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CEO's Message



November got off to a rousing start with our first major physical industry networking event, the EMC Golf Day, after the relaxation of Covid-19 restrictions. While I could not attend the event myself, I was heartened by the tremendous support from our sponsors, partners and friends from the industry. Pictures speak a thousand words and the happy faces were testament to how much everyone enjoyed themselves at the event.

We also saw the registration of Southeast Asia's largest energy storage system (ESS) from Sembcorp Cogen Pte Ltd. The two 100MW facilities, which significantly increased Singapore's ESS registered capacity to 208.4MW, supports the nation's solar deployment by enhancing grid reliability.

In December, we also partnered the Energy Market Authority to conduct our first Demand Side Management Sandbox briefing to prepare market participants for its implementation on 1 January 2023. I am excited to see how the sandbox, when fully completed by 31 December 2024, will encourage greater consumer participation in the market.

In the National Electricity Market of Singapore (NEMS), November's monthly average Uniform Singapore Energy Price (USEP) increased to \$274.39/MWh before declining to \$228.84/MWh in December. This was a result of a tightening supply cushion in November and a fall in demand due to cooler temperatures in December.

As we enter 2023, I would like to thank all our partners and friends for your support and resilience, despite challenging market conditions. Nonetheless, 2023 promises to be an exhilarating one as we look to celebrate the NEMS 20th Anniversary with all our stakeholders. Happy New Year!

Toh Seong WahChief Executive Officer

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EMC Golf Day 2022

After a two-year hiatus, we are glad to bring back the much-anticipated EMC Golf Day. The 18th edition was held on Friday, 4 November at Sentosa Golf Club's New Tanjong Course.

Besides being the first physical event after the easing of Covid-19 restrictions, it was also our first carbon neutral golf day.

We welcomed more than 100 friends and partners at the event and everyone enjoyed the golf challenge, golf clinic and face-to-face interactions over food and drinks. Some lucky guests also walked away with lucky draw prizes during the evening's networking dinner.

Thank you to all our sponsors and guests that supported and joined us at the event. The golf day would not have been successful without your generosity and enthusiastic participation.

We look forward to welcoming you again in 2023 as we celebrate the NEMS 20th Anniversary!



Winners of the EMC Challenge Trophy



Golfers ready to tee off at the 18-hole golf challenge

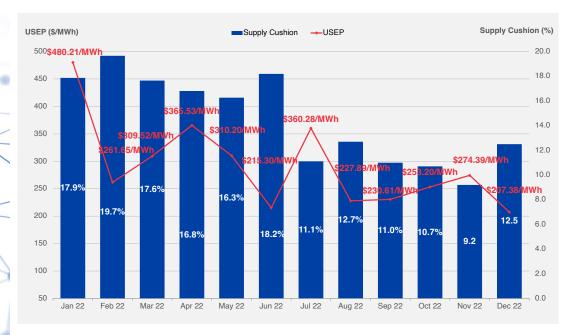


Enthusiastic dinner guests in the evening



Market Update

Overview of USEP and supply cushion – Jan to Dec 2022



The daily average Uniform Singapore Energy Price (USEP) ranged between \$165.30/MWh and \$576.12/MWh in November, and between \$112.19/MWh and \$392.02/MWh in December. The monthly average USEP increased 8.4 percent to \$274.39/MWh in November but decreased 24.4 percent in December to \$207.38/MWh.

In November, demand marginally increased 0.2 percent to 6,272MW while supply further weakened 1.5 percent to 6,907MW. The reduction in supply led to the tightening of the supply cushion by 1.5 percentage points to 9.2 percent. Against the backdrop of fuel oil price rising by 7.1 percent, the USEP increased 8.4 percent. There were 41 periods where the USEP climbed above \$500.00/MWh in November, one more than October, as tight supply conditions persist.

In December, demand decreased 3.6 percent to 6,046MW while supply further weakened 0.02 percent to 6,905MW. This led to the supply cushion increasing 3.3 percentage points to 12.5 percent. In line with the lower demand and a 12.2 percent drop in fuel oil price, this resulted in the decline in USEP.

