SINGLE BUYER WAATT I G UD ("what's up") ELECTRIFYING THE FUTURE



Happy New Year!

As we celebrate the start of 2021, I would like to begin by expressing my gratitude to the entire SB team who had banded together to weather the crisis of Covid-19 pandemic with an unwavering commitment, resilience and perseverance. This Covid-19 pandemic and its impacts have been unique and remarkable, requiring all of us to adapt and pivot at breakneck speed to deal with the unprecedented times. I'm proud that we have remained focused with a steadfast spirit to continue on our mission despite the challenges that we have faced.

2020 was an amazing year as we embarked on new chapters and events that would have lasting impacts to the industry. These include the commercial operations of LTM 2.0, NEDA+, and completion of various industry studies. The Government's announcement of the fourth competitive solar bidding programme (LSS @MEnTARI) with a total capacity of $1,000MW_{AC}$ will further increase solar capacity in the energy mix and put renewable energy in the country on a strong growth trajectory. I also wish to congratulate Southern Power Generation (SPG), which has installed the first 9HA.02 gas turbine in the world, for successfully achieving COD of the first generating block (SPG) on 1 January 2021.

I hope this new year will usher in a renewed sense of energy and commitment for us to continue supporting the electricity industry and transformation of MESI. It is in this context that I would like to welcome 2021 with positive outlook and high hopes. On a final note, let's do our part in the fight against Covid-19 by staying safe and adhering to the SOPs. \$

Charanjit Singh Gill Chief Executive Officer Single Buyer

WATT'S INSIDE:

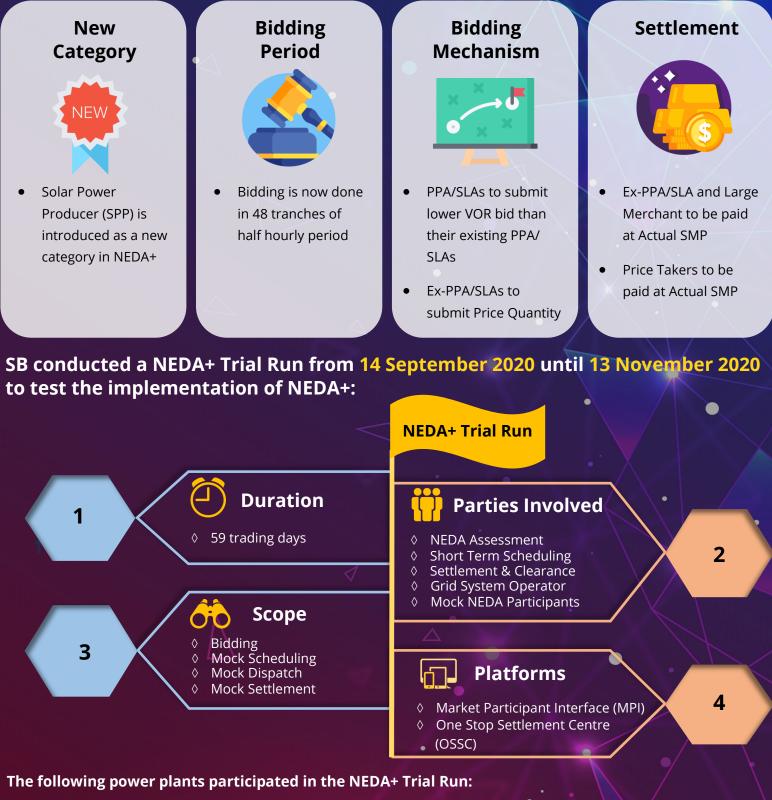
02: NEDA+ Goes Live!

- **03:** NEDA Engagement Activities
- **04:** Industry Regulatory Framework
- **05:** 2020-in-a-glance
- **06:** Green Hydrogen—Fuel of the Future?
- **08:** JPPPET 2020
- 09: Value of Lost Load (VoLL) Study Workshop

- **10:** Watt's Happening
- **12:** Happy Retirement Puan Suraiya
- **13:** Welcome SBeeple
- 14: Meet the People Behind SB Mohamad Fakhruddin Bin Suparin
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- **16:** Energy Trilemma

NEDA+ Goes Live!

