



# Building Relationships Creating Value

Integrated Annual Report 2019





NATIONAL TIER 2019-2020

**An award win that is as much yours, as it is ours.**

Tenaga Nasional is truly honoured to win 'Brand of the Year' at the World Branding Awards, one of the biggest events for brands across the globe. This award is a sure testament to our customer-first commitment to brightening your lives. And thanks to you, a Malaysian brand like ours can truly shine bright in the eyes of the world.

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## Cover Rationale

Our cover design encapsulates our transformation journey towards our aspiration to become a renewables leader in the ASEAN region, whilst ensuring sustainable business growth and value creation. We will continue to empower the progress of the people and the Nation, with our extensive suite of products and services.

We will achieve this by leveraging on innovation and emerging technologies, diversifying our energy sources, upgrading into digitally-enabled networks, enhancing customer experience and working towards a stable and sustainable regulatory landscape.

In tandem with this, we will continue to inculcate sustainability practices into all our operations to ensure we meet future challenges, build fruitful relationships and create value for all our stakeholders.

# Our Reporting Journey

As the largest electricity utility in Malaysia, we are a key contributor to Nation building. In recent years, we have also embarked on our sustainability agenda through efforts such as renewable energy and other environmental as well as social initiatives as we seek to add value to all our stakeholders. We believe these activities will not only take Tenaga Nasional Berhad (TNB) into the future, but also continue to grow our business in the long term as we transform ourselves into to be one of the world's top 10 global utility by 2025.

This report aims to deliver a transparent, concise and balanced overview of our business direction, strategies and performance as well as an assessment of our ability to create value.

## SCOPE AND BOUNDARY OF REPORTING

This report provides information relating to our strategy and business model, performance, prospects and governance, for the period 1 January 2019 to 31 December 2019, unless otherwise stated.

### REPORTING FRAMEWORK

In producing this report, we are guided by the International Integrated Reporting Framework (IIRF) of the International Integrated Reporting Council (IIRC). Other reporting requirements and frameworks applied are the Main Market Listing Requirements of Bursa Malaysia Securities Berhad (MMLR), the Corporate Governance Guide (3rd Edition) issued by Bursa Malaysia, the Malaysian Code on Corporate Governance 2017 (MCCG) and the Companies Act 2016.

### TARGETED READERS

This report is primarily intended to address the information requirements of our shareholders and prospective investors. The information also includes the way we create value for other key stakeholders, including our employees, customers, regulators and the community.

### FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements with respect to TNB's financial position, results, operations and businesses. These statements and forecasts have uncertainty as they describe future events and depend on assumptions that may change in the future.

## OUR STRATEGY



**Future Generation Sources**



**Grid of The Future**



**Winning The Customer**



**Future Proof Regulations**

## OUR CAPITALS



### FINANCIAL CAPITAL

Refers to the pool of funds that is available to the organisation for use in the production of goods or the provision of services, which includes funds obtained through financing or generated by means of productivity.



### MANUFACTURED CAPITAL

Refers to manufactured physical objects that are available to an organisation for use in the production of goods or the provision of services, including physical infrastructure or technology, such as equipment and tools.



### NATURAL CAPITAL

Refers to resources such as water, fossil fuels, solar energy, crops and carbon sinks, which cannot be replaced and are essential to the functioning of the economy as a whole.



### INTELLECTUAL CAPITAL

Refers to intangibles associated with an organisation's brand and reputation, knowledge-based intangible systems as well as intellectual property such as patents and copyrights.



### HUMAN CAPITAL

Refers to the competencies and capabilities of an organisation's employees, including their motivations to innovate.



### SOCIAL AND RELATIONSHIP CAPITAL

Refers to the relationships between an organisation, its stakeholders and other networks, and the ability to share information to enhance individual and collective well-being.



## OUR REPORTING SUITE

At TNB, we produce a range of corporate reports for the benefit of our stakeholders, to provide them with critical information on our business operations and performance. Our 2019 Annual Report Suite provides a comprehensive account of our value creation activities. Our Integrated Report is a key document in the suite and should be read in conjunction with the Corporate Governance & Financial Statements 2019.

## OUR REPORTING SUITE COMPRISES

### Disclosures

#### Integrated Report (IR) 2019

TNB's IR has been produced with the objective of providing our stakeholders with a comprehensive overview and a balanced assessment of our financial and non-financial performance.

Our stakeholders are informed of our strategy, businesses and performance, approach to governance and risks as well as future aspirations.

The report demonstrates our accountability and strengthens the trust of our stakeholders.

#### Corporate Governance & Financial Statements (CGFS) 2019

TNB's CGFS presents detailed reporting of Corporate Governance Statements, including Corporate Governance Overview Statement, Board Nomination and Remuneration Committee Report, Board Audit Committee Report, Board Risk Committee Report and Statement on Risk Management and Internal Control.

Our CGFS also includes our Audited Financial Statements consisting of Directors' Report, and Independent Auditors' Report.

The CGFS provides detailed governance and financial disclosures to our shareholders, investors, analysts and other interested parties.

### Reporting Framework

- MCCG by Securities Commission
- MMLR
- IIRF by the IIRC
- Companies Act 2016
- Malaysian Financial Reporting Standards (MFRS)
- International Financial Reporting Standards (IFRS)
- MCCG by Securities Commission
- Corporate Governance Guide (3rd Edition) issued by Bursa Malaysia
- MMLR
- Companies Act 2016
- MFRS
- IFRS

TNB's Board of Directors (Board) acknowledges its responsibility in ensuring the integrity of this Integrated Report, which in the Board's opinion addresses issues that are material to the Group's ability to create value and fairly presents the integrated performance of TNB.

This report has been prepared in accordance with the IIRC <IR> Framework.



# Overview of TNB

## OUR VISION

TO BE AMONG THE LEADING  
CORPORATIONS IN ENERGY AND  
RELATED BUSINESSES GLOBALLY

## OUR MISSION

WE ARE COMMITTED TO EXCELLENCE IN OUR  
PRODUCTS AND SERVICES

## ABOUT US

TNB is the largest electricity utility in Malaysia and a leading utility company in Asia with an international presence in United Kingdom, Kuwait, Turkey, Saudi Arabia, Pakistan, India and Indonesia. Since our listing on 28 May 1992, we have grown from strength to strength to become a utility that is responsive to the needs of our stakeholders and the marketplace. In all of our endeavours, we are driven by our firm belief that we have a responsibility to improve the lives of the people of Malaysia. We therefore look forward to continuing to ensure a better and brighter tomorrow for us all.



## WHO WE SERVE

WE HAVE SERVED OUR INDUSTRIAL, COMMERCIAL AND RESIDENTIAL CUSTOMERS IN MALAYSIA FOR OVER 70 YEARS.



### INDUSTRIAL

Our industrial customers engage in the manufacture of goods and services. Although they make up the smallest segment of our customers, they also account for the majority of our electricity sales.



### COMMERCIAL

Our commercial customers are our second-largest source of electricity sales, carrying out the business and commercial activities which drive our economy.



### RESIDENTIAL

Our residential customers represent the majority of Malaysia's estimated 32.68 million population. As our largest market, they drive us to deliver excellence in our products and services.

## OUR CREDIT RATINGS

## INTERNATIONAL RATING AGENCY

Standard &amp; Poor's Ratings Services (S&amp;P)

**BBB+  
Stable**

Moody's Investors Services (Moody's)

**A3  
Stable**

## LOCAL RATING AGENCY

RAM Rating Services Berhad (RAM)

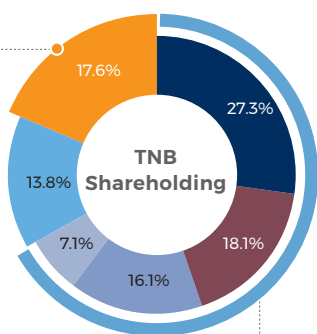
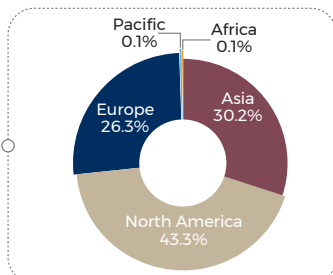
**AAA  
Stable**

Malaysian Rating Corporation Berhad (MARC)

**AAA<sub>IS</sub>/  
AAA Stable**

## OUR SHAREHOLDING STRUCTURE

## Foreign Shareholding

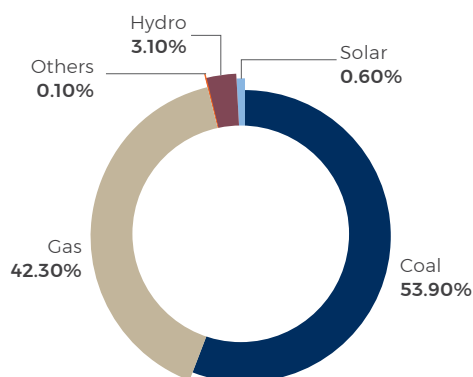


Total Government Agencies 68.6%

- Khazanah Nasional Berhad
- Permodalan Nasional Berhad
- Employees Provident Fund Board
- Other Government Agencies
- Local Corporation & Retail
- Foreign Shareholding

## GENERATION FUEL MIX

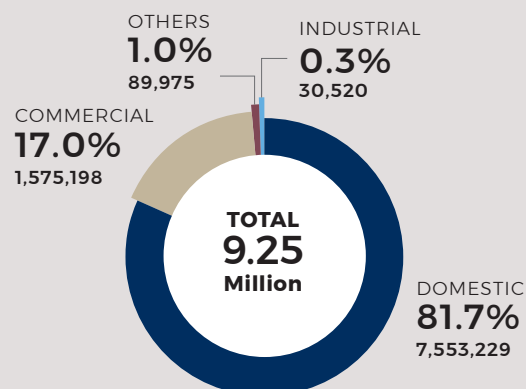
in Peninsular Malaysia for FY2019



## OUR CUSTOMERS' PROFILE

## BREAKDOWN OF CUSTOMERS

(Peninsular Malaysia only)



## CUSTOMER BASE GROWTH

**2.32%**

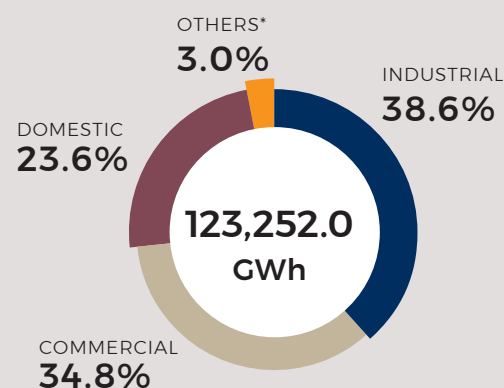
an increase from FY2018

## CUSTOMER SATISFACTION INDEX (CSI)

**8.1**

## TOTAL ENERGY SOLD

## PER SECTOR



\* Others includes Agriculture, Mining, Public Lighting, EGAT, LPL, TNBI (UK WIND)

## ENERGY UNITS SOLD BY REGION

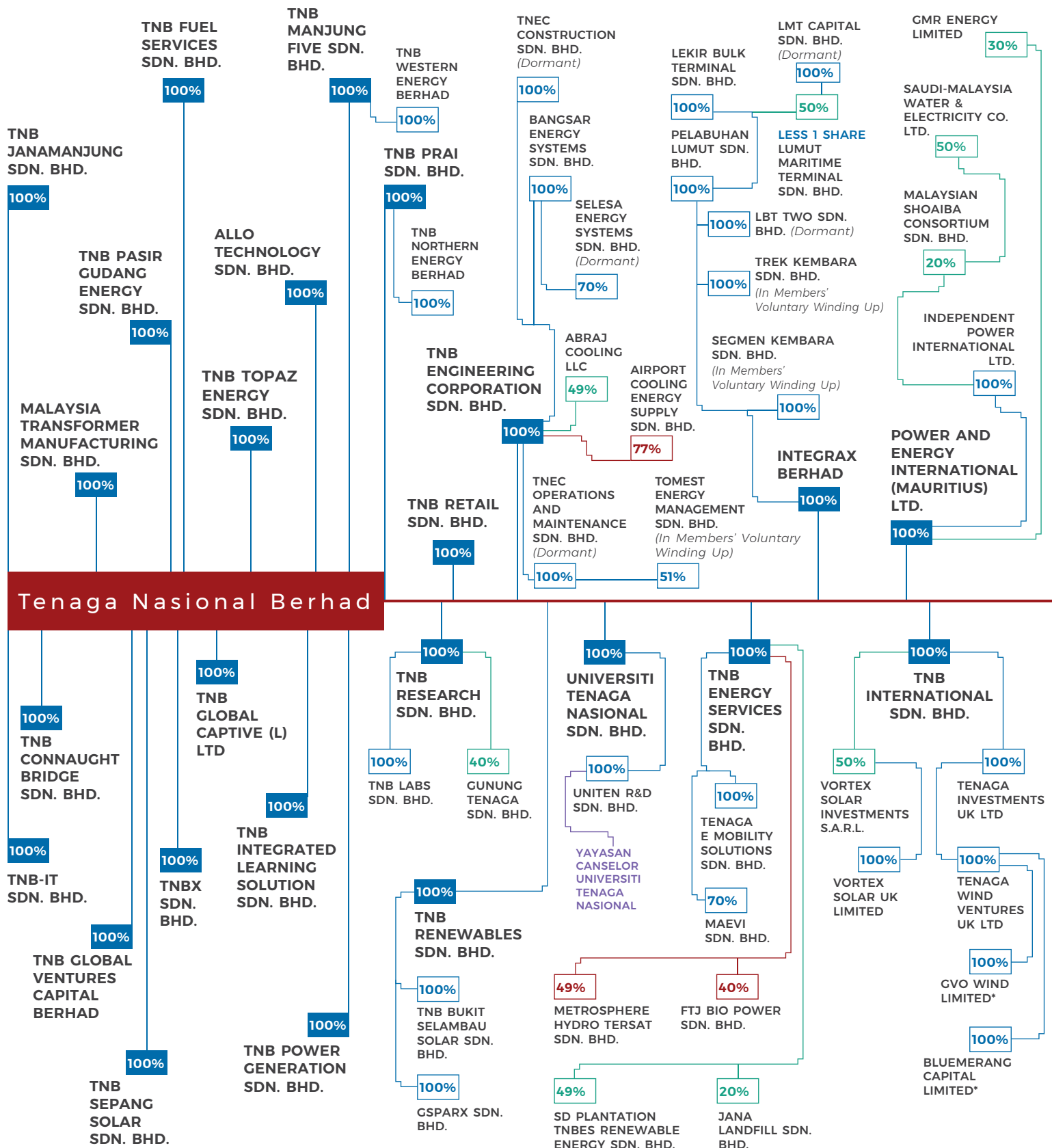
**122,101.7<sub>GWh</sub>**

(Peninsular Malaysia and Sabah)

**1,150.3<sub>GWh</sub>**

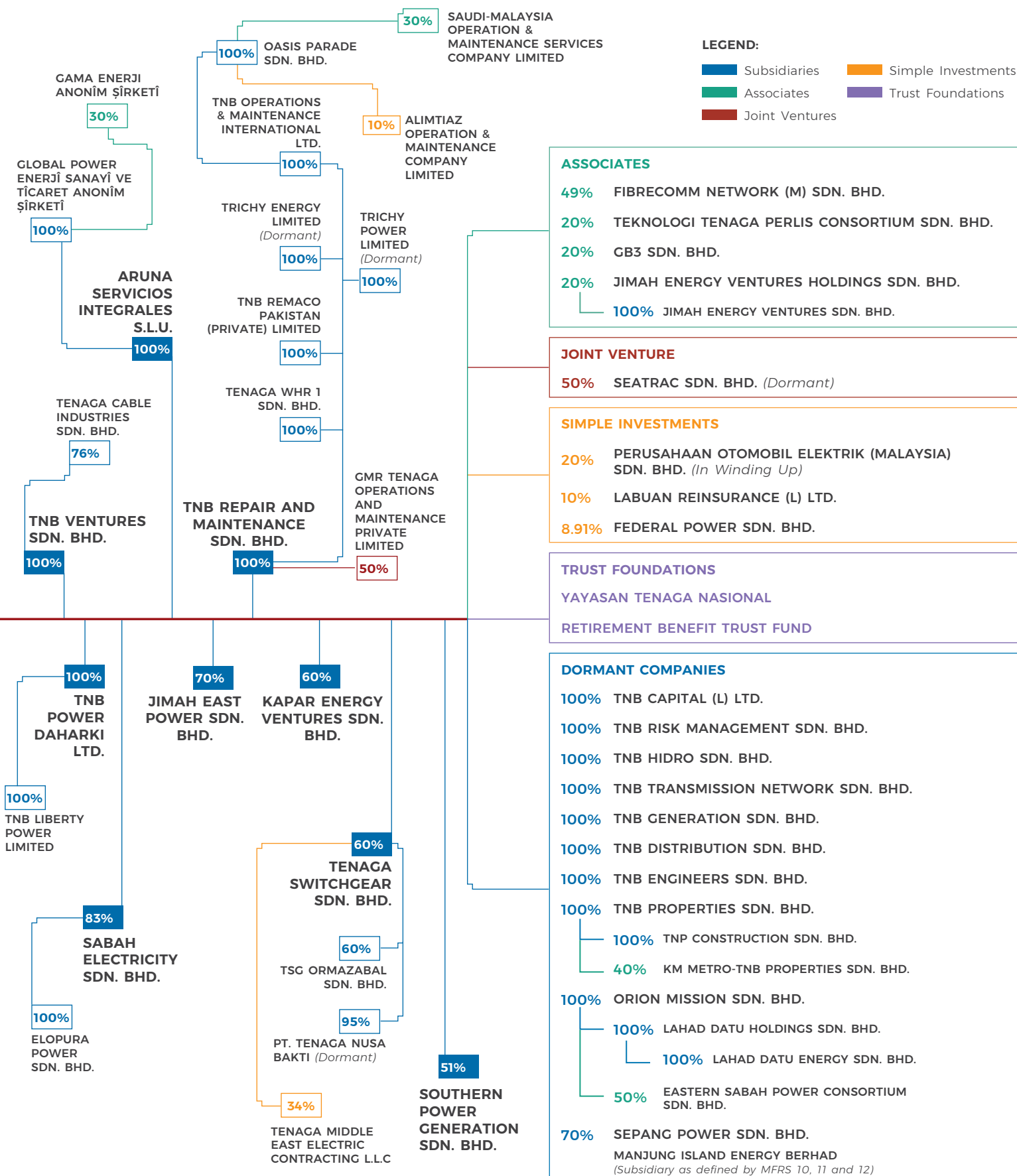
(Pakistan, United Kingdom)

# How We Are Structured



\* GVO Wind Limited and Bluemerang Capital Limited Group of Companies are detailed out on pages 121 to 124 of the Corporate Governance & Financial Statements 2019.





The information is as at 17 March 2020.

# Our Value Chain

## GENERATION

As the key component of our electricity production, the Generation Division is entrusted to operate and maintain TNB's portfolio of power generating assets, comprising of thermal generation facilities and major hydro-generation schemes in Peninsular Malaysia. In addition, the Division also supports the operations and maintenance of six (6) Independent Power Producers (IPPs).



## GRID

The Grid Division links the power produced by our Company and IPPs throughout Peninsular Malaysia with the Distribution Division's network. Electricity is also transmitted directly to large industrial customers via the National Grid.



### NUMBER OF POWER PLANTS

**47 Plants**

for wholly-owned power plants in Peninsular Malaysia only

### TOTAL DOMESTIC GENERATING CAPACITY

**10,617.53MW**

for wholly-owned power plants in Peninsular Malaysia

### AVAILABILITY

Equivalent Availability Factor (EAF)

**83.35%**

for wholly-owned power plants in Peninsular Malaysia

### RELIABILITY

Equivalent Unplanned Outage Factor (EUOF)

**6.63%**

for wholly-owned power plants in Peninsular Malaysia

### MAXIMUM DEMAND ON 18 APRIL 2019

**18,566MW**

for Peninsular Malaysia

### LENGTH OF DOMESTIC TRANSMISSION NETWORK

**23,964 circuit-KM**

for wholly-owned transmission network Peninsular Malaysia

### DOMESTIC TRANSMISSION SUBSTATIONS

**456 Units**

for wholly-owned transmission network Peninsular Malaysia

### NUMBER OF TRANSMISSION TRANSFORMERS OPERATED

**1,304 Units**

for wholly-owned transmission network Peninsular Malaysia

### SYSTEM MINUTES

**0.27 Minutes** for Peninsular Malaysia

which has been consistently below the 2-minute mark since FY2009

### SYSTEM RESILIENCE

**ZERO Load Loss** for Peninsular Malaysia  
for the 500kV system since FY2008

### SYSTEM AVAILABILITY

**99.78%** for Peninsular Malaysia



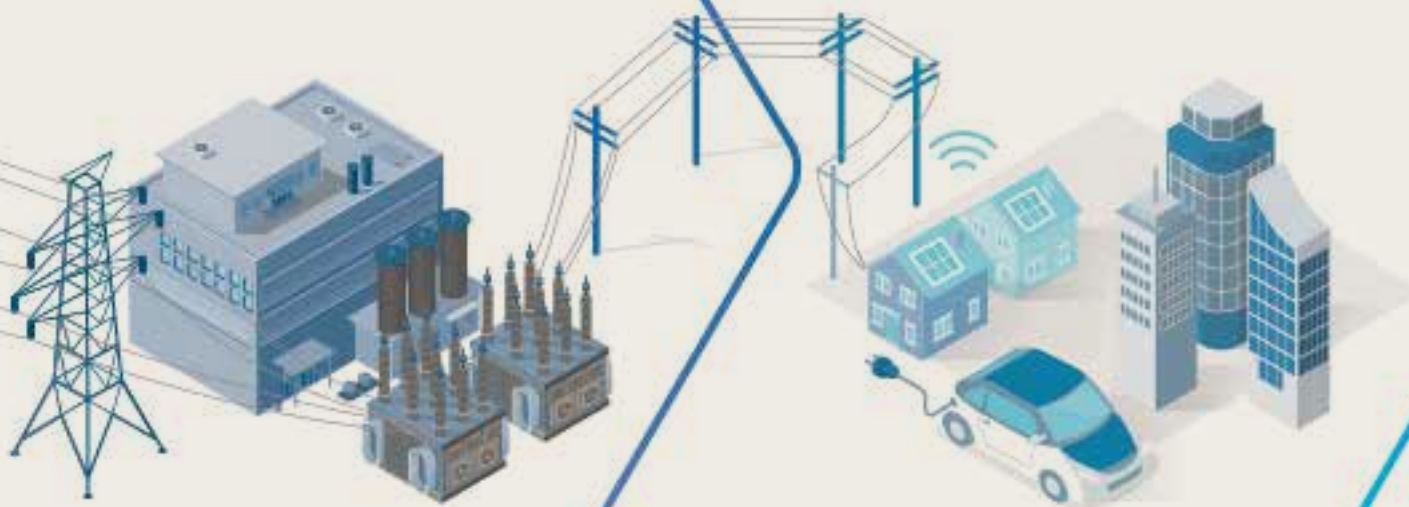
## DISTRIBUTION NETWORK

The Distribution Network Division is responsible for the asset lifecycle of the Nation's distribution electricity supply system to the end-users, ensuring an uninterrupted supply of power to businesses and homes.



## RETAIL

The Retail Division strives to win our customers by building long-term and meaningful relationship through continuous ongoing customer centric approaches.



