

## REMARKS FROM

# CEO

## SINGLE BUYER

Welcome to the second edition of WattsUp for 2019. The first quarter has just ended and Single Buyer (SB) is already on its way to achieve all the milestones targeted for this year.

In the past 3 months, SB has organized a couple of workshops namely short-term concluding workshop of “Review and Enhancement of Short Term Load Forecast Model and Methodology” and “Understanding of Peninsular Malaysia Weather and Climate Change Workshop”. Both workshops intended to understand and enhance analytical skill in the current methodology of Single Buyer’s load forecast. On top of that, SB also had its first round of InnCOP, which is a part of initiative to kick-start innovation and creativity in SB.

As for the development of the Malaysian Electricity Supply Industry (MESI), the highly anticipated third round of large scale solar bidding exercise (LSS3) was announced by the Suruhanjaya Tenaga (ST) in February 2019. The quota offered for each bidder has been increased to 100MW from previously 30MW. For LSS3, a total of 500MW allocation is up for grab by qualified bidders. We hope that the bidding offers would be lower than the previous exercise of LSS2.

Peninsular Malaysia’s daily peak demand continue to increase in March when it eventually hits new record of 18,402 MW on 19 March 2019. This is due to the long stretch of hot days in March and MET has already declared a Level 1 (maximum daily temperature of 35°C - 37°C for 3 consecutive days) alert for several areas in the country. Prolongation of current hot weather will increase chances of higher load demand for the upcoming quarter.

Finally, I would like to thank everyone involved in the preparation of this newsletter especially the editorial team for their remarkable effort. We strive to keep updating readers about all information related to MESI and ensure endless support is given for the future of our industry.

*Charanjit Singh Gill*

Chief Executive Officer

## WATT’S INSIDE:

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# NEDA

## VIABILITY STUDY

### OBJECTIVES

The study is aimed at determining and recommending solutions to make NEDA attractive to the generators, that is suitable to be implemented for Malaysia Electricity Supply Industry (MESI) while:

- ✓ adhering to NEDA's objectives (in the short term); and
- ✓ aligning to the MESI roadmap (in the long term)



### ISSUE:

Low take-up rate

- ⚠ Uncertainty in revenue generation makes little commercial sense
- ⚠ Limited margins due to caps in bidding



JUNE  
2016



MARCH  
2019



Participants  
Registered



## 5 TASKS

1

Conduct literature review and benchmark with other similar electricity market arrangements to Peninsular Malaysia

2

Conduct assessment on the existing NEDA framework and NEDA Rules

3

Propose the mechanism and detailed formulation to make NEDA attractive to all categories of NEDA Participants

4

Engagement with Suruhanjaya Tenaga on the recommendation for the changes

5

Amendment of NEDA Rules by the legal consultant to reflect the proposed amendment

# NEDA

## ENGAGEMENT ACTIVITIES

### 01 MEETING WITH MUTIARA RENEWABLE ENERGY SDN BHD

17 January 2019, Bangsar | An introductory session with representative from Mutiara Renewable Energy Sdn Bhd to brief about NEDA in general. Mutiara RE is planning to build a waste to energy power plant located in Perak and to sell the electricity under NEDA. Mutiara RE works in collaboration with a European Consortium of highly experienced and qualified professionals, EPC contractors, solution provider and manufacturer.



### 02 MEETING WITH TNB SEPANG SOLAR SDN BHD

29 January 2019, Bangsar | A meeting with representatives from TNB Sepang Solar Sdn. Bhd. at SB office was held to explore its potential participation in NEDA. The solar plant is the largest solar project in the country with a capacity of 50 MWac. TNB Sepang Solar is looking for opportunity to sell the excess capacity under NEDA.



### 03 INTRODUCTORY TALK ON NEDA WITH MCKINSEY

28 February 2019, Bangsar | A session with personnel from McKinsey to brief about future of NEDA. McKinsey works with leading government institutions and enterprises in all major sectors, to translate the region's rich opportunities into transformative economic and social impact. McKinsey is currently working with TNB on MESI Reform 2.0.



### 04 MEETING WITH CYPARK RENEWABLE ENERGY SDN. BHD

11 March 2019, Bangsar | A meeting with representatives from Cypark Renewable Energy Sdn. Bhd. at SB office was held to explore its potential participation in NEDA. The developer will be participating in the bidding for the Large Scale Solar 3 scheme is looking for opportunity to sell the excess capacity under NEDA.

# INDUSTRY REGULATORY FRAMEWORK

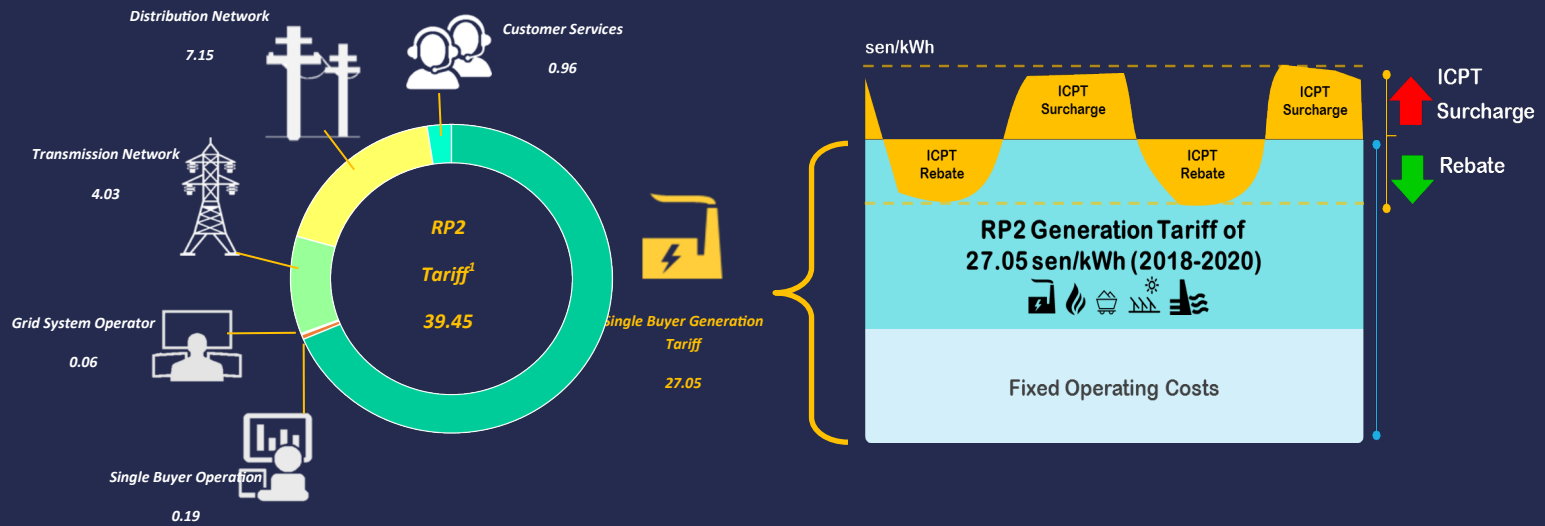
One of the key components in the Incentive Based Regulation (IBR) framework is the Imbalance Cost Pass Through (ICPT) mechanism.