NEDA+ which was launched on 4 January 2021 marks an important evolution of the electricity market in Malaysia with the following changes:



- 1. PPA/SLA Generator category: PD1, PD2, Gelugor, Pasir Gudang, SKS Prai, Segari Energy Ventures, and GB3 power stations
- 2. Expired PPA/SLA Generator category: Pasir Gudang Energy
- 3. Large Merchant Generator category: Tualang (LSS 100MW), and Pengerang LM (Part PPA/SLA) 600MW
- 4. Solar Power Producer category: Cypark (LSS3 100MW)

ENGAGEMENT ACTIVITIES

01 MEETING WITH SAND TOWN SOLAR AND SME BANK

3 September 2020, Bangsar | A briefing on NEDA was conducted for SME Bank, a local bank and potential financier for Sand Town Solar to participate in NEDA.

02 MEETING WITH WORLDWIDE GROUP

22 September 2020, Bangsar | A meeting was held with several representatives from Worldwide Group. The group is currently exploring the prospects to participate in NEDA as a Price Taker with the intention to get more information on the NEDA mechanism.

03 MEETING WITH reNIKOLA

28 September 2020, Bangsar | A meeting was held with two representatives from reNIKOLA. reNIKOLA is a solar company which is currently undertaking a Power System Study (PSS) to explore the prospect of establishing a 250MW solar plant in Bukit Kayu Hitam to participate in NEDA.

04 MEETING WITH BLUE LEAF ENERGY

1 October 2020, Bangsar | A meeting was held with Blue Leaf Energy. This solar company has a PV plant of 3MW in Bayan Lepas, Penang which supplies the energy to Bosch factory. They were interested to know on the NEDA registration process.

05 meeting with malaysian solar

7 October 2020, Bangsar | A meeting was held with Malaysian Solar. The local solar company owns the Phase 2 Large Scale Solar (LSS2) Kenyir Gunkul plant and has sparked interest in the NEDA initiative. They are exploring the prospects to participate in NEDA.

06 MEETING WITH TNBX AND GSPARX

9 October 2020, Bangsar | A meeting was held with representatives from TNBX and GSPARX. They were keen to understand the NEDA mechanism in order to recommend NEDA to their clients.



07 MEETING WITH ASIA BINA

23 October 2020, Bangsar | A meeting was held between NEDA unit, Grid Planning division and representatives of Asia Bina, ERS and North Consult Engineering. They are currently exploring the prospect to build a solar plant to supply to Hume Cement in Perak and with the intention in selling the excess energy to NEDA.

08 MEETING WITH PENGERANG REGASIFICATION CO-GENERATION PLANT (PRCP)

27 October 2020, Bangsar | A subsequent meeting was held between NEDA Unit, Contract Performance Unit, Fuel Management Unit, Grid Planning, Grid System Operator and representatives from PRCP. PRCP is currently pursuing to join the Large Merchant category.

09 MEETING WITH VEOLIA BIOCONVERSION

26 November 2020, Bangsar | A meeting was held with a representative from Veolia, a French company which is involved in the business of water, waste management and energy. The company is exploring the prospects of selling excess energy of about 30MW from a petrochemical manufacturer that will be developed in Pengerang.

10 meeting with northern solar

27 November 2020, Bangsar | A meeting was held with representatives from Northern Solar. Northern Solar is one of the LSS4 bidders in Kedah. They are keen in exploring the prospects to build a 20MW solar plant in Ulu Yam, Perak and to participate in NEDA under the Price Taker category. *4*

INDUSTRY REGULATORY FRAMEWORK

As the Incentive Based Regulation (IBR) is a framework that is aimed to help to keep up with the modern international energy landscape. We can see that many countries around the world are currently utilising this regulation system.

Europe region

Countries that have adopted the IBR Model are listed below:-



We shall look into the IBR system in countries other than Malaysia in the next edition. Stay tuned!



The fourth part of this series focuses on the governance arrangements for SB as specified in the Guidelines for SB Market

on 01

Appointment of Head of SB

Appointment of head of SB shall be undertaken in accordance with the requirements of the Electricity Supply Act 1990, Licence Conditions, and any rules or directions issued by the Minister or ST

03 Compliance with SB Market Rules

SB shall ensure it has appropriate policies, systems, and procedures in place to ensure that it is capable of complying with the SB Market Rules.