### LENGTH OF DOMESTIC DISTRIBUTION NETWORK

**683,008 circuit-KM**

for wholly-owned distribution network Peninsular Malaysia

### DISTRIBUTION SUBSTATIONS

**83,467 Units**

for wholly-owned distribution network Peninsular Malaysia

### NUMBER OF DISTRIBUTION TRANSFORMERS OPERATED

**87,113 Units**

for wholly-owned distribution network Peninsular Malaysia

### ELECTRICITY DISTRIBUTED

**116,525.41 cwh**

for Peninsular Malaysia

### SERVICE RELIABILITY

**System Average Interruption Duration Index (SAIDI)**

**48.13 min/cust/yr** for Peninsular Malaysia

2018: 48.22 min/cust/yr

### TOTAL NUMBER OF CUSTOMERS

**9.25 Million**

Customers in Peninsular Malaysia

### UNITS SOLD IN 2019

**116,525.41 cwh**

sales by wholly-owned retail Peninsular Malaysia



# Our International Footprint

## WHERE WE OPERATE



### UNITED KINGDOM

#### Power Plant

TENAGA WIND VENTURES UK LTD  
(100% Equity)

**Capacity:**

**26.1MW**

VORTEX SOLAR INVESTMENTS S.A.R.L.  
(50% Equity)

**Capacity:**

**365MW**

**Total Capacity:**

**391.1MW**

**Energy Source:**

- Wind
- Solar



### KUWAIT

#### Power Plant

SABIYA POWER GENERATION &  
WATER DISTILLATION PLANT

**Capacity:**

**225MW**

DOHA WEST WATER DISTILLATION  
STATION

**Capacity:**

**240MW**

SHUAIBA NORTH POWER  
GENERATION & WATER  
DISTILLATION PLANT

**Capacity:**

**900MW**

**204,000 m<sup>3</sup>/day water**

**Total Capacity:**

**1,365MW**

**Energy Source:**

- Natural Gas
- Distillate

#### Operations & Management Services

- Maintenance Services Agreement
- Mechanical Works
- DOHA WEST PLANT
- Instrumentation & Control Systems
- SHUWAIKH PLANT
- DOHA WEST PLANT



### TURKEY

#### Power Plant

GAMA ENERJİ A.Ş.  
(30% Equity)

**Capacity:**

**1,102MW**

**Energy Source:**

- Wind
- Natural Gas
- Hydro

#### LEGEND:

Active Contracts

Completed



## PAKISTAN

## Power Plant

LIBERTY POWER LTD  
(WHOLLY-OWNED)

**Capacity:**

**235MW**

**Total Capacity:**

**235MW**

**Energy Source:**

• Natural Gas

## Operations &amp; Management Services

- TNB REMACO & BALLOKI POWER PLANT  
NATIONAL POWER PARK MANAGEMENT  
COMPANY LIMITED - Balloki Power Plant

**Capacity:**

**1,223MW**

- LARAIB ENERGY LIMITED  
- Bong Hydro Plant

**Capacity:**

**84MW**

- HUB POWER COMPANY LTD  
- Diesel Power Plant

**Capacity:**

**225MW**



## INDIA

## Power Plant

GMR ENERGY LTD  
(30% Equity)

**Capacity:**

**2,299MW**

(as at September 2019, including the  
capacity of Barge)

**Energy Source:**

• Coal • Natural Gas  
• Solar



## SAUDI ARABIA

## Power Plant

SHUAIBAH INDEPENDENT WATER & POWER  
PROJECT (IWPP) (6% Equity)

**Capacity:**

**1,190MW**

WATER DESALINATION ASSETS

**Capacity:**

**1,039,000 m<sup>3</sup>/day**

**Energy Source:**

Fuel Oil

## Operations &amp; Management Services

- TNB REMACO for Shuaibah IWPP

**Capacity:**

**900MW**



## INDONESIA

## Interconnection

PT PLN (PERSERO)  
Development of the Sumatra -  
Peninsular Malaysia High Voltage Direct  
Current Interconnection

**Capacity:**

**600MW**

**Energy Source:**

Development of a  
System to System  
Interconnection



**Don't our nation's gifted minds  
deserve a future as bright as they are?**



For many, education is a springboard to success in life and thus, we have long lent whatever support we can to help deserving students in their pursuit of academic excellence. Towards that end, since 1993, more than 15,000 conferrals of financial assistance have been given through Yayasan Tenaga Nasional to those keen to pursue tertiary education either here at home or abroad. We do all this to better lives for a brighter tomorrow.





# KEY MESSAGES

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Chairman's Letter to Shareholders

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President/Chief Executive Officer's Review



The management and employees of TNB wish to convey our sincerest gratitude and utmost respect to Tan Sri Leo Moggie for his contribution as the Chairman of TNB over the last 16 years.

Tan Sri Leo's vast industry experience and knowledge, honed from his days as the Nation's Energy Minister and his extensive service in TNB, have provided astute and progressive stewardship to the organisation over the years. He will be well remembered for his equitable point of view, uncompromising standards for excellence, as well as his unassuming personality; steadily providing guidance and confidence to TNB throughout the organisation's journey through an ever-changing landscape.

We will remember him fondly as TNB's longest-serving Chairman, and wish him a happy and peaceful retirement.

**Thank you, Tan Sri Leo Moggie.**





# Chairman's Letter to Shareholders

## DEAR VALUED SHAREHOLDERS

The year 2019 was significant for TNB at the organisational and industry levels. While the Group celebrated the momentous occasion of our 70<sup>th</sup> anniversary, we also witnessed the industry enter a new era marked by increased liberalisation and competition brought about by the Malaysian Electricity Supply Industry (MESI) 2.0 reform initiatives.



**TAN SRI AHMAD BADRI MOHD ZAHIR**  
*Chairman*

As a utility that has served the Nation's power needs for seven decades, transformation is integral to our DNA. We have transformed from the Central Electricity Board (CEB) to the National Electricity Board (Lembaga Letrik Negara, or LLN) and, finally, TNB. Starting off as a state-owned entity, we have evolved our operations at key turning points in our history, the last being when we were privatised and encountered competition for the first time with the introduction of Independent Power Producers (IPPs) in the 1990s.

Transformation, therefore, is nothing new, and has been managed well as we remain true to our commitment to 'keep the lights on' whilst balancing the energy trilemma; to provide safe and reliable electricity supply in an environmentally sustainable manner and at a cost that is equitable for all stakeholders. With this as our primary focus, we have powered the Nation's economic progress over the years, and are now in the midst of our own strategic blueprint: Reimagining TNB 2025. As its name suggests, our strategy is to transform ourselves and bring about profound changes across our operations, from what we do to how we do it. The objective is to create value for all our stakeholders as we strengthen our business model at its core.

## ANNUAL ELECTRICITY SALES (GWh)

# 2.7%

HIGHER

## TOTAL DIVIDEND

# RM1.00\*

per ordinary share

\* Inclusive of RM0.50 special dividend per ordinary share



## Chairman's Letter to Shareholders

Since Reimagining TNB unfolded in 2016 we have invested substantially in renewable energy (RE) to contribute towards low-carbon generation through our participation in the Large Scale Solar (LSS) programmes locally and other opportunities internationally. Downstream, we are empowering customers by enabling them to generate energy for their own use, and feeding any excess power into the grid. To this end, we have in 2019 provided an avenue for customers to purchase green energy through Malaysian Green Attribute Tracking System (mGATS) and myGreen+ schemes for those who wish to purchase green energy for their consumption without having to commit to any on-site generation installation.

Efforts such as these have been well received, leading to TNB achieving a Customer Satisfaction Index (CSI) of 8.1 for four consecutive years. More importantly, they position TNB on a firm footing to meet the challenges of an open industry. The ultimate objective of MESI 2.0 is to better serve the end consumer. As an organisation that has always placed the *rakyat* above all else, we fully embrace this new industry paradigm. Indeed, we are doing all we can to ensure its successful implementation.

### PERFORMANCE IN 2019

The year saw TNB continue to grow from strength to strength and achieve commendable performance, with a substantial 18.7% increase in profit after tax (PAT) to RM4.45 billion. This was the result of a 1.1% increase in revenue to RM50.94 billion as well as enhanced performance by our international businesses, which are reaping the benefits of turnaround programmes implemented.

Based on our results, I am pleased to share that the Board has approved a final single-tier dividend of 20.0 sen per share. This adds to the interim single-tier dividend of 30.0 sen per ordinary share and bringing the total to 50.0 sen per share for financial year 2019, which translates into a payout ratio of 56.0% of the Group's adjusted profit after tax, amortisation and minority interests (PATAMI). Of note, it is the third consecutive year that we have offered a dividend at the higher end of our stated policy of paying between 30% and 60% of our adjusted PATAMI.

As a token of appreciation to our loyal shareholders, in conjunction with our 70<sup>th</sup> anniversary, we are also offering a special dividend of 50.0 sen per share,

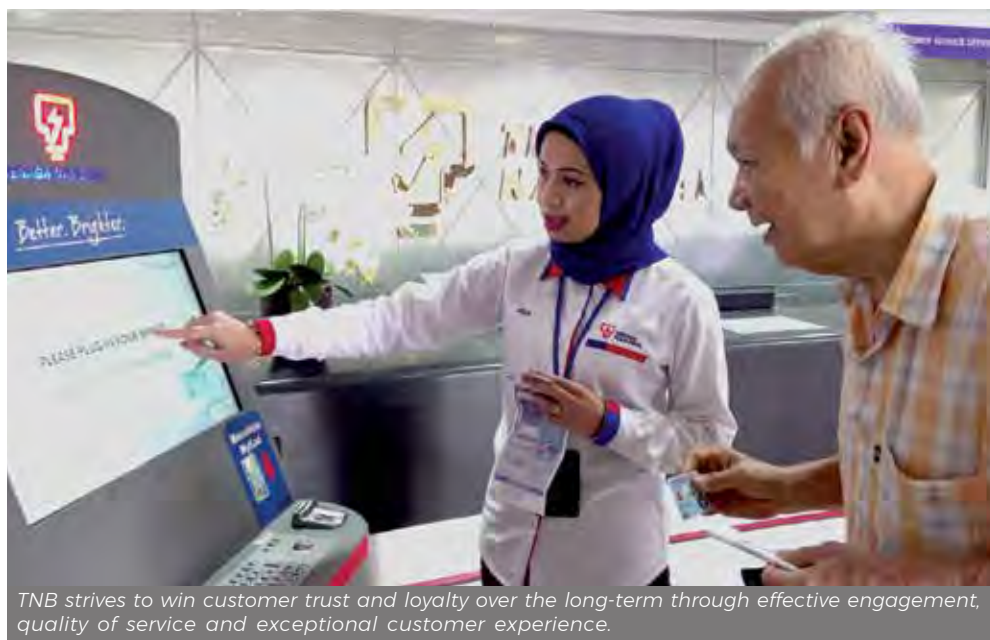
bringing the total dividend per share to RM1.00, amounting to RM5.69 billion. This is TNB's highest dividend payout to date, which has been made possible by efficient operations as well as effective capital management. I would like to commend all the relevant teams for their remarkable performance.

### CREATING A BRIGHTER FUTURE

While rewarding our shareholders, I am proud to say that TNB has further deepened our commitment to sustainability efforts via programmes that have been instituted to give back to society, and especially to empower those who are marginalised. Two areas were featured prominently in our community initiatives – education and the environment – and it gives me great pleasure to share some of the highlights for the year 2019.

Various initiatives have been implemented targeting students from the lowest 40% income bracket (B40). They include the provision of basic school supplies to 6,100 students through our *Ceria ke Sekolah* programme; 3,564 scholarships for tertiary studies in Science, Technology, Engineering and Mathematics under the second installation of our flagship Dermasiswa My Brighter Future programme; and the delivery of corrective glasses to 600 students under our Better Brighter Vision initiative organised in partnership with Tun Hussein Onn Eye Hospital. In addition, between 2019 to 2020, we extended financial assistance to 150 secondary school students, specifically those in Form Three, from B40 families to attend development programmes of their choice outside school.

In terms of education, we reached out to 6,991 students and 536 teachers in eight Trust Schools through a programme undertaken with Yayasan Amir to enhance teachers' classroom effectiveness. We also awarded TNB Scholarships/Financial Assistance to 1,862 recipients through Yayasan Tenaga Nasional scholarships and convertible loans.



*TNB strives to win customer trust and loyalty over the long-term through effective engagement, quality of service and exceptional customer experience.*



One of our conservation initiatives in caring for the environment include planting of mangrove tree saplings in coastal environments.

Our environmental actions have traditionally centred on tree planting in order to offset our carbon emissions. This year, we planted no less than 4,200 mangrove saplings in coastal environments that not only help to restore the ecosystem but also serve to protect against tidal waves, floods and other potential disasters. In addition, we expanded our firefly colony conservation programme beyond Kampung Kuantan, Kuala Selangor (Selangor) to include Kampung Yak Yah, Kemaman (Terengganu), Kampung Sungai Timun, Rembau (Negeri Sembilan) and Kampung Dew, Taiping (Perak). Through these programmes, we not only help to preserve the firefly ecosystem but also the livelihood of locals who depend on tourists to the colonies.

## OUTLOOK

There can be no doubt that our industry is on the cusp of an exciting period of innovation and technological change. Digitalisation and green technologies will create new possibilities for electric utilities to deliver our products and services in a clean, reliable and affordable fashion, and to afford our customers greater choice and control over the way they use electricity. We believe, moving forward, that we will see increasing synergies between innovative digital technologies from beyond the utility industry merge with increased adoption of RE to create new and exciting sustainable possibilities.

We are excited to be a part of the Nation's journey towards what we envision as a brighter future and look forward to contributing in any way we can to restructure the industry so as to ensure its sustainability and, by extension, the sustainability of all stakeholders concerned.

## ACKNOWLEDGEMENTS

I would like to thank the Government for all efforts undertaken to develop a sustainable electricity supply industry, and for engaging industry players to ensure that policies are in the best interest of all relevant stakeholders. At the same time, I would like to acknowledge our suppliers, business partners, financiers and shareholders for their continued support which has been instrumental in TNB becoming the energy powerhouse that we are today.

I would also like to express a heartfelt gratitude to my predecessor, Tan Sri Leo Moggie, who led TNB as its Chairman for 16 years with great passion and insight into the industry. Under his leadership, TNB transformed tremendously to become a dynamic energy player poised to lead the industry as it undergoes further liberalisation.

Above all, I would like to say *terima kasih* to the entire TNB family for your commitment to go beyond the call of keeping the lights on, to empowering great progress and change. TNB has been there for the nation as it has evolved. Today, as our own industry transforms, we will continue to be there, powering the transformation as only an organisation with our 70 years of experience, expertise and management skills can.

“ We are excited to be part of the Nation's journey towards what we envision as a brighter future. ”

**TAN SRI AHMAD BADRI MOHD ZAHIR**  
Chairman

# President/Chief Executive Officer's Review

## DEAR VALUED SHAREHOLDERS

It is both an honour and privilege to present TNB's Integrated Annual Report 2019 following my appointment as the Group's President/Chief Executive Officer in April 2019. An honour, given TNB's 70-year legacy of powering the nation; and a privilege given the trust bestowed in navigating the utility in these times of systemic change.



**DATUK SERI AMIR HAMZAH BIN AZIZAN**  
*President/Chief Executive Officer*

## PROFIT AFTER TAX

**18.7%**

Growth from 2018

## GROUP REVENUE

**RM50.94**  
Billion

**1.1%** increase from 2018

We are experiencing a great transition in the global energy space in response to environmental and business imperatives which can broadly be categorised as the 4Ds – decarbonisation, decentralisation, digitalisation and deregulation. Decarbonisation is the industry's response to climate change with greater focus on renewable energy (RE) sources such as solar and wind. Decentralisation is to do with the creation of greater efficiency, flexibility and resilience in electricity production through distributed generation and storage in a decentralised grid architecture. Digitalisation provides the IT infrastructure needed to support decentralisation. Finally, deregulation is the ultimate goal of creating efficiencies in energy industries such that they are able to operate as open markets, determined by the forces of supply and demand.

The 4Ds are becoming more pertinent to TNB as liberalisation and reform of the MESI gains momentum. In September 2019, the Government announced the MESI 2.0 Reform Initiatives, a master plan aimed at transforming the industry, making it more efficient and competitive.



Amid concerns that MESI 2.0 will be disruptive to TNB's performance, I'm pleased to share that TNB had already anticipated these changes and has been preparing for them even prior to 2016, when we launched our own 10-year strategic plan – Reimagining TNB 2025 (RT). This focuses on what we believe to be fundamental to a leading global electric utility company, namely: diversified generation sources including renewables; a digitalised, efficient grid; and the best customer service, in delivering products and services beyond the sales of kWh, that creates more value and better experiences for our customers.

Set for the period 2016-2025, in 2019 we began reviewing our strategic plan in line with MESI 2.0 and revised some of our objectives in accordance to the current situation and future outlook. We also established certain signposts along our journey to guide us and ensure we are on track towards achieving our aspirations. As a result, we believe that RT will be able to navigate the company towards achieving its aspirations, during this period of industry transition in the midst of the 4Ds.

### MESI 2.0

Our world-class electricity industry today is a product of several decades of reform, forward-looking policies, and an orientation towards continuous improvements by the Government. Consequently MESI 2.0 reforms, which aims to alleviate sector efficiency, robustness and sustainability, is embarking on its reform journey from a position of significant strength.

As the system is highly interdependent, this means that detailing of the reform initiatives would require careful consideration of our unique starting point and critical preconditions, with the aim to 'do no harm' to an already well-performing system. With thoughtful design of the reforms, proper planning and correct sequencing of implementation, we believe MESI 2.0 will safeguard the sustainability of the Malaysian electricity

sector thus future proofing the industry for the benefit of all players and consumers.

A key focus area for TNB currently is to support the successful roll-out of MESI 2.0 reforms. We have been engaging with our Government and Regulators on MESI 2.0, providing research-based analysis and input to ensure its objectives are met with minimal impact to the security and affordability of supply.

We look forward to a future MESI characterised by greater choice, stronger incentives for efficiency, and a push towards sustainability, and we remain steadfast in our commitment to serving the *rakyat* with a better, brighter future via continued collaboration with the Government and our Regulators in setting MESI on the pathway to successful reforms together.

### To prepare for MESI 2.0

The year 2019 marked a significant milestone for TNB as we became the first to bring in an liquified natural gas (LNG) cargo from a third party – demonstrating TNB's pledge and commitment in supporting the Governments' initiative on natural gas market liberalisation. This saw our subsidiary, TNB Fuel Services Sdn. Bhd. secure LNG for our gas power plants at a competitive price. The successful delivery of this maiden LNG cargo into the system tested the governance and operationalisation of the Third Party Access (TPA) system for gas, enabling stakeholders to learn from the experience, thus supporting the aspirations of the Government for an open fuel market under MESI 2.0.

Another key development during the year was obtaining shareholders' approval to create two separate subsidiaries to



*Datuk Seri Amir Hamzah bin Azizan shares his direction on how TNB gears up and prepares to face the challenges of MESI 2.0.*

## President/Chief Executive Officer's Review

better manage our generation and retail businesses following through from our 2018 exercise to split the Retail Division from the Distribution Division. This approval from our shareholders gives the nod to proceed with preparations to establish TNB Retail Sdn. Bhd. and TNB Power Generation Sdn. Bhd. by July 2020, each with its own board and management for undiluted business focus and the means to raise capital for further enhancement of core functions.

We are also taking steps to ensure our operations across the entire value chain are able to hold their own against competition. Plant assessments and upgrades are ongoing while we continue to ensure the delivery of the Grid of the Future including the Advanced Metering Infrastructure (AMI) – one of the many enablers for a more competitive industry environment.

TNB Retail will enhance collection efficiency, promote rooftop solar generation as well as push beyond kWh service offerings such as multi-utility billing, fibre-to-the-home broadband, and sales of third-party products. Meanwhile, TNB Power Generation will focus on improving the performance of our domestic power

plants in preparation for the expected introduction of a capacity and energy market. Both TNB Retail and TNB Power Generation are expected to be operational as wholly owned subsidiaries of TNB by the start of Q3 2020.

### HIGHLIGHTS OF THE YEAR 2019

In preparing for the disruptions that are re-shaping the global energy industry, and MESI 2.0 more specifically, we have continued to strengthen our operations, achieving significant progress, which further strengthen our leadership position in a rapidly evolving industry.

#### Enhancing Our Grid

In 2019, we completed RM6.9 billion worth of grid enhancements in line with the Incentive Based Regulation (IBR)-approved investment plan. These include the installation of 2,441 new substations and 26,471 additional circuit-km of new lines. We also upgraded 3,850 distribution substations to allow for faster response through remote operations, which contributed to a further lowering of our System Average Interruption Duration Index (SAIDI) from 48.22 minutes in 2018 to 48.13 minutes per customer per year in 2019.

Our System Minutes, meanwhile, came in at 0.27 minutes, less than 0.35 minutes in 2018, making it the 11<sup>th</sup> year that we have kept consistently below two-minute.

In addition, we deployed another 120,677 smart meters in Melaka, Klang Valley and Putrajaya/Cyberjaya to close the year with a total of 281,066 smart meters. We will accelerate the installation process as we seek to meet our target of having 1.5 million smart meters by end of 2020.

With a resilient performance in 2019, we unfortunately faced significant challenges due to major outages at key power plants. This is something we take seriously and have committed resources to address the underlying operational issues as we maintain our goal of assuring security of supply at all times.

#### Value Generation

A key highlight of the year for TNB was the successful completion and commercialisation of our 2,000MW Jimah East Power Plant in Port Dickson, Negeri Sembilan. Unit 1 of the plant, with a capacity of 1,000MW, was commercialised on 22 August 2019 followed by Unit 2 on 27 December 2019. Both units utilise ultra-supercritical technology, an efficient coal-burning technology with 40% efficiency as compared to a conventional coal-fired power plant which has a 36% efficiency. Meanwhile, the 2 x 720MW combined cycle gas-fired Southern Power Generation in Pasir Gudang, in which we have 51% equity, made steady progress and was 98% complete as at year end.

In addition, we continued to expand our plant turnaround programme to include three hydro and four thermal stations during the year. The programme in TNB Janamanjung Sdn. Bhd. (TNBJ) has been completed while TNB Connaught Bridge Sdn. Bhd. (CBSB), TNB Prai Sdn. Bhd. (PRAI), Stesen Janaelektrik Tuanku Ja'afar (TJPS) and Kapar Energy Ventures (KEV), is now under phase 3. As of the third quarter of 2019, the programme had resulted in cost savings of RM121 million at TNBJ, while an overall potential value of RM220 million has been identified from TNBJ, CBSB, PRAI, TJPS and KEV.



*Our completion of grid enhancement worth RM2.2 billion allows faster response through remote operations and lowers our System Average Interruption Duration Index (SAIDI) significantly.*





TNB continues to play an important role in driving high-speed broadband (HSBB) access in Malaysia by partnering with Maxis through its fully-owned subsidiary, Allo Technology Sdn. Bhd.

A setback was experienced in the fourth quarter, when two units in TNBJ and KEV experienced prolonged forced outages due to technical faults. While both units were back online by the first quarter of 2020, this event served as a crucial reminder that we cannot afford to be complacent. Operational excellence is one of our top priorities, and we will further strengthen our asset reliability framework to prevent future forced outages.

In the RE space, we are making good progress in the 30MW LSS plant in Bukit Selambau, Kedah, which was 87% completed as at end December. In the United Kingdom (UK), we saw increased generation at Vortex Solar Investments S.A.R.L. while technology enhancements of our wind asset, Tenaga Wind Ventures UK Ltd, resulted in a much-improved performance. We are also pleased to see positive recovery from the turnaround programmes implemented at GAMA Enerji in Turkey, and GMR Energy Ltd in India.

### Retailing More than kWh

TNB Retail is our customer-facing division responsible not only for sales, electricity connection and bill collection; it is also our interface with customers for beyond electricity related ventures such as solar self-generation.

During the year, we saw an increase in the retail self-generation business under the Net Energy Metering (NEM) scheme and Supply Agreement for Renewable Energy (SARE) managed by our wholly-owned subsidiary, GSPARX Sdn. Bhd. GSPARX secured 126 new contracts with industrial, commercial and residential customers for the installation of solar panels with total capacity of 25.2MWp at customers' premises.

We also successfully completed a pilot project in Jasin, Melaka under which we provided affordable access to broadband service with speeds up to 1Gbps to 1,100 premises using our fibre optic infrastructure. We are now extending our HSBB network to another 15,000 premises in Melaka, and 24,000 premises in

Cyberjaya and Bangsar South bringing the total number of homes to 39,000. In 2018, a wholly-owned subsidiary, Allo Technology Sdn. Bhd. (Allo), was established to manage our HSBB business. In December, Allo signed an Access Agreement with Maxis for the telco to provide HSBB services riding on our infrastructure.

Meanwhile, we continued to enhance our customer service with an enhanced myTNB app and portal, and the installation of more tablets as well as payment kiosks across our *Kedai Tenaga*. We also engage regularly with customers through seminars and other events on energy efficiency. I am pleased to share these efforts to serve our customers to the best of our ability and share that the impact is reflected in the high Customer Satisfaction Index (CSI). For the fourth year running, we achieved a steady CSI score of 8.1, which is higher than the average CSI score of American and UK utilities over the same period. Additionally, we are proud of the fact that Malaysia was ranked fourth in terms of ease of getting electricity for the second year running by the World Bank in its Doing Business report.



## President/Chief Executive Officer's Review

The fast pace with which we are rolling out our new solutions, was disrupted in April and May due to a system glitch leading to a significant number of complaints on excessively high bills. We were able to restore our customer confidence in light of this disruption thanks to the speed and manner in which our tireless retail frontliners proactively kept engaging our customers to set things right.

### FINANCIAL PERFORMANCE

Despite a slowdown in gross domestic product growth in 2019, demand for electricity in Peninsular Malaysia continued to grow by 2.7%, contributing to a 1.1% increase in Group revenue year on year from RM50.39 billion to RM50.94 billion. Group PAT, meanwhile, grew by an encouraging 18.7% from RM3.75 billion to RM4.45 billion driven by improved performance in our International Business.