In this first of many series, let's look at the definition and key components of ICPT.

## 1 What is Imbalance Cost Pass Through (ICPT) ?

ICPT is a mechanism under the IBR framework that allows changes in:

- fuel costs (either increase or decrease), and
- other generation-related costs to be reflected in the electricity tariff every 6 months.



<sup>1</sup>All figures are in sen/kWh

PPA: Power Purchase Agreement | SLA: Service Level Agreement | CSTA: Coal Supply & Transportation Agreement | CPC: Coal Purchase Contract | GSA: Gas Supply Agreement | GFA: Gas Framework Agreement | FIT: Feed-in-Tariff

## 2 What are the key components of ICPT?

### 1 Fuel Cost Pass Through (FCPT)



FCPT captures changes in fuel costs specific to:

- Natural gas: Piped gas and LNG
- Coal

### 2 Generation Specific Cost Pass Through (GSCPT)



GSCPT captures changes in non-fuel costs related to:

- Other fuel costs (distillate or fuel oil)
- Power purchase agreements (PPAs, SLAs, etc.)
- Fuel procurement contracts (CSTA, CPC, GSA, GFA, etc.)



3

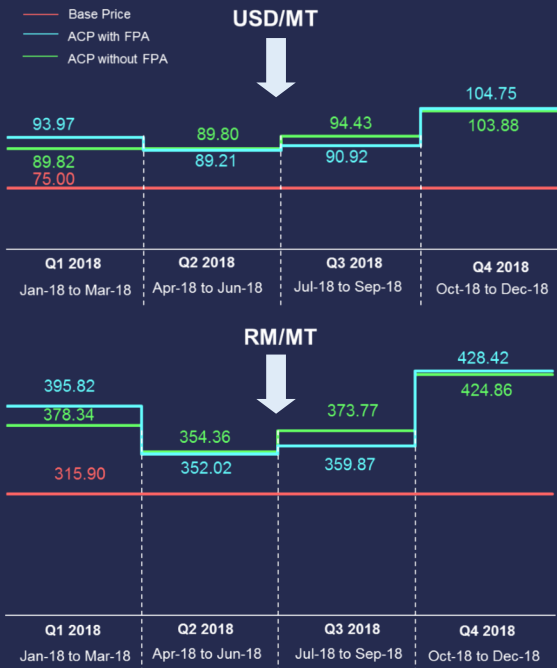
What is the benchmark Fuel Prices in Base Tariff for RP2 (effective 1st Jan 2018)?



