



FUTURE OUTLOOK OF ENGINEERING PRACTICES IN OIL & GAS AND ENERGY

Presented by:

Dato' Nor Azman bin Mufti
(Managing Director, TNB)

FUTURE OUTLOOK OF ENGINEERING PRACTICES IN ENERGY SECTOR



- BEM CONVENTION
- October 26, 2022
- Kuala Lumpur, MALAYSIA

CONTEXT



Segment 1:

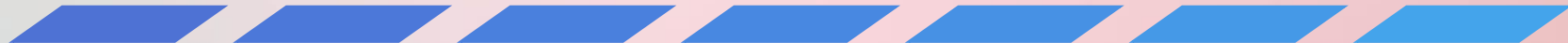
Global Trending in Energy Transition

TNB Leading the Nation Energy Transition



Segment 2:

Future Engineer – What's Required?



GLOBAL TRENDING IN ENERGY TRANSITION



Global change in the energy industry is inevitable and power utilities must continue to evolve to win in this new landscape – 4Ds



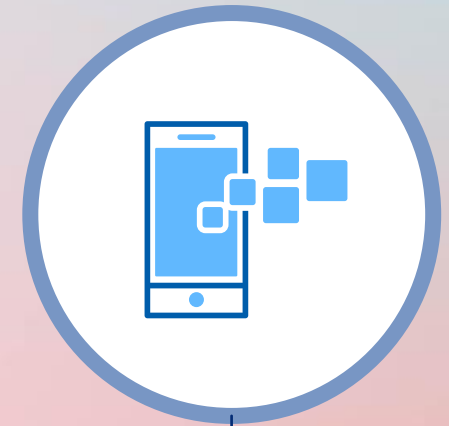
Increased **deregulation** to drive competition



Rising importance of **de-carbonisation** and renewables

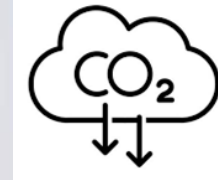


Increased **decentralization** and customer participation



Faster rate of **digital disruption**

Global Future Outlook in Energy Sector



Gas and steam turbines OEMs adapt to decarbonization i.e. green fuel (co-firing & hydrogen), carbon capture-utilization-storage (CCUS), battery energy storage system (BESS) and small medium reactor (SMR);



GT-Hydrogen Ready

GT Hydrogen Blended Fuel Firing Carbon Capture and Sequestration (CCS)

GE's 7HA.03 at 430 MW is capable of up to a 50% blend of hydrogen



GT-Hydrogen Ready

GT Hydrogen blending capability with natural gas with DLE

(dry low emissions) technology between 30% and 75% by volume



Battery Energy Storage

Innergex RE Project-Emerald- 425 megawatt-hours (MWh) in the Atacama desert of Northern Chile.

Green Hydrogen

JV with Magnum Development, and Haddington -Advanced Clean Energy Storage Project, Utah, USA

- 220 MW of electrolyzers to produce up to 100 metric tonnes per day of green hydrogen
- stored in two massive salt caverns each capable of storing 150 GWh of energy.
- 840 MW hydrogen-capable CCGT



Carbon Capture Technology

Petranova Carbon Capture Project, Texas, USA.

- capture 4776 tonnes/day from WA Parish Coal Plant
- CO2 utilised for enhanced oil recover (EOR) – West Ranch Oil Field



Small Medium Reactor

Also known as Small Modular Reactor
Small ≤ 300MWe
Medium ≥ 300 to 700MWe
In Developing Stage



Bio-Mass/Ammonia

Development on low carbon fuels / co-firing i.e. ammonia, biomass, hydrogen

JEP Co-firing study using bio-mass and ammonia (Phase 1- feasibility study completed)

Genco-Petronas-IHI JV

Ammonia Co-firing Pilot test at TNBR testing facility (up to 60% of ammonia)

KEV co-firing using bio-mass (EFBP)

Page 6

TNB LEADING THE NATION ENERGY TRANSITION



4 STRATEGI TNB DALAM MENERAJUI PERALIHAN TENAGA (ENERGY TRANSITION) & MEMANGKIN EKONOMI HIJAU (GREEN ECONOMY):



Mempercepat **program penyah karbonan** bagi meningkatkan **nilai perusahaan (Enterprise Value)** terutamanya bagi Geoco

Memperluaskan **fokus pasaran** bagi perbantuan **Tenaga Boleh Baharu (TBB)**

Pelaburan bagi **Grid Masa Hadapan**

Pembangunan dalam **Industri Kendaraan & Pengecas Elektrik**

TNB Sustainability Pathway 2050 (SP 2050)



Our Target for 2025

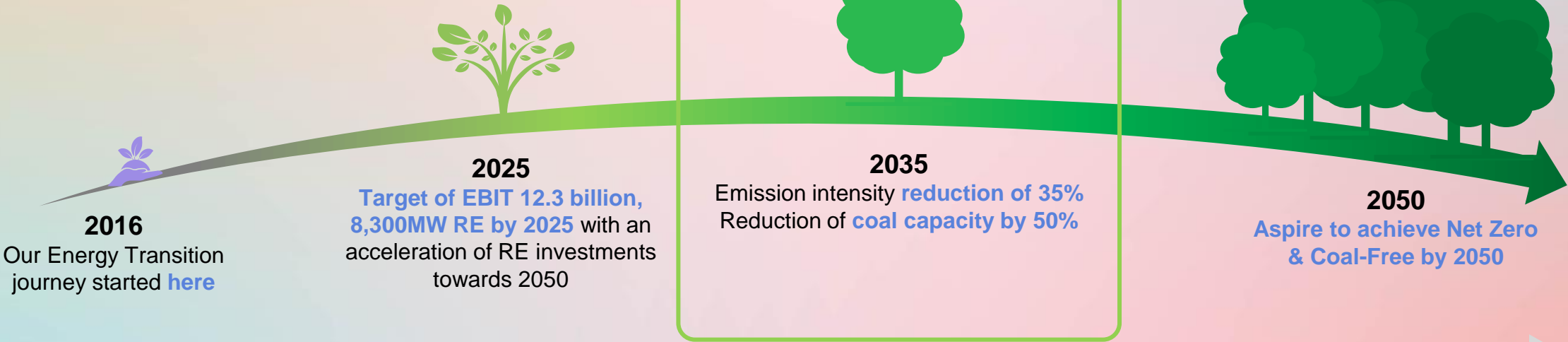
Build scale in renewable generation
Improve thermal plant efficiency

