

CURRENT ISSUE TOPICS

- CEO's Message
- Gas Trading Board
- EMC Golf Day 2016
- Visitors to EMC
- Market Update
- New Entrants to the NEMS
- Completion of Web Single Sign On Project
- User Forums
- EMC Training Programme



CEO'S MESSAGE

The last two months have been busy yet exciting for EMC.

In September, we launched the Gas Trading Board (GTB) to support the Energy Market Authority's development of a secondary gas trading market (SGTM) in Singapore. Given the heavy reliance on gas for power generation here, we see the GTB as an

important first step towards a competitive gas market which will benefit both the electricity and gas sectors. I am grateful for the industry's support of this initiative, and the EMC team's dedication which brought the GTB to fruition.

A highlight on EMC's calendar of events every year – the EMC Golf Day – is into its 14th year now. This highly-anticipated networking event took place in October and continued to see strong support and participation from the electricity industry. I would like to convey my appreciation to our market participants, sponsors and guests for making this event a success once again.

In the National Electricity Market of Singapore (NEMS), a low supply cushion in September led to a 15.8 percent increase in the Uniform Singapore Energy Price (USEP) to \$77.72/MWh. This is the highest monthly USEP for the year to date. The USEP receded slightly in October but remained above \$70.00/MWh.

Still on the NEMS, we welcomed a new retail electricity licensee and one new intermittent generation facility in September. EMC also successfully migrated our Web Single Sign On system to a new platform in the same month, to further enhance the security of the NEMS systems.

Finally, we were honoured to host Dr Rashid Al Leem, Chairman of the Sharjah Electricity & Water Authority (SEWA), and his delegation in October. The SEWA team visited Singapore to learn more about our energy landscape and gain insights into our liberalised electricity market. EMC welcomes such visits to share our knowledge and expertise, in the interest of promoting competitive electricity markets around the world.

I look forward to ending the year with two more months of successful trading in the NEMS.

Toh Seong Wah
Chief Executive Officer

GAS TRADING BOARD



Gas Trading Board website

EMC is pleased to launch the Gas Trading Board (GTB) on 30 September. The GTB serves as a transparent platform to facilitate the bilateral trading of gas domestically, and allows price discovery reflective of the underlying supply and demand market conditions.

The first trade on the GTB was made on 19 October, and we expect more participants to come on board in the coming months. EMC will share the industry's feedback and experience from using this platform with the Energy Market Authority (EMA), to support the development of a secondary gas trading market for Singapore. For more information on the GTB, please visit www.gtb.emcsg.com.

EMC GOLF DAY 2016

EMC National Electricity Market



Two of the winners of the EMC Challenge Trophy, David Wong (L) and Naresh Mahtani (R), with EMC Chairman Wong Meng Meng (not in photo) and other members of the winning team, Paul Maguire and Ajaib Haridass)



Lucky Draw 1st Prize Winner Eu Pui Sun (L), who walked away with a \$1,988 Apple MacBook Pro 13"



Golf clinic participants

Now into its 14th year, the annual EMC Golf Day took place on 4 October at the Tanah Merah Country Club (TMCC). This was the first time that the event was held at the TMCC.

This year, the Golf Day welcomed 52 golfers and over 130 dinner guests from Singapore's electricity industry, including board members, CEOs, senior management, panel members and other key stakeholders.

Seasoned golfers were sufficiently challenged by the TMCC Garden course, while novice golfers benefited from tips dispensed by golf pros at the two-hour golf clinic.

Aside from the day programme, we saw excellent response for the networking cocktail reception and dinner that took place in the evening, when many non-golfers from the industry joined us. As always, the highlights of the dinner were the prize presentations for the winning golf teams and the lucky draw.

We would like to thank our generous sponsors - both new and returning ones - for their support of our event: Orange Business Services, OpenLink, Singtel, AsiaPac, Huawei International, OCBC, Power Systems Consultants, ACME Associates and Rajah & Tann.

