

Bulletin 128

May–June 2022

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CEO's Message



After more than two years of working remotely, we finally welcomed all colleagues back to the office in May. This is a positive step towards better engagement and greater collaboration and I look forward to speaking with everyone in person.

I would also like to thank colleagues for their resilience and dedication during the pandemic. Together, we have adapted and responded well to the changing demands and needs of the market amid the challenging times.

To celebrate both the return to office as well as the end of EMC's financial year, we held our first physical engagement event with all our colleagues. The event was much anticipated, and colleagues had fun bonding over lunch and games. It was great to see old bonds rekindled and new friendships formed. Thank you all for another successful year. I look forward to more opportunities to connect in the new financial year.

EMC also conducted our last virtual update and networking event for the industry in June. Thank you once again, to all our market participants and partners, for your overwhelming support. I am glad that everyone found the presentation beneficial; I hope it piques your interest in how other markets have evolved to meet the challenges of high wholesale prices.

In May and June, we observed a downward trend for the monthly average Uniform Singapore Energy Price (USEP). May's monthly average USEP was at \$310.20/MWh while June's was at \$215.30/MWh. This was due to higher supply and lower fuel oil prices.

More significantly, from June, Singapore began importing renewable energy from Laos via Thailand and Malaysia. This is Singapore's first renewable energy import and EMC is proud to support Singapore's efforts to import up to 4GW of electricity by 2035. Work on the project began way back in April 2021. I would like to thank colleagues and partners who worked tirelessly to modify the market rules and trading systems in order to integrate energy imports into the National Electricity Market of Singapore.

Toh Seong Wah
Chief Executive Officer

EMC Learn & Play Together

With the relaxing of Covid-19 measures, we held our first physical engagement event for all staff on 27 May. Everyone was in high spirits as many had not met one another in person for more than two years.

The event, held at the Sands Expo & Convention Centre, was organised to recognise and celebrate the contributions and hard work of all our EMC colleagues in the last financial year (FY).

We kicked off the event with a delicious three-course lunch which was followed by team-building activities and games throughout the afternoon.

A big thank-you to all our colleagues for another successful year. We look forward to hosting more of such events in the new FY.



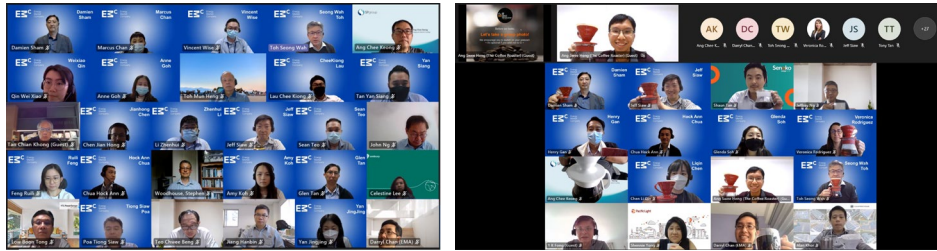
EMC colleagues at the EMC Learn & Play Together event



EMC staff participating enthusiastically at various team-building activities



NEMS Virtual Update and Engagement Event



Strong support and positive participation at the virtual event

A toast to great coffee and engagement



High competitive wholesale prices: How market regulations responded and key lessons for Singapore

For Energy Market Company

Mr Stephen Woodhouse sharing his insights on high competitive wholesale prices

EMC hosted a virtual update and engagement event for the National Electricity Market of Singapore (NEMS) on 29 June. We continue to receive strong support from our market participants with more than 80 attendees joining us at the virtual event.

We were honoured to have Mr Stephen Woodhouse, Director of AFRY Management Consulting share with us how market regulators have responded to high competitive wholesale prices, and the key lessons that Singapore can take away.

We were heartened to receive positive feedback from the participants for both the presentation and the hands-on coffee appreciation workshop that followed. In particular, the Question-and-Answer session after the presentation stimulated robust discussions among the participants.

As the NEMS' independent market operator, EMC will continue to connect the industry and provide platforms for the discussion of critical industry issues. We look forward to hosting and meeting the participants in person at our next engagement event.