Our Commitment to 2035

Significant renewable generation growth
50% reduction in coal generation capacity

Our Aspiration to 2050

Invest and grow our emerging green technologies including Hydrogen and Carbon Capture & Utilization (CCU)



“Reimagining TNB”
(2016 – 2020)

“Reimagining TNB Strategic Refresh”
(2020 – 2025)

Refreshed strategy aligned to Sustainability Pathway
(Beyond 2025)

TNB's fast-track energy transition plan ensures sustainable business growth while meeting our ESG commitments



GenCo

GenCo aims to capture estimated RM40 bil revenue from domestic market by 2050

Fast track decarbonisation

- 1 Coal plants early retirement
- 2 Repowering plants with cleaner fuel and green tech
- 3 Strategic

Explore opportunities in ASEAN

Hydro

Gas

~800 MW

Target share of capacity by 2050

- Increase enterprise value and sustainability position of GenCo
- Possibility of an IPO of GenCo

NED

~USD7 bil equity investment by 2050

Large-scale Solar PV

Onshore wind

Offshore wind

Legends:
● Existing Investments
● Main target markets

FOCUS MARKETS

CURRENT

UK

MY

TH

SEA

PH

VN

EU

ES

IE

FR

AU

APAC

TW

KR

14.3GW by 2050
(Average portfolio return of 7% – 9%)

Grid

Regulated asset base (RAB) for Grid + DN to grow to ~RM100 bil by 2050

Spurring growth of Renewable Energy

Distributed Energy Resources (DER)

Variable Renewable Energy (VRE) and

Propelling growth of transportation and industrial customers electrification

Reducing carbon footprint and preserving the forestry & natural environment

Regional Interconnection

To strengthen security of supply and open investment opportunities

Existing Future

Potential Earnings by 2050: ~RM7 bil

EV

We will invest RM90 mil to support BEV ecosystem over the span of 3 years with the following key strategic moves:

- 1 Build charging infrastructure
- 2 Reskill & upskill workforce
- 3 Lead by example through TNB Fleet electrification
- 4 Sponsor EV-related studies
- 5 Foster coalition among EV sector players

2030 EV Market Potential

18,000 charging points

500,000 BEV on the road

4,432 k tons CO₂ emission reduction

2.318 TWh annual electricity sales

RM 1,258 mil annual revenue

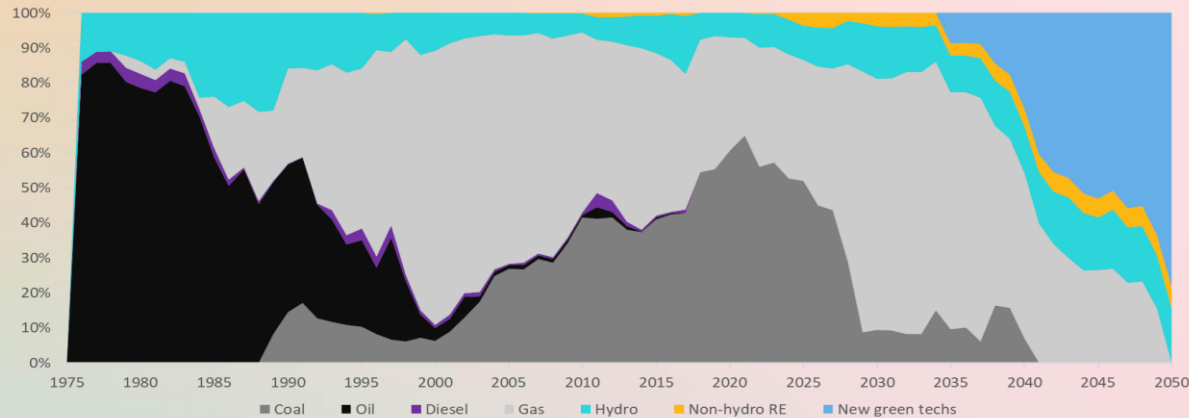
We start with GenCo as the biggest lever with major shifts to RE and new green technologies towards the future...