04

Generator Contracts & NEDA Rules

SB shall monitor compliance of parties with the Generator Contracts and the NEDA Rules. Any non-compliance that will have a material effect on SB's ability to achieve its objectives shall be notified to ST

02

SB Oversight Panel

SB Oversight Panel shall oversee compliance of SB with Market Rules, provide advice and guidance to SB & Participants, review suggestions/recommend changes to SB Market Rules, assist ST in selecting and appointing an external auditor to assess compliance

05 SB Working Groups

SB shall establish working groups (WG) to review its processes and provide recommendations on changes to procedures and SB Market Rules where necessary. Examples: Dispatch Scheduling WG, Long Term Demand and Supply WG, SB Website WG, etc. *\$*

202 June 202

This special column provides a glimpse of the various activities and collaborative projects among key stakeholders conducted in unprecedented year of 2020. We look forward to a more exciting year for MESI in 2021!



Milestones

 Value of Lost Load (VoLL) Study
JPPPET Study
Peak Demand Forecast Study
Siting Study for Power Plants in Peninsular Malaysia and Associated Right of Way

Engagement Programmes

- 1. GDP Forecasting Workshop
- 2. Power System Study of LSS Bidding Cycle 4 Review
- 3. NEDA 2.0 Enhancement Workshop
- 4. Benchmarking of SB's Generation Planning Methodology and Processes Workshop
- 5. Least Cost Scheduling Workshop



- 1. CCGT in depth Training by GE, SPG
- 2. Introduction to PLEXOS
- 3. Introduction to Power System Virtual Led Instructor Training (VILT)
- 4. Regulatory and Commercial Aspect of Grid Management
- 5. Fundamental of Solar PV System on Grid (Floating Solar)
- 6. SETA 2020 Virtual Exhibition & Conference
- 7. LNG Fundamentals Training

 First solar participant in NEDA
One Gas and five LSS PPAs signed
6 LSS Plants achieved Commercial Operation Date
Commercial operation of LTM 2.0
Approved RP2 extension proposal for SB Generation and SB Operation Cost and Tariff
ICPT results submission to ST for 1st Half 2020 and 2nd Half 2020

> 7. RP3 proposal preparation for SB Generation and SB Operation Cost and Tariff

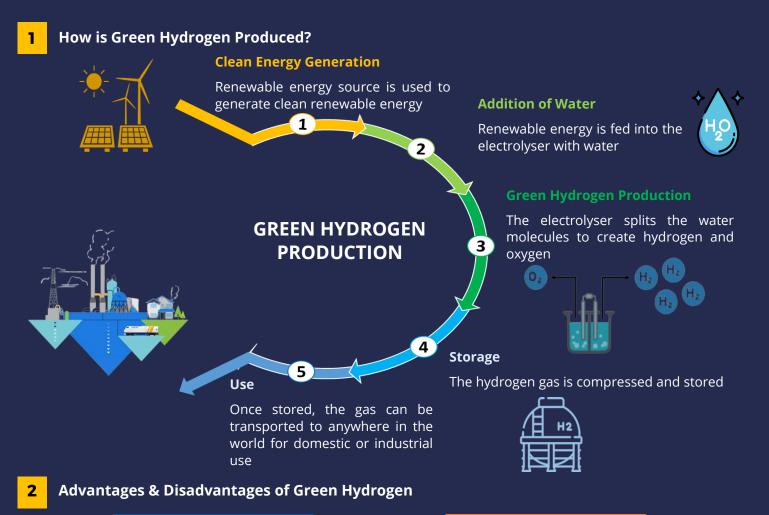
> > 8. NEDA 2.0 Trial Run 9. OSSC Training 1.0 for SPG



Key

GREEN HYDROGEN FUEL OF THE FUTURE?

Hydrogen is produced by the electrolysis of water (using an electric current to break water (H_2O) into its component elements of hydrogen and oxygen. When the electric current is produced by a renewable source (e.g. Solar PV, hydro or wind turbine), the clean hydrogen produced is known as green hydrogen. The renewable energy source used to generate electricity for electrolysis of water, generates green hydrogen without any harmful emissions.



Advantages

100 % Sustainable:

Green hydrogen does not emit polluting gases either during combustion or during production.

