CEO’s Message

As the independent operator of the National Electricity Market of Singapore (NEMS), EMC engages the industry through different platforms. In a CEO Forum in March, we introduced an important initiative to the industry’s leaders – the establishment of a high-level Market Advisory Panel (MAP) to provide market thought leadership and guide the strategic development of the NEMS. In the following month, we organised a new event to facilitate networking among our market participants (MPs).

Both events were well-received by the industry, and I would like to take this opportunity to thank our MPs for their participation. The MAP, in particular, is a significant and timely development that will help shape the future of the NEMS. I look forward to the support of the industry’s senior leadership in advancing this initiative.

We also concluded the Rules Change Panel (RCP) work plan prioritisation exercise in the first quarter. This is an essential and rigorous exercise that we undertake at the start of every year, to prioritise the issues to be reviewed by the RCP in the coming months.

In the wholesale market, we registered two new intermittent generation source facilities in March and April. We also saw a drop in the monthly average Uniform Singapore Energy Price in these two months as a result of a shift in energy offers to the lower price bands.

It has been a busy but rewarding first quarter for all of us at EMC. Looking ahead, I am excited that we will be hosting the biennial Singapore Electricity Roundtable in July. Registration for the Roundtable is now open, so do register early to secure a place. I look forward to welcoming our distinguished speakers and industry friends at the event.

Toh Seong Wah
Chief Executive Officer
Market Advisory Panel to Guide the NEMS’ Future Development

Since its opening in 2003, the National Electricity Market of Singapore (NEMS) has been successful in driving efficiency and innovation through competition, attracting private investments, and guiding production and consumption decisions. Today, the NEMS is a role model for many countries in Asia that are looking at opening up their power sectors to reap the benefits of liberalisation.

With a constantly evolving energy landscape, competitive electricity markets around the world are now facing new challenges and developments like climate change, rise in renewables, rapid technological advancements and increased consumer empowerment. As the NEMS’ market operator, EMC is establishing a Market Advisory Panel (MAP) to provide thought leadership and drive discussions on broad, strategic issues that will affect the long-term sustainability and development of the NEMS.

For an initiative like the MAP, the industry’s partnership is critical in representing the perspectives of the different stakeholder groups and providing pragmatic feedback on the viability of ideas. EMC held a CEO Forum on 15 March at the Mandarin Orchard Hotel to gather the views of the industry’s leaders. The turnout for the forum – more than 30 CEOs and other senior industry leaders – was extremely encouraging and it reaffirms the significance of this initiative.

We were particularly grateful that our regulator, the Energy Market Authority, expressed its appreciation for the forum and welcomed the creation of the MAP as a platform to align the industry and the regulator’s vision for the NEMS.

EMC’s Senior Vice President for Market Administration, Veronica Rodriguez, initiated the discussion at the forum with an overview of the market and the challenges facing the NEMS. Our Senior Economist, Jo Ong, followed with a discussion on the potential impact of these challenges. Industry veteran and energy expert, Stephen Woodhouse, Director of Pöyry Management Consulting, rounded up the presentations with examples of some approaches that other countries have undertaken to deal with these challenges.

The morning culminated with a lively discussion among attendees on the five key issues or challenges identified for the NEMS:

1. Resource adequacy – Whether market prices are able and sufficient to continue to send signal for new investments, ensuring resource adequacy in the NEMS;
2. Integration of emerging technologies – Whether there are better ways for distributed generation, notably renewable resource and energy storage systems, to participate in the NEMS;
3. Access to flexible resources – Whether new ancillary services are required to cope with the new emerging technologies;
4. Demand participation – How the industry as a whole can encourage effective demand responsiveness; and
5. Securing financial integrity – How to better secure the financial integrity of the NEMS.

Resource adequacy and the integration of emerging technologies emerged as the top two priority issues to be undertaken by the MAP, based on a survey of the forum attendees that sought to prioritise the five challenges. EMC is currently seeking nominations from the industry’s leaders for the formation of the MAP as well as two industry working groups that will be supporting the MAP in operationalising its agenda.