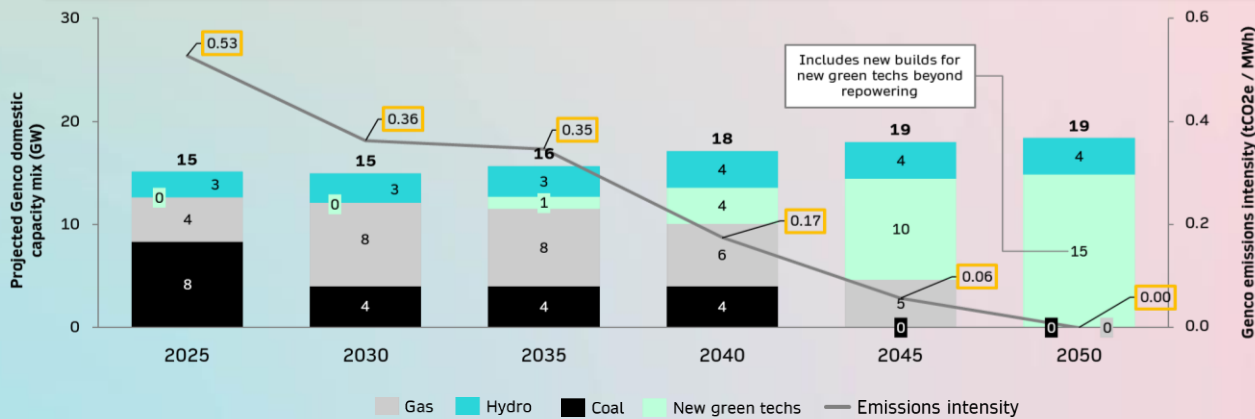
TNB's decarbonisation roadmap to achieve net zero emission by 2050 and be coal-free by early 2040s, ahead of initial milestone

GenCo aims to capture estimated RM40 bil of domestic market by 2050

TNB generation mix (%)

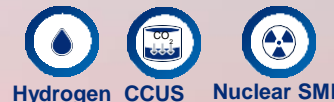


GenCo moves will contribute to reaching our 2035 intensity target and net zero by 2050



GenCo's next moves to fast track decarbonization

- 1 Early retirement of coal plants**
Explore the viability of retiring Kapar Energy Ventures (KEV) to a year ahead of its PPA expiration, subject to agreement of existing shareholders & approvals from relevant authorities and regulators
- 2 Repowering plants with cleaner fuel and green tech**
Following KEV early retirement, we will begin our repowering plan with KEV (1400MW) and Paka (1400MW). GenCo repowering strategy will include optionality. Paka is planned to be hydrogen-ready by 2029
- 3 Accelerate green tech adoption via strategic technology partnership**
In addition to green tech, strategic partner can provide capital and new capabilities



Through these deliberate steps to increase its enterprise value and sustainability position, we are also staying open to the possibility of an Initial Public Offering (IPO) of GenCo, should the opportunity come up

GenCo aims to explore hydro and gas opportunities in ASEAN

Gas

Vietnam Thailand Indonesia
Target: +4 gas projects

Hydro

Laos Indonesia
Target: +7 new hydro projects

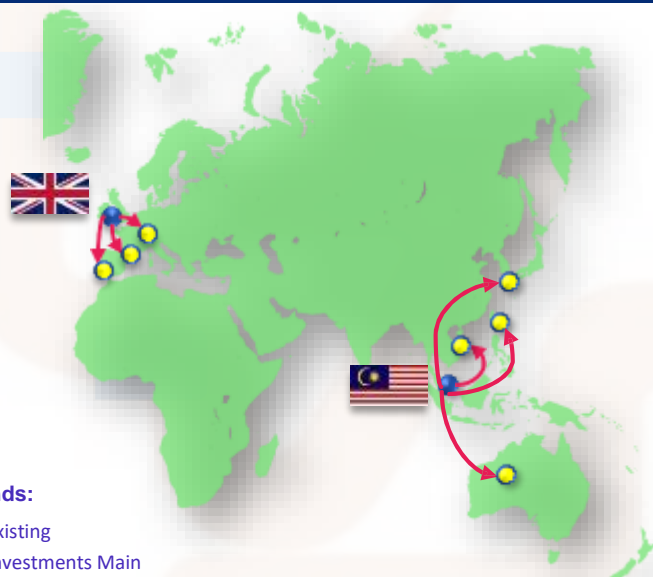
Target share of capacity of the new international plants by 2050
~800 MW

TNB's New Energy Division (NED) will continue to expand our renewable energy portfolio on both domestic and international grounds as we build capability and gain access to technology and market knowledge



Asset development and business expansion

Geographical Expansion

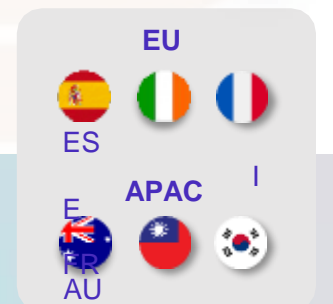


Legends:
● Existing
● Investments Main target markets

FOCUS MARKETS



NEW FOCUS MARKETS



Life Cycle

- Move upstream into asset development for IRR enhancement

Capital Strategy

- Recycle capital to optimise capital allocation, contributing to EBIT uplift
- Tapping global capital market for RE investments

Technology Focus



Target growth of installed RE capacity

2022 **0.7^{GW}**

2030 **7.2^{GW}**

2040 **9.9^{GW}**

2050 **14.3^{GW}**

The Grid is a critical infrastructure to enable Malaysia's energy transition. TNB will continue to invest to strengthen the grid and network infrastructure of the future, balancing grid security, sustainability and affordability



Spurring growth of Variable Renewable Energy (VRE) through improved grid flexibility & regional interconnection



Propelling growth of transportation and industrial customers electrification via enhanced grid capacity & connectivity

