

# Bulletin 133

March–April 2023

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## CEO's Message



As part of the celebrations for the 20<sup>th</sup> Anniversary of the National Electricity Market of Singapore (NEMS), we continued forging ahead with our focus on sustainability by rallying our staff to support Earth Hour on 23 March, and organised an e-waste recycling drive for SGX and EMC staff leading up to Earth Day on 22 April. We are thrilled by the enthusiasm shown by staff towards the sustainability efforts and their eagerness to do their part for the environment.

The monthly average USEP climbed 52.8 percent to \$339.26/MWh in March and declined 4.5 percent in April to \$323.96/MWh. The increase in USEP in March was due to a drop in supply cushion and an increase in fuel oil prices. While April also saw an increase in fuel oil prices, improving supply cushion resulted in the slight fall in USEP.

In March, we welcomed BEWGI-UE NEWater Pte Ltd to the NEMS, bringing the total number of wholesale market traders to 19. We also registered four new facilities in March and April.

Separately, we are delighted to see a steady increase in participation in the Demand Response and Interruptible Load programmes since the launch of the Demand Side Management Sandbox in January. The programmes incentivise companies to reduce their electricity consumption when electricity prices are high or when there is low supply.

Another exciting news to share: registration for the Singapore Electricity Roundtable 2023 is now open! The event will be held on 25 July at The Fullerton Hotel and we are expecting more than 200 key personnel from the energy and electricity sectors in the Asia Pacific region. We are also honoured to have Mr Ngiam Shih Chun, Chief Executive, Energy Market Authority, and Ms Cindy Lim, Chief Executive Officer, Keppel Infrastructure Holdings, as key speakers at the event.

The next few months will be exhilarating ones as we drum up our celebrations for the NEMS' 20<sup>th</sup> Anniversary, starting with our annual community outreach programme at our NEMS adopted charity, Child at Street 11, and the launch of our brand new corporate website and dedicated NEMS website in May.

I look forward to reconnecting with you, our market participants and industry partners, at our upcoming celebrations.

**Toh Seong Wah**  
Chief Executive Officer

# Register Now for Singapore Electricity Roundtable 2023



The biennial Singapore Electricity Roundtable is now open for registration! The event will be held on 25 July 2023 at The Fullerton Hotel, Singapore.

The Roundtable is a well-established, leading energy forum that connects influencers, decision makers, investors and other experts in the electricity, energy and related industries. It provides a platform for senior executives to discuss and debate the opportunities, challenges and issues facing these sectors in Asia Pacific and globally.

The Roundtable speakers and topics\* this year are:

- Ngiam Shih Chun, Chief Executive, Energy Market Authority (EMA), who will deliver the keynote address;
- Cindy Lim, Chief Executive Officer, Keppel Infrastructure Holdings, who will share on powering Singapore together;
- Toh Wee Khiang, Director, National Energy Transformation Office, EMA, who will speak about thriving through the energy transition;
- Ben Vanderwaal, EY Oceania Renewable Energy Leader, Ernst & Young; and
- Stephen Woodhouse, Director, AFRY Management Consulting, will both discuss on building a competitive and resilient energy market.