We would like to thank all attendees for making the CEO Forum a great success, and we look forward to their continued support for the MAP.
In January and February this year, EMC consulted stakeholders of the National Electricity Market of Singapore (NEMS), including market participants (MPs), Singapore Power (SP) Services, SP PowerGrid and the Power System Operator (PSO), for 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 21 new issues were raised for inclusion in the updated work plan:

1. Modelling of Minimum Stable Load (MSL) for load registered facilities (Proposed by: Diamond Energy Merchants);
2. Removal of requirement to request for final consent before planned outage (Proposed by: PSO);
3. Requiring an MP submitting a request for cancellation of facility registration to also state the intended effective date of cancellation (Proposed by: PSO);
4. Removal of RCP’s review of EMC’s budget (Proposed by: EMC);
5. Review of RCP composition to increase number of independent representatives (Proposed by: Ohm Energy);
6. Introduction of guidelines for forced outage events (Proposed by: YTL PowerSeraya);
7. Invalidation of offers following forced outages (Proposed by: EMC);
8. Price revisions (re-runs) to market price caps for periods with real-time load shedding (Proposed by: Tuas Power Generation);
9. Price revisions (re-runs) for periods where PSO issues overriding dispatch instructions (Proposed by: Senoko Energy and Senoko Energy Supply);
10. Framework for determining compensation claims amount for MPs in compliance with PSO directions (Proposed by: Senoko Energy);
11. Amendments to the StartGeneration used in the real-time schedule (RTS), and the first dispatch period of the short-term schedule (STS) and pre-dispatch schedule (PDS) (Proposed by: EMC);
12. Introduction of tiered structure for EMC annual fees (Proposed by: SilverCloud Energy);
13. Allowing third parties to receive rebates under the Simplified Credit Scheme for electricity export through SP Services (Proposed by: SilverCloud Energy);
14. Proposed review of constraint violation penalty (CVP) structure (Proposed by: PacificLight Energy);
15. Impact of carbon tax on electricity (Proposed by: MSD);
16. Holistic review of current prudential requirement obligations and the enforcement process under the Market Rules (Proposed by: PacificLight Energy);
17. Redeeming the full amount of an MP’s banker’s guarantees (BGs) upon default (Proposed by: EMC);
18. Clarification of timeline in relation to the provision of replacement or additional credit support (Proposed by: EMC);
19. Review sufficiency of credit support, taking into account price volatility (Proposed by: EMC);
20. Review allowable remedies for default events (Proposed by: EMC); and

**Meeting with stakeholders**

In the second stage of the prioritisation exercise, EMC met stakeholders individually to clarify and refine the scope of both existing and new issues. Stakeholders also ranked each issue according to its importance and urgency, or voted for issues to be removed.

**Updated RCP Work Plan from April 2019 to March 2020**

After incorporating feedback from the stakeholders, EMC presented the proposed update to the two-year work plan to the RCP for consideration at its 107th meeting in March.

At the meeting, the RCP decided to refer those issues that were not under the Panel’s purview to the Energy Market Authority. In addition, issues of similar scope were combined to be addressed as one single issue. The RCP agreed to work on the following issues within the next 12 months:

1. Review of the Automatic Financial Penalty Scheme (AFPS) and related issues raised in the RCP work plan prioritisation exercise 2017;
2. Imposition of minimum net tangible asset as a condition of participation for retailers;
3. Review of default levy arrangements;
4. Review of credit support requirements in alignment with the retailer of last resort framework;
5. Invalidation of offers following forced outages;
6. Proposed review of constraint violation penalty (CVP) structure;
7. Holistic review of current prudential requirement obligations and the enforcement process under the Market Rules, and the sufficiency of credit support taking into account price volatility;
8. Removal of requirement to request for final consent before a planned outage;
9. Price revisions (re-runs) to market price caps for periods with real-time load shedding and periods where PSO issues overriding dispatch instructions;
10. Clarification of timeline in relation to the provision of replacement or additional credit support; and

Issues prioritised within the next 13 to 24 months, including a detailed description of all issues in the next two years, can be found on EMC’s website at https://www.emcsg.com/marketrules/ruleschangepanel/workplan.
Market Update

Overview of USEP and Supply Cushion – Jan to Apr 2019

The daily average Uniform Singapore Energy Price (USEP) ranged between $91.12/MWh and $215.89/MWh in March, and between $86.75/MWh and $113.76/MWh in April.

The monthly average USEP was $113.54/MWh in March but fell 12.3 percent to $99.62/MWh in April although supply cushion declined by 0.3 percentage point. This was due to a shift in energy offers from the higher to the lower price bands. Energy offers in the lower price band of under $100.00/MWh increased 2.1 percentage points from 74.6 percent in March to 76.7 percent in April.