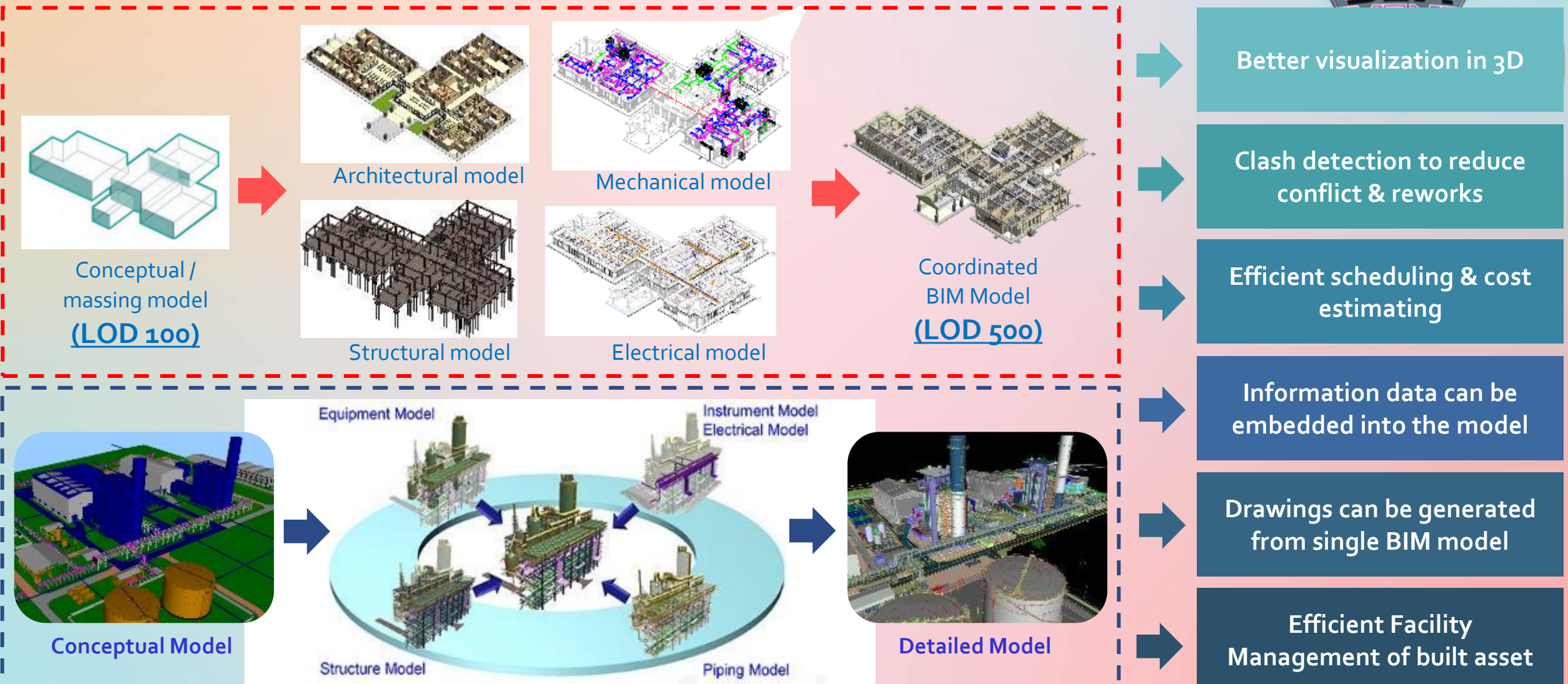


Reducing grid's own carbon footprint and preserving the forestry & natural environment

○ Enabling decarbonization ○ Decarbonizing grid

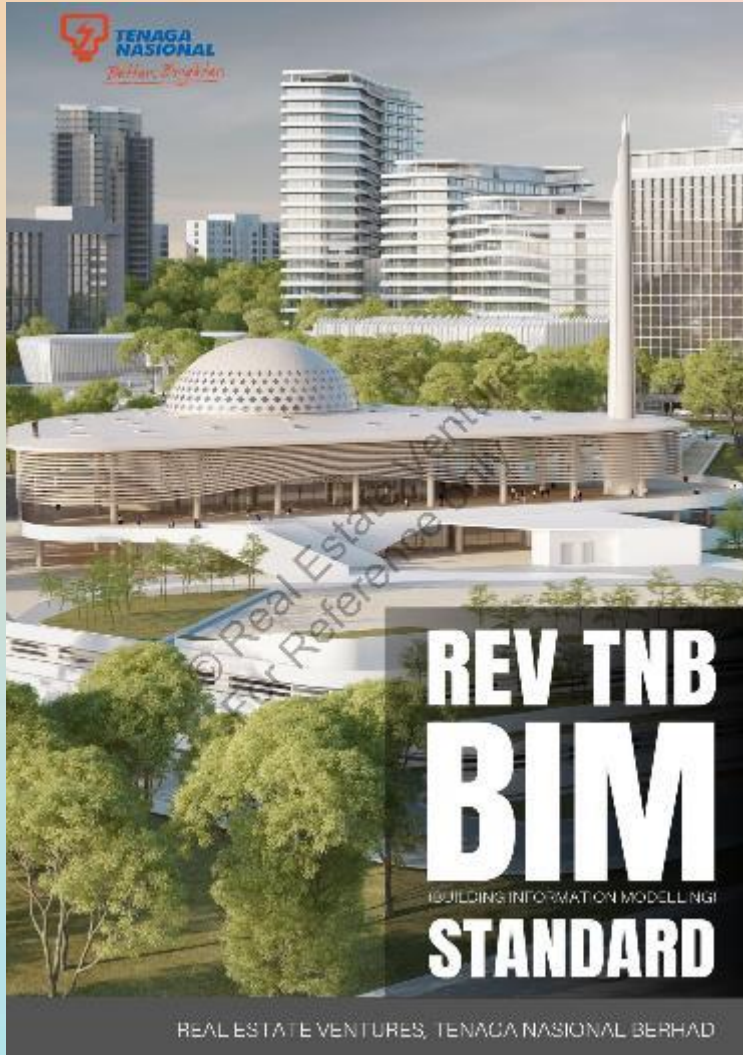
- ... **Increasing share of grid-connected VRE especially solar in the grid and Distributed Energy Resources (DER)** will threaten system stability and introduces operational complexity
 - Target to achieve a score of **85% on the Smart Grid Index by 2025**
 - **Analytics, automation and digitalization** to deliver operational efficiencies Potentially **45% of LSS** in national capacity mix by 2050
- ... **Increasing EV penetration, electrification of industrial customers and** will increase peak load seen by the grid
 - **50% growth in grid peak load** by 2050 compared to 2022 level
- ... **Expansion of grid infrastructure** may lead to increased deforestation as well as potential emission and pollutant release
 - **Continuously conserving & preserving forest** from grid development activities
 - Adopt **green technologies** for grid asset