COAL

USD75/MT

RM14.417/mmBTU @4.212/USD

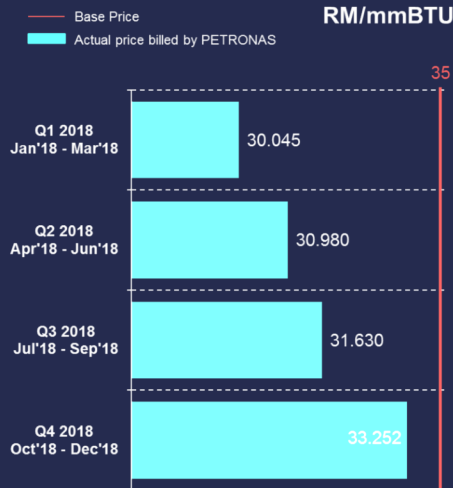


1. ACP : Applicable Coal Price
2. FPA: Fuel Price Adjustment



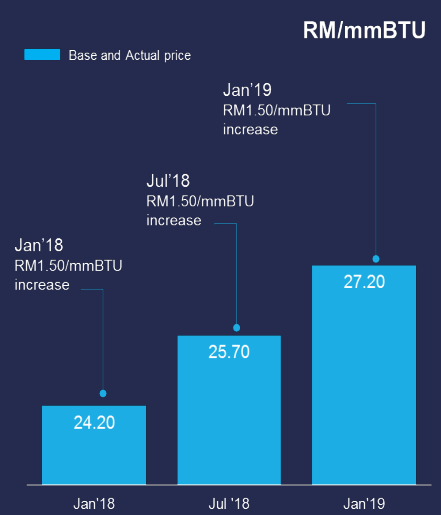
LIQUIFIED NATURAL GAS

RM35/mmBTU



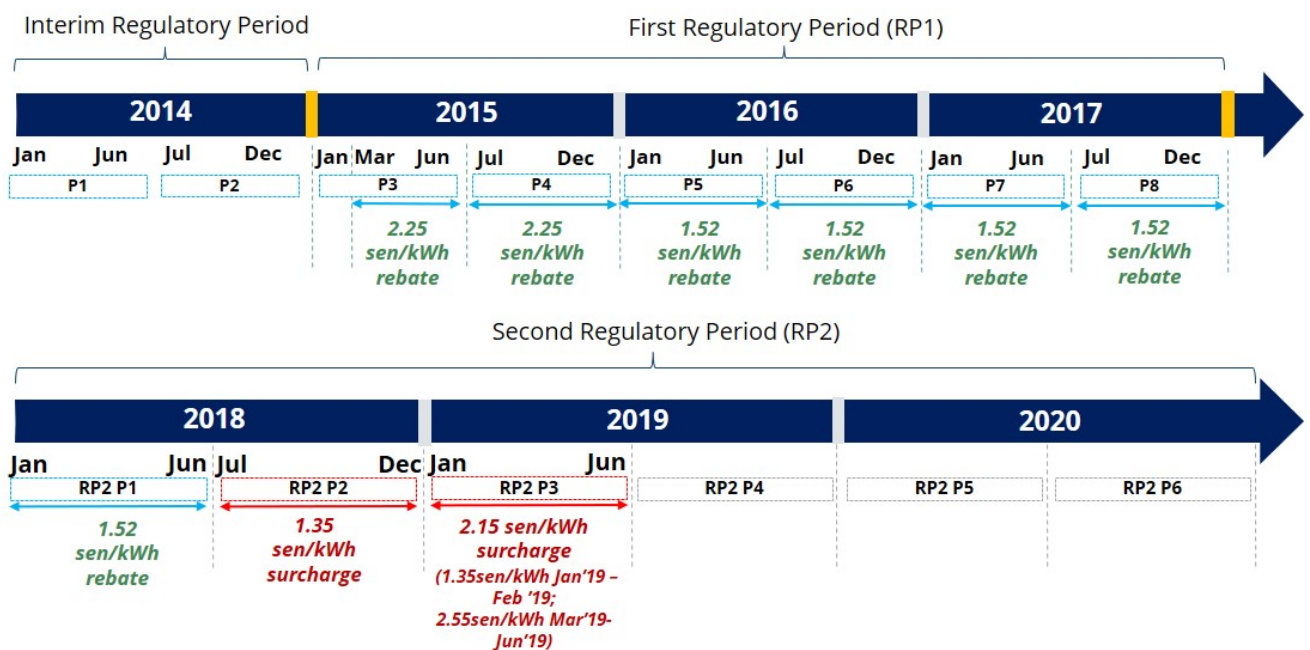
RM27.20/mmBTU

Jan'19—Dec'19



4

How much Rebate and Surcharge has been passed through so far?



# Renewable Energy Penetration Study Highlights

The Government has introduced various initiatives to address climate change and sustainability issues. For the power sector, among the initiatives are Feed-In-Tariff (FIT), Net Energy Metering (NEM) and Large Scale Solar (LSS) programs which aim to promote the deployment of RE in the country.

## Study Background

Single Buyer (SB), Grid System Operator (GSO), Grid Planning (GP) and Suruhanjaya Tenaga (ST) has jointly embarked on a full-fledged study to understand the impacts and limit of Renewal Energy (RE) penetration in the Peninsular system. This study was commenced in January and successfully completed in August 2018 by DNV GL Singapore Pte. Ltd., which has vast experience in conducting similar study in other countries with high penetration of RE such as European countries, Australia and the US. The study was focused on the variable renewable energy (VRE), which specifically refer to photovoltaic solar plant in Malaysian context.

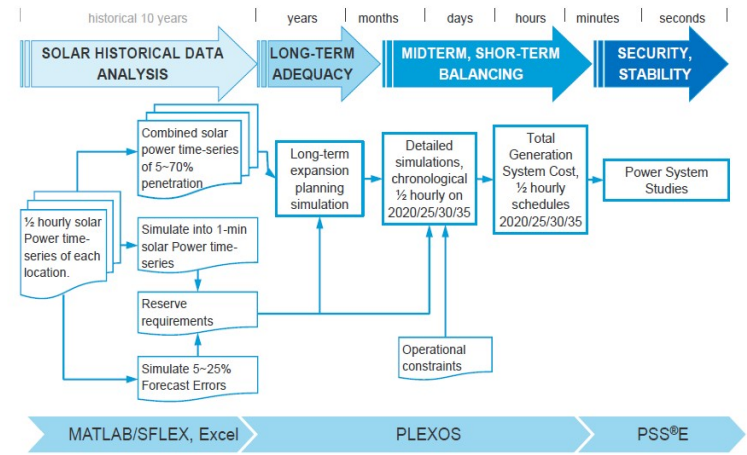
## Study Objectives

- 1 Provide a literature review on the VRE development status and drivers of countries in Europe, US and Asia Pacific
- 2 Determine acceptable level of VRE, particularly solar energy penetration into Peninsular Malaysia
- 3 Recommend measures to mitigate the adverse impacts in case the penetration limit is exceeded
- 4 Suggest capacity credit of solar generation in Peninsular Malaysia for planning and operation purposes

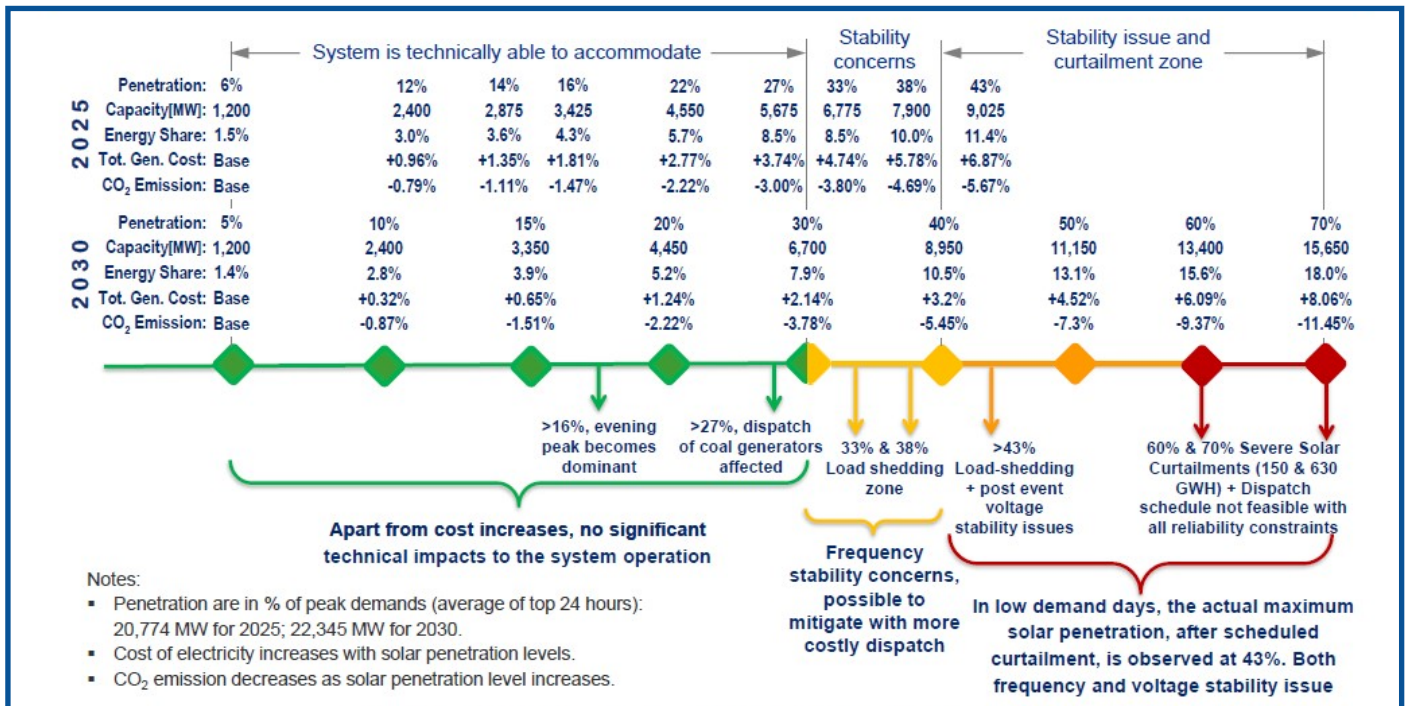
## Key Study Methodology

DNV GL performed comprehensive studies to investigate the impact of solar penetration with tested scenarios from 5% to 70% of peak demand based on the Peninsular economic dispatch model and grid system model. The studies investigated the aspects of long-term capacity planning, mid-term and short-term operations with the generation system model in PLEXOS; and the transmission system adequacy and grid stability with the grid model in PSS®E. The solar capacity credits are computed with load and solar profiles from 2025 to 2035 based on effective load carrying capacity method.