In addition, we would like to extend our sincere appreciation to our industry sponsors - Air Products, Buri Energy, Diamond Energy, Hyflux, Keppel Infrastructure, PacificLight, Red Dot Power, Sembcorp, Senoko Energy, Singapore LNG Corporation, YTL PowerSeraya - for contributing to the goodie bags, novelty hole prizes, food-at-hole stations and lucky draw prizes.

We also thank all our guests for taking the time to join us at the event. We hope everyone enjoyed the networking opportunity that Golf Day provides, and we look forward to hosting you again next year.



Dinner guests at the EMC Golf Day

Our Sponsors

VISITORS TO EMC



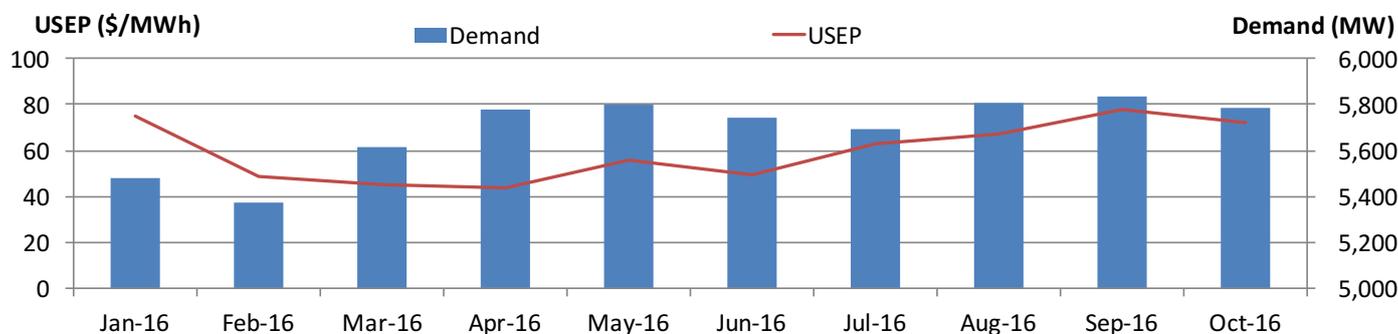
EMC team with the delegation from Sharjah Electricity & Water Authority

EMC welcomed a delegation from the Sharjah Electricity & Water Authority (SEWA) on 26 October. Led by SEWA Chairman Dr Rashid Al Leem, the delegation was in town to learn more about Singapore's energy landscape and gain insights into our liberalised electricity market.

EMC is committed to the sharing of knowledge and expertise to promote competitive electricity markets around the world.

MARKET UPDATE

Overview of Forecasted Demand and USEP - Jan to Oct 2016



Forecasted demand averaged 5,833MW in September, which was the highest monthly average forecasted demand so far this year. It dropped slightly in October to 5,786MW.

Due to the low supply cushion of 27.1 percent in September, the monthly average Uniform Singapore Energy Price (USEP) also reached the highest level this year, at \$77.72/MWh. October saw more available offers and a slight drop in the USEP to \$71.89/MWh. Nevertheless, October's USEP was still the third highest monthly average so far this year.

Although the USEP has been falling Year-on-Year (YoY) for the past 12 months (averaging -43.2 percent), September registered the smallest YoY fall at -4.6 percent.

NEW ENTRANTS TO THE NEMS

NEW MARKET PARTICIPANT AND INTERMITTENT GENERATION FACILITY REGISTERED IN THE NEMS

The National Electricity Market of Singapore (NEMS) welcomed a new market participant, Charis Electric Pte Ltd, which joined the NEMS as a retail electricity licensee on 9 September.

Also in September, the NEMS welcomed a new intermittent generation facility (IGF) registered by Solar C&I Holdings with a generation capacity of 1.6MW. The registration of this facility raised the total capacity of IGFs in the NEMS to about 12.6MW.

COMPLETION OF WEB SINGLE SIGN ON (SSO) PROJECT

EMC successfully rolled out the Web Single Sign On (SSO) project on 28 September during a planned Disaster Recovery Planning (DRP) exercise.