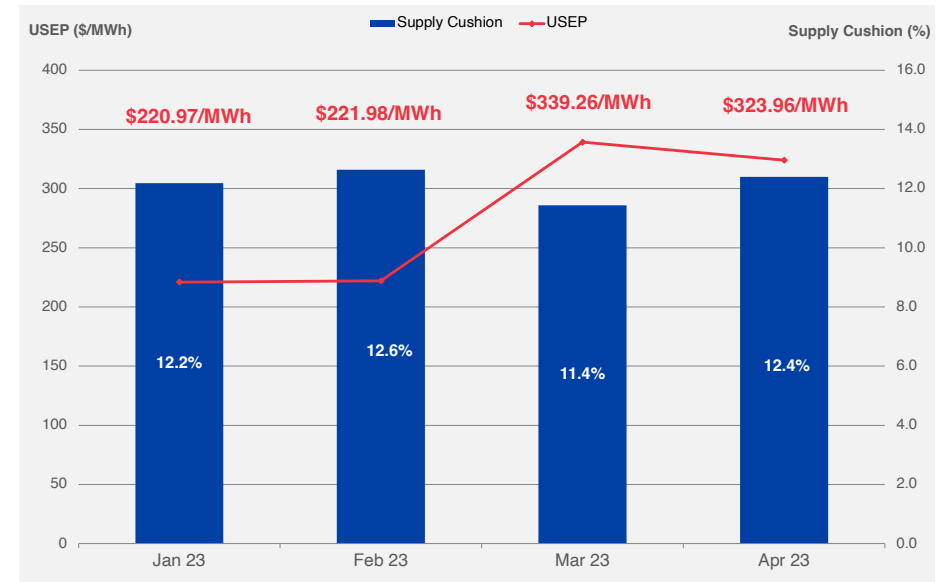
An exclusive networking cocktail and dinner await all Roundtable participants at the end of the day.

Sign up for the Singapore Electricity Roundtable 2023 today and don't miss the opportunity to gain insights into the electricity industry, and the chance to network with industry experts and decision makers from the region and around the world. Visit [www.emcsg.com/roundtable](http://www.emcsg.com/roundtable) for the latest information and registration details.

\*Speakers and topics are subject to changes.

# Market Update

## Overview of USEP and supply cushion – Jan to Apr 2023



The daily average Uniform Singapore Energy Price (USEP) ranged between \$113.23/MWh and \$835.70/MWh in March, and between \$108.26/MWh and \$826.86/MWh in April. The monthly average USEP climbed 52.8 percent to \$339.26/MWh in March after which, it declined 4.5 percent in April to \$323.96/MWh.

In March, demand grew 0.8 percent to 6,130MW while supply weakened 0.5 percent to 6,921MW. This led to a drop in supply cushion by 1.2 percentage points to 11.4 percent. This coupled with a 9.5 percent increase in fuel oil price resulted in a 52.8 percent rise in March's USEP. There were 166 periods when the USEP climbed above \$500.00/MWh in March as compared to 103 periods in February.

In April, demand further increased by 4.1 percent to 6,384MW while supply improved 5.3 percent to 7,287MW. The increase in supply outpaced the growth in demand, improving the supply cushion by 1.0 percentage point to 12.4 percent. Hence, the USEP fell in April despite a 7.3 percent rise in fuel oil price as compared to March. The number of periods in which the USEP climbed above \$500.00/MWh decreased to 97 in April.

# Rules Change Panel Work Plan Prioritisation Exercise 2023



Throughout January and February this year, stakeholders of the National Electricity Market of Singapore (NEMS), including market participants (MPs), Singapore Power (SP) Services, EMC and the Power System Operator (PSO), have been consulted on the annual Rules Change Panel (RCP) work plan prioritisation exercise.

## Issue identification

The first stage of the prioritisation exercise involved seeking inputs for new issues which stakeholders wished to address. The following 10 new issues were raised for inclusion in the updated work plan:

1. Review of definition of forced outage in gate closure exemptions (Proposed by: EMC, Market Assessment Unit);
2. Improvement of the prepayment process (Proposed by: Flo Energy);
3. Allow Battery Energy Storage System (BESS) to provide non-spinning reserves. Specifically, allowing primary and contingency reserves to be provided with BESS loading below low load point (Proposed by: Sembcorp Cogen);
4. Methodology to calculate Vesting Contract Reference Price (Proposed by: Sembcorp Cogen);
5. Scheduling of load arising from charging of BESS (Proposed by: Tuas Power Generation);
6. Exemption from gate closure rules for cancelled synchronisation (Proposed by: PacificLight Power);
7. Removal of second settlement rerun (Proposed by: EMC, Markets and Operations);
8. Facilitating integration of large-scale imports into the market (Proposed by: EMC);
9. Review of gate closure exemptions following a forced outage (Proposed by: Shell Eastern Petroleum); and
10. Review of obligation to act within five minutes when an action is to be taken “promptly” or “immediately” (Proposed by: EMC, Market Assessment Unit).