Turnaround programmes initiated for GAMA and GMR are beginning to show positive signs of recovery, with GAMA recording higher earnings before interest, tax, depreciation and amortisation (EBITDA) margin as a result of improved operations and GMR executing a restructuring exercise through asset monetisation which is expected to benefit its shareholders. Vortex Solar Investment S.A.R.L. and Tenaga Wind Ventures UK Ltd, meanwhile, generated 14% and 57% higher EBITDA in 2019 respectively compared to the previous year.

### SUSTAINABILITY

Having celebrated our 70<sup>th</sup> anniversary in 2019, there can be no doubt that TNB is a sustainable organisation, partly driven by a strong tradition of capacity and capability building within the industry.

Through Universiti Tenaga Nasional (UNITEN), we have been contributing towards the development of skills and talent required by our industry. Today, we are taking this commitment further through programmes such as Dermasiswa My Brighter Future (MyBF) and PROTÉGÉ. Under MyBF, we provide financial assistance to students from the B40 group to take up undergraduate studies in Science, Technology, Engineering and Mathematics (STEM). As of December 2019, this programme has been extended to 2,672 students. Under the Government's PROTÉGÉ programme, meanwhile, we provide on-the-job training to unemployed graduates with the objective of enhancing their employability. While some of the participants are subsequently offered full-time employment at TNB, others go on to contribute the skills and knowledge gained in other technology-based companies.

Internally, continued emphasis on training and career development opportunities for our employees saw us clock 1.09 million training hours in 2019. In addition to sending employees for training, TNB runs various upward mobility programmes that serve to upgrade individuals into

higher career tracks. Currently, we have four such programmes targeting different levels of employees:

- The School Leavers Mobility Programme enables staff with only SPM qualifications to acquire the skills and certification needed to qualify for a technician or administrative assistant role.
- The Non-Executive Certification Programme provides our technicians and administrative assistants with the opportunity to upgrade themselves with the skills and certification needed to move up their chosen skill ladder.
- Successful technicians and administrative assistants can further upgrade themselves through our Non-Executive Upward Mobility Programme that leads to a bachelor degree or equivalent certification, qualifying them for executive positions within the Group.
- The Executive Mobility Programme provides executives with the opportunity to pursue professional certifications and/or postgraduate degrees.

At the same time, through our well-entrenched and recognised Vendor Development Programme, we continue to build a robust Subject Matter Expert (SME) ecosystem to support the energy industry. All these efforts contribute towards enhancing Malaysia's competitiveness in a rapidly globalising marketplace.

As a utility player, we are keenly aware of how our operations contribute to climate change and have been pressing ahead with plans to increase our RE capacity to 1,700MW by 2025. Upon completion of our second LSS project in Bukit Selambau, Kedah our RE capacity excluding large hydro plants will stand at 403MW. To meet our target, we are actively looking for more RE investment opportunities both domestically and in the international domain. Meanwhile, in addition to promoting solar among our customers, we launched myGreen+ and mGATS; the former enabling consumers to subscribe to green energy from the



The launch of our My Brighter Future (myBF) programme which provides financial aid to B40 students was graced by then-Deputy Prime Minister, Dato' Seri Dr Wan Azizah Wan Ismail.



*Our collaboration with Malaysian Green Technology and Climate Change Centre (MGTCCC) has successfully expanded the network of electric vehicle (EV) charging stations throughout the nation.*

grid, and the latter creating an RE marketplace based on Renewable Energy Certificates which generators can sell to customers. Further promoting a low-carbon economy, we are collaborating with the MGTCCC to expand the network of EV charging stations throughout the nation. In 2019, we have added 38 new charging stations all over the country.

In line with the global initiatives on climate change, we are constantly monitoring and assessing our Greenhouse Gas (GHG) emissions. In 2018, we recorded a GHG emissions intensity of 0.57tCO<sub>2</sub>e/MWh.

## OUTLOOK

In light of the shadow cast by the COVID-19 pandemic, growth projection for Malaysia's electricity industry is uncertain and will be dependent on the Nation's economic recovery post COVID-19. We are closely monitoring the related risks and potential impact as well as implementing necessary measures to ensure electricity demands are met in a sustainable manner. For 2020, we look forward to the 1,440MW gas-fired plant in Pasir Gudang, Johor and the 30MW LSS in Bukit Selambau, Kedah coming on-stream in July and December respectively. At the same time, having resolved the technical issues at TNBJ,

we expect enhanced performance of our generation assets together with full-year contribution from our new 2,000MW Jimah East power plant.

At the corporate level, our restructuring will be completed by the third quarter of 2020, when TNB Power Generation and TNB Retail become operational. This will lead to more efficient generation and retail operations. In terms of the latter, we are committed to continuously enhancing our service levels and to grow our offerings, especially those beyond kWh such as rooftop solar products managed by GSPARX.

Meanwhile, we have completed our Regulatory Period 3 (RP3) 2021-2023 proposal and have submitted it to the Government in January 2020 for consideration by the relevant authorities. Negotiations are expected to begin in earnest in the third quarter of the year with the Government's decision to be announced in the following quarter. We believe that we have submitted a forward-looking proposal that not only safeguards the reliability and affordability of electricity supply but also contributes towards a collaborative future in which increased participation from renewables will be seamless, with no disruption to the grid or, ultimately, our customers.

## ACKNOWLEDGEMENTS

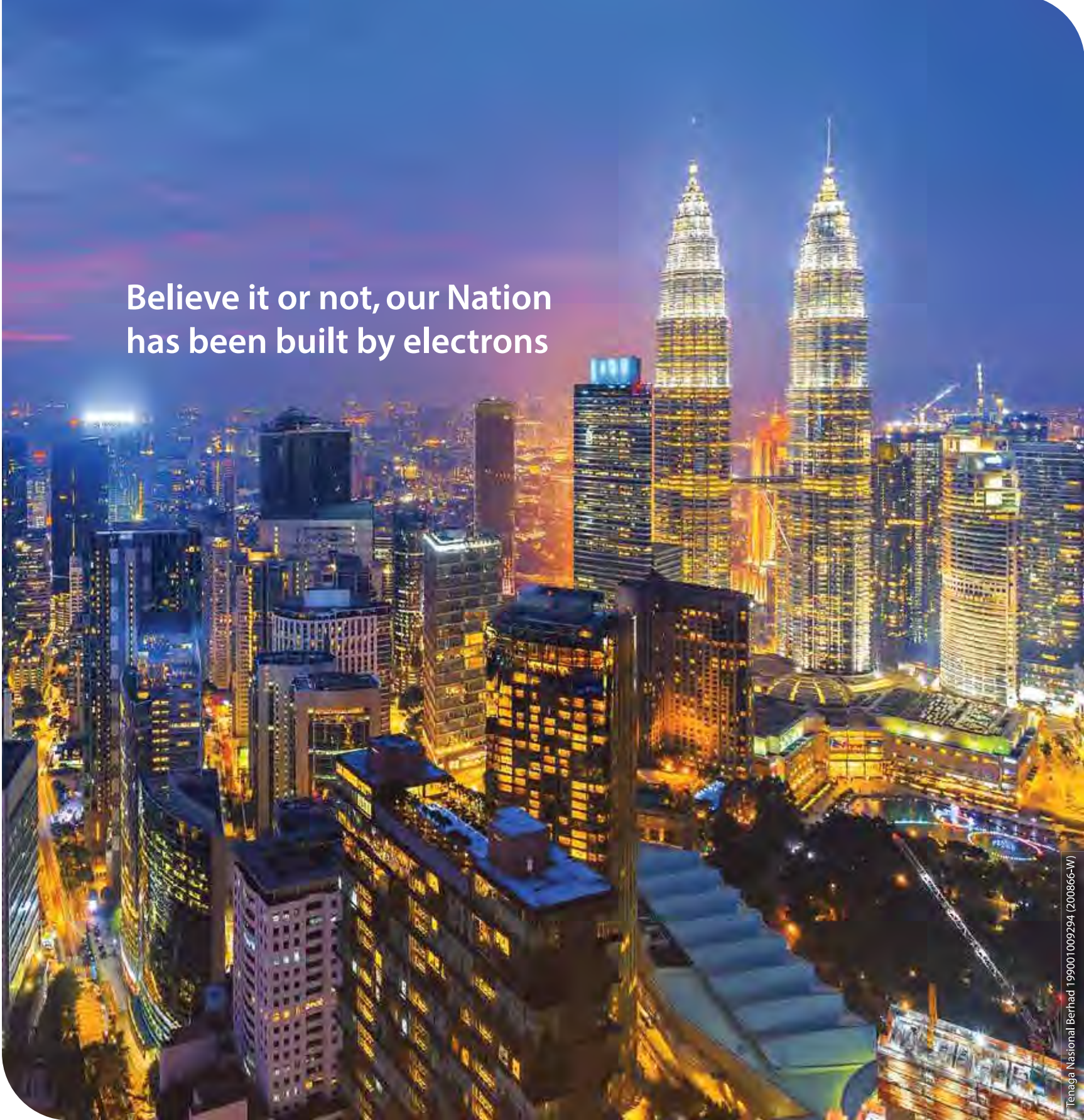
As MESI 2.0 rolls out, the industry will be in a state of flux over the next couple of years. I believe this is a time for even greater collaboration and cooperation among all relevant stakeholders to ensure continued stability and sustainability of our energy supply. As the main player in the country's electricity ecosystem over the last 70 years, there can be no doubt that TNB has derived great strength from the support of various parties. Now, as the industry opens up, it is even more critical that all parties – our regulators, IPPs, fuel suppliers, business partners and our customers – continue to work together to see to a seamless transition into the more dynamic and transparent future that is envisaged.

To our Board of Directors, thank you for the trust placed in appointing me to the position of President/CEO. Thank you also for your wisdom and counsel, which is increasingly important as we navigate through the current phase of transformation. In particular, I would like to acknowledge the immense contributions of Tan Sri Leo Moggie, who served as our Chairman for 16 years. Tan Sri has been an exceptional leader in the industry – having held senior ministerial positions at the federal and state levels for over 38 years in addition to leading our Board. On behalf of the entire *warga* TNB, we thank you for your invaluable contributions to TNB and wish you all the best in a very well-deserved retirement.

Meanwhile, to all employees, thank you for your hard work and commitment to TNB which is evident in all we have achieved. Let us continue to do our best to deliver on our targets to ensure we keep the lights on for Malaysia in a more efficient, effective and sustainable manner.

**DATUK SERI AMIR HAMZAH BIN AZIZAN**  
President/Chief Executive Officer





Believe it or not, our Nation  
has been built by electrons

Over 70 years, our commitment to national development has rewarded one and all. Small, medium and large-scale industries have emerged and grown. Malaysians nationwide are now accustomed to the comforts that electricity can provide. We do all this to better lives for a brighter tomorrow.





# 2019 KEY HIGHLIGHTS

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Awards and Achievements

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Group Business Model

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Key Highlights

# Awards and Achievements

## CSR Malaysia Awards 2019

- Company of the Year Award Overall Category - Utilities & Energy
- Company of the Year Award - Education & Conservation



## Best Employer Brand - Graduates' Choice Award 2019

- Champion - Government-Linked Companies



## PIKOM Unicorn Tech Awards 2019

- Technology Organisation Excellence Award

## Global Talent Management Congress Awards and 14<sup>th</sup> Recruiting & Staffing Best in Class Awards

- Best Social Networking Recruitment Effort



## CIMA Business Partners Challenge for Shared Services 2019

- Champion



## National Annual Corporate Report Awards 2019

- Most Outstanding Annual Report of the Year - Gold Award
- Industry Excellence Awards - Utilities



#### YouTube Malaysia Ad Awards 2019

- Best Storytelling for Occasions



#### Human Resources Excellence Awards 2019

- Excellence in Employer Branding



#### 14<sup>th</sup> Employer Branding Awards 2019-2020

- Malaysia Best Employer Brand Awards 2019

#### MSWG-ASEAN Corporate Governance Awards 2018

- Excellence Award for CG Disclosure (5<sup>th</sup> Place)
- Excellence Award for Overall CG & Performance (5<sup>th</sup> Place)



#### SHARE/GUIDE ICT Award 2019

- TNB Cyber Threat Intelligence Framework Project



#### 2019 International ARC Awards

- 33<sup>rd</sup> Annual Celebration of the World's Best Annual Reports - Silver Winner



#### 14<sup>th</sup> Employers' Federation of Pakistan Best Practices Awards on OSH 2018

- 2<sup>nd</sup> Prize Power Utility & Allied Sector - TNB Repair and Maintenance (Kasur, Punjab)



## Awards and Achievements

### Global HR Excellence Awards 2019

- Award for Use of Media & Other Recruitment Methods



### Human Resources Asia Recruitment Awards 2019

- Most Innovative Recruitment Strategy - In House



### Malaysia Cyber Security Awards 2019

- Cyber Security Project of the Year - TNB Threat Intelligence for ICS Project



### Global HR Excellence Awards 2019

- Award for Career Fairs, Campus Recruitment



### The ASIAMONEY Awards 2019

- Most Outstanding Company in Malaysia - Utilities Sector



### Asian Power & Energy Innovation Awards 2019

- Customer Services & Retail Processes - Winner
- Transmission & Distribution Networks & Field Operations - Winner



#### IDC Digital Transformation Awards

- Operating Model Master - Unmanned Aerial Vehicle



#### CERTIFICATE OF ACHIEVEMENT

#### HR Asia Best Companies to Work for in Asia 2019 Awards

- Certificate of Achievement



#### Human Resources Minister Award 2019

- Large Service Sector

#### SSON Impact Awards 2019

- Customer Centricity Impact Award - Bronze
- Change Management Impact Award - Honorary Mention



#### World Branding Awards 2019-2020

- Brand of the Year - Energy - Power



#### Global HR Excellence Awards 2019

- Best HR Organisation To Work For



# Group Business Model

## OUR STRATEGY

### ○ FUTURE GENERATION SOURCES

#### Top Priorities

- Growing TNB's renewable capacity
- Expansion of capacity into selected international strategic markets with strong growth prospects
- Improving performance of existing generation fleet

For more information, please refer to page 40

### ○ GRID OF THE FUTURE

#### Top Priorities

- Upgrading existing network infrastructure into a smart, automated and digitally-enabled network
- Optimising network's productivity, efficiency and reliability
- Leveraging innovation in the network to transform customer experience

For more information, please refer to page 42

### ○ WINNING THE CUSTOMER

#### Top Priorities

- Enhance experience through all customer journeys
- Growth through innovation of new solutions and service offerings
- Strengthen digital presence via digital solutions, interactions and enterprise

For more information, please refer to page 44

### ○ FUTURE PROOF REGULATIONS

#### Top Priorities

- Working together with key stakeholders towards a stable and sustainable regulatory landscape

For more information, please refer to page 46

## OUR CAPITALS

### ○ FINANCIAL CAPITAL

#### Shareholders' Funds

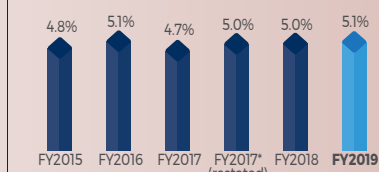
**RM59,282.1**  
million

For more information, please refer to page 48

#### Total Borrowings

**RM45,411.7**  
million

#### Effective Weighted Average Cost of Funds (%)



\* Financial Period Ended 31 December 2017

### ○ MANUFACTURED CAPITAL



**734,835<sup>(1)</sup>**  
Circuit kilometres of transmission and distribution lines **92,213<sup>(m)</sup>**  
Primary and secondary substations.

For more information, please refer to page 50

**Total**  
**15,101.6MW**



### ○ NATURAL CAPITAL

#### Fuel Use<sup>(2)</sup>

COAL	OIL	GAS	DISTILLATE
361,956.3TJ	783.8TJ	193,147.7TJ	5,386.4TJ

For more information, please refer to page 52

### ○ INTELLECTUAL CAPITAL

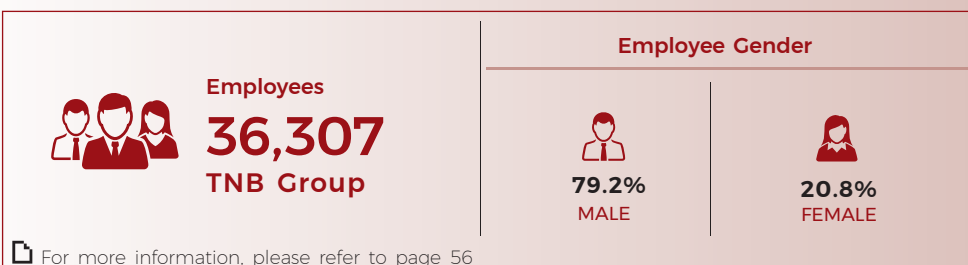
RESEARCH AND DEVELOPMENT

OPERATIONAL AND SERVICE INNOVATIONS

TECHNOLOGY AND BUSINESS MODEL INNOVATIONS

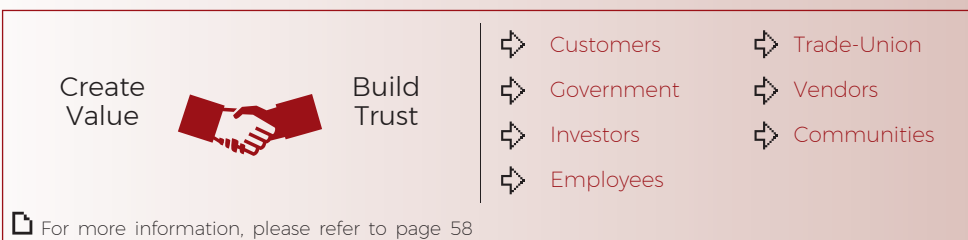
For more information, please refer to page 54

### ○ HUMAN CAPITAL



For more information, please refer to page 56

### ○ SOCIAL AND RELATIONSHIP CAPITAL



For more information, please refer to page 58



## FY2019 FIGURES

Input from the six capitals ensure we maintain a sustainable business. We recognise that an organisation depends on all forms of capitals, not just financial capital to contribute to the success of our business models. Our ability to enhance the stocks or values of these capitals are essential to the growth of our business.

## THE VALUES CREATED AND ITS IMPACT

## ECONOMIC

## Suppliers and Contractors

Fuel and Other Operating Costs



Fuel cost  
**RM10,847.9 million**

Other Operating cost  
**RM28,965.9 million**

## Capital Providers



Shareholders Total dividends  
**RM3,014.1 million**

Lenders Financial cost  
**RM3,382.7 million**

## Employees



Staff Expenses  
**RM3,747.7 million**

## Government and Regulators



Taxes  
**RM1,032.7 million**

## COMMUNITY

**26**

Adopted Schools

**5,426**

Number of Graduate Students Assisted

**14,111**

Number of school students assisted

## CUSTOMERS



Total Energy Units Sold<sup>(3)</sup>:

**122,101.4 GWh**

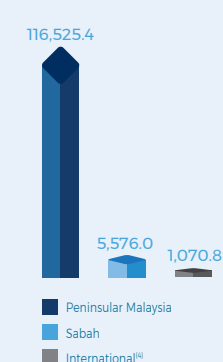


Customer Accounts<sup>(5)</sup>:

**9.9 million**



Total Energy Sold by Region (GWh)



## CSI:

Peninsular Malaysia	Sabah
<b>8.1</b>	<b>7.9</b>

## SAIDI:

Peninsular Malaysia	Sabah
<b>48.13</b>	<b>205.31</b>

## SYSTEM MINUTES:

Peninsular Malaysia	Sabah
<b>0.27</b>	<b>13.41</b>

## ENVIRONMENT



Emissions Intensity<sup>(6)</sup>

**0.57 tCO<sub>2</sub>e/MWh**

Greenhouse Gas Emissions Intensity



Emissions Mitigated<sup>(6)</sup>

**5,750,636.42 tCO<sub>2</sub>e**

Mitigation due to TNB's use of (1) Non-Carbon generation, (2) Energy efficiency across value chain, (3) Clean coal technology, (4) Advanced combined cycle power plant, (5) Electric vehicles, (6) Tree planting



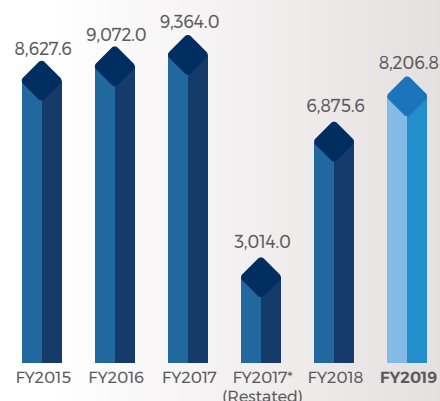
Non-Carbon Energy

**2,969.74 MW**

19.66% of TNB's equity generating capacity

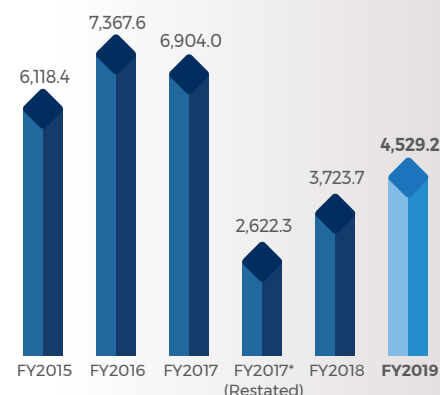
## OPERATING PROFIT

**RM8,206.8 million**



## PROFIT ATTRIBUTABLE TO OWNERS OF THE COMPANY

**RM4,529.2 million**



\* Financial Period Ended 31 December 2017

## Notes:

- (1) For TNB operations in Peninsular Malaysia and Sabah only.
- (2) From power plants which TNB has controlling stake for period FY2019.
- (3) From domestic power plants which TNB has invested and have power purchasing agreement for domestic customers.
- (4) Unit sold by wholly-owned TNB international power plants only.
- (5) Including 9.3 million customers in Peninsular Malaysia and 0.6 million customers in Sabah.
- (6) For TNB operations in Peninsular Malaysia only for the period of FY2018.

# Key Highlights

## FINANCIAL HIGHLIGHTS

UNIT DEMAND  
GROWTH

2.7%

OPERATING EXPENSES  
INCREASE/(DECREASE)

RM(293.2)  
MILLION

NET PROFIT ATTRIBUTABLE  
TO OWNERS OF THE COMPANY

RM4,529.2  
MILLION

MARKET CAPITALISATION

RM75,408.1  
MILLION

TOTAL ASSETS

RM178,847.2  
MILLION

EBITDA MARGIN

36.1%

RETURN ON ASSETS (ROA)\*

2.8%

\* Based on adjusted net profit

CAPEX

RM11,261.7  
MILLION

AVERAGE COAL PRICE

USD79.3  
MT

TOTAL REVENUE

RM50,939.7  
MILLION



# MANAGEMENT DISCUSSION & ANALYSIS

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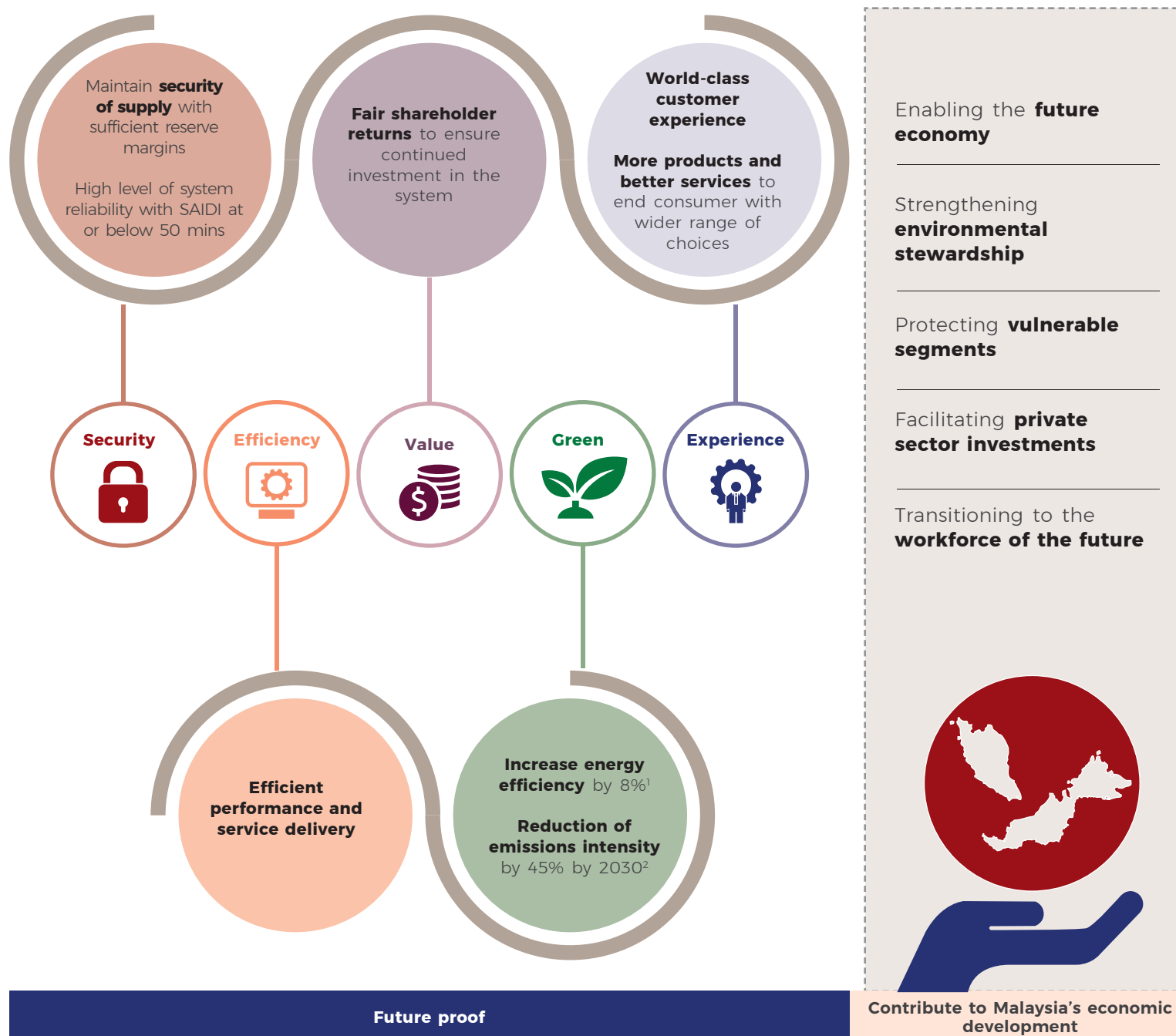
## STRATEGIC BUSINESS REVIEW

# Our Operating Environment

## Industry Review and Outlook

As a result of several decades of industry restructuring, forward-looking policies and an orientation towards continuous improvements, Malaysia today has one of the most secure and reliable electricity systems in the world. However, there is no room for complacency given major shifts in the global environment driven by an energy transition, climate change, disruptive technologies and customer innovations – all of which are happening at unprecedented speed and scale. It is within this context that the broad plan to reform the MESI 2.0 reform initiatives were developed.