3D model + information data sharing in single collaborated BIM model



BIM in TNB

Two main pillars of implementation; “Collaboration” & “Future-Proof”



- Started utilized BIM for Balai Islam HQ project & later produced **BIM Standard**.
- the benefits of BIM in **enhance productivity & efficiency**.
- BIM is essential to allow project teams to verify designs & construction methodology in **virtual environment which minimize construction changes**.
- **BIM is crucial in enhancing skills & capability** of REVD teams to align to modern construction standard.
- **TNB is committed** to continuing the development of BIM & **support the Malaysian Govt's mandate** of BIM compliance under CITP.



HQ Campus (Platinum), TNB HQ



Pejabat TNB Jln Gopeng, Ipoh



Menara TNB, Kuala Terengganu

Inline with TNB's direction and future plans, future engineers need to be equipped with the right skills and knowledge. At UNITEN we ensure the Energy Theme is spread throughout out curriculum programme



IR 4.0 and beyond

Renewable Energy

Energy Economics

Artificial
Intelligence and
Analytics

Cybersecurity

Develop
Leadership
qualities (ULEAD)

Develop Self Inner
Strength (SHIELD)

Green Tech in
Power Generation

Smart Grid and
Grid of the Future

Energy Centric
Theme in all
Academic
Programmes


Energy Computing

Energy Business




Basic Knowledge and Research goes hand in hand to ensure UNITEN always is at the forefront of Energy related knowledge

5 Research Institutes




Institute of Power Engineering (IPE)

- Transmission and distribution technologies
- Power generation




Institute of Sustainable Energy (ISE)

- Solar energy
- Wind technology
- Energy based on biofuel




Institute of Energy Policy & Research (IEPRe)

- Energy economy
- Regulatory policy
- Social transformation



Institute of Energy Infrastructure (IEI)

- Geospatial intelligence
- Energy water security
- Disaster risk reduction



Institute of Informatics & Computing in Energy (IICE)

- Data analytics
- Visual informatics
- Energy security

National Energy Centre

Future Postgraduate Programme

- Master of Energy Management by Coursework & Project
- Master in Dam Safety Management & Engineering
- Master of Electric Transportation System

Future Short Courses

- Training Courses In Renewable Energy**
*Proposed to begin in October 2022
Operation and Maintenance of Anaerobic Digester (Level 2 & 3) In collaboration with SEDA
- Energy & Society Course
- Sustainable Energy Management for Business Course



**TENAGA
NASIONAL**

Better. Brighter.

FUTURE
ENGINEER:
WHAT'S
REQUIRED???



Elements Essential by Future Engineers



Technical And Non-Technical Know How

❑ Decarbonisation

- ✓ Renewable & Sustainable Energy
- ✓ Green Technology (CCUS, Hydrogen Fuel, SMR)

❑ Industrial Revolution 4.0

- ✓ Digitalization (IoT)
- ✓ Machine-Learning
- ✓ Artificial Intelligence (AI)

Attitude

- ✓ Adaptive & Agile
- ✓ Collaborative
- ✓ Forward thinking
- ✓ Mindfulness
- ✓ Integrity



Disclaimer

All information contained herein are solely for the purpose of this presentation only and cannot be used or referred to by any party for other purposes without prior written consent from TNB. Information contained herein is the property of TNB and it is protected and confidential information. TNB has exclusive copyright over the information and you are prohibited from disseminating, distributing, copying, reproducing, using and/or disclosing this information.



THANK YOU



Committed to Engineering Excellence

BOARD OF ENGINEERS MALAYSIA

Tingkat 17, Blok F, Ibu Pejabat JKR

Jalan Sultan Salahuddin, 50580 Kuala Lumpur

<http://www.bem.org.my>

bemconvention2022@bem.org.my or event@bem.org.my

Tel: 03-26912090




Back Up Slide

Clean Coal Technology Achievement

TNB Jimah Plant Wins ASEAN Energy Award For Clean Coal Technology

By Editor - October 10, 2021



Trailblazing in the energy producing sector by using new and innovative technology and inline with keeping carbon emission at minimal, Tenaga Nasional Berhad and its power station's are reinventing the way power is generated.

Its this progressive thinking that has enabled the utility giant to receive recognition on a regional level, recently the Jimah East Power came up triumphant in the ASEAN Energy Awards 2021 by winning the Clean Coal Technology Utilisation for Large Power Generation category, a testament to the company's will.

Held in Brunei, the award recognises best practices of cleaner and sustainable coal use and the transition towards a more sustainable and lower carbon emission. JEP won the top prize in the category ahead of PT Indonesia Power PLTU Jateng 2 Adipala Omu, Indonesia, in second and Mae Moh Power Plant, Thailand, in third.

Award

CCT Utilisation for Power Generation

Large Sub-category



Winner

SJTM Sharing of Best Practices in Clean Coal Use and Technology Innovations, Jimah East Power Sdn. Bhd., Malaysia.