New Entrants to the NEMS

Two new facilities registered in the NEMS

<table>
<thead>
<tr>
<th>Market Participant</th>
<th>Facility Type</th>
<th>Capacity (MW)</th>
<th>Date Registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleantech Solar Singapore Assets</td>
<td>Intermittent Generation Source (IGS)</td>
<td>0.150</td>
<td>19 March</td>
</tr>
<tr>
<td>Sembcorp Solar Singapore</td>
<td>IGS</td>
<td>1.260</td>
<td>16 April</td>
</tr>
</tbody>
</table>

With these additions, the total registered capacity of IGS facilities stands at 76.543MW, or 0.6 percent of the total registered generation capacity in the NEMS.
Register Now for Singapore Electricity Roundtable 2019

The biennial Singapore Electricity Roundtable is now open for registration. The event will be held on 30 July 2019 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 share the regulator’s perspectives on Singapore’s electricity market;
- **Ben Skinner**, General Manager, Policy & Research, Australian Energy Council, who will speak about integrating renewable energy into competitive electricity markets;
- **Damien Sanford**, Chief Operations Officer, Australian Energy Market Operator, who will outline the role of technology in power system security and reliability;
- **Phillip Harris**, Consultant and former President/CEO of PJM Interconnection, who will discuss capacity markets and the case for one in Singapore;
- **Stephen Woodhouse**, Director, Pöyry Management Consulting, who will examine the UK’s experience in liberalising its retail electricity market; and
- **Veronica Rodriguez**, Senior Vice President, Market Administration, Energy Market Company, who will talk about a sustainable market design for the NEMS.

An exclusive networking cocktail and dinner await all Roundtable participants at the end of the day. This year, Roundtable attendees can look forward to an evening of fine Italian dining at Monti at Fullerton Pavilion, an iconic lifestyle destination that sits afloat Marina Bay.

Sign up for Singapore Electricity Roundtable 2019 today. 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

Visitors to EMC

On 18 March, we hosted a delegation from the Japan Electric Power Information Center, Inc. (JEPIC). The group was on a three-day trip to Singapore to learn about the developments in Singapore’s electricity industry from various stakeholders.

We gave the delegation an overview of the National Electricity Market of Singapore (NEMS) as well as EMC’s role as the market operator of Singapore’s wholesale electricity market. We value such opportunities to share our experience and exchange knowledge with other countries.
NEMS Networking Event

A new networking event for the market participants (MPs) of the NEMS was held on 12 April at Zafferano in Ocean Financial Centre. This social event was intended to provide an additional platform for the industry to meet new MPs who have joined the NEMS in recent years. Despite everyone’s busy schedules, we were heartened that many of our MPs turned up to network.

One of the event’s highlights was a talk on artificial intelligence (AI) and its applications in the power sector. It was very well-received as the topic was current and pertinent to the industry. The guests also enjoyed networking over canapés and wine following the talk, with many continuing their conversations into the night against the beautiful backdrop of the Marina Bay skyline.

We are delighted and grateful for the positive feedback that we received, and look forward to our MPs’ support and participation in other upcoming events this year.
User Forums

Market Information Sharing Forum (MISF)

The Market Operations team hosted the 104th session of the bi-monthly MISF on 14 March. During the forum, the following topics were shared with the attendees:

- Market performance in January and February 2019;
- Key highlights in January and February 2019;
- System enhancements and projects; and
- Feature topics:
  - Revamped market trading reports; and
  - Risk exposure calculation tool.

We would like to thank all participants for their continuous support and strong interest in the MISF. The next MISF is tentatively scheduled for 9 May. 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 25 April. EMC’s Technology team updated attendees on the following topics:

- Overview of NEMS systems availability year-to-date for FY2018/2019;
- Overview of NEMS systems service desk calls received between April 2018 and March 2019;
- Overview of change releases deployed between April 2018 and March 2019;
- NEMS systems incident;
- Data services specifications guide (version 3.8);
- Planned NEMS maintenance;
- Disaster Recovery Preparedness Exercise;
- Status updates on Technology (infrastructure) projects:
  - Server Hardware Application Refresh Project (SHARP);
  - Managed Security Services (MSS); and
  - Application Programming Interface (API) Gateway Management Solution.
- Status updates on Technology (applications) projects:
  - Validation of load forecasts;
  - Publishing of additional load scenarios;
  - Publication of offer data;
  - Risk exposure enhancement; and
  - Implementation of API Gateway Management Solution.

The next MSUG forum is tentatively scheduled for Thursday, 20 June.

EMC Training Programme

Next course on 22 and 23 August 2019

EMC will be holding the next run of its two-day course *Understanding Electricity Markets* on 22 and 23 August 2019. Our staff will be conducting seven sessions covering the following topics:

- Understanding Electricity
- Why Reform and Regulation are Essential in the Electricity Industry
- The National Electricity Market of Singapore and its Unique Features
- Introduction to SGX Electricity Futures Market
- Pricing in Detail
- Market Settlement and Credit Risk Management
- How Consumers can Influence Electricity Markets

The course dates for 2019 are as follows:

- 22-23 August
- 14-15 November

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](http://www.emcsg.com). For enquiries, please e-mail trainingprogramme@emcsg.com or contact Jan Lee at +65 6779 3000.