Broadly, the future MESI should seek to balance five objectives: 1) maintain security of supply; 2) drive efficiency to support affordability; 3) maintain fair shareholder value to ensure continued investments in the system; 4) elevate Malaysia's green agenda; and 5) ensure we continue to deliver a world-class customer experience.



<sup>1</sup> EE targets from National Energy Efficiency Action Plan 2016-2025

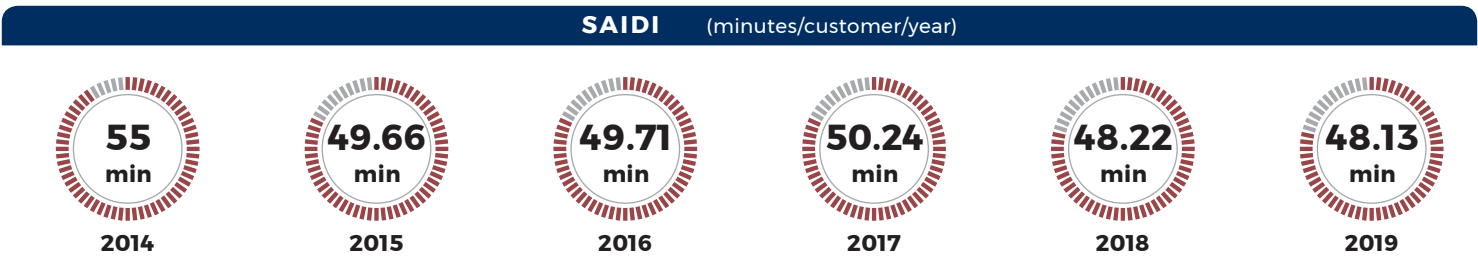
<sup>2</sup> Emissions intensity refers to CO<sub>2</sub> equivalent emissions per GDP

Supply Security

Using widely accepted parameters such as the SAIDI and System Minutes, security of supply in Malaysia has improved significantly over the years and, today, is considered to be high. In 2019, Peninsular Malaysia achieved a SAIDI of 48.13 minutes per customer, which is 30% lower than SAIDI recorded 10 years ago, in 2009. Our transmission network, meanwhile, operates at world-class standards, recording system minutes of 0.27 minutes. These achievements are among the best in Southeast Asia, putting us on par with developed electricity systems/industries such as France and the UK.

Another measure of system security and reliability is the reserve margin, which represents the amount of generation capacity available in reserves over and above system peak demand. The regulator has set the target of maintaining the reserve margin between 25% to 28% while ensuring cost efficiency. In 2019, our reserve margin stood at 32% and is expected to remain above 31% from 2020 until 2025.

Moving forward, however, as the volume of RE increases, there will be greater decentralisation and bidirectional, intermittent electricity flows, necessitating an enhanced grid infrastructure to maintain reliability. Towards this end, TNB is investing in various technologies to ensure a Grid of the Future that is resilient, efficient and sufficiently flexible to manage RE.



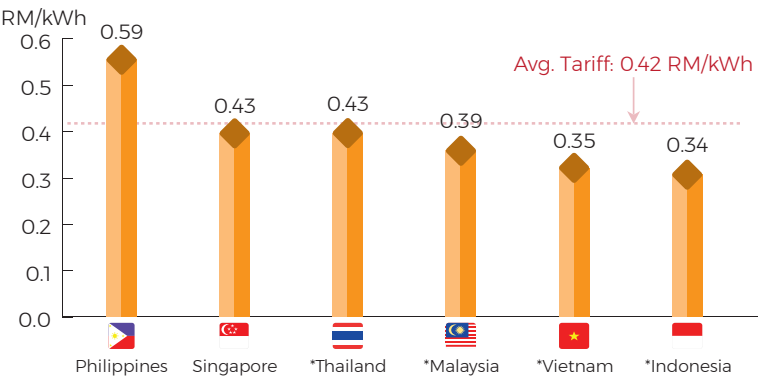
Efficiency and Affordability

Efficiency of the system is reflected in the tariffs. In this regard, Malaysia's performance is once again very encouraging, as we offer one of the most affordable tariffs in Southeast Asia. Our domestic tariff is lower than that in Indonesia, Singapore, Thailand, and the Philippines; while our commercial and industrial tariffs are below average in some cases.

The IBR framework put in place in 2014 as part of the MESI 1.0 drives greater efficiencies in the grid and retail segments. This framework enforces a prudent investment regime and efficiency improvements – the benefits of which are passed on to customers.

It also establishes a financially sustainable framework for the system as a whole through the setting of tariffs based on efficient system costs. Tariffs are reviewed every three years, i.e. for every new Regulatory Period. In addition, the tariffs can be adjusted every six months under the Imbalance Cost Pass-Through (ICPT) mechanism to reflect the cost of production based on market-driven fuel prices.

ASEAN average tariff comparison



Note:  
\* indicates subsidised (or under-priced) markets, subsidy calculated as estimated cost of supply minus actual tariff  
- Average tariff quoted for Malaysia during Regulatory Period 2 (2018-2020), while average tariff for all other countries taken as of 2018.

Source: Energy Market Consulting Associates (EMCa)

## STRATEGIC BUSINESS REVIEW

## Our Operating Environment

## Fair Shareholder Value

Over the past decade, over RM100 billion has been invested throughout the Malaysian electricity value chain. This has been enabled by progressive and business-friendly investment frameworks that encourage private sector investments such as the Power Purchase Agreement (PPA) and IBR frameworks.

Investors in Malaysia today have a high degree of familiarity and confidence in the industry given its decades-long track record. Today, performance is being sustained by the IBR framework, which has been very positively received as it creates greater transparency of efficiency levels for the different segments of the electricity supply value chain, from generation to transmission and distribution.

Continued robustness and transparency of the energy industry will be critical to maintain investors' confidence in the system. At the same time, it is crucial that private sector investment continues to be encouraged by enabling fair returns as this would further strengthen the sustainability of the industry for all relevant stakeholders.

## Going Greener

In 2019, the total installed RE capacity in Peninsular Malaysia stood at 8% excluding large hydro plants; and 16% with the contributions of the country's dams in Peninsular Malaysia. In terms of GWh, RE contributed 4% to our total generation, which is comparable with other Southeast Asian countries.

While it is crucial that MESI addresses our Nation's green objectives and contributes to the global decarbonisation agenda, it is equally important that the reforms are carried out in a gradual and phased manner to protect the interests of the system, the environment and consumers.

Looking forward, the Government has announced a progressive target of RE capacity for Malaysia. To achieve this, several initiatives are already under way including the LSS bidding programme and the NEM scheme.

In 2019, two new incentives were introduced; the expansion of the SARE programme to include solar leasing, and the joint announcement by the Energy Commission (EC) and TNB on the myGreen+ initiative, a green rider tariff scheme that allows customers to purchase green energy without having to invest in their own RE installation.

Realising the importance of RE as a potential new source of growth in a changing energy market, TNB will continuously participate in these initiatives and aspires to become the ASEAN leader in RE. TNB's wholly-owned subsidiary, TNB Sepang Solar Sdn. Bhd. was awarded by the EC to develop a LSS project (50MWac) through the first cycle of the competitive bidding exercise. The project successfully achieved its Commercial Operation Date (COD) on 23 November 2018, and its units generated as at December 2019 was 110.1GWh.

Additionally, TNB Bukit Selambau Solar Sdn. Bhd. was also successful in securing a LSS project through the second cycle of the competitive bidding process. The PPA was signed on 19 March 2018. TNB Bukit Selambau Solar will operate a solar facility located in Kuala Muda, Kedah, with a 30MWac capacity. Its progress as of 31 December 2019 was at 87% and its PPA expected COD is 31 December 2020.



myGreen+

1,016MWh units subscribed by customers supporting green energy

mGats

Establish Renewable Energy Certificates marketplace through Malaysian Green Attribute Tracking System (mGATS) with 700,000MWh tradable units



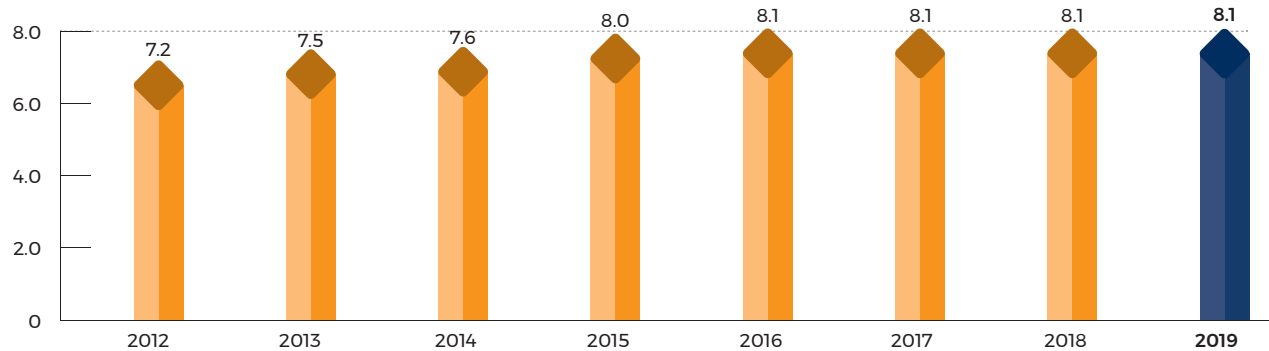
Customer Excellence

TNB has been enhancing our service delivery over the years along with corporatisation and then privatisation of the industry. Today, as we are poised for further liberalisation of the sector and the potential entry of new players, it is more important than ever to establish TNB as the preferred energy provider.

Consequently, we have been investing in digital channels to interact with our more than 9.2 million customers; we are engaging with and educating customers about RE; we are also empowering them to better manage their consumption and bills. As a result, we managed to increase our CSI from 7.0 in 2009 to 8.1 in 2016, maintaining this until 2019.

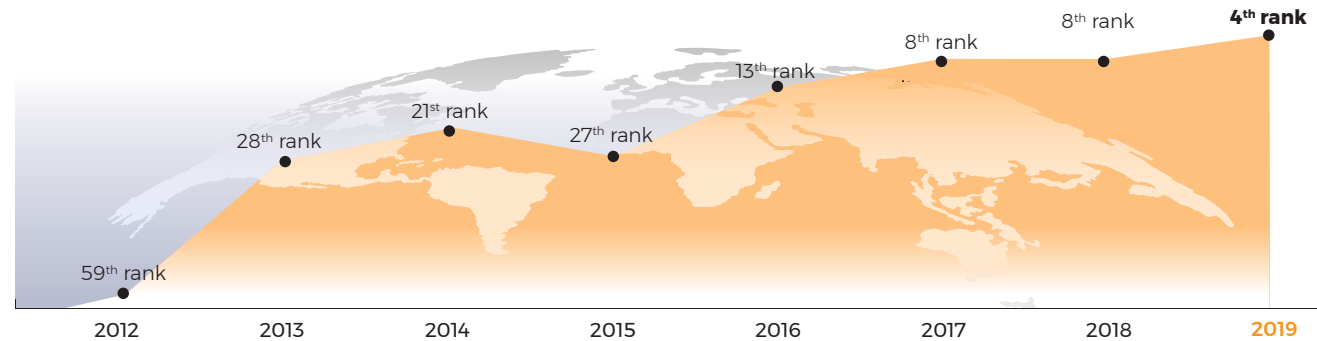
In terms of power connection, Malaysia ranked 4<sup>th</sup> in the World Bank's Ease of Getting Electricity 2019 and 2020 rankings, with a score of 99.3, placing us ahead of countries such as the UK, France and Singapore, and marking a significant improvement from our 2012 ranking of 59. This measures the procedures, time and costs involved for a business to be connected to the grid. TNB also excels in Customer Empowerment and Satisfaction according to Singapore Power's Smart Grid Index.

In addition, TNB was named Brand of the Year in the power category of the World Branding Awards for 2019-2020.



Our CSI achieved 8.1 for the fourth consecutive year and benchmarks competitively against CSI in the UK market and the American Customer Satisfaction Index scores.

Malaysia's ranking in the World Bank's Ease of Getting Electricity



Source: World Bank Doing Business Report

Outlook for TNB

Looking forward, TNB intends to go beyond traditional investments in grid expansion to develop the Grid of the Future. This includes digitalising the grid to improve operational efficiency, as well as deploying technologies that enable distributed energy resources and the electrification of mobility, appliances and industry. We believe that the IBR framework already provides a robust platform to plan and prioritise such future investments.

Meanwhile, we acknowledge the opportunity to better serve our customers. Indeed, rapidly evolving customer expectations, combined with new solutions made possible by disruptive technologies, place increasing pressure on TNB to step up our innovation game to meet our customers' needs.

We remain steadfast in our commitment to serving the *rakyat* with a better, brighter future, and look forward to continued collaboration with our Government and regulators on setting the pathway to deliver a stronger, more innovative and resilient electricity supply industry.

STRATEGIC BUSINESS REVIEW

# Our Strategy

# TO BE ONE OF THE WORLD'S TOP 10 GLOBAL UTILITY BY 2025



## STRATEGIC PILLARS & KEY PRIORITIES:

### FUTURE GENERATION SOURCES

#### Top Priorities

- Growing TNB's renewable capacity
- Expansion of capacity into selected international strategic markets with strong growth prospects
- Improving performance of existing generation fleet

### GRID OF THE FUTURE

#### Top Priorities

- Upgrading existing network infrastructure into a smart, automated and digitally-enabled network
- Optimising network's productivity, efficiency and reliability
- Leveraging innovation in the network to transform customer experience





## WINNING THE CUSTOMER

### Top Priorities

- Enhance experience through all customer journeys
- Growth through innovation of new solutions and service offerings
- Strengthen digital presence via digital solutions, interactions and enterprise

## FUTURE PROOF REGULATIONS

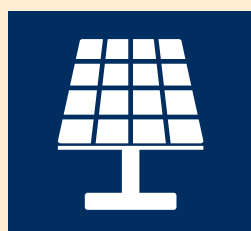
### Top Priorities

- Working together with key stakeholders towards a stable and sustainable regulatory landscape



## STRATEGIC BUSINESS REVIEW - OUR STRATEGY

# Future Generation Sources



The future of generation lies in renewable and low-carbon sources of energy as stakeholders gravitate towards decarbonisation to mitigate climate change.

## OVERVIEW

TNB seeks to increase our generation capacity to meet an anticipated steady increase in demand for energy along with population growth and economic development. At the same time, we are committed to reducing our carbon footprint in support of global climate change initiatives. To meet global energy needs in a sustainable manner, we are diversifying our energy sources with increased emphasis on RE while ensuring optimal operations of our existing 15GW fleet of generators.



Our efforts towards sustainability diversifies across various RE sources such as LSS project.

## TABLE FOR NUMBER OF PLANT

	Number of power plants	Total installed capacity (MW)	Equity capacity (MW)	Electricity sent out (GWh)	Capacity under construction (MW)
<b>Wholly-owned</b>					
Coal	2	4,080.00	4,080.00	25,853.60	
Gas	8	4,186.43	4,186.43	24,004.55	
Non-carbon	38	2,619.76	2,619.76	4,088.57	30.00
Others					
<b>Majority-owned</b>					
Coal	2	3,600.00	2,360.00	10,856.45	
Gas	2	923.40	577.82	1,163.02	1,440.00
Non-carbon	59	103.95	85.49	424.18	
Others	18	207.93	172.58	375.14	
<b>Minority-owned</b>					
Coal	2	1,650.00	455.37	9,442.00	
Gas	1	853.00	245.66	3,000.21	
Non-carbon	34	639.73	264.48	1,149.95	180.00
Others	1	900.00	54.00	6,932.68	

## DEVELOPMENTS IN 2019

### OPERATIONAL EFFICIENCY

Following the success of the pilot turnaround programme conducted at TNB Janamanjung, where a total value of RM121 million in enhanced efficiencies has been realised up to 2018, the programme was rolled out to our plants in Connaught Bridge, Prai, Port Dickson and Kapar, where it is currently in Phase 3 (Initiatives Implementation). Meanwhile, Phase 1 (Assessment) has begun at the SSJ Sungai Perak, SSJ Cameron Highlands and SSJ Kenyir hydro stations; Pasir Gudang Energy, Putrajaya and Gelugor thermal stations with an estimated total initial impact worth RM85 million. To ensure the programme's success, its working structure is chaired and overseen by our Chief Generation Officer.



We are continuously enhancing the sustainability of our thermal plants through implementation of 154 energy efficiencies initiatives







We are committed to ensuring sustainable and productive employment to our generation employees through the establishment of Generation Academy



Through our ICBDM exercises, we strive to mitigate and manage the impact of natural disasters to the community around our Sungai Perak Hydroelectric stations

Further enhancing our asset performance, we have strengthened our operational systems and approach via:

 <ul style="list-style-type: none"> <li>The inclusion of cost, performance and risk in all decisions</li> </ul>	 <ul style="list-style-type: none"> <li>Deployment of generation-wide digital dashboard that tracks business and plant performance</li> </ul>	 <ul style="list-style-type: none"> <li>Intelligent Predictive and Diagnostic Monitoring (IPDM) which will provide alerts on deviation from predicted and measured values in real time</li> </ul>	 <ul style="list-style-type: none"> <li>Optimised inventory levels across domestic plants to ensure inventory items are capitalised and depreciated accordingly while identifying defective and obsolete items for disposal</li> </ul>
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For more information on our generation asset performance, please refer to 'Manufactured Capital' on pages 50 and 51 in Our Capitals section.

## FUEL SOURCING

A highlight was to test the TPA mechanism implemented in the gas supply industry, as part of MESI 2.0. For the first time ever, following a government request, our subsidiary TNB Fuel Sdn. Bhd. purchased LNG from the open market for use by our plants in Connaught Bridge and Port Dickson. The exercise was completed successfully, with LNG purchased at below the domestic regulated price, its savings shared between TNB and the rate payers. This indicates viability of the mechanism in an open fuel market.

At the same time, a dedicated bypass conveyor system was completed at the Lekir Bulk Terminal (LBT) on 27 June, further safeguarding the security of coal supply from LBT to TNB Janamanjung.

## ENERGY EFFICIENCY

More than 154 programmes have been identified to improve the energy efficiency of our thermal stations, carrying potential savings of RM100 million per annum. To ensure the success of these programmes, an Energy Efficiency War Room has been set up to monitor energy consumption at the stations while a specialist team has been put together at our headquarters to conduct energy audits and provide energy efficiency solutions. [SDG 7](#)

## COMPETENCY BUILDING

We continue to develop a strong pipeline of generation SMEs throughout the organisation. In 2019, a total of 80 executive and non-executive participants graduated from the sixth and seventh SME programmes conducted at the Generation Academy. For 2020, we expect another 82 graduates to be produced as we continue to develop our talent pipeline to achieve our Future Generation Sources strategy. [SDG 8](#)

## DISASTER MANAGEMENT

In 2019, Integrated Community-Based Disaster Management (ICBDM) exercises were conducted around the Cameron Highlands, Kenyir and Sungai Perak Hydroelectric Stations to enhance the emergency response plans and create awareness of possible flooding among local authorities and residents. We also continued to educate the local populations on the functions of dams with respect to flood mitigation, water supply and irrigation. To further improve our dam safety management, we participated in the 2019 International Conference on Dam Safety Management and Engineering. [SDG 11](#)

## OUTLOOK

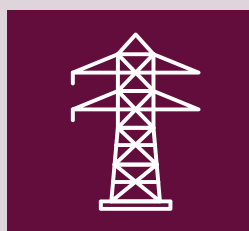
The 2 x 720MW combined cycle gas-fired Southern Power Generation plant in Pasir Gudang, Johor, in which we will have 51% equity, was 97.8% complete at year end. Once commissioned in July 2020, it will be the world's first Combined Cycle Gas Turbine (CCGT) plant to use 9HA.02 gas turbine technology with efficiency exceeding 60%.

We expect to complete the Ulu Jelai-Telom transfer tunnel scheme on schedule in August 2020. This project is expected to increase the amount of firm energy for Ulu Jelai Hydroelectric plant by 40%.

In line with preparations for MESI 2.0, we are setting up a new subsidiary, TNB Power Generation to manage all our domestic generation assets, including their development, as well as our subsidiaries TNB Repair and Maintenance Sdn. Bhd. (REMACO) and Integrax Berhad. Its focus will be to optimise the performance of generation assets and services under its portfolio.

## STRATEGIC BUSINESS REVIEW – OUR STRATEGY

# Grid of the Future



The grid of the future is fully automated and digitalised, supporting bidirectional flow in a decentralised system that empowers self-generation and greater energy efficiency among consumers.

## OVERVIEW

Since the beginning, we have been building and operating a national grid superhighway to ensure we are able to 'keep the lights on' for all our customers. With the superhighway, we will be able to safely transfer power from other regions into the central area of Peninsular Malaysia, which accounts for 45% of the entire peninsula's electricity demand. At the same time, we are digitalising and automating our grid to ensure greater reliability as more RE-based electricity is generated, in line with the Government's ambition for RE to make up at least 20% of the national generation mix. To manage the intermittent nature of RE and other demands, we have outlined a Grid of the Future (GoTF) strategy which continues to guide us in developing a modern, intelligent grid.



At TNB, we continue to strive to provide greater system reliability and quality through our outlined 10-year transmission Grid of the Future (GoTF) strategy.

## GRID STATISTICS

### TRANSMISSION LINES

Wholly-owned

**23,964** Circuit-KM

Majority-owned

**2,926** KM

### TRANSMISSION SUBSTATIONS

Wholly-owned

**456** substations

Majority-owned

**46** substations

### ELECTRICITY TRANSMITTED

Wholly-owned

**128,213** GWh

Majority-owned

**6,631** GWh

### PEAK DEMAND

Wholly-owned

**18,566** MWh

Majority-owned

**1,001** MWh

### DISTRIBUTION LINES

Wholly-owned

**683,008** KM

Majority-owned

**24,937** KM

### DISTRIBUTION SUBSTATIONS

Wholly-owned

**83,467** substations

Majority-owned

**8,244** substations

### ELECTRICITY DISTRIBUTED

Wholly-owned

**116,525** GWh

Majority-owned

**6,781** GWh

## KEY DEVELOPMENTS

A key development in 2019 was to outline long-term strategic plans for both our high-level transmission grid (operating at 132kV – 500kV) and medium/low-level distribution grid (operating at 240V – 33kV). Due to their different operating levels and proximity to customers, our transmission and distribution grids are driven by different sets of parameters, and require separate plans to address their individual complexities.

