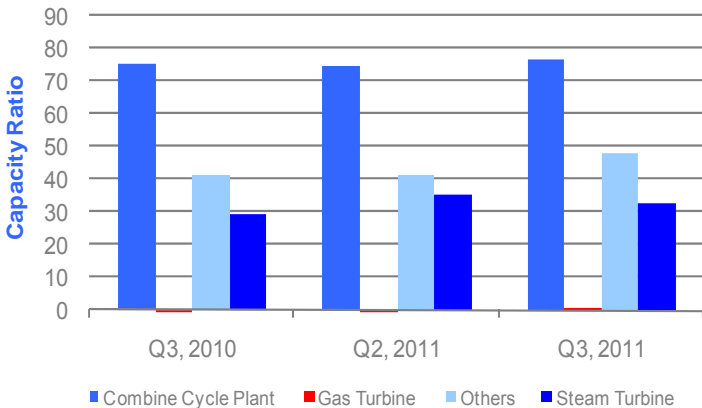


Chart 2: Relationship between USEP and Energy Supply Cushion - Q3 2011

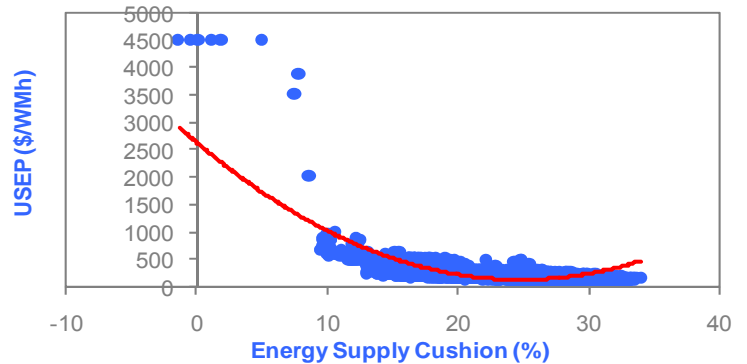
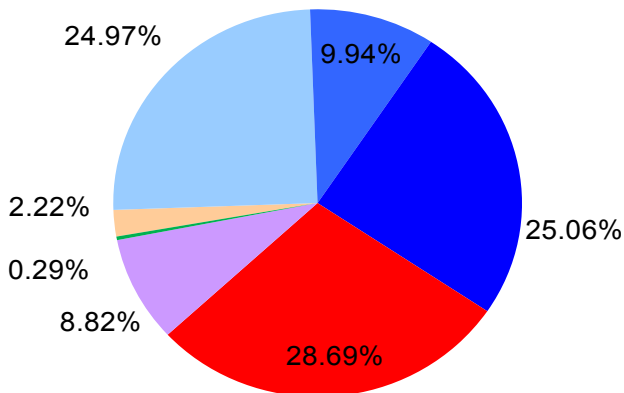
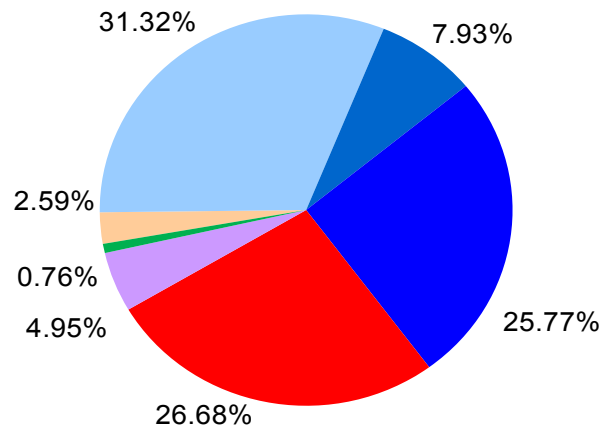