Storable:

Hydrogen is easy to store, which allows it to be used subsequently for other purpose and at times other than immediately after its production.

Versatile:

Green hydrogen can be transformed into electricity or synthetic gas and used for domestic, commercial, industrial or mobility purposes.

Transportable:

It can be mixed with natural gas at ratios of up to 20% and travel through the same gas pipes and infrastructure - increasing this percentage would require changing different elements in the existing gas networks to make them compatible.

Disadvantages

High cost:

Energy from renewable sources used to generate green hydrogen through electrolysis, is more expensive to obtain. Rapid scaling up is needed to achieve the necessary cost reductions and ensure the economic viability.

Low efficiency:

The production of hydrogen in general and green hydrogen in particular requires more energy than other fuels.

Safety concern:

Hydrogen is a highly volatile and flammable element and extensive safety measures are therefore required to prevent leakage and explosions.

Impact of Green Hydrogen

Hydrogen as a fuel is a reality in forerunner countries like the United States, Russia, China, France and Germany. Countries like Japan are aspiring to become a hydrogen economy country.

What will be the impact of Hydrogen in the future?



Electricity and drinking water generator

These two elements are obtained by reacting hydrogen and oxygen together in a fuel cell. This process has proved very useful on space missions, for example, by providing crews with water and electricity in a sustainable manner.

Energy storage

Compressed hydrogen tanks are capable of storing energy for long periods of time and are also easier to handle than lithium-ion batteries because they are lighter.



Transport and mobility

Hydrogen's great versatility allows it to be used in those consumption niches that are very difficult to decarbonise, such as heavy transport, aviation and maritime transport. There are already several projects under way in this area, such as Hycarus and Cryoplane, which are promoted by the European Union (EU) and aim to introduce it in passenger aircraft.

4 Malaysia's Green Hydrogen efforts

In 2019, Sarawak Energy Bhd (SEB), in collaboration with Linde EOX Sdn Bhd, launched South-East Asia's first integrated hydrogen production plant and refuelling station in Kuching. The hydrogen production plant uses water to produce carbon-free hydrogen.

On October 2020, state-owned agency Sarawak Economic Development Corp's (SEDC) subsidiary, SEDC Energy Sdn Bhd, signed a tripartite Memorandum of Understanding (MoU) with Japan's Sumitomo Corp and ENEOS (Japan) to build a hydrogen plant in Bintulu. The plant will utilise water to produce carbon-free hydrogen at a capacity of 1,000 tonnes per annum, is expected to be ready by 2023.

On November 2020, Sarawak Energy Bhd. (SEB) and Petroliam Nasional Sdn. Bhd. (PETRONAS) signed a MoU to initiate a joint techno-commercial evaluation of a large-scale hydrogen production facility. The evaluation covers the possibility of utilising Sarawak's renewable hydro power in the electrolysis process to produce green hydrogen and in doing this, generate renewable energy certificates. Data sharing from this collaboration is expected to provide a measure and insights into the potential of a hydrogen supply chain in Asia.

These efforts marked a significant milestone in Malaysia's effort in the green hydrogen production to meet global clean energy demand for decarbonisation.

It is safe to say that the hydrogen economy in Malaysia is still at the stage of research and development. However, adopting Green Hydrogen and the Hydrogen economy is not a race in developing the technology, but rather is a matter of execution to achieve the target of minimising the environmental impact of energy usage. *\$*

Hydrogen source and production is varied & is categorised in the industry according to a colour coding system

| | Ŭ | | |
|--|---|---|--|
| GREEN | GREY | BROWN | BLUE |
| Cost: most expensive | Cost: low cost | Cost: lowest cost | Cost: more costly then |
| Prevalence: low but emerging | Prevalence: dominant source, most widely used | Prevalence: lower then grey | grey & brown, but less than green |
| Derived from H ₂ O electrolysis, via renewable power source with zero carbon emissions in production & combustion | Derived from methane (natural gas) via steam methane reforming process with carbon emission in production | Derived from coal via regasification process with carbon emissions in production | Prevalence: low but emerging Derived from brown/grey sourced hydrogen with carbon emissions captured & stored |

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JPPPET 2020

Jawatankuasa Perancangan dan Pelaksanaan Pembekalan Elektrik dan Tarif (JPPPET) was established on 14 November 1997 with the objective to plan, coordinate and identify electricity supply requirements to meet electricity demand in Peninsular Malaysia through an annual committee meeting.