EMC's Business Continuity Preparedness Exercises and Plans

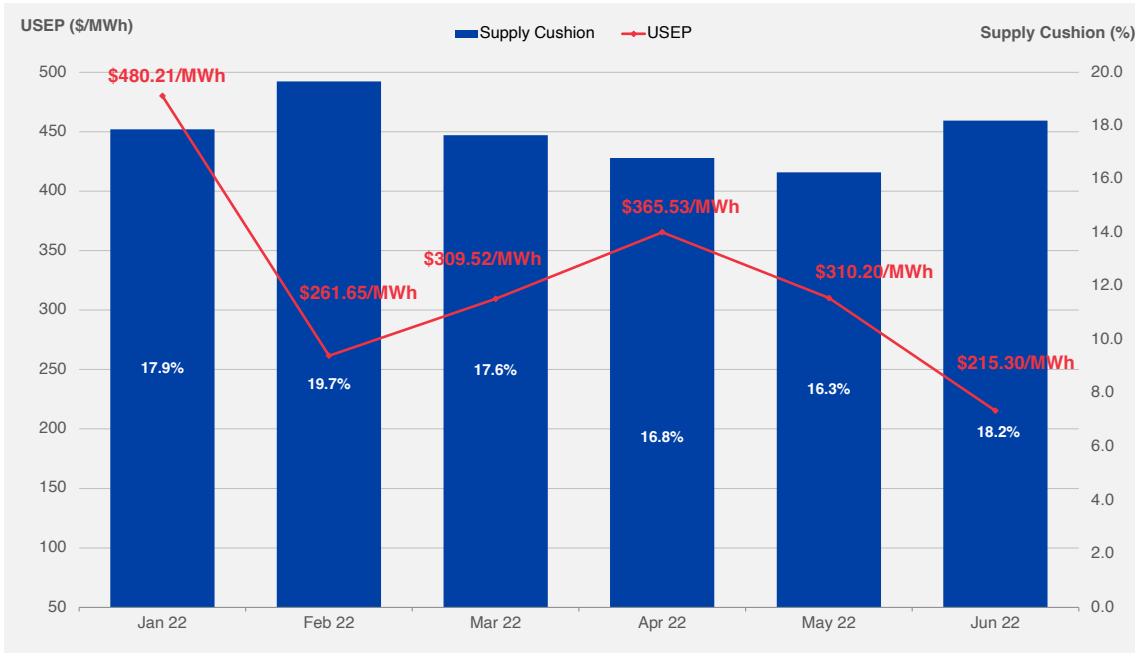
Every year, we conduct a series of business continuity preparedness (BCP) exercises to ensure that we are well prepared should a crisis occur. The following exercises were completed as part of our workplan for the financial year 2021/2022:

Exercise	Date	Activity / Description
Disaster Recovery Preparedness Exercises	July 2021, January 2022 & May 2022	<ul style="list-style-type: none"> • Switchover and switchback of NEMS systems between primary and backup site.
Exercise Thunderbolt	November 2021	<ul style="list-style-type: none"> • In view of ongoing Covid-19 pandemic, the usual physical evacuation exercise was replaced by a refresher briefing for all staff on the office evacuation route during an emergency.
BCP Site Readiness Test	March 2022	<ul style="list-style-type: none"> • Testing of office equipment in BCP site remotely by the recovery teams. • Testing of work from home arrangements by identified staff of the recovery teams.
Desktop Scenario Test	April 2022	<ul style="list-style-type: none"> • Desktop exercise for Crisis Management Team. • Focus this year was to test the robustness of the incident response plans and business continuity procedures for cybersecurity incidents.
EMC Call Tree Activation	June 2022	<ul style="list-style-type: none"> • Activation of all staff by phone.

Apart from conducting the above exercises, we have also ceased our split team work arrangements in May and all staff have returned to the office. This is in line with the advisories from the Singapore government and the easing of Covid-19 measures.

Market Update

Overview of USEP and supply cushion – Jan to Jun 2022



The daily average Uniform Singapore Energy Price (USEP) ranged between \$168.34/MWh and \$546.12/MWh in May, and between \$159.23/MWh and \$344.77/MWh in June. The monthly average USEP declined 15.1 percent to \$310.20/MWh in May and decreased another 30.6 percent in June to \$215.30/MWh. This was because of a lower fuel oil price, and higher supply.

In May, demand rose 2.0 percent to 6,430MW and supply increased 1.3 percent to 7,679MW as compared to the previous month. As a result of the larger increase in demand, the supply cushion dipped 0.5 percentage point. Despite this, the USEP decreased in May due to the lower fuel oil price which declined by 3.8 percent as compared to April.

In June, demand decreased 1.0 percent to 6,364MW while supply increased by 1.3 percent to 7,780MW. This led to the supply cushion climbing 1.9 percentage points to 18.2 percent. In addition, the fuel oil price fell by 3.9 percent resulting in the drop in the USEP.

New Entrants to the NEMS

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

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

Market Participant	Market Participant Class	Date Registered
Taser Power Pte Ltd	Generation Licensee	1 June

With the above addition, there are now 17 generation licensees in the NEMS. Tuaspring Pte Ltd.'s generation registered facility was transferred to Taser Power Pte Ltd with effect from 1 June.