Chart 3: Comparison of Average Market Share by Generation Company Q3 2011



Based on Metered Energy Quantities

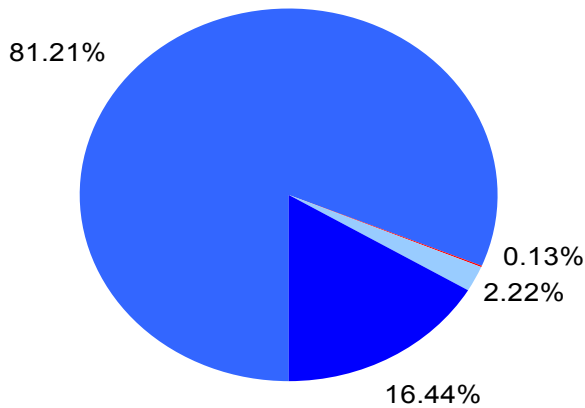
G1 G2 G3 G4



Based on Maximum Generation Capacity

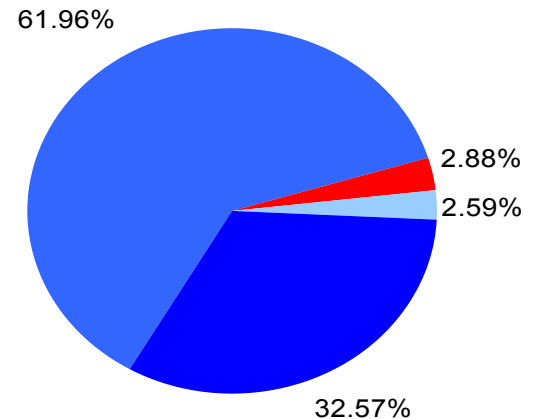
G5 G6 G7

Chart 4: Comparison of Average Market Share by Generation Type Q3 2011



Based on Metered Energy Quantities

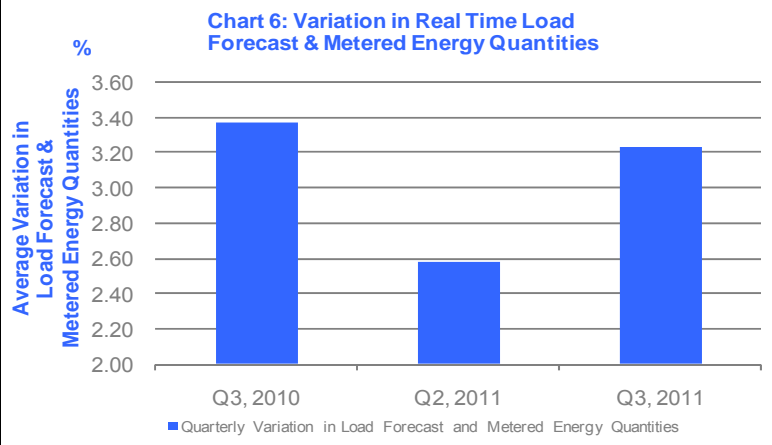
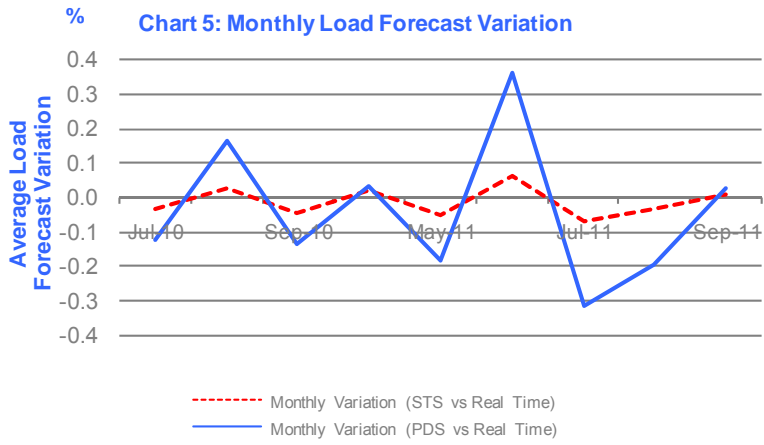
Combined Cycle Plant Gas Turbine