## Overall Study Workflow and Tools



## Key Findings Summary

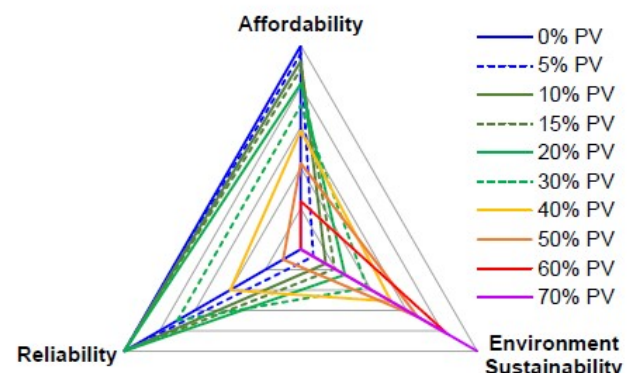


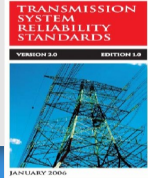
## Study Recommendations

The study results are evaluated on three aspects:

- Reliability: system frequency stability with credible contingent events
- Affordability: incremental cost of electricity
- Environment Sustainability: contribution towards CO<sub>2</sub> emission reduction

By considering all the three dimensions, the penetration level of 20% brings the most benefits to the system. This study recommendation has been adopted in JPPPET 1/2018 which in line with Government target to reach 20% capacity mix in RE by 2025.





## 01 | Interconnection Standards (Grid Codes)

Extend the core technical requirements to small scale solar installations, including:

- low-voltage ride through
- reactive power range and voltage regulation support
- Over-frequency response



## 02 | Wider balance area with interconnection

Interconnection with neighbouring system to enable:

- electricity trading to allow sufficient online units locally
- neighbouring generators to contribute to overall inertia and provide governor response during a contingent event



## 03 | Operation improvement

Improvements in operations including:

- shorter dispatch interval to reduce the reserve requirement to mitigate "clear-sky ramps" and prediction errors
- higher renewable forecast system accuracy



## 04 | Diversified renewable portfolio

Increase the diversity of renewable portfolio:

- to compensate for the low capacity factor of solar generation, which only contributes to renewable energy share during daytime
- to incorporate more dispatchable renewable generation, such as biomass, hydro, and biogas generators.

Full report on this study can be found in [www.singlebuyer.com.my](http://www.singlebuyer.com.my)

# SINGLE BUYER RING-FENCING

## Single Buyer Oversight Panel

In this issue, we look into one of the governance arrangements for Single Buyer (SB), which allows for an independent oversight of SB.



### Membership

- ⇒ Chaired by Energy Commission (EC)
- ⇒ Members shall be determined by EC with due consideration to
  - Requisite skills and qualification
  - Any conflict of interest that may arise

### Functions

- ⇒ Oversees the compliance of the SB with the SB Market Rules
- ⇒ Provides advice and issues guidance to the SB and market Participants to ensure compliance with the SB Market Rules
- ⇒ Reviews suggestions for amendments to the SB Market Rules as required by the Rule Change Panel or EC
- ⇒ Recommends changes to procedures and the SB Market Rules to better facilitate the objectives of SB
- ⇒ Assists EC in selecting and appointing an external auditor to assess SB's compliance with the SB Market Rules