## GRID STRATEGY

Our 10-year transmission grid strategy framework (2019-2029) addresses six key objectives:

1. Sustain system reliability and quality through enhanced infrastructure planning and adoption of maintenance best practices
2. Enhance grid intelligence through smart technology, digitalisation and intelligent operations
3. Improve stakeholder and customer engagement
4. Increase grid productivity through digital workforce
5. Drive sustainability with world-class safety culture, an open data platform and skilled technicians
6. Accelerate capacity building through the development of more SMEs at Grid Academy





We are committed to ensuring sustainable and productive employment to our network employees through the establishment of both Grid and Distribution Network Academies



We are continuously improving the resilience of our network through increased automation so as to improve the safety of the cities, regions and nation we serve



We are increasingly digitalising our operations and services to ensure sustainable consumption of natural resources

Our five-year distribution grid framework (2020-2025) allows us to address the expected industry changes as a result of MESI 2.0 by focusing on nine key areas:

1. Developing a smarter distribution grid which will be more efficient and resilient to enable distribution level energy transactions
2. Transforming workforce capability by building capacity and improving productivity
3. Understanding of regulatory rules and framework
4. Adoption of high safety culture
5. Preparation for industry liberalisation
6. Digitalisation of current work process and culture
7. Establishment of platform for distribution related services and solutions
8. Enhancing accountability and focus on certain business areas through subsidiarisation
9. Building commercial capability

Both these frameworks have been crucial in outlining our Grid Asset Investment Plan for the upcoming RP3, from 2021-2023, which focuses on six important areas:

1. Grid system expansion to cater for system expansion and mitigation of system constraints
2. Refurbishment of existing network infrastructure
3. Risk reduction through safety and environment compliance
4. Establishing self-healing grid that will allow for immediate and reliable mitigation of system disruptions
5. Data analytics and digital intelligence to drive operational excellence
6. Smart tools for more efficient maintenance work

For more information on our transmission and distribution asset performance, please refer to 'Manufactured Capital' on pages 50 and 51 in Our Capitals section.

## ENHANCING DISTRIBUTION GRID INTELLIGENCE

Four major initiatives are ongoing to enhance our distribution performance: Distribution Automation (DA), Geospatial Information System (GIS), AMI and Mobility Solution for our field force.

- DA integrates Supervisory Control and Data Acquisition (SCADA) technologies with field equipment technologies such as earth fault indicators and SCADA-rised circuit breakers allowing for remote restoration of supply in the event of power outages. As at year end, 16,004 substations have been automated under the DA initiative, representing 17.5% of all substations in Peninsular Malaysia. [SDG 11](#)
- GIS is a computer-based tool that analyses and stores geographic data, providing accurate asset location, detailed asset information and network connectivity to enhance our service while reducing costs and enabling better decision making. During the year, we completed the mapping of all medium voltage (MV) distribution assets in Peninsular Malaysia except Perak, which is targeted for completion by March 2020. Meanwhile, low voltage (LV) mapping was completed for Cheras and Putrajaya/Cyberjaya. To expedite the process for the remaining seven stations in this phase of deployment, the team will embark on mobile mapping.
- AMI is an integrated and intelligent system of smart meters that supports RE initiatives such as NEM and enables customers to monitor and reduce their energy usage. Since this initiative began in 2018, we have installed 281,066 smart meters in Melaka, Klang Valley and Putrajaya/Cyberjaya. [SDG 12](#)
- Mobility Solution provides important data for field workers to carry out their functions effectively. As at year end, 12 mobility solution modules had been rolled out, increasing field force productivity through simplification of tasks, elimination of paperwork and automation of data collection. [SDG 12](#)

## TALENT PIPELINE

To enhance our competencies and capabilities, we set up a Grid Academy and a Distribution Network Academy where 30 transmission and 30 distribution SMEs received training during the year on leadership, financial and technical skills. [SDG 8](#)

## OUTLOOK

Fifteen strategic initiatives have been mapped to achieve the objectives of our transmission grid strategic plan. These will continue to be rolled out in 2020 and beyond. In 2020 itself, we will continue to engage with key stakeholders on the need to complete the existing 500kV grid superhighway interconnections, the backbone of our Grid of the Future.

Among the core initiative for 2020 is the rollout of AMI in Melaka, Klang Valley and Putrajaya/Cyberjaya to meet the target of 1.5 million AMI deployed. In addition to improved billing and metering quality, AMI deployment is key in ensuring that MESI 2.0 reforms on retail liberalisation are delivered.

2020 will also be the year in which we will be negotiating on the development plans for RP3. We submitted our proposal in December 2019 and look forward to the start of discussions at the end of the first quarter of 2020.

## STRATEGIC BUSINESS REVIEW - OUR STRATEGY

# Winning the Customer



In line with impending competition in the energy market, it is imperative to not only provide reliable supply of electricity but to become a customer-centric organisation which offers meaningful customer experience by meeting all our customers' energy-related needs along with the best service delivery.

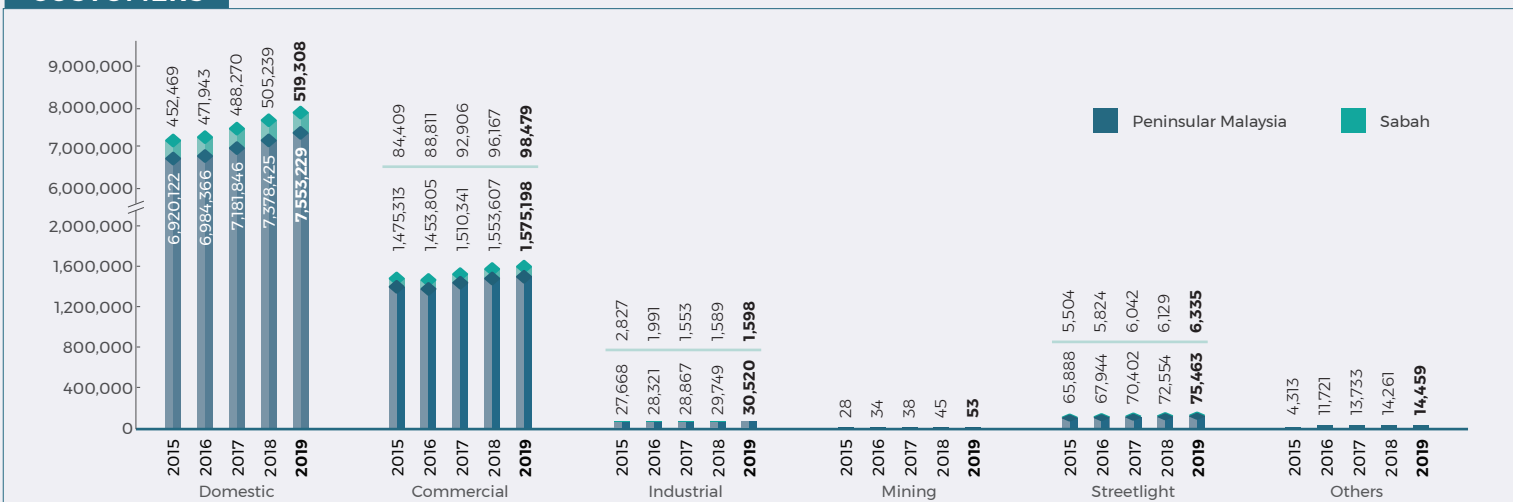
### OVERVIEW

With competition comes empowerment, where our customers will be given the choice to shop for the best rates, best experience and wider range of services that extend beyond conventional energy solutions. In response to this, among others, TNB is increasing focus towards digitalisation in our solutions and service delivery whilst engaging more closely with our customers on energy efficiency, to increase literacy and provide customers with the tools to manage their consumption while generating or simply opting to purchase green energy.



Customer-centricity remains our top priority as we continue to explore and enhance our solutions and services to provide seamless and meaningful experience for our 9.25 million customer base.

### CUSTOMERS





We continue to ensure access to sustainable energy for our customers through our new products such as mGATS, REC and GSPARX solar rooftop



We are committed to ensuring sustainable and productive employment to our retail employees through the establishment of our Retail Academy



We are contributing to building resilient and inclusive infrastructure with our venture to provide HSBB access to underserved areas

## ACHIEVEMENTS IN 2019

### BETTER AND BRIGHTER SERVICE

At TNB, we deliver our services and interactions towards “Click”, “Call” and “Come Over” channels. We continuously enhance our solutions to give our customers what they want in an increasingly digital-savvy world, anchoring on three digital pillars, interactions, solutions and enterprise. We also concurrently focus on enhancing the delivery and interactions at all our *Kedai Tenaga*. Moreover, during the year, we further enhanced the performance and features for the myTNB app and portal towards customer needs to be more user friendly, while adding Twitter and Instagram as part of our social media platforms.

In order to delight the customers who like to visit our *Kedai Tenaga* outlets, we have equipped all our *Kedai Tenaga* with easy-to-use tablets, enabling customers to carry out their transactions digitally, thus avoid having to queue. We have also installed almost 300 payment kiosks nationwide that offer increased payment options and increase in credit limit to facilitate towards our customers’ needs. Since introducing these payment kiosks, the number of over-the-counter transactions has indeed seen a reduction, allowing our customer officers to focus on providing more on value-add advisory services and personalised solutions.

In order to ensure we always exceed our customers’ experience and provide increasingly higher levels of service, we continuously enhance our Retail employees’ competencies. Our Retail Academy was set up in November 2019 and has successfully delivered its first batch of 142 employees. In addition to Retail Academy, almost 2000 frontliners also attended our “Delivering Customer-Centric Solutions” courses to reinforce our ‘service from the heart’ culture, while almost 600 employees underwent functional and soft skills training. **SDG 8**

For more efficient meter-reading and bill delivery, we equip our meter readers with personal digital assistants (PDAs) which, together with the availability of more convenient channels of payment, has contributed to improvement in our overall collections. In 2019, our collection rate increased to 88.4%, which is above the industry benchmark of 88% and our Aged Debt to Revenue ratio successfully dipped to below 4% for the first time.

### OUTLOOK

With the setting up of TNB Retail, there will be more and great focus to increase our service delivery standards and to exceed customer experience. New solutions will continuously be developed while we continue to enhance existing offerings such as rooftop solar and smart home solutions. All these efforts are made in our bid to become the retailer of choice for our customers.

At the same time, we will complete the deployment of our NFCCP network in 2020 to cover approximately 100,000 premises leveraging our 18,000km of fibre network across Peninsular Malaysia.

### NEW PRODUCT OFFERINGS

Another key achievement was to launch two solutions to promote a greener lifestyle. In October, we extended the option to subscribe to green energy through myGreen+ and mGATS. With the rollout of myGreen+, customers may purchase green energy attributes without installing their own solar rooftops or other RE systems. Similarly, through mGATS, we have successfully established a marketplace for the trade of Renewable Energy Certificates (RECs), each carrying the value of 1MWh of RE. By year end, myGreen+ had attracted 46 subscribers who signed up for a total of 1,016MWh of energy. **SDG 7**

Meanwhile, beginning 1 January 2019, NEM has been made more attractive by eliminating the differential between selling and purchase price. Every 1kWh exported back to the grid will be offset against 1kWh consumed. This has led to an increase in the number of NEM customers to approximately 1,273 with an installed capacity of about 74.5MW in Peninsular Malaysia. In 2019, our subsidiary GSPARX secured 139 solar rooftop contracts with a total capacity of 25.3MW. **SDG 7**

Further encouraging the adoption of EV we continue to partner the Malaysian Green Technology Corporation (MGTC) to increase the ChargeEV station facilities in major cities. A model of the ChargeEV was exhibited at the International Greentech & Eco Products Exhibition & Conference Malaysia 2019 held in Kuala Lumpur from 9-11 October 2019.

### BEYOND KWH

Beyond energy, we are leveraging our extensive fibre optics infrastructure to provide HSBB access to underserved areas in Malaysia. In 2019, we completed our National Fiberisation and Connectivity Plan (NFCCP) pilot in Jasin, Melaka, through which we made available access to broadband speeds up to 1Gbps to 1,100 premises. This is in addition to our existing consumer fibre network that is connected to 24,000 homes and 200 offices within Malaysia’s Multimedia Super Corridor designated areas (i.e. Cyberjaya and Bangsar South). **SDG 9**

### CUSTOMER SATISFACTION

Through focus on customer centricity, we are proud to have successfully created memorable experiences and driven better customer engagements at our key touchpoints. To this end, our CSI achieved 8.1 for the fourth consecutive year, benchmarking competitively against CSI in the UK and United States markets.



## STRATEGIC BUSINESS REVIEW – OUR STRATEGY

# Future Proof Regulations



As the energy industry in Malaysia enters a new phase of liberalisation, it is important to protect the interests of all relevant stakeholders – from producers to end users – to ensure sustainability of the system.

## OVERVIEW

As TNB aspires to become a global energy solutions player with a growing portfolio of international businesses, we need to ensure readiness not just for domestic but also international regulations as these evolve. Domestically, we have always provided input to the regulators in establishing policies that impact the industry, even before the first MESI reform initiatives began in 2009. Our ultimate objective is to work in tandem with local Governments/Regulators in the countries where we operate in order to develop policies and regulations that would contribute towards truly sustainable industries for all.



The Trial LNG Cargo Shipment demonstrates TNB's commitment to supporting the Governments' aspirations of an open fuel market under MESI 2.0

## MESI 2.0

In September 2019, the Government announced it was embarking on industry reforms via MESI 2.0 with the aim of delivering reforms across the value chain. The potential reforms are as follows:



### Fuel

Open fuel procurement for power generators, allowing them to source their own fuel to optimise costs



### Generation

Gradual introduction of a capacity and energy market while maintaining existing PPAs



### Grid

Enable TPA to the grid system for electricity transmission and distribution while ensuring that the Grid is able to facilitate distributed energy resources under the GotF



### Retail

Facilitate greater choice in the retail segment, allowing players to offer new products and services



### Governance

In ensuring a competitive and transparent system and eventual opening of the market, enhance governance of Single Buyer (SB) and the Grid System Operator (GSO) in a move towards an Independent Market Operator

MESI 1.0 reforms that were launched in 2009 significantly strengthened the overall governance of the sector with the ring-fencing of SB and GSO. It introduced a robust and transparent framework for setting tariffs that incentivises efficiencies while enabling the system to recover its costs and fair returns.

In many ways, these reforms have been responsible for creating a strong foundation for MESI 2.0 which aim to ensure sector efficiency, robustness and sustainability. Therefore it is crucial that reforms “do no harm” to an already strong and stable industry. As reforms being considered for market liberalisation are heavily interdependent, the unique starting point of MESI should be taken into consideration when designing reform initiatives. Translating thoughtfully designed reforms into positive outcomes requires careful sequencing of enablers and initiatives as well as rigorous implementation. It is therefore prudent for the reforms to be carried out in a gradual and controlled manner.

Overall, we recognise the need for the sector to further evolve, as reforms are needed to enable the massive technology transition and prepare for the demand of new future-proof jobs. A MESI built on the foundation of a strong regulatory framework, presents a distinctive opportunity to be an economic catalyst for Malaysia.



The extension of the EPWA agreement will allow us to continue to purchase non carbon energy from Laos PDR for our customers



We are currently upgrading our interconnection with Singapore as part of our efforts to improve the resilience of our national grid and nation's supply reliability

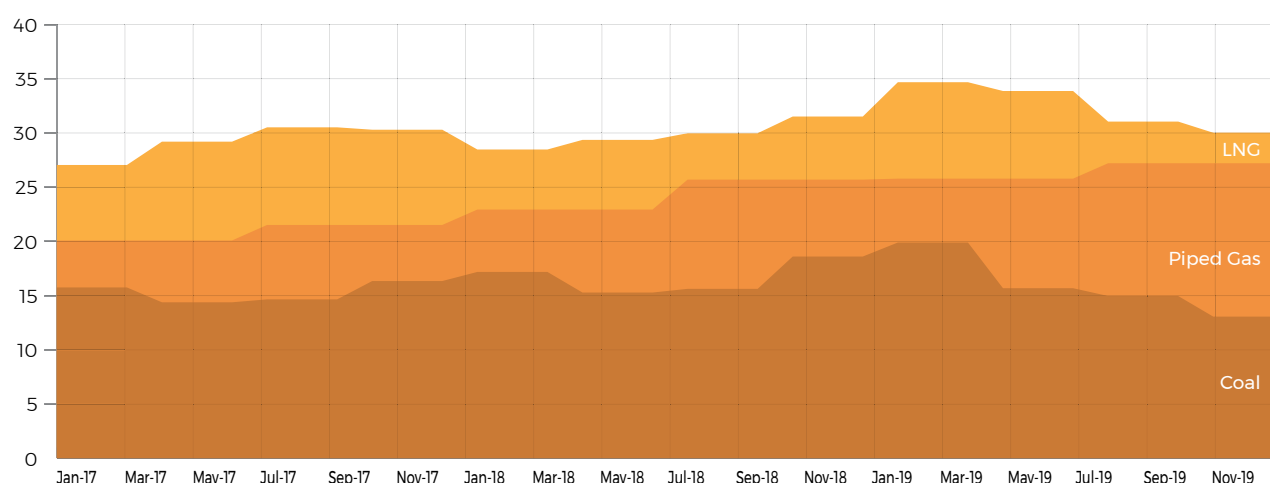


Our continued support for the APG will pave way for the trading of non carbon energy amongst the ASEAN countries

## IMBALANCE COST PASS-THROUGH

In 2019, the Government continued with the Imbalance Cost Pass-Through (ICPT) mechanism for two six-month cycles, beginning in January and then July 2019. ICPT is a tariff adjustment mechanism that allows for the pass-through of variation in fuel costs and generation costs into the customer's tariff in Peninsular Malaysia via surcharge or rebates accordingly. The Government announced the pass-through of additional generation costs of RM948 million for the January – June 2019 period, and RM1,148 million for the July – December 2019 period. The additional cost was mainly due to the increase in coal prices that were on average higher than the forecasted coal price set under the base tariff of USD75 per MT. Higher electricity demand has also resulted in the increase in the fuel and generation cost for the period.

Malaysia Power Sector Fuel Prices (RM/GJ)



## CROSS-BORDER INTERCONNECTIONS

TNB has been actively supporting the realisation of the ASEAN Power Grid (APG) through cooperation with our ASEAN counterparts and pursuing interconnection initiatives with Malaysia's bordering countries. [SDG 17](#)

### LAO PDR - THAILAND - MALAYSIA POWER INTEGRATION PROJECT

The Energy Purchase and Wheeling Agreement (EPWA) between Laos PDR, Thailand and Malaysia is the first multilateral energy trading initiative in ASEAN under which Malaysia purchases hydro power of up to 100MW from Laos PDR via Thailand. Given the project's successful implementation in 2017, all parties agreed to a two-year extension from 1 January 2020 which will allow for the purchase of electricity up to 300MW. [SDG 7](#)

### MALAYSIA-SINGAPORE INTERCONNECTION

The interconnection between Peninsular Malaysia and Singapore acts as a mutual energy transfer in times of need. Realising the opportunities of power trade in the future as part of achieving APG aspirations, both TNB and Singapore Power have agreed to upgrade the existing 250MW HVAC lines connecting both countries into 2 x 550MW HVAC lines. The cable upgrading work will be completed in 2020. [SDG 11](#)

### SUMATRA - PENINSULAR MALAYSIA INTERCONNECTION

Finally, TNB and PT PLN (Persero), Indonesia are further analysing the possibility of connecting Peninsular Malaysia with Sumatra and entered into a Memorandum of Understanding on the 25 September 2019.

## OUTLOOK

Our immediate focus is our corporate restructuring that will include the creation of two separate subsidiaries to better manage our generation and retail businesses; continuing our transformation journey under Reimagining TNB 2025; working with our Government and Regulator on safeguarding the reliability and affordability of electricity supply via the determination for tariffs in our RP3; and supporting the design and extensive implementation of the Governments aspirations under MESI 2.0 reforms.

## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

# Financial Capital

We recognise the importance of managing our financial capital efficiently in order to be able to support our daily operations and growth plans while providing sufficient returns to our valued shareholders and fulfilling our obligations to other providers of financial capital.

## OVERVIEW

TNB Group recorded a revenue of RM50.94 billion for the financial year 2019, marking an increase of 1.1% compared to the financial year 2018. This was supported by 2.7% growth in gigawatt hours (GWh) demand which resulted in a 0.9% or RM0.42 billion increase in total electricity sales.

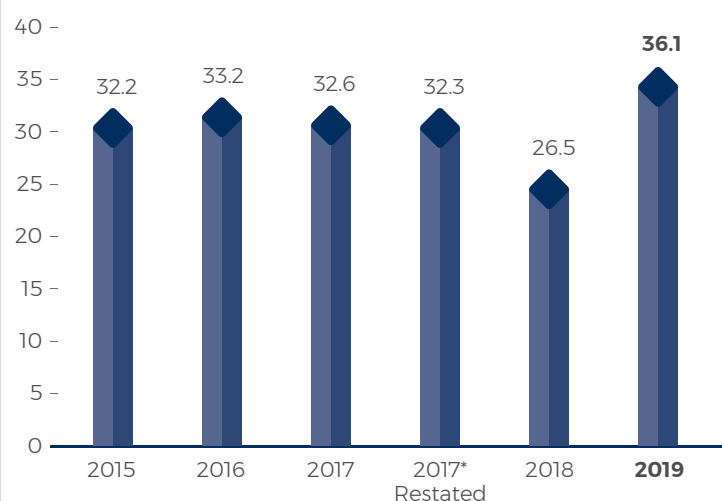
Profit attributable to the owners of the Company for the financial year 2019 was RM4.53 billion compared to RM3.72 billion in the previous financial year.

Group EBITDA, meanwhile, was RM18.40 billion with a margin of 36.1% compared to RM13.37 billion and 26.5% margin in 2018. The increase was mainly contributed by lower impairments and a decrease in operational expenses.

The Group's PAT – impacted by regulatory adjustments which were returned to the industry, forex transaction losses, finance cost and fair value changes of financial instrument – came in at RM4.45 billion.

## 2019 Highlights

## EBITDA Margin (%)



\* Financial Period Ended 31 December 2017

## BORROWINGS

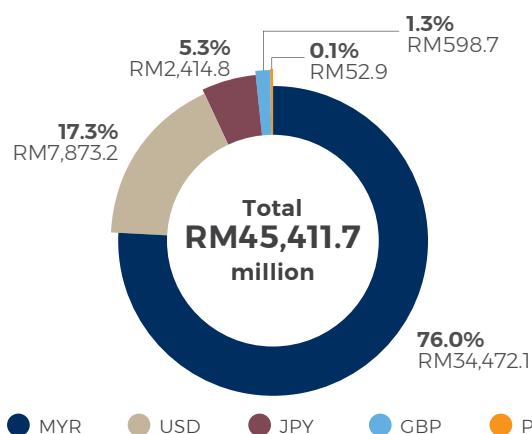
TNB's strong financial standings are backed by its credit ratings accorded by both local and international rating agencies (AAA Stable by RAM, AAA<sub>+</sub>/AAA Stable by MARC, A3 Stable by Moody's and BBB+ Stable by S&P) was able to tap into local and international funding sources including the capital market, banks and other financial institutions.

We are governed by our Treasury Policy in managing forex and interest rate exposures with the objective of protecting the Group's profit from material adverse movements due to rate fluctuations.

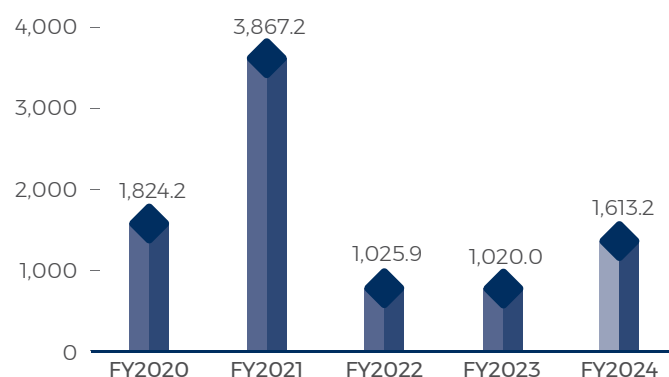
We have been managing our short-term forex exposures through hedging a minimum of 50% of known foreign currency exposure up to a 12-month period through forward exchange contracts and natural hedges.