The committee is chaired by the YB Minister of Energy and Natural Resources. Members of the JPPPET include representatives from the Ministry of Energy and Natural Resources, ST, the Economic Planning Unit (EPU), PETRONAS, TNB and the Sustainable Energy Development Authority (SEDA), the Ministry of Finance (MoF) and the Ministry of International Trade and Industry (MITI).

Generation Development Plan for JPPPET 2020 was prepared by SB in collaboration with the ST and the Ministry of Energy and Natural Resources. Key input to the JPPPET plan is the 20-year Demand Forecast also prepared by SB. This long-term demand forecast was tabled and approved at the Demand Forecast Committee (DFC) chaired by ST on the 20 of May 2020.

In his media statement following the JPPPET 2020 meeting on the 20 October 2020, the Minister of Energy and Natural Resources, Y.Bhg. Datuk Dr. Shamsul Anuar Nasarah said that a new definition for Renewable Energy (RE) and its targets for year 2025 through 2035 have been approved by the committee.

Details of the JPPPET 2020 plan will be announced once it has been discussed at the cabinet. *\$*



A new definition for Renewable Energy (RE) and its targets for year 2025 through 2035 have been approved by the committee ____



- Datuk Shamsul Anuar Nasarah (Minister of Energy and Natural Resource)

Value of Lost Load (VoLL) Workshop

VoLL represents the value that electricity users attribute to security of electricity supply and the estimates could be used to provide a price signal about the adequate level of security of supply in electricity system. VoLL is an important factor in energy policy and market design.



26 August 2020, SB and TNB LABS Sdn Bhd organised a workshop on VoLL at Hotel Tenera, Bandar Baru Bangi.

This workshop is part of deliverables for VoLL Study for Peninsular Malaysia by TNB Labs. The participants of this workshop included KETSA, ST, GSO, TNB Grid, STAR and TNB Retails.

The main objectives of this workshop are:

- 1. To brief on the methodology of the study
- 2. To present the result based on previous study
- 3. To finalise the scenarios where the survey method should focus on
- 4. To discuss on limitation of study
- 5. To explore the approach for better findings

This study officially kicked off in June 2020 and is expected to be completed in March 2021. *‡*

TNB Research and UNITEN conducted the previous VoLL study in 2008 by using direct cost approach. The result of the study is as follows:

| Customer Segment | VoLL (1Hour) |
|------------------|---------------|
| Domestic | RM 2.59/kWh |
| Commercial | RM 30.58/kWh |
| Industrial | RM 118.20/kWh |

WATT'S HAPPENING

OCTOBER 2020 DECEMBER



Meter Verification at Power Plants § Sg. Perak, Bersia



5 Oct 2020, A visit to Bersia, Sg. Perak was organised to witness a meter verification process. Annual meter verification was done to ensure that the components, accuracy and testing of each of the energy meters comply with the requirements of the Metering Code of the Malaysia Grid Code. Parties involved are SB (Contract Performance, Finance & Reporting), Sg. Perak's team and tester from Metering HVMV team, Distribution Network (Northern team).



LNG Online Training 2 Digital Classroom



19 - 23 Oct 2020, This training was organised for SB to further understand the LNG industry. The topics covered in the training include LNG value chain, liquefaction & regasification of LNG, LNG project economics, business & operational risks when dealing with LNG and many more. There were a total of 13 participants. 11 of those are SB staff from Contract Performance, Fuel Management, New Energy and Legal Management units.



19 Nov 2020, Lao PDR, Thailand, Malaysia and Singapore released a Joint Ministerial Statement in the virtual 38th AMEM, pledging to explore technical feasibility and commercial viability of cross-border power trade of up to 100MW to Singapore from Lao PDR. The project, known as LTMS-PIP is expected to start in Jan 2022 for two years utilising existing infrastructures. It is a continuation of the LTM-PIP project involving power trading from Lao PDR to Malaysia via Thailand. SB was represented by Abdul Malik Mohd Jaafar (Chief Operating Officer) and Aeni Haryati Hashim, Senior Manager (Industry Development) as part of Malaysian delegates alongside representatives from KeTSA, ST and TNB.