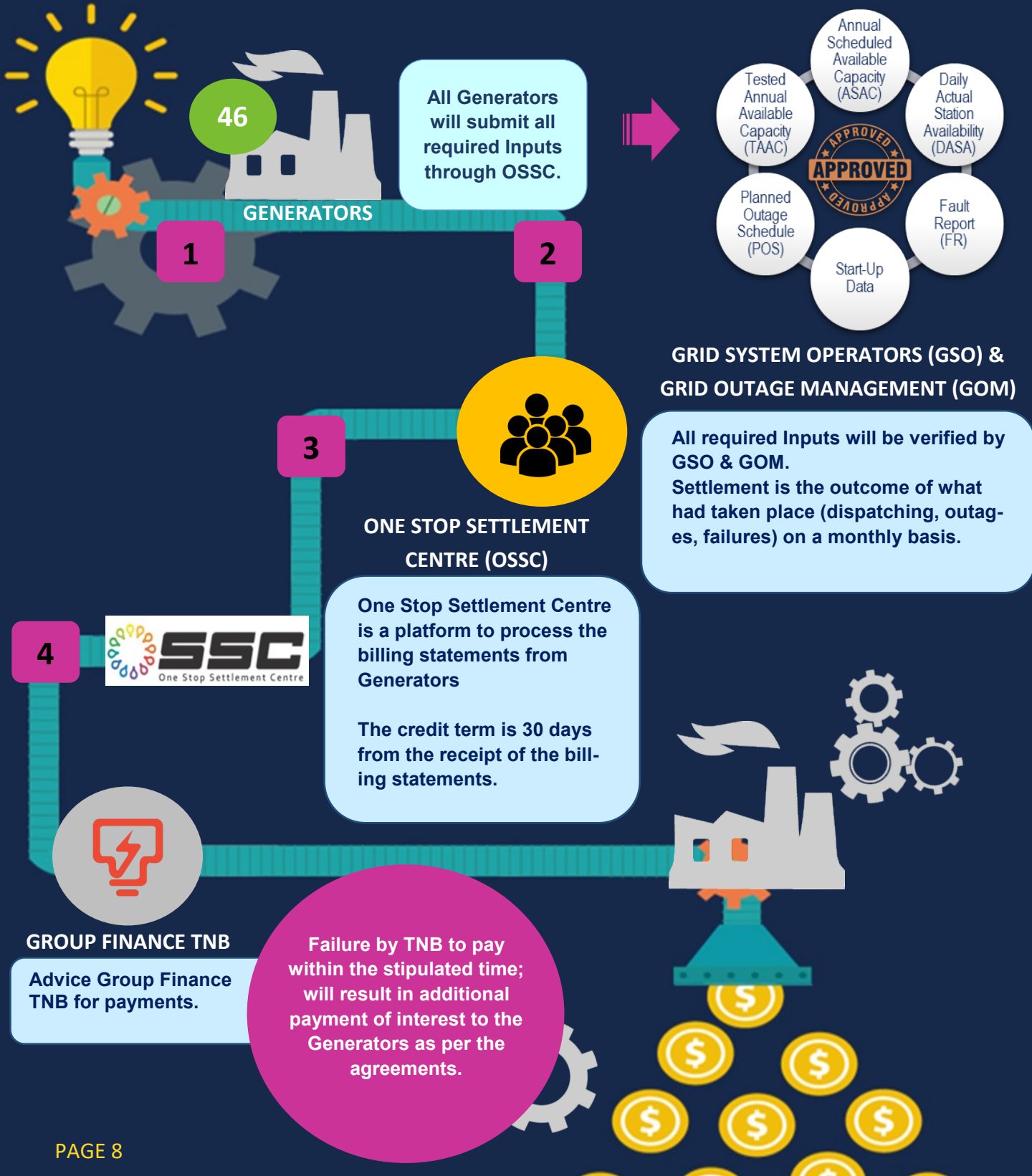
# SETTLEMENT PROCESS



Manage and facilitate settlement processes for all power purchase contracts.



Ensure all settlement are managed in accordance to the agreements, codes and relevant acts and technical performance.



# DID YOU KNOW?



Malaysians produce waste at a staggering average of **30,000 tonnes daily**



Only **5%** of total waste is recycled



**10.4 mil tonnes** of waste makes its way to **landfills** across the country **annually**



**Selangor** is the **largest** waste contributor ~ **7,000 tonnes** daily



## Is Waste to Energy (WtE) Plant the solution?

A **holistic** approach to address waste problem **vs landfills and incinerators**

Compared to landfills, WtE plants require **smaller footprint** (< 3 ha for 1,000 tonnes waste capacity daily)

**20 - 25 MW = 1,200 tonnes** of waste/day

**1 tonne** of waste incinerated = **500 - 600 kWh** of electrical energy (~80% CF)

The process of creating energy in the form of electricity and/or heat from the incineration of waste source or the processing of waste into a fuel source

What makes it **attractive** over traditional power options?

-May receive revenue for receiving waste as an alternative to the cost of disposing waste in a landfill

- **“Tipping Fees”** - **“Negative” Fuel**

**1** As domestic waste is high in moisture content, it will be stored for 3-7 days and rotated repeatedly to ensure it is evenly scattered. Microorganisms facilitate the fermentation of organic waste so it can be burned easily.

**2** Waste is then carried out using a feed crane to the negative pressure incinerator - instead of air going out, air from the bunker where the waste is stored will be pumped into the burner and used for combustion to reduce the discharge of bad odors.

**3** The burner reaches high temperatures of more than 850°C to incinerate the waste entirely.

**4** Meanwhile, water is heated by the high temperatures to produce steam.

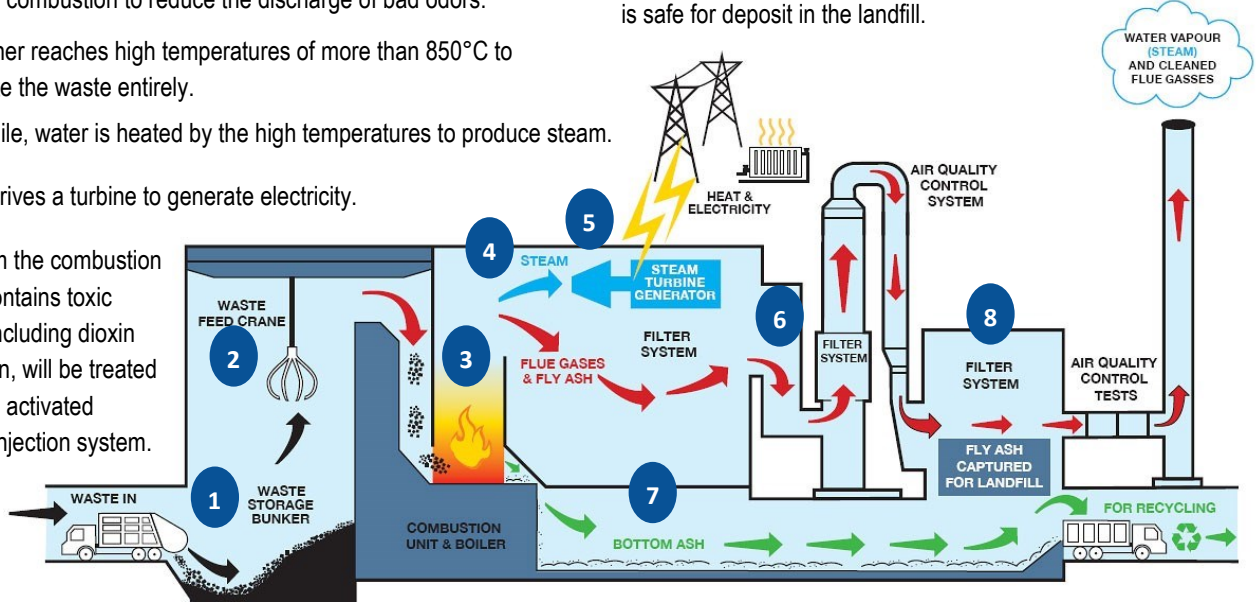
**5** Steam drives a turbine to generate electricity.

**6** Gas from the combustion which contains toxic matter including dioxin and furan, will be treated using an activated carbon injection system.

Two types of ashes form during the burning process:

**7** **1. Bottom ash** - Non-toxic. Can be recycled for road construction or making low quality bricks.

**8** **2. Fly ash** - Toxic, contains hazardous particles such as lead, mercury and sulphur dioxide. These acidic components will be neutralized using a scrubbing system. The ash is then encapsulated in cement and leaching tests carried out before it is safe for deposit in the landfill.





# WATT'S HAPPENING

## JANUARY MARCH 2019



### Corporate Social Responsibility (CSR): Helping the Needy

Kajang, Selangor



**5 January 2019** The CSR team of Single Buyer went to Bukit Mahkota, Kajang to buy some school supplies for Pn. Rosniza's four kids. The SB team helped the kids get school uniforms, sports clothes and also school shoes. They also spent some time getting to know the kids and keeping them entertained. The total collected for the this CSR activity was RM 468.60. This was used to buy the school supplies and the balance was passed to Pn. Rosniza.