Market Participant	Facility Type	Capacity (MW)	Date Registered
Sembcorp Solar Singapore Pte Ltd	Intermittent Generation Source (IGS)	1.2	10 May
Sunseap VPower Pte Ltd	Load Registered Facility (LRF)	0.1	24 May
Diamond Electric Pte Ltd	LRF	2.7	8 June
Keppel Electric Pte Ltd	Import Registered Facility	100	13 June

With the addition of the IGS facility and LRFs, the total registered capacity of IGS facilities and the maximum contingency reserve capacity provided by the LRFs stands at 391.2MW and 15.7MW respectively. In addition, the first electricity import registered facility with a capacity of 100MW was registered on 13 June.

User Forums



Market Information Sharing Forum

Our Markets and Operations team hosted the 123rd session of the bi-monthly Market Information Sharing Forum (MISF) on 12 May.

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

- market performance and key highlights in March and April;
- system enhancements and projects; and
- feature topics:
 - solar aggregation schemes in the National Electricity Market of Singapore; and
 - incorporation of solar generation forecasts in the Market Clearing Engine.

We would like to thank all 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.

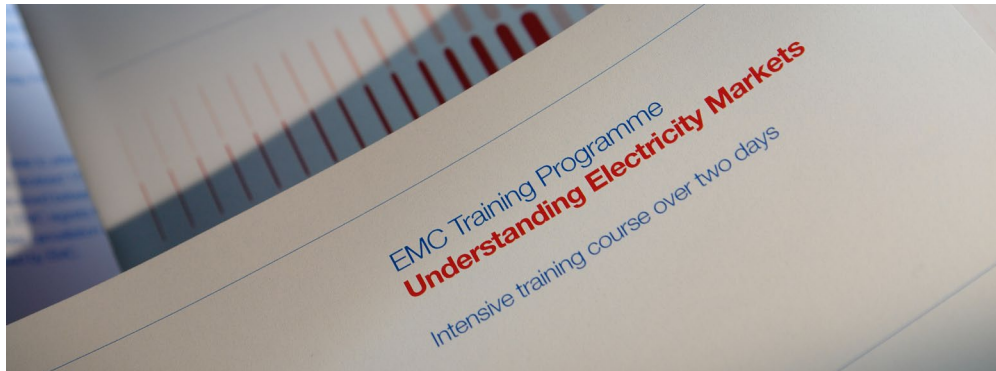
Market Systems User Group Forum

On 16 June, we had our first physical bi-monthly Market Systems User Group (MSUG) forum after hosting virtual forums for the last two years. Our Technology team updated participants on the following topics:

- overview of the NEMS systems availability year-to-date for FY2021/2022;
- overview of the NEMS systems service desk calls received between April 2021 and May 2022;
- overview of change releases deployed between April 2021 and May 2022;
- NEMS systems incidents;
- planned NEMS maintenance;
- Disaster Recovery Preparedness (DRP) exercise;
- statistics on report downloads (via Web Services);
- status updates on Technology (applications) projects:
 - NEMSCAP Refresh Project (NRP);
 - NEMS Applications on Chromium Edge Project
 - Settlement Engine Application Upgrade Project;
 - Settlements Prepayment Automation Project;
 - providing real-time estimates of Reserve Responsibility Share (RRS) for each Generation Registered Facility (GRF); and
 - incorporation of solar generation forecasts.

The next MSUG forum is tentatively scheduled for Thursday, 18 August. We will update all participants ahead of the forum.

EMC Training Programmes



Singapore Electricity Network and Market Course

On 15 and 16 June, EMC together with Singapore Institute of Power and Gas (SIPG) conducted the *Singapore Electricity Network and Market Course* for technicians, engineers and executives working in Singapore's Power and Gas sector.

The participants learned about Singapore's electricity network and market, and examined some of its unique features. As evidenced from the discussions and feedback received, participants developed a deeper understanding on the operations and constraints in operating the electricity network and market.

The next run will be conducted in September and it will cover the following topics:

- Overview of Singapore 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 SIPG at 6916 7930 or training-institute@spgroup.com.sg.

More information about the course is available on our [website](#).

Understanding Electricity Markets

The next public run of the *Understanding Electricity Markets* training programme will be held on 11 and 12 August. The programme is also scheduled to be conducted on 17 and 18 November.

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.

Market Clearing Workshop

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

The nine sessions will cover the following topics:

- Market Clearing Overview
- Market Clearing Engine Mathematical Model
- Generation Dispatch and Marginal Pricing
- Transmission Modelling and Nodal Pricing
- Ancillary Services Markets
- Co-optimisation among 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](#).