## 2019 Highlights

## Borrowings Currency Mix (RM'million)



## Debt Maturity Profile (RM'million)





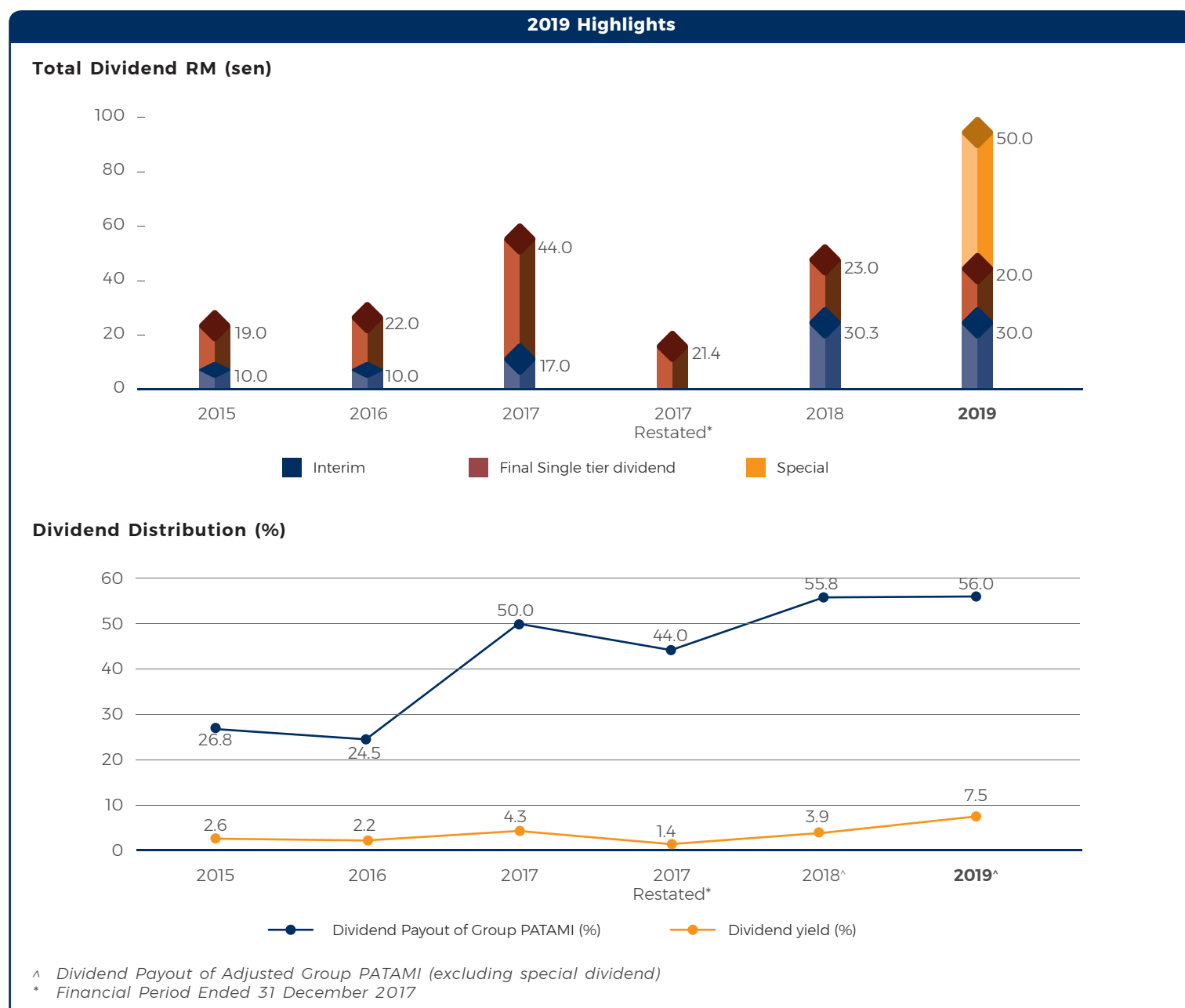
## DIVIDEND

For the financial year 2019, TNB's Board of Directors had approved a total RM5.69 billion in dividend payout. This includes a special dividend of 50.0 sen per share on top of a core dividend of 50.0 sen. The total dividend issuance of RM1.00 per ordinary share as compared to 53.3 sen in financial year 2018 is a record high and definite indicator of TNB's strong fundamentals.

The core dividend payout amounting to RM2.84 billion translates to a 56.0% dividend payout ratio from the Group's adjusted PATAMI of RM5.08 billion. This is consistent with our Dividend Policy of providing shareholders between 30% and 60% of the Group's consolidated net PATAMI excluding extraordinary, non-recurring items.

In compliance with the Companies Act 2016, we applied prudent financial risk management by assessing the Group's solvency and ability to settle short-term loan obligations in deciding on our dividend issuance.

The Board decided on payment of the special dividend in a show of appreciation to our loyal shareholders for their continuous support.



## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

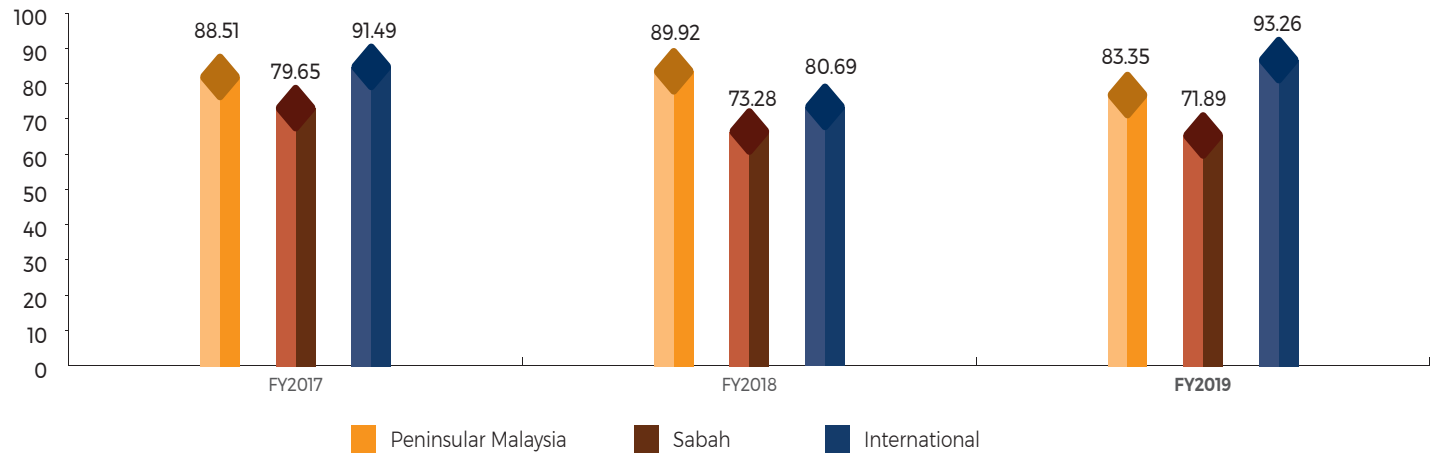
# Manufactured Capital

Our assets are critical to the smooth functioning of our operations and form the backbone of our business model.

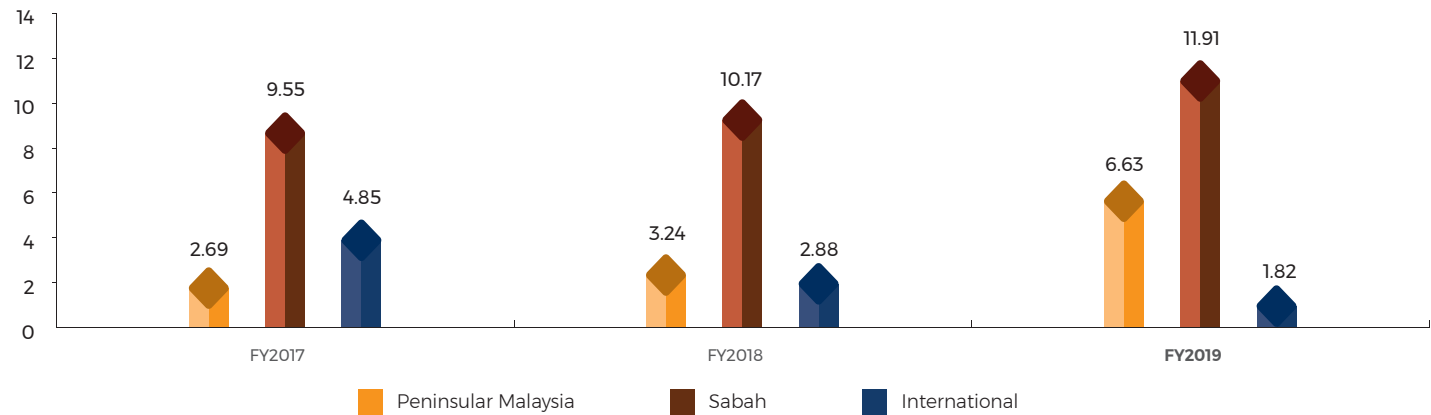
ASSET	KEY ACTIVITIES IN 2019	FOCUS IN 2020
<b>POWER GENERATION ASSETS</b>  <b>Thermal generation plants:</b> <ul style="list-style-type: none"> <li>6 coal-fired</li> <li>11 gas-fired</li> <li>19 oil/distillate-fired</li> </ul> <b>Non carbon plants:</b> <ul style="list-style-type: none"> <li>12 large hydro plants</li> <li>119 RE (mini hydro, solar, wind)</li> </ul>	<ul style="list-style-type: none"> <li>Added 1,400MW to Group equity capacity through commercialisation of 2,000MW ultra supercritical coal Jimah East Power plant</li> <li>Strengthened plant operations with completion of turnaround programme at Janamanjung; and rollout of turnaround programme to 11 other plants/hydro stations</li> <li>Successfully conducted a trial cargo of LNG under the gas TPA framework which was consumed by Tuanku Jaafar Power Station and Connaught Bridge Power Station</li> <li>TNB Generation Division sustained ISO 55001 certification by SIRIM</li> </ul>	<ul style="list-style-type: none"> <li>Creation of TNB Power Generation operating as a wholly-owned subsidiary</li> <li>Commercialisation of 1,440MW Southern Power Generation plant by July 2020</li> <li>Commercialisation of 30MW LSS at Bukit Selambau by December 2020</li> <li>Completion of tunnel works at Ulu Jelai Hydroelectric Project by August 2020</li> <li>Phase 3 (implementation) of turnaround programme at CBSB, PRAI, TJPS and KEV throughout 2020</li> </ul>
<b>POWER NETWORK ASSETS</b>  <b>Transmission network assets</b> <ul style="list-style-type: none"> <li>26,890 circuit km of transmission network</li> <li>502 transmission substations</li> </ul> <b>Distribution network assets</b> <ul style="list-style-type: none"> <li>707,945 circuit km of distribution network</li> <li>91,711 distribution substations</li> </ul>	<ul style="list-style-type: none"> <li>Domestic networks continued to achieve world-class performance – with transmission system minutes at 0.27 minutes and SAIDI at 48.13</li> <li>Completed RM6.91 billion worth of domestic network enhancement, including: <ul style="list-style-type: none"> <li>26,472 circuit km of network and 2,441 new substations</li> <li>Installation of 120,677 smart meters, now totalling 281,066</li> <li>Automation of 3,850 distribution substations, adding to a total of 7,522 automated substations in RP2</li> <li>10-year transmission network strategic plan (2019-2029) developed, to address changes in line with TNB's strategic plan and expected industry changes as a result of MESI 2.0</li> </ul> </li> <li>5-year distribution network strategic plan (2020-2025) developed to ensure the delivery of both TNB's strategic plan and industry reform MESI 2.0</li> <li>Mapping of MV asset and customers for electrical distribution using GIS</li> <li>TNB has installed 326,053 units of LED for the streetlight relamping project as at December 2019</li> </ul>	<ul style="list-style-type: none"> <li>Deployment of 1.2 million smart meters in selected area of Klang Valley and Putrajaya/Cyberjaya</li> <li>Completing RM5.79 billion worth of domestic network enhancement</li> <li>ISO 55001 recertification</li> <li>Formation of a centralised grid control tower to strengthen delivery of strategic plan, grid digitalisation initiative and Grid Academy talent development</li> </ul>
<b>NON-POWER ASSETS</b> <ul style="list-style-type: none"> <li>5.2 mil sq ft of office and operational work space</li> <li>18,000 km of fibre optic network</li> <li>4,026 vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Completion of our HSBB pilot project in Jasin, Melaka involving 1,100 premises passes</li> <li>Continued efforts to optimise TNB real estates costs and utilisation at reduced costs and higher service level</li> <li>Establish TNB's Fleet Service Centre along with staff upskilling to better improve quality</li> <li>Upgrading of TNB's fleet with installation of GPS tracking for 800 frontline field crew for improve response time</li> </ul>	<ul style="list-style-type: none"> <li>Extension of our HSBB network to approximately 100,000 premises including expansion beyond Jasin to about 15,000 premises in Melaka</li> <li>Manage all TNB's real estate development projects which contribute to a total costs for RM1.4 billion</li> <li>Digitalisation of TNB's fleet management current process and manual system</li> </ul>

2019 Highlights

EQUIVALENT AVAILABILITY FACTOR (EAF)

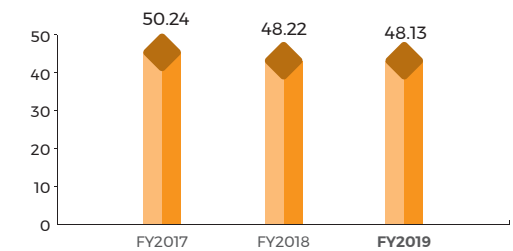


EQUIVALENT UNPLANNED OUTAGE FACTOR (EUOF)

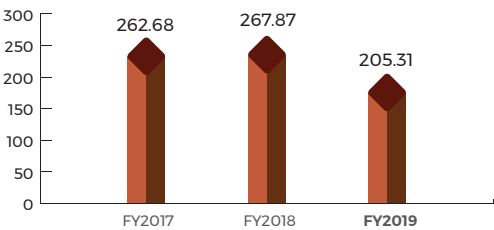


SYSTEM MINUTES & SYSTEM AVERAGE INTERRUPTION DURATION INDEX (SAIDI)

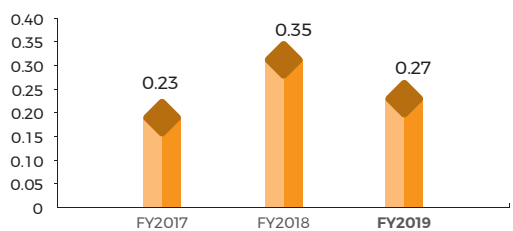
SAIDI - Peninsular



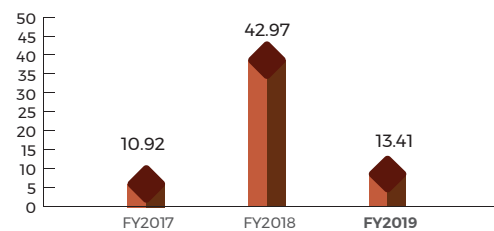
SAIDI - Sabah



System Minutes - Peninsular



System Minutes - Sabah



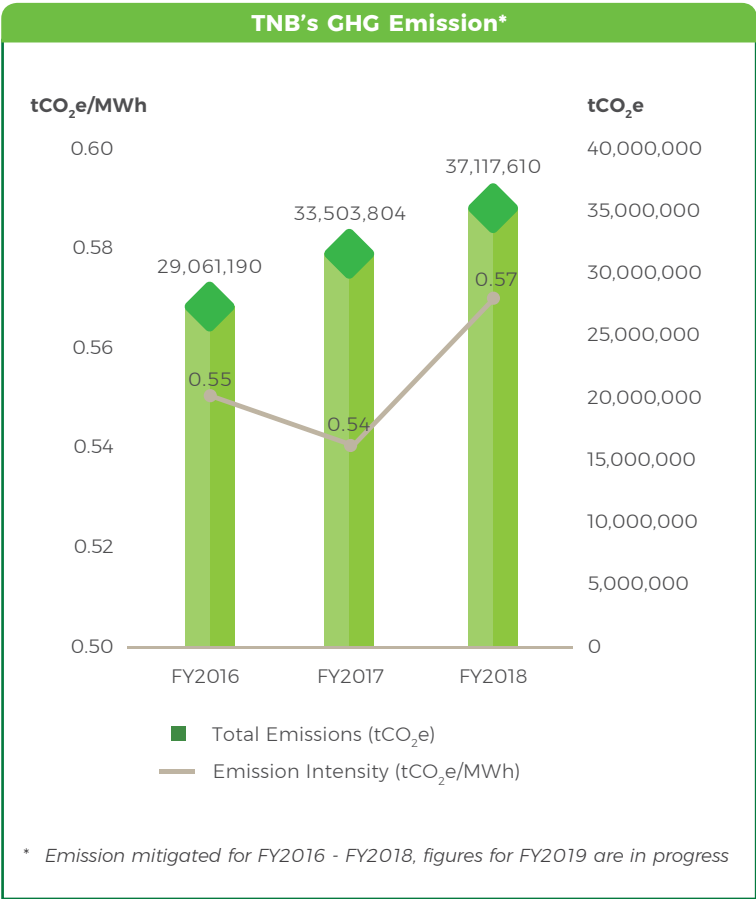


## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

# Natural Capital

We seek continuously to minimise our carbon footprint while ensuring all emissions and effluents meet regulatory standards. At the same time, we are committed to reduce our use of natural resources and to protect the country's rich biodiversity.

APPROACH	KEY ACTIVITIES IN 2019	FOCUS IN 2020
Protect natural heritage through biodiversity-enhancing programmes	<ul style="list-style-type: none"> <li>Conducted biodiversity management programmes at three (3) of our 12 hydroelectric stations, including:               <ul style="list-style-type: none"> <li>Establishment and monitoring of Kelah fish sanctuaries</li> <li>Collaboration with State Government, Department of Wildlife and National Parks, Department of Forestry, Forest Research Institute of Malaysia and along various local universities to protect and conserve Sungai Perak and Hulu Terengganu Hydroelectric Station's Catchment</li> <li>Development of a fish resources management plan to improve the sustainability of fish populations impacted by operations of hydroelectric plants</li> <li>Multiple awareness programmes involving secondary school students to preserve and protect local river ecosystems</li> </ul> </li> <li>Reforestation within TNB project sites by planting of tropical rainforest species at Ulu Perdik, Hulu Langat at Akekchep Sungai Tiang and at Hulu Terengganu Hydroelectric Station</li> <li>Expanded firefly colony conservation programme from Kampung Kuantan in Kuala Selangor, Selangor to Kampung Yak Yah in Kemaman, Terengganu; Kampung Sungai Timun in Rembau, Negeri Sembilan; and Kampung Dew in Taiping, Perak</li> </ul>	Continued protection, conservation and recovery of natural capital in the areas where we operate
Protect the environment through proper effluents, emission and waste management	<ul style="list-style-type: none"> <li>Water usage in plants, substation and buildings (2018) was 8,047 megalitres</li> <li>Four of our conventional power plants complied with the new Clean Air Regulations enforced in July 2019, while the remaining were issued with Clean Air Regulations License to Contravene</li> <li>Ensured effluents met regulated minimum standards based on DOE requirements</li> <li>Adopted best practices in scheduled waste management and recycled used parts</li> </ul>	Establish baseline for GHG emission
Adoption of sustainable business practices across our value chain	<ul style="list-style-type: none"> <li>Continued retrofitting TNB premises to enhance building energy efficiency (EE), resulting in 782MWh of saved energy</li> <li>Identified more than 154 EE initiatives at our thermal stations</li> <li>Established an online GHG Emission Management System (GEMS) to track our emissions systematically</li> <li>29 ChargeEV stations installed and 49 potential sites identified</li> <li>Promoting green energy by introducing tradable RE Certificate (MGATS) and optional green tariff (myGreen+)</li> <li>Our Generation Division continues to be certified ISO 14001 Environmental Management System</li> <li>Publication of Sustainability Report</li> </ul>	Continued improvement of our sustainable business practices



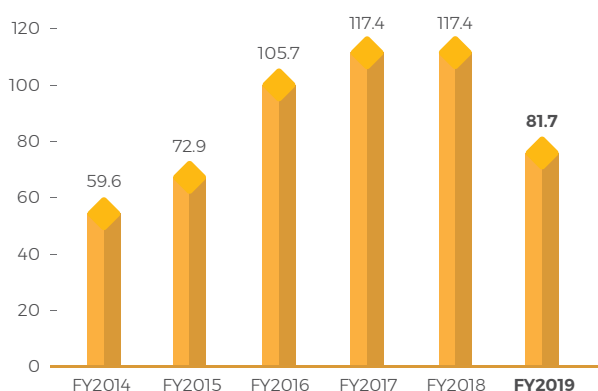
## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

# Intellectual Capital

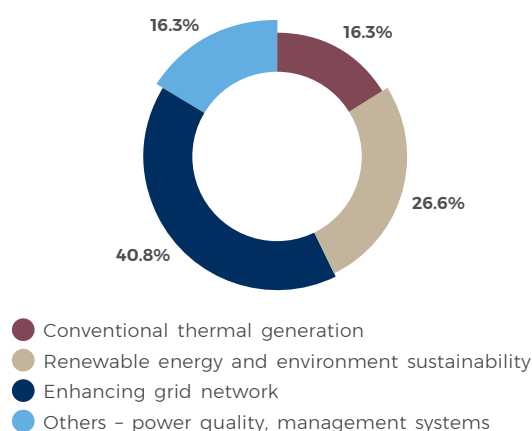
As we seek to future proof TNB, it is imperative to continuously enhance our intellectual capital in order to support our operational and technology needs.

MANAGEMENT APPROACH	KEY ACTIVITIES IN 2019	OUTLOOK
<b>Research &amp; development</b>		
Investment into new technologies that would benefit the energy sector	<ul style="list-style-type: none"> <li>Invested RM81 million into environmental management, power delivery and power generation research via TNB Research Sdn. Bhd. in 2019</li> <li>Entered into collaboration with Malaysia Space Agency (Angkasa) on electromagnetics and vibration technology</li> <li>Set up a Scanning Electron Microscope (SEM) lab that has been accredited by the Department of Standards Malaysia</li> <li>UNITEN was a recipient of the Leaders in Innovation Fellowship from the Royal Academy of Engineering, UK</li> <li>Formation of innovation working group to plan and further strengthen research and commercialisation processes</li> <li>Development of an in-house hydro turbine control system that is able to upgrade performance of existing Pelton turbine</li> </ul>	Continue to invest in research and development as one of the key enablers in addressing the oncoming industry wide challenges
<b>Operational &amp; service innovations</b>		
Develop innovations to optimise operations, enhance asset management and reduce costs	<ul style="list-style-type: none"> <li>Collaboration with Vietnam Electricity (EVN) to further enhance EVN maintenance practice through the adoption of Condition Based Maintenance methodology</li> <li>Our internally deployed Integrated Community Based Disaster Management (ICBDM) system to manage and mitigate hydroelectric dam environmental risks is being considered by Electricite Du Laos for use at five of their hydroelectric dams</li> <li>Enhancement of existing floating solar photovoltaic system enabling higher system power output</li> </ul>	
<b>Technology and business model innovations</b>		
Invest in innovation to enhance revenue	<ul style="list-style-type: none"> <li>Entered into partnership with SWCorp to develop a biogas technology from anaerobic digestion of food waste, its business model and establish a potentially new revenue stream for TNB</li> <li>Developed a Minimum Viable Product (MVP) of Digital Market Place and identified the first three solutions to be offered on the marketplace</li> <li>Developed TNB's first net zero energy home showcase through leveraging on services and offerings from within the TNB group</li> <li>Piloting EV car-sharing platform in partnership with SOCAR</li> </ul>	Continue to focus on business Innovation for B2C, B2B and B2G with the aim of creating value for our customers

## 2019 Highlights

R&D<sup>^</sup> Investment (RM million)

<sup>^</sup> R&D performed by subsidiary TNB Research Sdn. Bhd.

Breakdown of R&D<sup>^</sup> investment by research area



TNB'S FIRST NET ZERO ENERGY HOME SHOWCASE

# MAVERICK

## HOME OF THE FUTURE



### WHY MAVERICK ?

#### HOW ZERO NET ENERGY HOME WORKS

1. Energy is generated from solar panel.
2. Inverter will convert Direct Current (DC) to alternating Current (AC) to supply electricity to the house load.
3. Energy is generated from solar roof tiles.
4. Hybrid Inverter will convert Direct Current (DC) to Alternating Current (AC) to supply electricity to the house load.
5. Battery Storage will be charged from solar roof tiles and will be used when there is demand.
6. Smart appliances will use the electricity generated from the solar panel & roof tiles.

#### HOW SOLAR TREE WORKS

7. Energy is generated from solar panel on top of the tree structure. An appliance connected to the power source at the solar tree will be generated from solar.

#### HOW EV CHARGING WORKS

8. EV charging station is powered up by grid to charge EV cars.

R&D PROJECTS THAT HAVE BEEN TURNED INTO SERVICE:

PROJECT	DESCRIPTION
Soil Bioremediation Technology	Resolves problems associated with the environmental effects of soil contaminated by transformer oils
Trash Buster Craft	An automated easy-to-use solution for collecting and disposing trash/garbage in water bodies such as reservoirs, rivers, streams, dams and lakes
Boiler Tube Inspection System	Cutting-edge innovation to enable visual inspection of the inner surface of boiler tubes
Transchrom	Enhances the ability to detect transformer failure
Advanced Security Surveillance System	Cutting-edge technology combined with sensitive hybrid connectivity, enables law enforcement to prevent crime and theft
Standardisation RMU Operating Handle	Innovative tool that can be used to operate different SF6 Ring Main Unit (RMU) brands
Solid Fuel Testing Technologies	Advanced methods to determine the chemical make-up, quality and regulatory compliance for coal, metallurgical coke, biomass fuels, and other solid carbon-based fuels

## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

# Human Capital

We recognise the immense value of our human capital and seek to build the capabilities and competencies of our people in order to realise their full potential while ensuring their health and safety.