### OSSC – Training & Update 2.0 – TNB Manjung Five

Manjung, Perak



**23-24 January 2019** A biennial OSSC training was conducted at TNB Manjung Five Sdn. Bhd. (M5) to brief on the enhancements made in the OSSC system namely the operation and commercial data module for its operator and owner. The training took approximately a day and a half to complete. The operators then organised a site visit at the M5 plant in the evening. This training was attended by representatives from M5 (owner), TNB Remaco (M5's plant operator), Single Buyer and Grid System Operation (GSO)



### Site Visit to UITM Solar Power

Gambang, Pahang



### Site Visit to QSP Merchang

Merchang, Terengganu



**23-24 January 2019** Single Buyer organized a site visit to QSP Merchang (Terengganu) and UITM Solar Power (Gambang) on 23 and 24 January 2019 respectively. The objectives of this visit was to have a better understanding on the progress of both projects at their respective sites and also to gain a better insight on solar PV technology. Both projects are scheduled to achieve Commercial Operation Date tentatively in the first half of 2019.



### Social Innovation: The Picha Project

Bangsar, Kuala Lumpur



**21 February 2019** Picha Project is a social enterprise that empowers the refugees community in Malaysia by creating a sustainable source of income through food. They specialize in catering delicacies from Iraq, Palestine and Afghanistan. To date, they have given back more than RM1 million to the refugees community. SB was delighted to have Suzanne Ling, one of the three co-founders of the Picha Project, to share the story on how they started the business, with some Middle Eastern food on the table of course!





## PLEXOS Advance Training and User Group Meeting

Sydney, Australia



**19-22 February 2019** Two staff from SB attended the PLEXOS Advanced Training and User Group Meeting (UGM) organized by Energy Exemplar at Sydney, Australia. Other participants from Malaysia include Strategy and Regulatory of TNB and Energy Commission. The training focused on the new release of PLEXOS version 8.0 with enhanced features and functions besides covering key trend topics such as stochastic optimization, battery storage integration and modeling, competition modeling, and market and portfolio optimisation. Experiences and feedback from participants were also discussed during the UGM for future improvement.



## IEEE PES Generation, Transmission and Distribution Grand International Conference and Exposition Asia

Bangkok International Trade & Exhibition Centre



**20-23 March 2019** Two staffs from SB presented an E-poster: “NEDA- Precursor to Malaysia Electricity Market”. The main objective of the E-poster is to provide a comprehensive overview of the New Enhanced Dispatch Arrangement (NEDA), its unique characteristic and the outcome and challenges after one year of implementing NEDA. Discussions on the way forward for NEDA and MESI were also included.



## 2019 IERE-PLN Bali Workshop

Bali, Indonesia



**11-14 March 2019** The International Electric Research Exchange (IERE) is a worldwide, non-profit organization established in 1968 to exchange ideas among utilities and players of the electricity supply industries. This year, IERE has collaborated with PLN to organize the event in Bali, Indonesia with emphasize on “Smarter and Cleaner Electricity for Better Life”. Two SB staffs attended the conference and at the same time Ir. Mohamad Hakim of SB has contributed thru technical presentation with regards to RE integration issues entitled “Pumped Storage Hydro Plant: Battery of the Grid”.



## 2019 SB Business Plan Workshop

Bukit Tinggi, Pahang



**18-19 March 2019** SB’s management and senior officers convened to review and realign the SB business plan for the next 5 years (2019-2023) taking into accounts the recent development in MESI. Potential initiatives identified during the previous business plan were also revisited and discussed.



## Badminton Friendly Match Between SB

Pantai Eco Park Bangsar



**29 March 2019** A friendly match of badminton was held between SB and PNS involving a total of 14 double teams. PNS is the owner of the building where SB’s office is currently located. SB won the friendly match with final score 4-3.





# UNDERSTANDING OF PENINSULAR MALAYSIA WEATHER AND CLIMATE WORKSHOP

On 23 January 2019, SB conducted a one-day workshop called “Understanding of Peninsular Malaysia Weather and Climate Change Workshop”. With weather being an important driver for the load demand, this workshop aims to provide participants with sufficient knowledge about climate change, monsoon and natural disasters as well as their impacts on Peninsula’s dry bulb. The workshop was held in Pullman Bangsar and attended by Single Buyer and ST.

The presenter, Dr. Nurul Nadrah Aqilah from Universiti Malaysia Pahang started day by giving a basic introduction on Malaysia’s weather, climate and monsoon, followed by the basic hydrology terms and methodology. This is important to ensure a strong foundation is built on the topics before understanding their impacts on Malaysia’s dry bulb.

The day ended with applying the theories explained on real cases in Peninsular Malaysia especially related to El-Nino formation since it can significantly affect our demand pattern. The workshop was deemed useful to enable prudent analysis to be done in projecting electricity demand for Peninsular Malaysia.



## CONCLUDING WORKSHOP FOR STLF MODEL ENHANCEMENT

A Short Term Load Forecast (STLF) Model Enhancement Concluding Workshop was conducted on 14-18 January 2019 to conclude the Review and Enhancement Project for STLF models. The workshop was conducted in Pullman Hotel Bangsar and attended by representatives from SB’s Operation wing. The Principal Forecast Consultant, Mark Quan from Itron Inc. was invited to present the project outcomes and training session.

The objectives of the workshop are to present the project outcomes and to provide a hands-on training session. The workshop began with the overview of project outcomes, where models’ sources of deviations, key improved areas and future revisitation were discussed.

During the next 2-day sessions, SB’s representatives received hands on training with the short-term and long-term forecast software. The workshop proceeded with long-term model review and framework on the fourth day. On the last day, future challenges and further improvements that can be implemented into the models were





# InnCOP: FIRST ROUND



On 1 March 2019, SB has conducted its first round of InnCOP, SB's in-house customized innovation program. InnCOP, derived from the words Innovation, Creativity and Operation, is an effort to instill innovation together with creativity in SB. With new changes being imposed to the organization and industry these days, it is important to face them with innovative ideas that can create values within the organization. The program is participated by 29 staff from SB, whereby eight teams have been formed, each with their own ideas to improve SB. Every team was given the freedom to choose any topic as their proposal.

The day started with a brief introduction about InnCOP to the audience, followed by presentations by eight teams in front of SB's panel of judges. All teams came up with incredible ideas; healthy lifestyle system, recycling system, central web-based knowledge repository, meeting room app, data centre, intelligent data dashboard, social app and procurement guidebook.

The teams will be given four months to build and test their prototypes. Second round of InnCOP will be conducted in July in which the results will be presented once again in front of the judges.



Panel of judges



Winner: u.SB



1st Runner Up: Whizdom



Runner Up: Flab-U-Less

## Watt Say You

Question: What is innovation to you? Why is it



**Wan Eric**

Innovation is one broad concept. To make it simple for me innovation is to bring about something new that could increase the efficiency further. Innovation doesn't have to be big as long as it is impactful. The culture to innovate is important to Single Buyer as we are among the forefronts of the industry which could go through changes and it needs changes in no time. Only innovative minds could cope with such.