23 - 30 Nov 2020, The training was held to give exposure to participants to information related to power plant conceptual design, provide better understanding on power plant components and design of various power generation technologies. The training also covered the newly procured Master Series from Thermoflow and the newly released NOVO PRO software. This training involved 15 participants from various units in SB (Capacity Planning, Technical Advisory and Industry Development, Contract Performance and New Energy Unit).



OSSC Training SPG Control Room



9 & 10 Dec 2020, OSSC training was held at SPG Control Room which organised by SPG's team. Representatives from SB, REMACO and SPG participated in the OSSC training and sharing session on PPA.



Webinar with UiTM - Industrial Talk: Least Cost Generation Scheduling

Q Webinar



9 Dec 2020, SB continued to participate in the UiTM Shah Alam Sharing Session "Industrial Talk - Least Cost Generation Scheduling" programme despite unprecedented global COVID-19 pandemic. Almost 100 students from UiTM Power System class participated in the session via Webex. In previous years, the sessions were done at the campus. 3 outstanding speakers from SB, Zuhairi Hashim, Izzuddin Izam and Khairul Husna Burhan shared their knowledge and experience on the Least Cost Generation Scheduling, System Updates of Peninsular Malaysia and Short Term Load Forecasting. It was a fruitful session which gathered a series of interesting questions from the crowd. At the end of the session, the students participated in a quiz. SB thanked UITM Sham Alam for continuing this programme since 2015 and hoped that the practical knowledge imparted during session was useful to complement their theoretical knowledge of the industry.

OCTOBER 2020 DECEMBER



Meeting with Khazanah SB Office, Bangsar South



10 Dec 2020, SB received a visit from a delegation of Khazanah Nasional Berhad. Adhering to SOP, the meeting was also held virtually to enable more delegates to participate in the session. The half-day visit was attended by six delegates (4 virtually) from Khazanah, headed by Elaine Ong Yee Lyn, Senior Vice President of Investment Unit.

The primary objective of the visit is for Khazanah to have a better understanding about SB. Chaired by SB Chief Operating Officer, a knowledge sharing session was held during the visit, generally elaborating about SB roles and function in the industry. As one of TNB's shareholders, the delegates also raised several issues and concern pertaining to MESI's future moving forward. In summary, the visit has provided a good opportunity for SB and Khazanah to exchange information and ideas as well as to identify opportunities for sustainable cooperation in the future for the betterment of MESI.



16 Nov 2020, SB bid farewell to Farhanum Husna who moved to International Asset Group (IAG) after years of service at SB. All the best Husna!

HAPPY RETIREMENT PUAN SURAIYA



In this issue, we include a special appreciative column dedicated to our beloved colleague Puan Nor Suraiya Bt Abdul Rahman, former Personal Assistant (PA) to the CEO/Head of SB on her retirement farewell ceremony. Her presence in SB as the motherly figure in the office is certainly a bless to all of us!

Here are some of her words....

My very first day of job was on 17 November 1980 with LLN. I was 20 years old at that time, working as a pool typist. In 1990, LLN changed to TNB and I continue to work with TNB until 2013. That is when I moved to SB from the Planning Division. Come to think of it, it is already 40 years and I have to say I love every moment of it and will definitely miss my time here.

Since then, I have met a lot of people, making many new friends along the way. And because I loved to go to any courses which the office suggested, I learned a lot through my journey and I'm more than happy to share my experience and knowledge with others. I have gone through great and rough patches, experiencing ups and downs. But one thing that I always tell myself, I have to be sincere in everything I do, even though it's tough. I'm hoping not other than ALLAH SWT blessings.

I always pray and hope SB will continue to be the best working place now and ever. I hope our relationship doesn't end here. We've shared sweet moments, laughter and tears all together that make us a family.





Avail. Community. Teamwork. Improve. Verve. Engage



WHAT IS SBEEPLE?

On 26 August 2020, SB launched a new social, wellness and CSR club known as SBeeple. The name stems from SB and *meeple*. A *meeple* refers to small person-shaped token that is commonly used in board games. *Meeple* is said to originate from 'my' and 'people'. When combined, SBeeple sounds like SB people which is indeed a literal meaning of the club, a club meant for SB people. Hence, everyone in SB is SBeeple!