Tenaga Nasional Berhad : JEP TRIUMPHANT AT ASEAN ENERGY AWARDS 2021

10/09/2021 | 11:12pm EDT

PRESS RELEASE

S.A. 2021/10/123 (HQ)

JEP TRIUMPHANT AT ASEAN ENERGY AWARDS 2021

- TNB'S USC power station is recognised for applying the best practices in clean coal usage

Tenaga Nasional Berhad's (TNB) power station, Jimah East Power (JEP) was triumphant in the ASEAN Energy Awards 2021 organised by the ASEAN Centre of Energy by winning the Clean Coal Technology Utilisation for Large Power Generation category.

The awards ceremony was held virtually in conjunction with the ASEAN Energy Business Forum and 39th ASEAN Ministers on Energy Meeting (AMEM) which was held from 14-16 September 2021 in Brunei.

JEP Triumphant at ASEAN Energy Awards 2021

10/10/2021

Tenaga Nasional Berhad's (TNB) power station, Jimah East Power (JEP) was triumphant in the ASEAN Energy Awards 2021 organised by the ASEAN Centre of Energy by winning the Clean Coal Technology Utilisation for Large Power Generation category.

The awards ceremony was held virtually in conjunction with the ASEAN Energy Business Forum and 39th ASEAN Ministers on Energy Meeting (AMEM) which was held from 14-16 September 2021 in Brunei.

The award recognises best practices of cleaner and sustainable coal use and the transition towards a more sustainable and lower carbon emission. JEP won the top prize in the category ahead of PT Indonesia Power PLTU Jateng 2 Adipala Omu, Indonesia, in second and Mae Moh Power Plant, Thailand, in third.

POWER POINTS

Winning Attributes

- ✓ Track 4A is equipped with the first commercial GE 9HA.02 gas turbines—one of the world's largest and most efficient power-generating models.
- ✓ The landmark \$1.1 billion project showcases an array of first-of-its-kind equipment and technology.
- ✓ The project team reportedly completed a total of 10 million man-hours of work with zero lost-time injuries.
- ✓ Malaysia's Energy Commission awarded a fast-track project tender for Track 4A to help Peninsular Malaysia overcome regular power disruptions.
- ✓ The project team overcame significant obstacles to commission Track 4A during the global COVID-19 pandemic.

Winning POWER's highest honor is Track 4A, Southern Power Generation's 1.4-GW natural gas-fired power plant in southern Malaysia that is equipped with the first commercial **GE 9HA.02** gas turbines—one of the world's largest and most efficient power-generating models. Though jolted by the pandemic, an international team brought this first-of-a-kind plant online through innovative continuity efforts. The project is today a showcase of advanced technology integration and a meaningful model for balancing climate awareness, energy affordability, and reliability in power-hungry Southeast Asia.



TNB commits RM20 bil capex annually to hasten transition into responsible energy until 2050

12. BERITA HARIAN

Bandar Pintar Sandbox bakal dibina di UNITEN

Pemlungunan sebegini diharapkan dapat menjadi contoh kepada pembangunan hartanah masa

"Ia akan dibungkam dalam masa tiga hingga lima tahun. TNB masih berunding dengan rakan kongsi berpotensi bagi projek itu," katanya.

1. KOSMO

TNB labur RM20 bilion untuk peralihan tenaga

dan ini, TNS telah
menyediakan untuk
agen-nya kemam-
puan berkolaborasi ke-
perluan terapan.

akan terus membi-
nakan kemandirian
perusahaan yang akan
dibebaskan perli-
ngkungan sumber
daya. Oleh karena
itu, dia meminta

Power Generation Ltd., (TNE) General dan New River Vision. TNE serta dalam kemitraan dengan PTN, membangun sistem tenaga listrik tenaga surya di Kabupaten Sukoharjo, Jawa Tengah.

TNB, Petronas, IHI
conduct ammonia
co-combustion test

TNB said the ammonia ratio was increased gradually from 0 per cent to up to 10 per cent for

**A BETTER, BRIGHTER
FUTURE RUNS ON
GOOD ENERGY**

VERBENA RESOURCES
John P. Taylor
President

Installation of a 37.6-MW
wind generating unit within
the Orange County San Joaquin
Project.

"We are also increasing
transmission with our current
program."

A BETTER, BRIGHTER
FUTURE RUNS ON
GOOD ENERGY

Expanding their operations into the new market, Malaysia's P&I contractor, **PTI International Group Ltd (PIL)** has a 50% equity agreement with **Chiyoh Corporation Ltd (CCL)**, an offshore steel structure company in Japan. The two companies intend to establish a joint venture in the P&I sector.

PTI, which is incorporated in the United Kingdom, has a turnover of £11.6 million and further plans to expand its operations up to the value of £20 million in 2000.

As part of its expansion strategy, PTI has established a subsidiary in Malaysia, **PTI Malaysia Sdn Bhd**, which is a 50% equity joint venture with **Chiyoh Corporation Ltd (CCL)**. The joint venture is intended to provide a full range of services to the P&I sector, including the design, construction and maintenance of offshore steel structures.

By doing so, PTI is expected to be able to handle the P&I sector in the region.

[illegible]

In tandem, we have rolled out more than two million small servers to help citizens better manage their energy consumption and implement energy efficiency initiatives.

We recently also launched the *MyGreen* mobile app, which allows building the two largest in the market (Telus and the Rogers network) through either, in case of connectivity constraints and in a bid to keep users informed, through the web browser (e.g. Telus MyGreen), and Web

Support for government's climate change agenda

Malaysia recently declared action of the nation's main

"Sustainability is a long-term process and we believe that a combination and the concerted effort among governments, industry players and consumers are key to this goal."