**Fiza**

Innovation for me is something that make my life easier and better. It is important to SB because it may help us to be more creative and efficient in doing our job daily.



**Bryan**

To me innovation is inventing or improving a product to ease the lives of society. Innovation can also mean taking 2 things that already exist and putting them in a new way.

# MEET THE PEOPLE BEHIND SB

## SENIOR MANAGER LEGAL MANAGEMENT

**NAZRINA MOHD HILMI@HALMI**

**In this issue, we speak to Nazrina Mohd Hilmi@Halmi about her background, roles in SB and her view of SB.**

**WattsUp:** Thank you for availing your time for this opportunity for us to get to know you better. Can you tell us a bit about your background?

**Nazrina:** I did my law degree in the UK. Upon graduation, I came back to Malaysia to do my Certificate in Legal Practice (CLP). I worked at various companies before joining TNB in 2007.

**WattsUp:** How and when did you first join SB?

**Nazrina:** When I first joined TNB, I was with the TNB Legal Services Department. Then an opportunity came in 2010 when there was a potential vacancy in the legal unit of the Energy Procurement Department (EPD). I decided to apply as I was always keen to learn different things and EPD at the time was the department handling the Power Purchase Agreements (PPA) for TNB. EPD then with several other departments in the Planning Division became what Single Buyer is today.

**WattsUp:** How does it feel to be managing Legal Management, the smallest unit in SB?

**Nazrina:** Exciting and challenging. Our unit previously focused on the regulatory and contractual aspects of power procurement-related matters like PPA/SLA operational issues, cross-border energy procurement, fuel supply issues, failed despatch instructions etc. The scope of the legal unit has been expanded to support Single Buyer as a whole; for instance advising on NEDA and MESI 2.0.

**WattsUp:** What do you love most about working in SB?

**Nazrina:** I love the fact that there is always an ability and opportunity to learn new things in Single Buyer. Single Buyer is also at a place where we are able to view the industry as a whole and as such, able to do what needs to be done to help consumers obtain value.

**WattsUp:** Share with us what you enjoy doing in your leisure time

**Nazrina:** I like to do gardening when I have the time, reading- thrillers, self improvement, management books; and watching movies too- particularly movies where women portray strong characters.

**WattsUp:** How do you find time for your family and hobbies aside from work?

**Nazrina:** My garden is in a mess at the moment (laughs). I have not been able to garden or read as much but I do try to find pockets of time to do so. I try to be as productive as possible at work so that it doesn't eat into family time.

**WattsUp:** Do you have a life goal you would like to achieve?

**Nazrina:** Continuous self-improvement- in terms of my health, career and knowledge. I have been eating healthier since January and hope to be able to maintain the momentum.

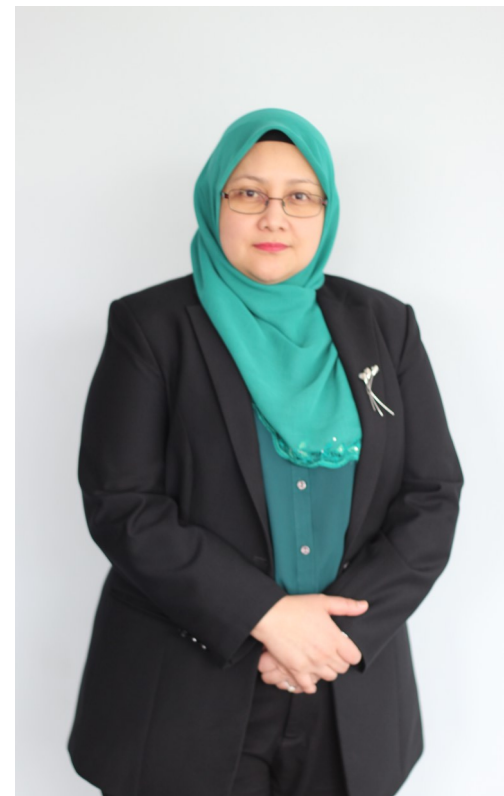
**WattsUp:** What is your view on the journey that SB will have to go through in achieving independence (legal perspective)?

**Nazrina:** There are a number of things that needs to be done before SB can achieve independence. SB will need the support from TNB, the Government and the Regulator to enable SB to add value to the idea of independence that has been mooted. I think SB

-ians are agile and adaptive and will be able to embrace any development.

**WattsUp:** What advice would you give to the newcomers in SB?

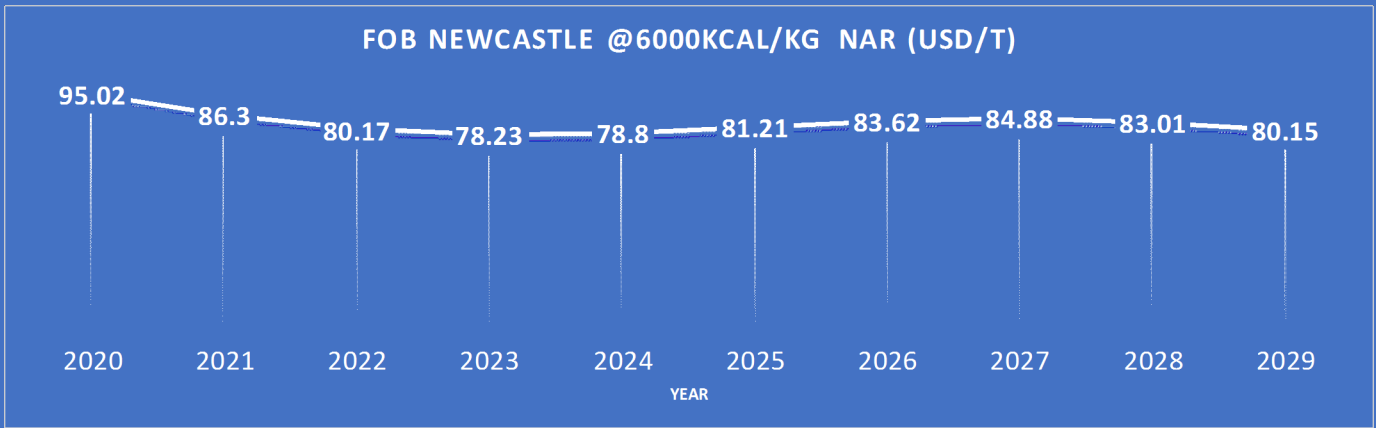
**Nazrina:** My motto for this is to not be afraid. Do not be afraid to ask because you can never go wrong by asking. Know beyond your job scope and go beyond your comfort zone. You should always want to learn and develop yourself.