This new club will provide activities that offer social, recreational, and self-development experience for SB staff in a positive, supportive and esprit de corps environment.

| Watt Say You P SBeeple Activities in 2020 We asked SBeeples to share their opinions on the activities. | | | | | |
|--|--|--|--|--|--|
| BOARD GAME DAY Date: 26 August 2020 A one hour session to play games ; board games, traditional games, charades etc. | | "The Board Game Day brings people closer as we can sit together, laugh and have actual eye contact to strengthen our relationship. Simple games like these may release some stress and make us more productive. SBeeple did a good job. Hoping for more interesting outdoor activities in future." Nur Nabilah Binti Yahya, Contract Performance | | | |
| SBEEPLE TALK Date: Ongoing A short 10 minutes public speaking session. | | "It is an honour to be the first SBeeple Talk speaker and I should say it was my first "speaking" experience. It felt like a whole ten minutes of sweat but it was a great experience. It is amazing to see participants share their knowledge and experience through this platform. I hope SBeeple team can continue to organize exciting activities that can enhance SBians' creativity and relationship." Nasrul Ridhwan Bin Razilah, Fuel Management | | | |
| MENTAL HEALTH AWARENESS CAMPAIGN Date: Throughout September 2020 Introduce importance of good mental health in office. | Gratituse "ashaticare uov gratetus Scr bokuy? boku | "I think the mental health campaign has not only created awareness but also taught how to tackle the issue. Events by SBeeple enable everyone within SB to bond regardless of units and hierarchy. It allows us to be more comfortable with our own voice." Muhammad Syafiq Bin Rosley, Short Term Scheduling | | | |
| HIKING Date: 26 September 2020 SBeeple went for a hike at Taman Tugu Kuala Lumpur with families. | | "The best short activity within SB. I was able to spend my little time together with my beloved colleagues. I was filled with joy. On normal days, I don't even have time to talk with my friends at work. I think SBeeple did a great job!" Nasriah Bt. Nasrudin, Finance & Reporting | | | |

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MEET THE PEOPLE BEHIND SB

MANAGER (MEDIUM TERM SCHEDULING) MARKET OPERATION & ASSESMENT MOHAMAD FAKHRUDDIN BIN SUPARIN

In this issue, we speak to Mohamad Fakhruddin bin Suparin about his background, roles at SB and his thoughts on the impact of Covid-19 to the electricity industry.

02

03

WattsUp: Thank you for giving us an opportunity to get to know you better. Can you share with us a brief background about yourself and your career at SB?

Fakhruddin: I was born and raised in Kluang, Johor. I attended primary school in Kluang and completed my secondary education in Ipoh. After SPM, I received a scholarship from Yayasan Tenaga Nasional (YTN) to pursue a bachelor's degree in Mechanical Engineering at UNITEN Bangi. Upon graduating, I started my career in TNB in May 2013 as a Production Engineer at Stesen Janaelektrik Sultan Iskandar (SJSI), Pasir Gudang.

In August 2015, I transferred to SB to work as an executive in Medium-term Scheduling (MTS) unit. I have been working in this unit to this date.

WattsUp: Covid-19 Pandemic is impacting all sector globally. What is your view on the impact of Covid-19 pandemic to the Electricity Industry in Peninsular Malaysia?

Fakhruddin: As an initiative to contain the spread of the Covid-19 pandemic, the Malaysian Government imposed a national lockdown in the middle of March 2020 for several weeks. Large electricity consumers like factories, commercial offices and shopping malls were closed and therefore caused the electricity demand in Peninsular Malaysia to drop significantly. As the national lockdown was gradually eased, the electricity demand started to pick up at a moderate pace.

When electricity demand is low, less fuel is burnt and to some extent, this might affect the 2020 Annual Gas Forecast for the Power Sector.

WattsUp: As you said, Covid-19 has affected the Annual Gas Forecast for the Power Sector. Can you tell us more about it?

Fakhruddin: One of the key areas in MTS is to forecast the annual gas volume for Peninsular Malaysia Power Sector. This forecast is conducted by end of year on annual basis. For example, the Annual Gas Forecast for 2020 was done by end of year 2019.