The new Web SSO software replaced the former secure authentication (Two-Factor – 2FA) software for market participants' (MPs) access to the Single Electronic Window (SEW) trading portal. The change in technology provides a highly scalable architecture, enhances security and brings about better support and management capabilities.

We take this opportunity to thank all MPs for their support and cooperation in this project.

USER FORUMS

Market Information Sharing Forum (MISF)

The Market Operations team hosted the 89th session of the bi-monthly MISF on 15 September. The following topics were shared with the attendees:

- Market Performance and key highlights in July and August;
- System Enhancements and Projects; and
- Feature Topics:
 - » Post event review of the scheduled maintenance on the 400kV transmission lines;
 - » OCBC deposit charge;
 - » Gas curtailment in November; and
 - » Web Single Sign On enhancement.

We would like to thank all participants for their continuous support and strong interest in the MISF. The next MISF is scheduled for 10 November. Market participants who are interested in presenting at future MISFs are encouraged to come forward.

Market Systems User Group (MSUG)

The bi-monthly MSUG forum was held on 20 October. EMC IT updated attendees on the following topics:

- Overview of NEMS systems availability year-to-date for FY 16/17;
- Overview of NEMS systems service desk calls received between September 2015 and September 2016;
- Overview of Change Releases deployed between September 2015 and September 2016;
- Completion of planned Disaster Recovery Exercise (switchover on 28 September and switchback on 19 October);
- Upcoming RSA token replacement exercise in December;
- Annual EMC user account review in November;
- Post Web Single Sign On (SSO) implementation sharing;
- Major IT incidents that occurred, and actions taken to resolve them;
- Status updates on IT Infrastructure projects:
 - » NEMS Windows Server virtualisation at primary site;
 - » Enterprise Monitoring System (Phase 2);
 - » Data Warehouse Re-platform; and
 - » Primary Site Network Enhancement
- Status updates on key on-going Application projects:
 - » Web SSO Project;
 - » NEMS Oracle Database (DB) Upgrade;
 - » Provision of real-time estimates of Hourly Energy Uplift Rebate (HEUR); and
 - » Network status file enhancement

The next MSUG forum is tentatively scheduled for Thursday, 15 December.

EMC TRAINING PROGRAMME NEXT COURSE ON 16 AND 17 FEBRUARY 2017

EMC will be holding the next run of its two-day course *Understanding Electricity Markets* on 16 and 17 February 2017. Our staff will be conducting six sessions covering the following topics:

- Understanding Electricity
- Why Reform and Regulation is Essential in the Electricity Industry
- The National Electricity Market of Singapore and its Unique Features
- Pricing Mechanism and Economic Dispatch
- Settlement
- How Consumers can Influence Electricity Markets

We advise you to book early to secure your place in the course date of your choice, and benefit from our early-bird discount.

Further details on the programme and on how to register are on our website, www.emcsg.com. For enquiries, please e-mail trainingprogramme@emcsg.com or contact Jan Lee at +65 6779 3000.

SEND US COMMENTS, FEEDBACK OR QUESTIONS

The EMC Bulletin is written by EMC for you and we are always striving to improve our service. We are interested in any feedback you might have about specific articles and topics covered or comments and suggestions about other areas you would like to see included.

Please send your comments, feedback or questions via e-mail to emc.newsletter@emcsg.com or via fax to +65 6779 3030. Thank you in advance for your time and effort.

Disclaimer:

© 2016 Energy Market Company Pte Ltd. All rights reserved. Unless authorised by law, no part of this publication may be reproduced or distributed without prior permission from Energy Market Company Pte Ltd (EMC). This publication is meant only for general information and nothing in it may be construed as advice. Whilst EMC has taken reasonable care in the preparation of this publication, EMC does not warrant its suitability for any purpose. You should always consult your professional advisors before relying on this publication to make any decision. If you have any specific queries about this publication, you can write to info@emcsg.com.