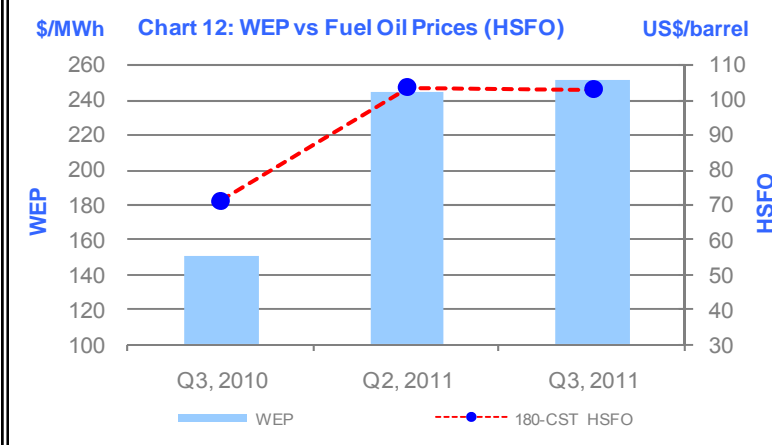
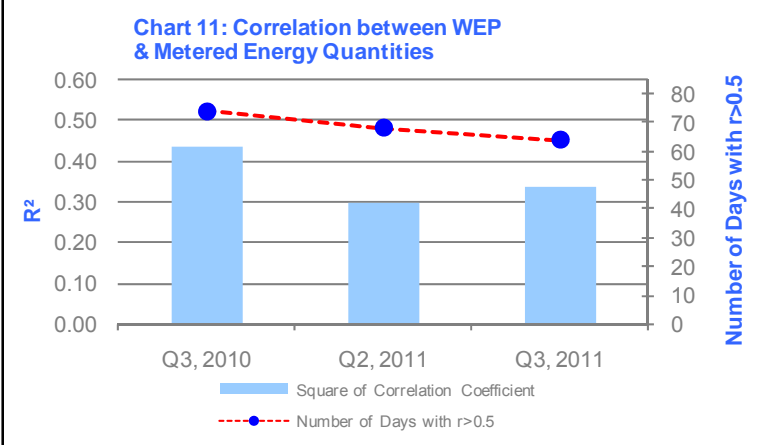
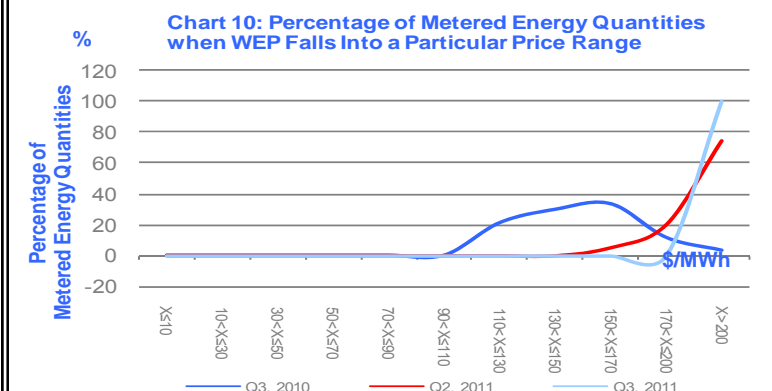
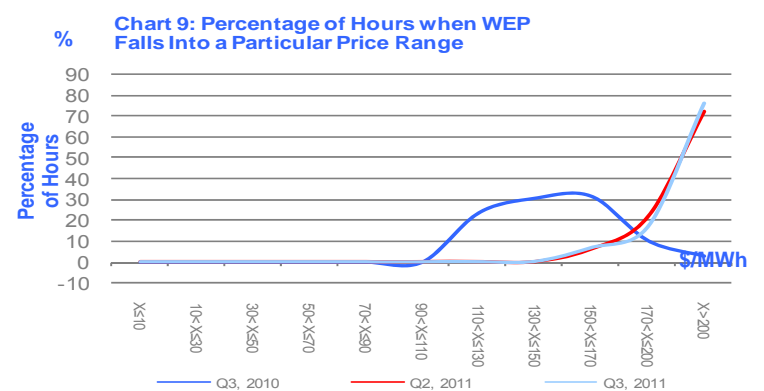
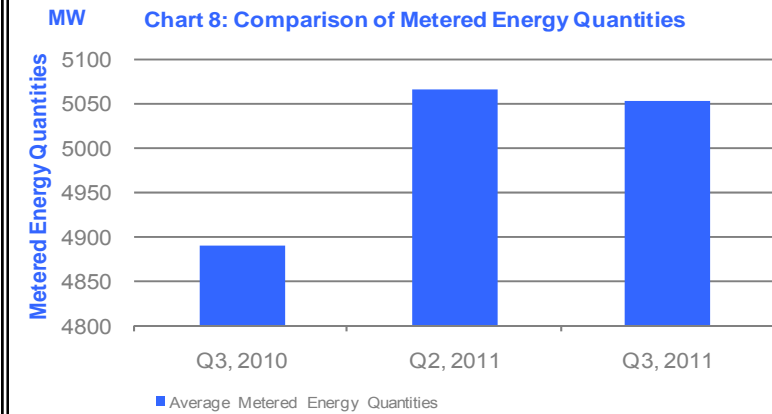
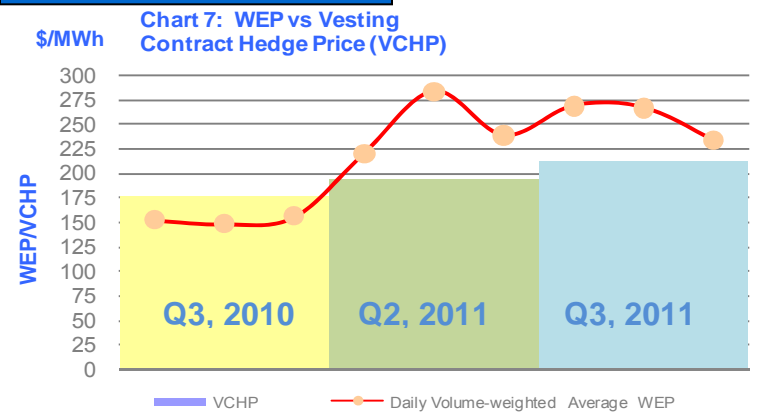
Based on Maximum Generation Capacity