MANAGEMENT APPROACH	KEY ACTIVITIES IN 2019	OUTLOOK
<b>Human resource management</b>		
Inculcate data-driven culture in human resource (HR) through analytics capability, while establishing data governance framework	<ul style="list-style-type: none"> <li>Formed HR analytics community of practice comprising 35 individuals who have obtained HR Analytics Foundation &amp; Intermediate certification, with six (6) members also completing Enterprise Data Analyst (EDA) programme</li> <li>Five (5) high-impact HR analytics studies are ongoing while HR Data Governance Framework has been developed and implemented</li> </ul>	<ul style="list-style-type: none"> <li>Develop mid- and long-term HR strategy (2020-2025) to ensure alignment with new HR business model post RT</li> <li>Embark on culture transformation programme throughout TNB</li> </ul>
Develop HR as trusted strategic business driver in catalysing business growth and cost efficiency	<ul style="list-style-type: none"> <li>Proactive management of Group's medical expenses to ensure expenses growth is kept below 5%</li> <li>Flexible working hours introduced for executives</li> </ul>	<ul style="list-style-type: none"> <li>Review HR policies and processes to ensure relevance to the new business model</li> </ul>
<b>Safe &amp; healthy work environment</b>		
Create a safe and healthy workplace eliminating work-related injuries and illnesses	<ul style="list-style-type: none"> <li>Successfully reduced Loss Time Injury Frequency (LTIF) rate in 2019 by 30% in comparison to the previous year</li> <li>Strengthened our company wide Health, Safety and Environment (HSE) management system and audit standards through the adoption of a Health, Safety and Environment Management System (HSEMS) manual</li> <li>Implementation of Behavior Assessment Program (BAP) and re-enhanced Defensive Riding training module resulted in a 40% reduction in motor vehicles incident among meter readers group-wide</li> <li>Launched HSE wallet mobile app to promote the reporting of Potential Incident (Unsafe Act &amp; Unsafe Condition) by employees, resulting in 72,577 hazards being reported in the year</li> <li>Implementation of Tenaga Safety Culture &amp; Spiritual Hour Activation Program focusing on transforming the hearts and mind of employee towards achieving Generative Safety Culture</li> <li>Developed Safety Health Committee (SHC) Online platform focused on mitigating local HSE issues</li> </ul>	<ul style="list-style-type: none"> <li>Target to achieve Generative Safety Culture score of 4.5 by 2021</li> <li>Establish wellness profiles for all TNB employees, and reach out to employees who may need support in overcoming health issues</li> </ul>
Encourage adoption of healthy lifestyle among employees	<ul style="list-style-type: none"> <li>Total Wellness Programme and awareness sessions conducted at 159 TNB stations nationwide to date, through which we have compiled basic health data on 15,687 employees</li> <li>Provision of wellness facilities, eight (8) certified healthy cafeterias and 61 TNB gyms equipped with latest equipment and certified trainers, in our larger workplaces</li> <li>Allocation of one (1) hour per week for Total Wellness programme, while encouraging employees to go for yearly medical check-ups</li> </ul>	
<b>Talent management &amp; development</b>		
Building leadership readiness	<ul style="list-style-type: none"> <li>Delivered 108% leadership readiness for senior management positions across the Group</li> <li>To date, 113 employees have undergone our in-house experiential learning programme which combines classroom lessons with mission-based work assignments</li> <li>32 leadership talent selected to participate in our corporate MBA programme with UNITEN in partnership with Melbourne Business School, University of Melbourne</li> <li>38,000 hours allocated for leadership training</li> </ul>	

## MANAGEMENT APPROACH

## KEY ACTIVITIES IN 2019

## OUTLOOK

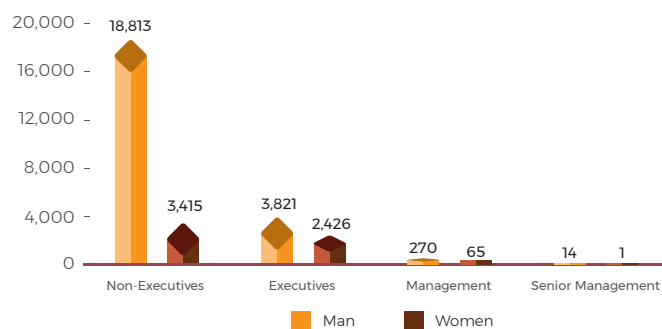
## Talent management &amp; development

Maintain core competencies and build new capabilities in technology and innovation

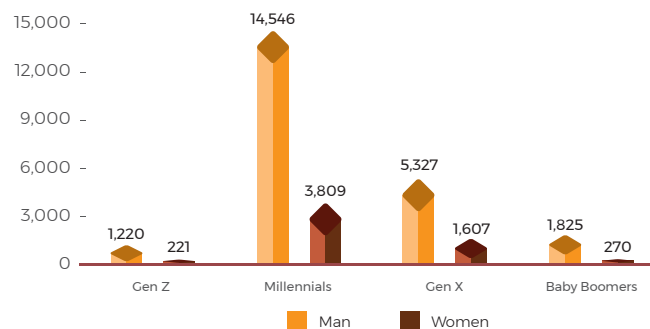
- Total of 1.09 million training hours, averaging six (6) man-days of training per employee
- 2,100 participants involved in the in-house upward mobility programme in 2019
- Establishment of four (4) academies to develop functional SMEs adept in both technical and business matters
  - o Grid Academy - developed 32 transmission grid SMEs in 2019
  - o Distribution Network Academy DNA - developed 30 Business Leaders in 2019
  - o Generation Academy - developed 80 generation SMEs in 2019
  - o Retail Academy - launched in November 2019 with 142 participants

## 2019 Highlights

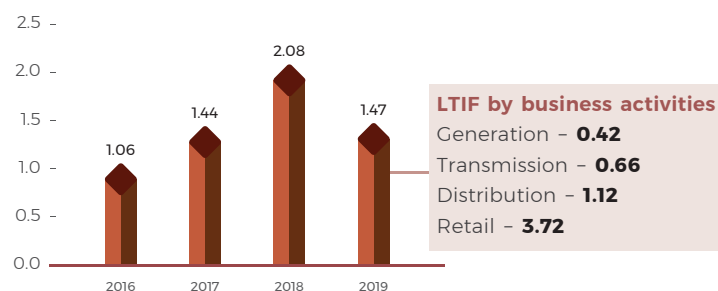
## Employee Breakdown by Employee Category



## Employee Breakdown by Generation

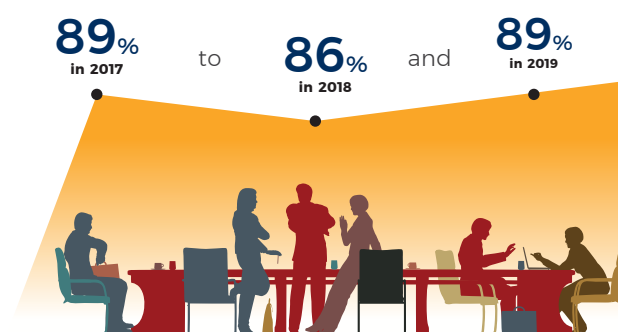


## Annual LTIF



## Employee Engagement

score has improved by 3% compared to 2018





## STRATEGIC BUSINESS REVIEW – OUR CAPITALS

# Social and Relationship Capital

We recognise the contributions of our stakeholders to TNB and seek to create value for them as we build relationships based on integrity and trust.

MANAGEMENT APPROACH	KEY ACTIVITIES IN 2019	OUTLOOK
<b>Investors</b>		
Provides the investment community with transparent, clear and holistic picture of the Group's performance and prospects through proactive engagements.	<ul style="list-style-type: none"> <li>Successfully addressed the investment community's concerns on MESI Reform 2.0 and the Group's business strategy and direction through various engagement forums</li> <li>Achieved Investor Relations survey score of 85.3%, marked the highest score ever recorded</li> </ul>	Continue to proactively engage the investment community to address any concerns raised and to avoid misrepresentation with regards to the Group's performance and strategy moving forward
Continuously create long-term value for the shareholders.		Exploring innovative solutions and best practice to improve communication and engagement in order to better serve the investment community
<b>Trade unions</b>		
Maintain harmonious relationship with unions and involve leaders in labs, syndications, meetings and field trips	<ul style="list-style-type: none"> <li>Concluded the 9<sup>th</sup> Collective Agreement between management and executive union representing majority of TNB's executive officers, Persatuan Eksekutif TNB</li> <li>Collaborate to resolve various work and workers related issues through Joint Consultative Council between management representatives and union leaders at corporate level, division level and state/zone level for each of TNB's three registered unions and two workers associations</li> <li>Continue to maintain open door policy in which union leaders are able to access any of the senior management members including CEO to discuss and deliberate of issues close to our workers heart</li> </ul>	<p>Negotiate and conclude latest Collective Agreement (2020-2022) between management and representative of the three unions</p> <p>Continue to maintain harmonious relationship between company and employees</p>
<b>Customers</b>		
Forge meaningful relationships via increased focus towards customer's choice and literacy, quality customer service, innovative solution and effective communication and engagement	<ul style="list-style-type: none"> <li>Deployed 281,066 smart meters in Melaka, Klang Valley and Putrajaya/Cyberjaya</li> <li>Continued to provide Home Energy Reports, Home Energy Management System, Energy Performance Contracts (EPCs) to promote energy efficiency and sustainable lifestyles</li> <li>Conducted 37 energy efficiency sessions to increase literacy and awareness to government agencies, NGOs, community leaders, universities, schools, as well as TNB staff</li> <li>Helped 1,155 customers install RE systems and feed into the grid through NEM and SARE</li> <li>Achieved CSI score of 8.1 for the fourth consecutive year, for quality service delivery and experience across all channels</li> </ul>	
<b>Vendors/suppliers</b>		
We support local businesses as far as possible to spur the local economy	<ul style="list-style-type: none"> <li>RM9.3 billion spent on local suppliers in FY2019</li> <li>We treat all our suppliers fairly and with integrity, establishing strong working with our suppliers and contractors, based on mutual respect</li> </ul>	Continue our efforts to support and develop our local vendors through our vendor development programmes
<b>Community</b>		
Ensure Malaysians in rural and remote areas have access to electricity	<ul style="list-style-type: none"> <li>Connected electricity supply to 13 remote villages, reaching 270 household as part of our Rural Electrification Programme</li> <li>Under the Better Bright Shelter Programme, we helped to provide temporary accommodation at Hospital Melaka for families whose members are undergoing treatment there. This brings the number of hospitals supported by this programme to three</li> <li>We built/upgraded 212 homes and rewired another 93 homes under our Home for the Needy Programme and Home rewiring Programme benefitting underprivileged families</li> <li>Provided assistance to 1,862 students for tertiary studies under Yayasan Tenaga Nasional scholarships and convertible loans</li> <li>Contributed to 26 under-performing schools nationwide under the Trust Schools Programme and PINTAR school adoption programme, benefitting total of 7,111 students</li> <li>Provided <i>Ceria ke Sekolah</i> school sets to 6,100 underprivileged students</li> <li>Our Dermasiswa My Brighter Future programme assisted 3,564 B40 students to take up STEM subjects at qualified Malaysian universities and colleges total of RM6 million towards hockey development in the country</li> </ul>	Develop and implement student development framework that will allow us to run programmes to improve underprivileged students leadership and soft skills
Contribute to higher standard of living by ensuring Malaysians have proper homes to live in		Complete our commitment to deliver electricity supply to 30 remote villages, connecting 615 houses to the grid
Uplift marginalised communities through education		

2019 Highlights



270 households in remote areas are now connected to the grid as part of our Rural Electrification Programme.



Home Energy Management System (HEMS) helps domestic customers monitor their electricity consumption, automate their home appliances and improve their home security, through a downloadable app.

MyBF dermasiswa



**Kirthiga Krishnamoorthy, 19**  
*Diploma in Civil Engineering,  
Politeknik Shah Alam*

"When MyBF *Dermasiswa* offer came along, it felt like a gift from heaven. My dream now is to be a civil engineer and again don the vest I wore playfully as a child."



**Ling Kiong Mau, 21**  
*Degree in Civil Engineering,  
Universiti Malaysia Sarawak*

"The letter from TNB was a blessing. It took away my worries and from that moment on, I managed to focus on my studies as I didn't have to worry about money anymore."



**Muhamad Akidd Mohd Sharif, 22**  
*Degree in Electrical Engineering  
Technology (Power Industry),  
Universiti Teknikal Malaysia Melaka*

"The MyBF *Dermasiswa* means a lot to students from lower-income families like me. It helps to boost our motivation and morale to further our studies and keep working hard."

Our Social Circle



**TNB Twitter**  
**19,133**  
followers



**TNB Instagram**  
**28,817**  
followers



**TNB Careline**  
**282,166**  
followers

The Notable achievement of our 2019 festive campaign:

Youtube Malaysia Ad Awards  
2019



**Best Storytelling for  
Occasions for TNB  
Raya 2019 Konvoi  
Epik Fantastik.**



## STRATEGIC BUSINESS REVIEW

# Our Scorecard

	31.08.2015	31.08.2016	31.08.2017	31.12.2017	31.12.2018	31.12.2019
Return on asset	6.6%	6.4%	5.4%	5.3% <sup>(5)</sup>	3.2%	<b>2.8%</b>
Generation market share <sup>(1)</sup>	48.0%	52.3%	52.3%	50.6%	49.9%	<b>51.42%</b>
Customer satisfaction index <sup>(4)</sup>	8.0	8.1	8.1	N/A <sup>(4)</sup>	8.1	<b>8.1</b>
Corporate reputation index <sup>(4)</sup>	76%	82%	81%	N/A <sup>(4)</sup>	88%	<b>87%</b>
Equivalent availability factor <sup>(2)</sup>	88.76%	88.08%	88.51%	84.96%	89.92%	<b>83.35%</b>
Equivalent unplanned outage factor <sup>(2)</sup>	3.85%	4.44%	2.69%	4.46%	3.24%	<b>6.63%</b>
Transmission system minutes <sup>(1)</sup>	0.77 minute	1.47 minute	0.23 minute	0.05 minute	0.35 minute	<b>0.27 minute</b>
System average interruption duration index <sup>(1)</sup> (SAIDI) minutes/customer/year	49.66	49.71	50.24	18.05	48.22	<b>48.13</b>
Transmission losses <sup>(1)</sup>	1.47%	1.28%	1.29%	1.30%	1.43%	<b>1.35%</b>
Distribution losses <sup>(1)</sup>	6.21%	6.11%	6.21%	6.13%	6.62%	<b>6.30%</b>
Employee engagement score <sup>(3)</sup>	85%	89%	89%	N/A <sup>(4)</sup>	86%	<b>89%</b>

<sup>(1)</sup> For Peninsular Malaysia only.

<sup>(2)</sup> TNB's wholly-owned generating capacity in Peninsular Malaysia.

<sup>(3)</sup> TNB conducts its employee engagement survey biennially. The scores for both FY2016 and FY2017 are based on survey conducted in FY2016.

<sup>(4)</sup> The respective surveys was not conducted during this 4-month Annual Report period.

<sup>(5)</sup> Financial Period Ended 31 December 2017 (Restated).



## Giving sports a strong charge for success



Tenaga Nasional Berhad 199001009294 (200866-W)

As Malaysia's premier utility company, powering a national sport is just as important to us as powering the nation. For instance, hockey. With regular coaching clinics across the country, and by sponsoring local and international tournaments, we're honoured to support and groom talented sportsmen. Because for us, providing a platform for any sport to thrive, gives a reason for people to come together to become united, inspired, empowered and proud.

Visit [hokita.my](http://hokita.my) for more info.

**#SayaSokongHokiMY**

[www.tnb.com.my](http://www.tnb.com.my)

## PERFORMANCE REVIEW

# Key Financial Highlights

FINANCIAL YEAR ENDED 31 DECEMBER	GROUP		COMPANY	
	31.12.2019	31.12.2018	31.12.2019	31.12.2018
<b>PROFITABILITY (RM Million)</b>				
Revenue	<b>50,939.7</b>	50,392.5	<b>47,242.3</b>	47,063.3
Operating profit	<b>8,206.8</b>	6,875.6	<b>6,562.6</b>	6,070.8
Profit before taxation and <i>zakat</i>	<b>5,477.7</b>	5,046.6	<b>2,872.5</b>	4,314.1
Net profit attributable to owners of the Company	<b>4,529.2</b>	3,723.7	<b>1,965.0</b>	3,218.6
<b>KEY BALANCE SHEET DATA (RM Million)</b>				
Property, plant and equipment	<b>109,966.0</b>	111,445.5	<b>71,345.7</b>	83,921.1
Total assets	<b>178,847.2</b>	153,695.0	<b>172,364.2</b>	125,141.5
Total borrowings	<b>45,411.7</b>	47,832.4	<b>19,488.1</b>	21,637.0
Total liabilities	<b>119,565.1</b>	94,643.1	<b>122,869.5</b>	73,411.4
Share capital	<b>11,446.1</b>	11,446.1	<b>11,446.1</b>	11,446.1
Shareholders' equity	<b>59,282.1</b>	59,051.9	<b>49,494.7</b>	51,730.1
<b>SHARE INFORMATION</b>				
Per share (sen)				
Basic earnings	<b>79.64</b>	65.62		
Diluted earnings	<b>79.64</b>	65.39		
Dividend (sen):				
– Interim	<b>30.00</b>	30.27		
– Final	<b>20.00</b>	23.00		
– Special	<b>50.00</b>	–		
Net assets per share attributable to owners of the Company	<b>1,019.6</b>	1,017.0		
<b>FINANCIAL RATIOS</b>				
Return on assets – ROA (%)	<b>2.8</b>	3.2		
EBITDA margin (%)	<b>36.1</b>	26.5		
Debt-equity (net of cash) ratio	<b>0.53</b>	0.50		

# Group Quarterly Financial Performance

RM Million	FY2019				
	Q1	Q2	Q3	Q4	Year
Revenue	13,244.8	12,876.0	12,641.8	12,177.1	50,939.7
Operating in-come	221.5	226.9	328.3	354.3	1,131.0
Operating profit	2,505.9	2,072.5	2,278.6	1,349.8	8,206.8
Profit before taxation and <i>zakat</i>	2,073.6	1,082.8	1,546.5	774.8	5,477.7
Profit attributable to owners of the Company	1,556.8	1,116.2	1,202.9	653.3	4,529.2
Earnings per share (sen) – basic	27.38	19.63	21.15	11.49	79.64
Dividend per share (sen)	-	30.0 <sup>^</sup>	-	70.0 <sup>**</sup>	100.0

RM Million	FY2018				
	Q1	Q2	Q3	Q4	Year
Revenue	12,274.0	12,497.9	13,073.8	12,546.8	50,392.5
Operating income	182.5	199.9	191.6	251.1	825.1
Operating profit	2,689.7	2,014.4	1,474.5	697.0	6,875.6
Profit before taxation and <i>zakat</i>	2,415.4	1,523.9	904.6	202.7	5,046.6
Profit attributable to owners of the Company	2,119.7	1,237.3	501.0	(134.3)	3,723.7
Earnings per share (sen) – basic	37.41	21.82	8.83	(2.37)	65.62
Dividend per share (sen)	-	30.3 <sup>^</sup>	-	23.0 <sup>*</sup>	53.3

<sup>^</sup> interim dividend

<sup>\*</sup> final dividend

<sup>#</sup> inclusive a special dividend of 50.0 sens per share



## PERFORMANCE REVIEW

# Six-Year Group Financial Summary

YEAR/PERIOD ENDED	GROUP					
	31.08.2015	31.08.2016	31.08.2017	31.12.2017* (Restated)	31.12.2018	31.12.2019
<b>OPERATING RESULTS (RM Million)<sup>1</sup></b>						
Revenue	43,286.8	44,531.5	47,416.9	15,692.2	50,392.5	<b>50,939.7</b>
Operating profit	8,627.6	9,072.0	9,364.0	3,014.0	6,875.6	<b>8,206.8</b>
Profit before taxation and zakat	7,133.7	8,066.8	8,281.8	2,843.5	5,046.6	<b>5,477.7</b>
Profit attributable to owners of the Company	6,118.4	7,367.6	6,904.0	2,622.3	3,723.7	<b>4,529.2</b>
<b>KEY BALANCE SHEET DATA (RM Million)<sup>2</sup></b>						
Property, plant and equipment	90,300.3	96,512.7	103,083.7	104,807.6	111,445.5	<b>109,966.0</b>
Total assets	117,135.0	132,902.2	142,012.4	144,250.0	153,695.0	<b>178,847.2</b>
Total borrowings	24,698.9	34,306.7	38,846.5	41,443.7	47,832.4	<b>45,411.7</b>
Total liabilities	69,668.1	80,302.5	84,427.6	86,261.0	94,643.1	<b>119,565.1</b>
Share capital	5,643.6	11,025.8	11,124.9	11,199.6	11,446.1	<b>11,446.1</b>
Shareholders' equity	47,208.0	52,599.7	57,584.8	57,989.0	59,051.9	<b>59,282.1</b>
<b>SHARE INFORMATION</b>						
<b>Per share (sen)</b>						
Basic earnings	108.41	130.55	122.00	46.32	65.62	<b>79.64</b>
Diluted earnings	108.41	130.16	121.52	46.21	65.39	<b>79.64</b>
Gross dividend	29.00	32.00	61.00	21.41	53.27	<b>100.00</b>
Net assets per share attributable to owners of the Company	836.5	928.3	1,009.2	1,007.2	1,017.0	<b>1,019.6</b>
Share price as at reporting date (RM)	11.18	14.74	14.28	15.26	13.60	<b>13.26</b>
<b>FINANCIAL RATIOS</b>						
Return on assets – ROA (%)	6.6	6.4	5.4	5.3	3.2	<b>2.8</b>
Return on shareholders' equity – ROE (%)	16.3	16.1	13.3	13.2	8.3	<b>8.5</b>
Gearing (%)	34.2	39.5	40.3	41.6	44.8	<b>43.4</b>
EBITDA margin (%)	32.2	33.2	32.6	32.3	26.5	<b>36.1</b>
Effective weighted average cost of funds (%)	4.8	5.1	4.7	5.0	5.0	<b>5.1</b>
Interest coverage (%)	14.7	14.2	10.6	9.5	7.9	<b>5.4</b>
Currency mix (RM: Foreign)	78:22	83:17	77:23	79:21	74:26	<b>76:24</b>
Debt-equity (net of cash) ratio <sup>3</sup>	0.33	0.33	0.37	0.44	0.50	<b>0.53</b>

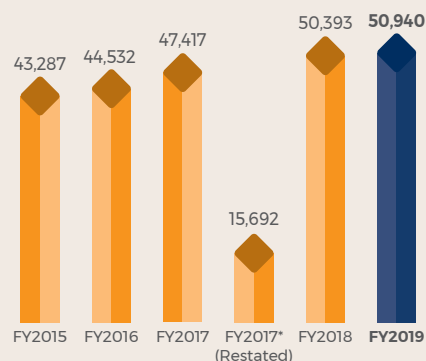
<sup>1</sup> Amounts for period ending 31 December FY2017 have been restated for the Amendments to MFRS15 which was adopted in FY2018

<sup>2</sup> Balances at 31 December 2017 have been restated for the Amendments to MFRS15 which was early adopted in FY2018

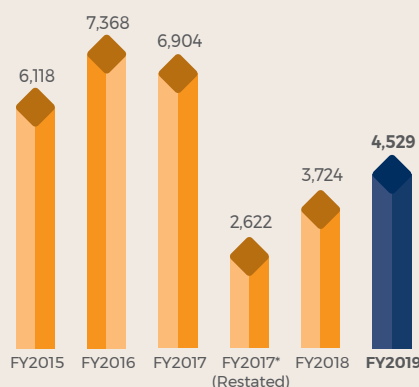
<sup>3</sup> Cash includes financial assets at fair value through profit or loss (FVTPL)

# Six-Year Group Growth Summary

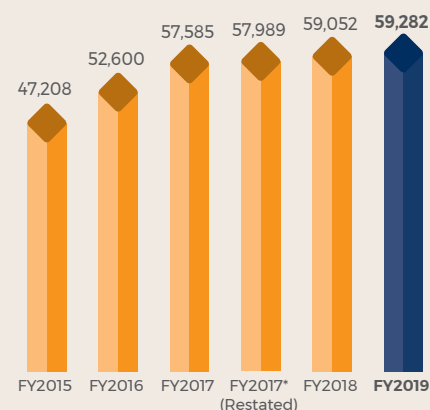
REVENUE  
(RM MILLION)