## Meeting with stakeholders

At the second stage of the prioritisation exercise, EMC conducted joint briefing sessions with stakeholders to clarify and refine the scope of both existing and new issues. Stakeholders also ranked each issue according to its importance and urgency, and/or voted for issues to be removed.

## Updated RCP work plan from April 2023 to March 2024

After incorporating feedback from the stakeholders, EMC presented the proposed update to the one-year work plan to the RCP for consideration at its 133<sup>rd</sup> meeting in March.

At the meeting, issues that received a significant number of votes for them to be removed were highlighted to the RCP. After further deliberation, the RCP decided to remove three issues from the RCP work plan and agreed to work on the following issues within the next 12 months:

1. Holistic review of the current prudential requirement obligations and its enforcement process under the Market Rules;
2. Participation of BESS in energy and ancillary services markets;
3. Holistic review of the Market Rules related to cessation of business, liquidation and insolvency;
4. Review of scope and framework for compensation arising from complying with PSO issued overriding dispatch instructions;
5. Facilitating integration of large-scale imports into the market;
6. Review of rules governing participation and offers for batteries and distributed energy resources;
7. Review of obligation to act within five minutes when an action is to be taken “promptly” or “immediately”;
8. Exemption from gate closure rules for cancelled synchronisation;
9. Request for EMC to publish filtered reserve and regulation supply curves; and
10. Review of the definition of forced outages in gate closure exemptions.

Detailed descriptions of all issues can be found on EMC's [website](#).

# New Entrants to the NEMS

## One new market participant and four new facilities registered in the NEMS

We welcomed one new market participant (MP) in the National Electricity Market of Singapore (NEMS) in March:

Market Participant	Market Participant Class	Date Registered
BEWGI-UE NEWater Pte Ltd	Wholesale Market Trader	2 March

With the above addition, there are now 19 wholesale market traders in the NEMS. In March and April, four new facilities were registered in the NEMS:

Market Participant	Facility Type	Capacity (MW)	Date Registered
BEWGI-UE NEWater Pte Ltd	Non-exporting Embedded Intermittent Generation Facility (NEIGF)	1.5	6 March
Sembcorp Cogen Pte Ltd	Energy Storage System (ESS)	1.2	21 March
Terrenus Energy SL1X Pte Ltd	Intermittent Generation Source (IGS)	10.0	28 March
LYS Genco Beta Pte Ltd	NEIGF	1.4	11 April

With the above additions, the total registered capacity of IGS facilities stands at 388.8MW while that of ESS facilities stands at 208.3MW. Moreover, the total registered capacity of NEIGF facilities stands at 26.1MW.

# Demand Side Management Sandbox

The Demand Side Management (DSM) Sandbox was launched by the Energy Market Authority (EMA) in 2022 and companies can participate in the Sandbox from 1 January 2023 to 31 December 2024.

The DSM Sandbox will enhance the Demand Response (DR) and Interruptible Load (IL) programmes in the Singapore Wholesale Electricity Market and incentivise companies to reduce their electricity consumption during periods of high wholesale electricity prices and/or when there is tight supply.

The compliance thresholds and penalty amount for DR has been lowered during the sandbox period to encourage more commercial and industrial companies to optimise their energy usage.

During this period, all Load Registered Facilities (LRFs) will continue to be subjected to the existing compliance thresholds and penalty amounts via the Automatic Financial Penalty Scheme (AFPS) daily. If the participant assesses that it should not have been penalised or the penalty amount should have been lower under the DSM Sandbox scheme, it can submit the penalty refunds request to the EMA and EMC.

The table below shows the refunds made to LRFs since the implementation of the DSM Sandbox in January.