Others Steam Turbine

# Demand Indicators



# Energy Prices



## Ancillary Prices

Chart 13: Reserve and Regulation Prices

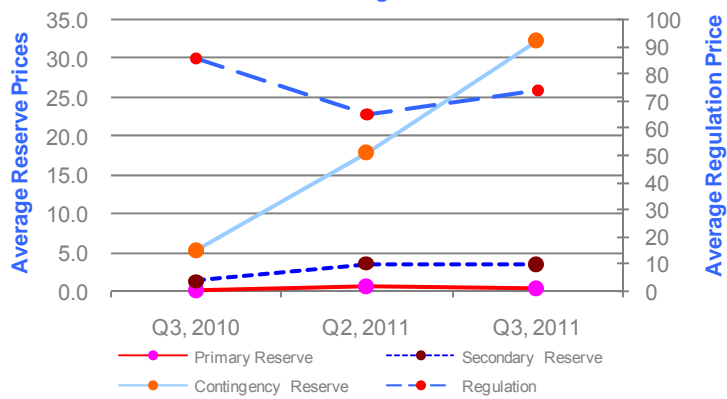


Table 2: Compliance Statistics for Q3 2011

|  |            |
|--|------------|
| <b>No. of cases of potential rule breaches</b> | <b>285</b> |
| Self-reports                                   | 1          |
| Referrals/Complaints                           | 284        |
| MSCP initiatives                               | 0          |
| <b>No. of determinations</b>                   | <b>272</b> |
| Rule breach                                    | 1          |
| No rule breach                                 | 268        |
| No further action                              | 3          |
| <b>Enforcement</b>                             | <b>1</b>   |
| No. of cases with enforcement action           |            |
| -Financial penalty                             | 0          |
| -Letter of non-compliance                      | 1          |
| Total amount of financial penalties            | \$0        |
| Total amount of costs                          | \$1,300    |

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

- Thean Lip Ping, Chair
- Lee Keh Sai
- Professor Lim Chin
- TPB Menon
- Philip Chua

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