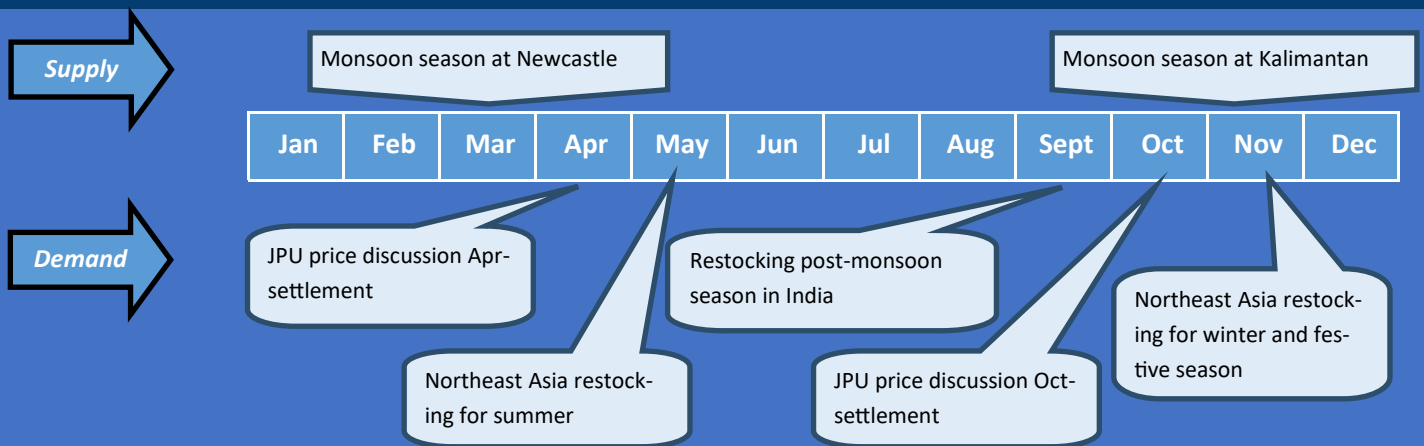
# MARKET WATCH

## COAL MARKET PRICE OUTLOOK FROM 2020 TO 2029



Source: Wood Mackenzie Long Term Outlook, December 2018

## SEASONAL FACTORS AFFECTING COAL PRICE MARKET



## SB CORNER

Early year means there's Chinese New Year! Let's see how we celebrate them.

### Preceding Days

23rd-29th of Lunar Month 12



Begin to clean, decorate and shop

### New Year's Eve

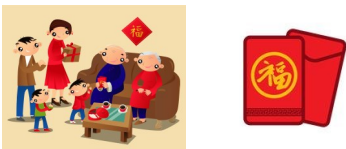
30th of Lunar Month 12



Spring couplets are hung. We enjoy a family reunion dinner and offer sacrifices to the ancestors

### Chinese New Years Day

Day 1st - 7th



Visiting relatives and friends. Giving red 'Ang Pao' to the kids.. Fireworks begins!

### Festival wrap-ups

Day 15th



The singles throw oranges into rivers with the belief it will bring them good spouse. And more fireworks!

## WORDS OF WISDOM

Opportunities lie in the place where the complaints are

- Jack Ma -

## CONTACT US

We welcome any comments or content that you would like us to include in the upcoming editions of WattsUp.

Please email us at [sbet@singlebuyer.com.my](mailto:sbet@singlebuyer.com.my)

## DISCLAIMER

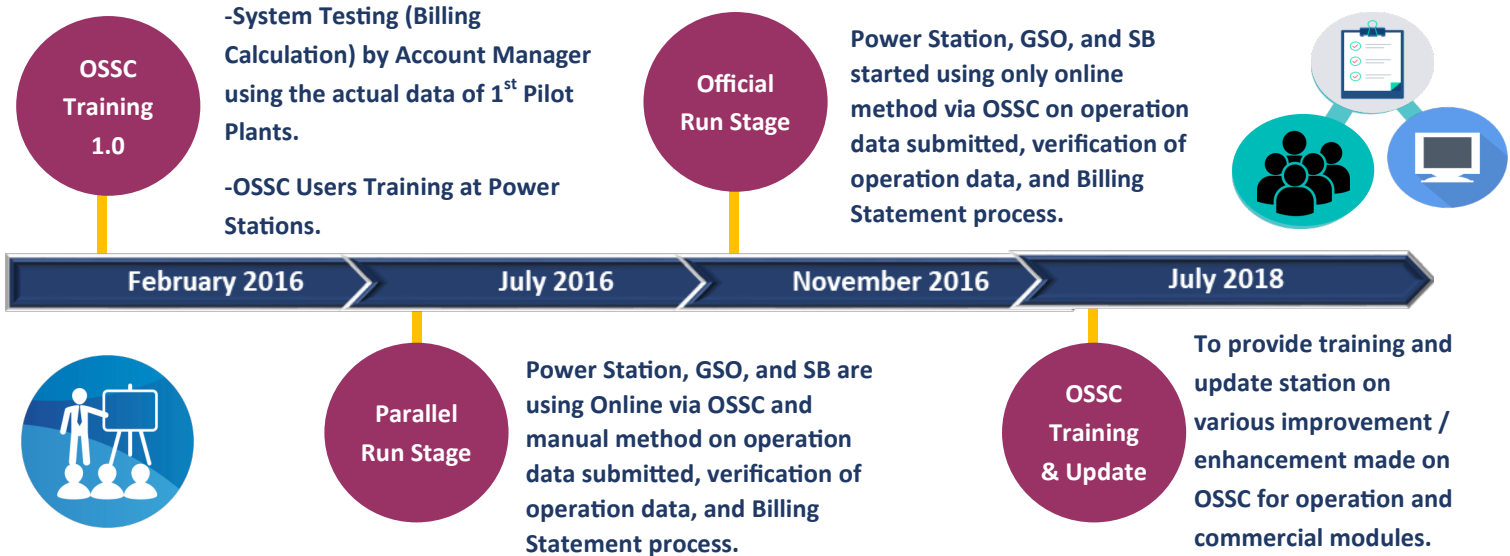
Disclaimer: The contents of this newsletter are of a general nature and is intended for informational purposes only. You are advised to seek specific advice on any matter that may be affected by such information. The views of third parties set out in this newsletter are not necessarily the views of SB.



# ONE STOP SETTLEMENT CENTRE

One Stop Settlement Centre is a platform to centralized the Operation and Commercial data. And also, as a platform to process Billing Statements from Generators. OSSC is utilized by all Generators, Grid System Operators (GOM), Grid Outage Management (GOM), and Single Buyer.

## OSSC PROGRESS



## OSSC WORKFLOW