New Entrants to the NEMS



In November, there were two new facilities registered in the National Electricity Market of Singapore (NEMS):

Two new facilities registered in the NEMS

| Market Participant | Facility Type | Capacity (MW) | Date Registered |
|---------------------------|--------------------------|---------------|-----------------|
| Sembcorp Cogen Pte Ltd | Energy Storage System | 100 | 15 November |
| Sembcorp Cogen Pte Ltd | Energy Storage System | 100 | 16 November |

With the addition of the Energy Storage System (ESS) facilities, the total registered capacity of ESS facilities stands at 208.4MW.



User Forums



Market Information Sharing Forum

Our Markets and Operations team hosted the 126th session of the bi-monthly Market Information Sharing Forum (MISF) on 10 November.

The following topics were shared with the attendees during the virtual session:

- market performance and key highlights in September and October;
- system enhancements and projects; and
- feature topics:
 - settlement prepayment automation
- studies on system demand
- market settlement of embedded generators

We would like to thank participants for their continuous support and strong interest in the MISF. Market participants who are interested in presenting at future MISFs are encouraged to contact the Markets and Operations team.

Market Systems User Group Forum

The bi-monthly Market Systems User Group (MSUG) forum was held on 15 December. This forum was held virtually based on voting results from the attendees earlier. Our Technology team updated participants on the following topics:

- overview of the NEMS systems availability year-to-date for FY2022/2023;
- overview of the NEMS systems service desk calls received for FY2022/2023;
- overview of change releases deployed between December 2021 and November 2022;
- NEMS systems incidents;
- planned NEMS maintenance;
- Disaster Recovery Preparedness (DRP) exercise;
- statistics on report downloads (via Web Services);
- status updates on Technology (infrastructure) project:
- Settlement Engine Application Upgrade Project;
- Web Application Firewall (WAF).
- status updates on Technology (applications) projects:
- Settlements Prepayment Automation Project;
- Automation of Data Extraction of Forced Outage Information for POF Publication via Web Services;
- Corporate Website Revamp Project;
- SEW Server Upgrade and Webserver Migration; and
- incorporation of solar generation forecasts.
- GST rate change for Settlement reports

The next forum is tentatively scheduled for Thursday, 16 February. We will update participants ahead of the forum.





EMC Training Programmes

Singapore Electricity Network and Market Course

The next run of the course is scheduled for March 2023, and will cover the following topics:

- Overview of Singapore's Electricity Network
- Electricity Transmission, Distribution Network Configuration and Network Equipment
- Market Reform Milestones and Demand Characteristics
- Market Structure
- Market Operations
- Regulatory Tools and Governance Structure

The course serves as a good primer for participants who are keen to attend the *Understanding Electricity Markets* course, our flagship course which has been conducted since 2005.

To register, please contact the Singapore Institute of Power and Gas (SIPG) at 6916 7930 or training-institute@spgroup.com.sg. More information about the course is available on the EMC website.

Market Clearing Workshop

The next public run of the *Market Clearing Workshop* will be held over two-and-a-half days on 13, 14 and 17 (half day) April 2023. The workshop will be conducted physically on 13 and 14 April 2023, and virtually on 17 April 2023.

The sessions will cover the following nine topics:

- Market Clearing Overview
- Market Clearing Engine Mathematical Model
- Generation Dispatch and Marginal Pricing
- Transmission Modelling and Nodal Pricing
- Ancillary Services Markets
- Co-optimisation amongst Energy and all Ancillary Products
- Constraint Violation Penalties (CVP) and Stepwise CVP
- Tie-Breaking
- Demand Response

More information about the workshop and registration details are available on our website.



Understanding Electricity Markets

Our next *Understanding Electricity Markets* training programme will be held over two-and-a-half days on 16, 17 and 20 (half day) February 2023. The programme will be conducted physically on 16 and 17 February 2023, virtually on 20 February 2023.

Our trainers will be conducting four sessions covering the following topics:

- Basic Understanding of Electricity and Electricity Markets
- National Electricity Market of Singapore (NEMS) and its Unique Features
- Pricing Mechanism and Economic Dispatch
- Market Settlement and Credit Risk Management

More information about the programme and registration details are available on our website.

For enquiries on private runs of the *Understanding Electricity Markets* training programme or *Market Clearing* workshop, please email us at trainingprogramme@emcsg.com or contact Jan Lee at 6779 3000.