**Sime Darby
to collaborate
with TNB to
accelerate electric
vehicle adoption**

He said through the collaboration, SDM Malaysia and Sime Darby as a whole could rely on TNB's expertise in

According to Sime Darby Motors Retail and Distribution Malaysia managing director Jeffrey Gue, SDM Malaysia represents a number of brands such as BMW, Jaguar, Land Rover, Porsche, Volvo, Hyundai and Ford, all of which have been focusing on developing greener technology products, and that SDM Malaysia will begin distributing and retailing them in Malaysia soon.

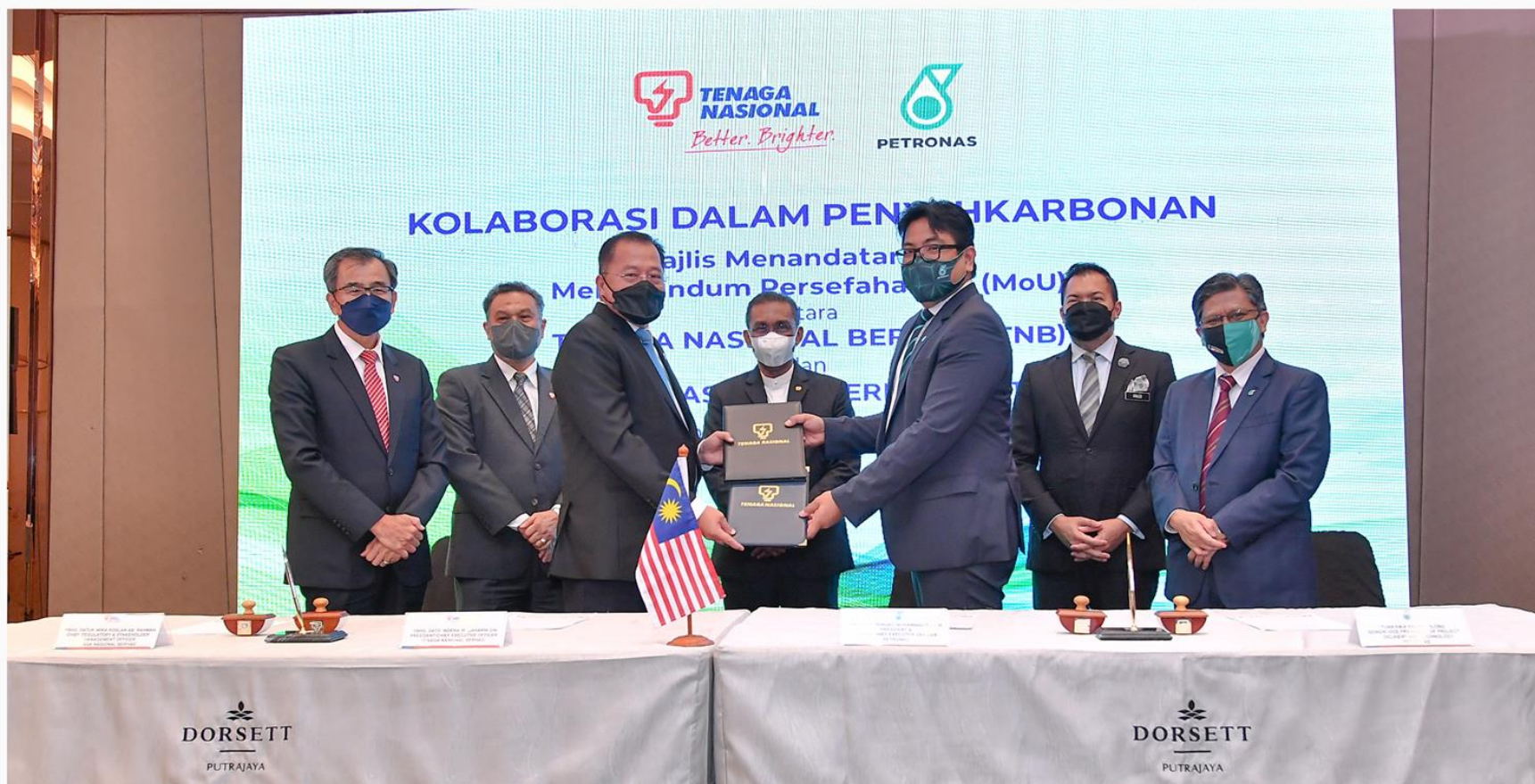
Some Darby shares slipped two sen or 0.93% to close at RM2.13 on Tuesday, valuing the group at RM14.76 billion. TN

Disclaimer: This slide is property of BEM and

statement from BEM. The information is only valid on the date of

TNB and Petronas MOU in Decarbonization Effort

KUALA LUMPUR, 19 August 2022 – PETRONAS and Tenaga Nasional Berhad (TNB) have signed a Memorandum of Understanding (MoU) to strengthen collaboration in driving innovative solutions towards decarbonisation in support of Malaysia's aspirations to be a carbon-neutral nation by 2050.



Promoting Electric Vehicle (EV) Adoption

TNB in EV drive

BY MUHAMMAD YUSRY
muhammad.yusry@sun.com.my

PETALING LAYA: Tenaga Nasional Berhad (TNB) is aggressively pursuing avenues to grow the market for electric vehicles (EV) in Malaysia and is having talks with Proton and Perodua, among others, to resolve existing pain points.

Malaysia's EV market was valued at RM61.5 million in 2020, with total revenue expected to grow at 12.46% annually to reach RM140 million in 2027, according to a Maximise Market Research report.

Last month, Prime Minister Datuk Seri Ismail Sabri Yaakob suggested Perodua collaborate with TNB to provide an affordable electric vehicle charge rate to encourage more uptake of energy efficient vehicles.