Month	DSM Sandbox Refund
January 2023	\$79,830.70
February 2023	\$99,779.21
March 2023	\$4,113.00



# User Forums



## Market Information Sharing Forum

Our Markets and Operations team hosted the 128<sup>th</sup> session of the bi-monthly Market Information Sharing Forum (MISF) on 16 March.

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

- market performance and key highlights for January to February 2023;
- system enhancements and projects; and
- feature topics:
  - ramp rate violation sharing;
  - analysis of primary and contingency reserve prices; and
  - enhancement of Annual Generation Outage Plan (AGOP) processed data file.

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 20 April. This forum was held virtually via Teams. 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 April 2022 and March 2023;
- NEMS systems incidents;
- planned NEMS maintenance;
- Disaster Recovery Preparedness (DRP) exercise;
- statistics on report downloads (via Web Services);
- status updates on Technology (infrastructure) projects:
  - Web Application Firewall (WAF);
  - Single Electronic Window (SEW) Server Upgrade and Web Server Migration; and
  - Enterprise Single Sign-On.
- status updates on Technology (applications) projects:
  - Automation of Data Extraction of Forced Outage Information for Probability of Failure (POF) Publication via Web Services;
  - Corporate Website Revamp Project;
  - SEW Server Upgrade and Web Server Migration; and
  - incorporation of solar generation forecasts.

The next forum is tentatively scheduled for Thursday, 15 June. 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 the second quarter of the year, 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](mailto:training-institute@spgroup.com.sg). More information about the course is available on the EMC website.

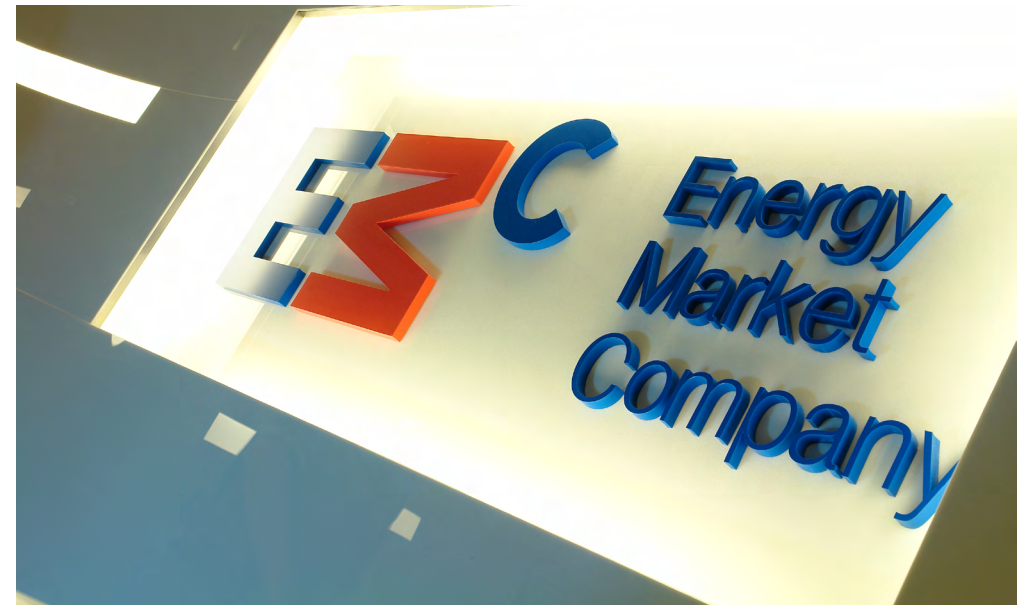
## Market Clearing Workshop

The next public run of the *Market Clearing Workshop* will be held over two-and-a-half days in the second quarter of the year. The workshop will be conducted through a mix of physical and virtual sessions.

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 25, 26 and 29 (half day) May 2023. The programme will be conducted physically on 25 and 26 May, and virtually on 29 May.

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](mailto:trainingprogramme@emcsg.com) or contact Jan Lee at 6779 3000.