For 2020, the actual gas offtake by the Peninsular Malaysia Power Sector was only around 70% from the Annual Gas Forecast. This deviation was a result of the significant plunge in the electricity demand during the national lockdown and the moderate electricity demand recovery as mentioned earlier.

WattsUp: How did you join SB and what is your role here?

Fakhruddin: When I was at SJSI, I was told by a colleague that there was a vacancy at SB and I jumped at the opportunity. I saw it as a chance to seek knowledge and to keep abreast with all the latest information pertaining to the electricity industry.

My portfolio in MTS covers the generation outlook and fuel forecast for the Power Sector from four-month ahead up to the next five years horizon. This position also involves various studies to see how changes in industry parameters will impact the Power Sector as a whole.

WattsUp: What do you love most about working at SB?

Fakhruddin: It is never about places. It is always the people at SB. They are really supportive which I believe is one of the main factors in creating a positive and productive working environment.

WattsUp: In view of the pandemic's accelerating impact, we have had a remarkable transition in how we live and work. From your personal point of view, how has Covid-19 affected you?

Fakhruddin: The pandemic and the national lockdown have forced us to work from home. It changes the way we do things too. For me, I just need to be more agile and savvy especially in technology.

U6 WattsUp: Apart from your career, do you have a life goal that you would like to achieve?

Fakhruddin: Last year I managed to complete one of my life goals, which was hiking to Annapurna Base Camp in Nepal. Next in my bucket list would be hiking up the Everest Base Camp in Nepal.

WattsUp: Lastly, would you like to share your new year resolution for 2021?

Fakhruddin: I aim to live a greener lifestyle by sending recyclable items to recycling centres more often (at least once every fortnight). The pros of working from home made me realise that I tend to use a lot of plastic and food containers when ordering food. For the sake of a better environment, these containers should be sent to recycling centres instead of dumping them into the trash bins. Last but not least, I wish everyone a blessed new year.

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SB CORNER



What will Chinese New Year 2021 look like?

Like everything else this year, Chinese New Year will likely look very different from what we are used to.

With new cases in the thousands as of early January 2021 and steadily increasing, what can we expect from 2021 Chinese New Year celebration?



70 60 50

40 30

20 10

> Phase 1 trade deal signed between China and US. Despite this deal, the outbreak of Covid-19 has caused economic slump following drop in global demand amid over supply condition. In March 2020, the oil price dropped by more than 50% from December 2019.



The virus continued to spread throughout the globe, forcing more countries to issue national lockdown, shutting all economic activities. Therefore, the oil price dropped by more than 73% from December 2019.

Oil price hiked by 46% since April 2020. Crude oil prices rose as demand began to recover and global supply fell sharply.

Source: Bloomberg & US Energy Information Administration (EIA)

of a general nature and is intended for informational purposes only. You are advised to seek specific advice on any matter that may be affected by such information. The views of third parties set out in this newsletter are not necessarily the views of SB.

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Disclaimer: The contents of this newsletter are

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DISCLAIMER

ENERGY TRILEMMA



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Energy Security

Measures:

- Ability to meet current & future energy demand
- Withstand & respond to system shocks

Covers:

- Effectiveness of management of domestic & external energy sources
- Reliability & resilience of energy infrastructure

What is Energy Trilemma?

The World Energy Council's definition of energy sustainability is based on three core dimensions: Energy Security, Energy Equity, and Environmental Sustainability of Energy Systems. Balancing these goals constitutes a 'trilemma' and often requires trade-offs between various policy objectives.



Energy Equity

Measures:

 Ability to provide universal access to reliable, affordable & abundant energy for domestic & commercial use

Covers:

- Basic access to electricity & clean cooking fuels & technologies
- Access to prosperity-enabling levels of energy & affordability

Environmental Sustainability

Measures:

 Ability to mitigate & avoid environmental degradation & climate change impacts

Covers:

 Productivity & efficiency of generation, distribution, decarbonisation, & air quality

2020 World Energy Trilemma Index

World Energy Trilemma Index is an annual publication by the World Energy Council since 2010. The index shows comparative ranking of 128 countries' energy systems and provides assessments of country's energy system performance, reflecting balance and robustness in the three Trilemma dimensions. The latest index was published in October 2020.