In an exclusive interview with theSun, a TNB spokesperson said the Deloitte Global Automotive Consumer Study 2021 on consumer concerns about owning EV highlighted that 35% of respondents in Malaysia complained about the shortage of EV charging infrastructure.

Another 21% quoted the high prices of EV. 18% expressed safety concerns, 12% complained about the short driving range and 11% said it took too long to charge.

Based on the study, TNB said it is taking up a leading role through strategic partnerships with other players in the EV sector, including DHL Express, Sime Darby Motors, BMW Group Malaysia, Malaysia Automotive, Robotics and IoT Institute, Socar Mobility Malaysia, Ipoh City Council and SP SEDA Berhad to address those concerns.

"With 1,014 units of EV on Malaysian roads as of May this year, and the number expected to increase thanks to government incentives, we are working with industry players to resolve the poor charging infrastructure in the country, among others," TNB said.

It added that there are currently 707 charging stations in Malaysia, and the government is targeting to have 50,000 battery electric vehicles by 2025, supported by 10,000 public charging stations.

The downside is that EV in Malaysia are sold at over RM150,000, which is far above mass market affordability.

This is despite Budget 2022 providing for zero import duty for completely built up units until 2023, completely knocked down units until 2025, and 0% sales and service tax (which ended in June).


EV buyers benefit from a RM2,500 income tax rebate for home charging installation and road tax waiver until 2025.

But no incentives have been announced for the charging point operators.

TNB said: "In playing a key role to develop the EV ecosystem in Malaysia, TNB welcomes any partnership with EV manufacturers or importers that encourage its higher adoption."

"TNB continues to engage with the government and other stakeholders regarding policies and regulations that will encourage and accelerate the growth of EV adoption."

Turn to page 3



TNB to set up fast EV charging stations at Plus' R&R and federal roads

By Zuzaimi Abckilab - August 2, 2022 @ 3:03pm



TNB estimates that there will be some 3,300 charging points set up by it and other EV players to serve 33,350 pure EVs by 2025, generating RM80 million electricity revenue annually.

TNB, PLUS collaboration to boost EV usage and reduce carbon emissions

A network of EV charging stations will be installed at the selected R&R along PLUS highway



TENAGA Nasional Bhd (TNB) is collaborating with PLUS Malaysia Bhd for carbon emissions reduction by providing electric vehicle (EV) charging stations on PLUS highways, among others.

Both parties have agreed to work together through three sustainability initiatives — developing EV charging station network, installation of efficiency monitoring system and installation of photovoltaic solar systems — at selected Rest and Service Areas (R&R).

Ismail Sabri (fourth from left), Tengku Zafrul (third from left) and Muhammad Azmin (third from right) witness the MoU exchanging ceremony between TNB and PLUS at Petaling Jaya.

Through the collaboration, a network of EV charging stations will be installed at the selected R&R along the PLUS highway alignment, while the energy efficiency monitoring system will be installed on the roof of Ayer Keroh R&R building (northbound) and Taphu R&R (northbound) with total capacity over 360 kWp (followed next year).

TNB will provide a reliable and stable electricity supply to the ecosystem. EV charging mutually agreed upon by both parties. TNB also offers solutions to PLUS that can optimise electricity costs and support green resources and sustainable energy in reducing carbon emissions." TNB president and CEO Datuk Baharin Din said in a statement yesterday.

He explained all these initiatives under the memorandum of understanding (MoU) would reduce carbon emissions as well as support green energy use in addition to optimising the use of electricity in business operations to further increase commitment on environmental, social and governance (ESG).

"A joint venture with various organisations such as PLUS further strengthen investors' confidence about our commitment to ESG and provide potential strategic measures for business expansion beyond kWh," he added.

The exchange of this strategic cooperation document through

MoU between Baharin and PLUS MD Datuk Azman Ihsan was held at the Kuala Convention Centre last Friday, witnessed by Prime Minister Datuk Seri Ismail Sabri Yaakob, the Minister of Finance Tengku Datuk Seri Zafrul Tengku Abdul Aziz and Senior Minister and Minister of International Trade and Industry Datuk Seri Mohamed Azmin Ali.

Also present was Khazanah Nasional Bhd MD Datuk Amirul Faisal Wan Zuhri, TNB chief distribution network officer Wan Nany Wan Mahmood, chief grid officer Datuk Hasaini Husin, chief retail officer Datuk Megat Jalaluddin Megat Hassan among others.

Azmin said the initiative was implemented to further increase the network of electric vehicle charging stations to ensure the journey of customers using EVs is smoother, safer and more comfortable, particularly along the PLUS highway.

This initiative strengthens PLUS' commitment to leading the industry as a road operator highway that is sensitive to environmental sustainability. In addition to ensuring good governance and being committed to the needs of society, environmental management is also one of the main pillars driving the development of PLUS to become a Smart Highway of the Future," he said.

Azmin said this move is also in line with other green initiatives implemented by PLUS including the use of green technology in its premises, using pavement which is recycled to pave roads in R&R areas and using materials that are more environmentally friendly in the handling of its highway operations.

"This MoU is also one of our measures to reduce the negative impact on the environment as our day-to-day operations," he said.

PLUS also welcomes this collaboration with TNB and described it as one of the company's efforts in supporting ESG.

The infrastructure network facility of the EV charging station is expected to not only attract new users of EVs but also transport operators, particularly multinational companies that want to switch from using engine vehicles internal combustion (Internal Combustion Engine) to electric-based vehicles.

Since June 2021, TNB has been actively collaborating to promote widespread usage of electric vehicles in the country.

Apart from PLUS, its strategic partners so far include DHL Express, Sime Darby Motors, BMW Group Malaysia, Malaysia Automotive, Robotics and IoT Institute, Socar Mobility Malaysia and Ipoh City Council. — TMK