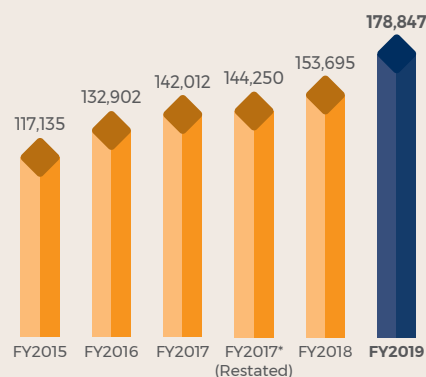
NET PROFIT ATTRIBUTABLE TO OWNERS OF THE COMPANY  
(RM MILLION)



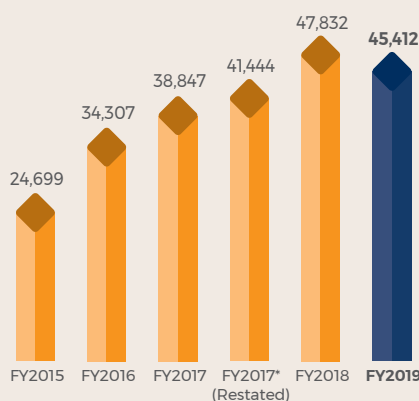
SHAREHOLDERS' EQUITY  
(RM MILLION)



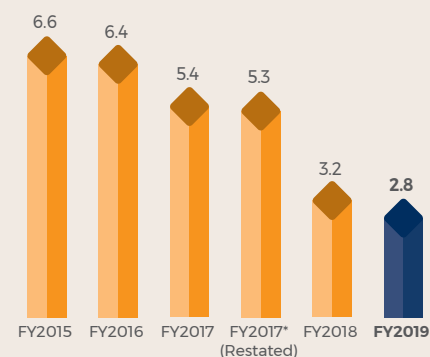
TOTAL ASSETS  
(RM MILLION)



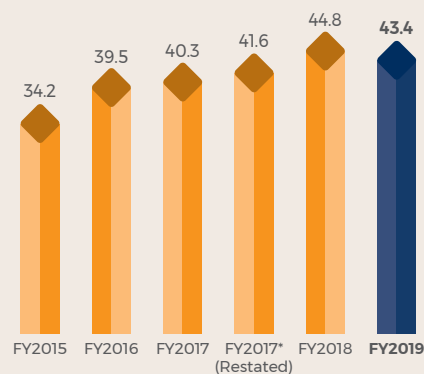
TOTAL BORROWINGS  
(RM MILLION)



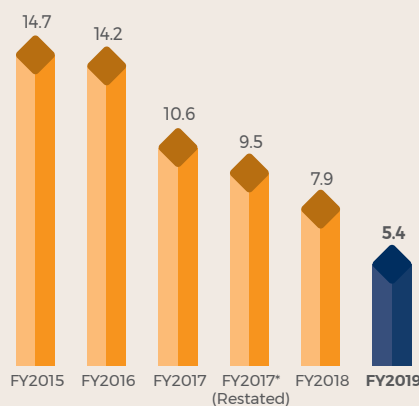
RETURN ON ASSETS - ROA  
(%)



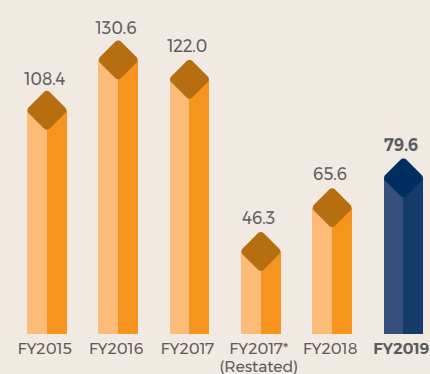
GEARING  
(%)



INTEREST COVERAGE  
(%)



BASIC EPS  
(SEN)

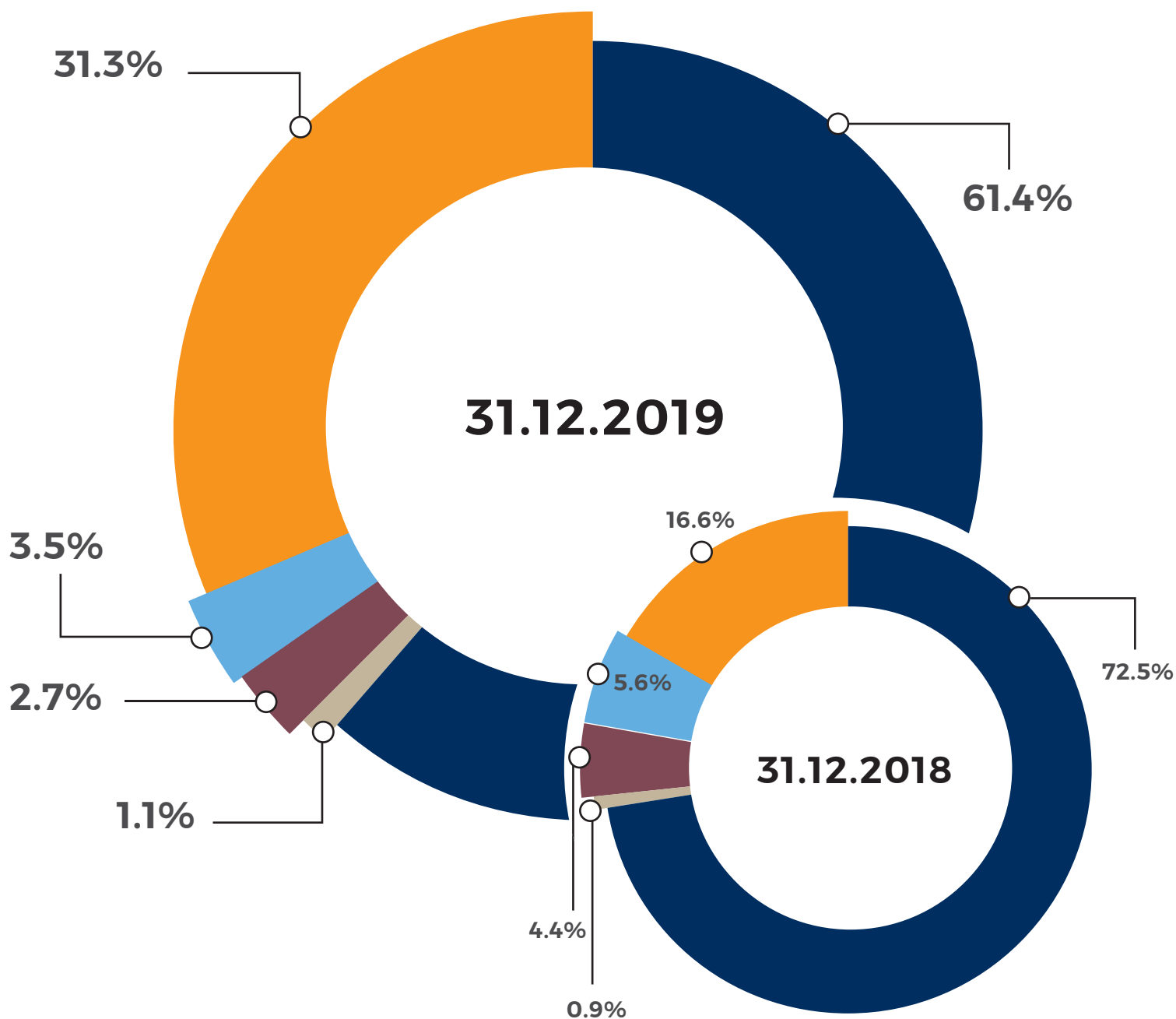


\* Financial Period Ended 31 December 2017.

PERFORMANCE REVIEW

# Simplified Group Statement of Financial Position

## TOTAL ASSETS

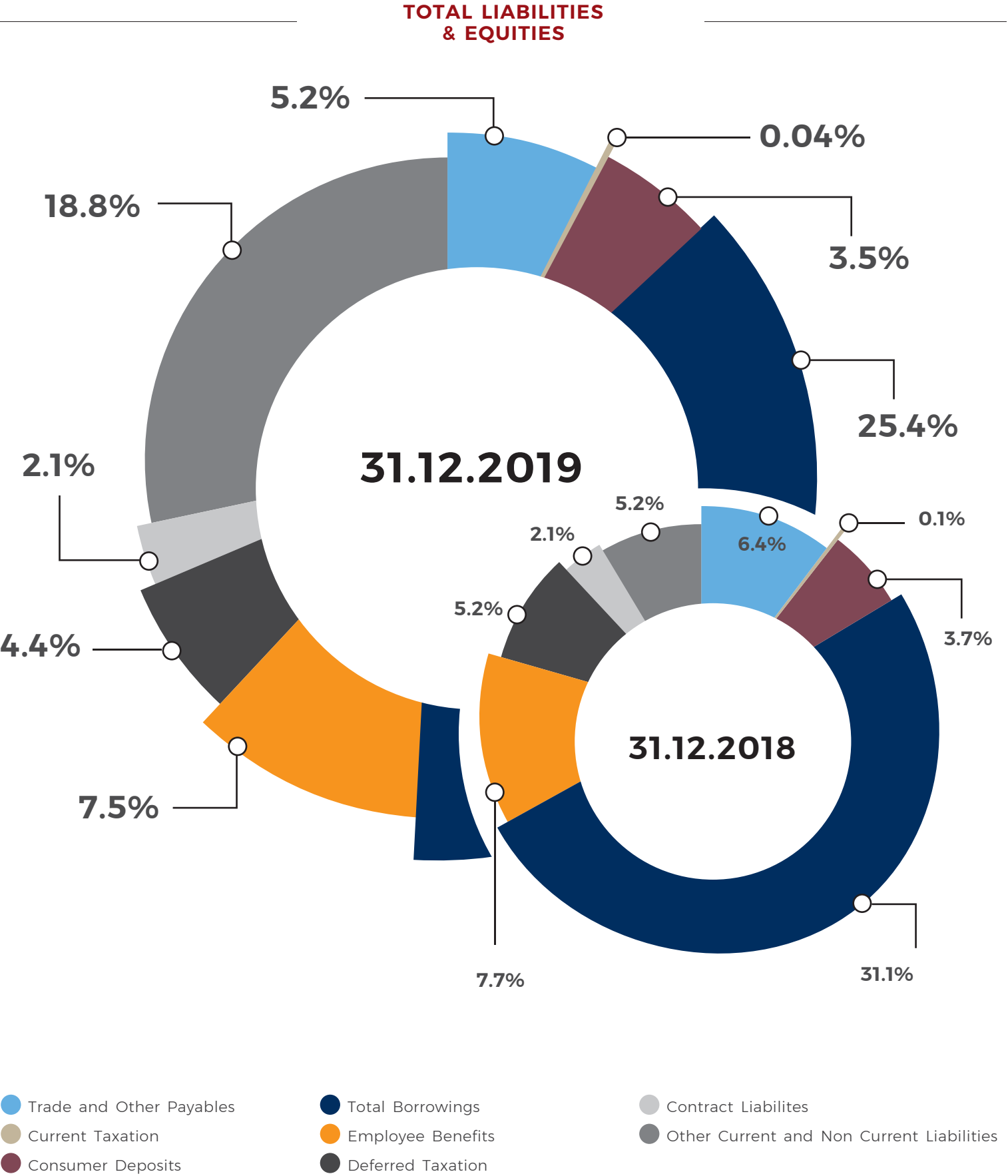


Property Plant and Equipment  
Inventories

Trade and Other Receivables  
Deposits, Bank and Cash Balances

Other Assets



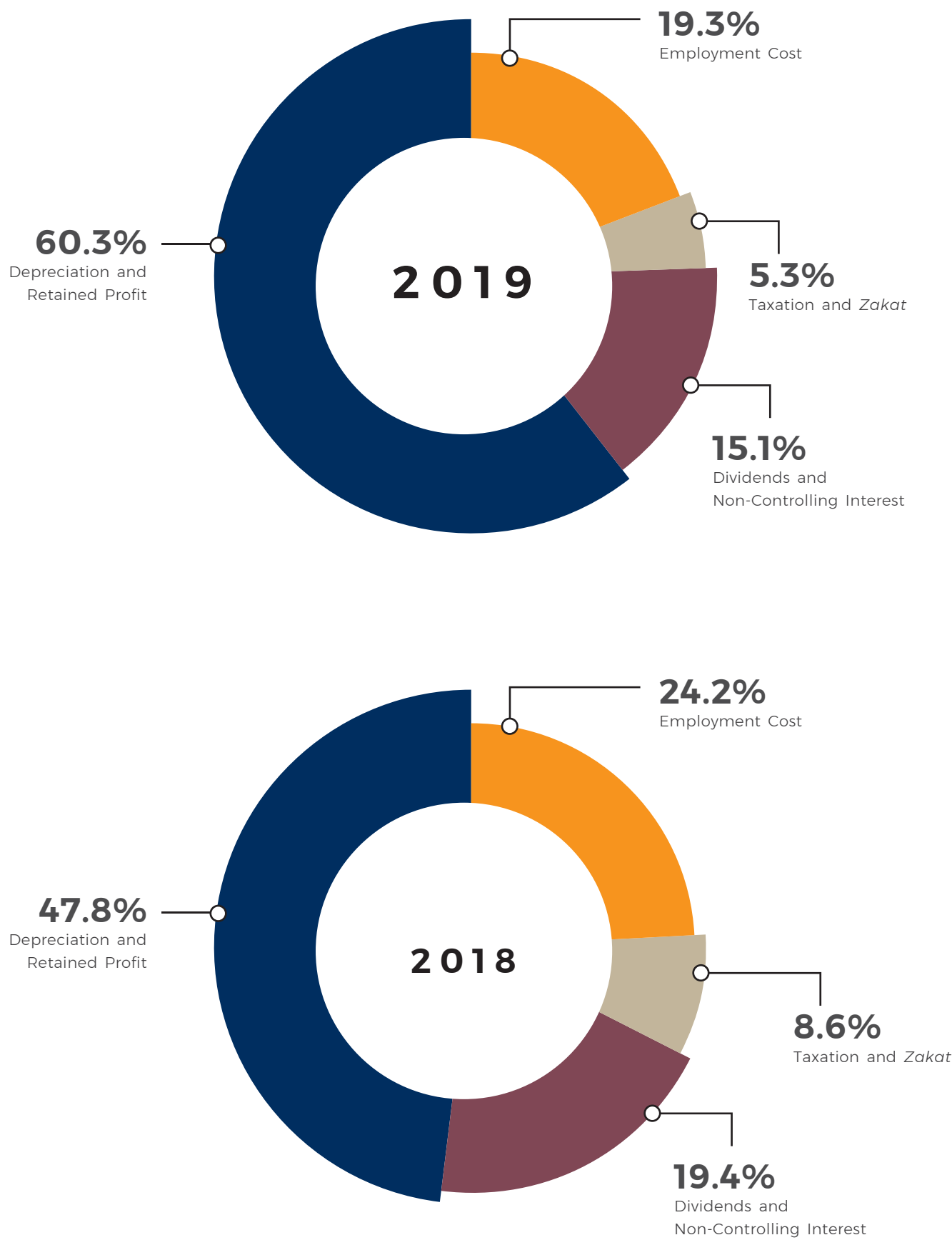


## PERFORMANCE REVIEW

# Statement of Value Added

	31.12.2019	31.12.2018
<b>VALUE ADDED (RM Million)</b>		
Revenue	<b>50,939.7</b>	50,392.5
Operating expenses excluding staff costs and depreciation	<b>(29,624.9)</b>	(33,677.6)
Net loss on impairment of financial instruments	<b>(302.4)</b>	(487.3)
Operating income	<b>1,131.0</b>	825.1
Finance income	<b>525.1</b>	423.8
Finance cost	<b>(3,382.7)</b>	(1,688.5)
Fair value of financial instruments	<b>(38.0)</b>	36.7
Foreign exchange gain/(loss)	<b>113.9</b>	(418.3)
Share of results of associates and Joint ventures	<b>52.6</b>	(182.7)
Value added available for distribution	<b>19,414.3</b>	15,223.7
<b>DISTRIBUTION (RM Million)</b>		
To employees:		
Employment cost	<b>3,747.7</b>	3,685.8
To the Government:		
Taxation and <i>zakat</i>	<b>1,032.7</b>	1,301.6
To shareholders:		
Dividends	<b>3,014.1</b>	2,931.9
Non-controlling interest	<b>(84.2)</b>	21.3
To reinvest to the Group:		
Depreciation	<b>10,188.9</b>	6,491.3
Retained profit	<b>1,515.1</b>	791.8
Total distributed	<b>19,414.3</b>	15,223.7

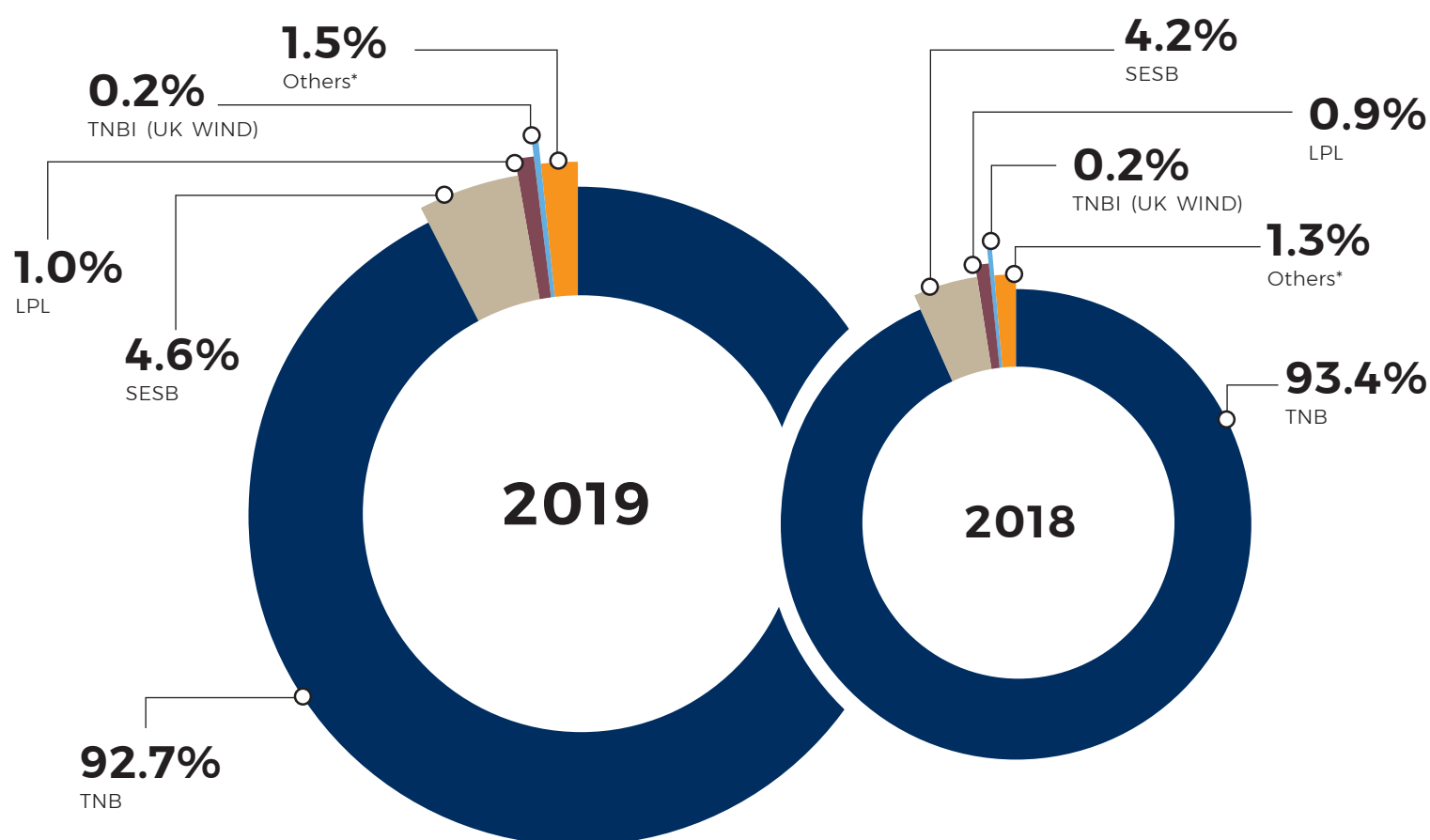
# Distribution of Value Added



## PERFORMANCE REVIEW

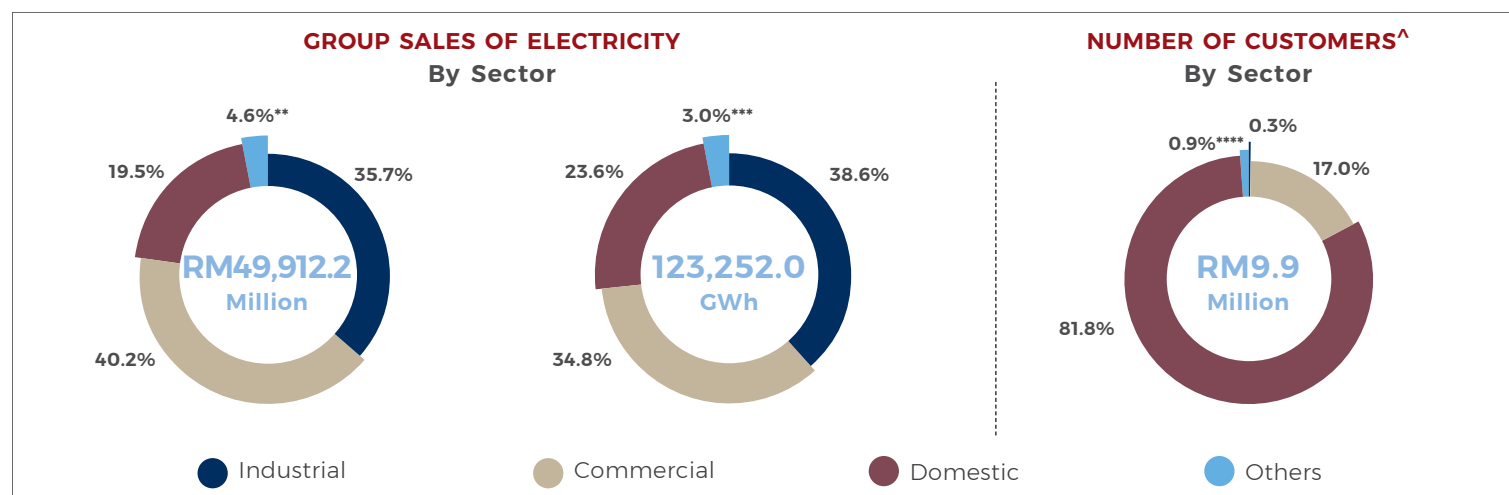
# Core Revenue

FINANCIAL YEAR ENDED 31 DECEMBER 2019



RM Million	TNB	SESB	LPL	TNBI (UK WIND)	Others*	Total
2019	47,242.3	2,321.3	516.8	103.3	756.0	50,939.7
2018	47,063.3	2,148.4	459.5	79.6	641.7	50,392.5

\* Others include Goods &amp; Services, Construction Contracts



\*\* Others include Agriculture, Mining, Public Lighting, EGAT, LPL, TNBI (UK WIND), Net Imbalance Cost Pass-Through (ICPT) and other regulatory adjustment, SESB Tariff Support Subsidy

\*\*\* Others include Agriculture, Mining, Public Lighting, EGAT, LPL, TNBI (UK WIND)

\*\*\*\* Others include Mining, Public Lighting, Agriculture

^ Number of Customers represents TNB and SESB only



# Financial Calendar

## ANNOUNCEMENTS OF CONSOLIDATED RESULTS

### 28 May 2019

Unaudited consolidated results for the first (1<sup>st</sup>) quarter ended 31 March 2019

### 30 August 2019

Unaudited consolidated results for the second (2<sup>nd</sup>) quarter ended 30 June 2019

### 27 November 2019

Unaudited consolidated results for the third (3<sup>rd</sup>) quarter ended 30 September 2019

### 28 February 2020

Unaudited consolidated results for the fourth (4<sup>th</sup>) quarter ended 31 December 2019

## DIVIDENDS

Interim Single-Tier Dividend of 30.0 sen per ordinary share for the Financial Year ended 31 December 2019

### 30 September 2019

Entitlement Date

### 11 October 2019

Payment Date

Final and Special Single-Tier Dividends of 20.0 sen and 50.0 sen per ordinary share respectively for the Financial Year ended 31 December 2019

### 31 March 2020

Entitlement Date

### 16 April 2020

Payment Date

## ANNUAL GENERAL MEETINGS

### 12 April 2019

Notice of 29<sup>th</sup> Annual General Meeting and Issuance of Integrated Annual Report and Audited Financial Statements for the Financial Year ended 31 December 2018

### 14 May 2019

29<sup>th</sup> Annual General Meeting

### 10 April 2020

Notice of 30<sup>th</sup> Annual General Meeting and Issuance of Integrated Annual Report and Audited Financial Statements for the Financial Year ended 31 December 2019

### 30 June 2020

30<sup>th</sup> Annual General Meeting

## COURT CONVENED MEETING

### 13 January 2020

Notice of Court Convened Meeting and Issuance of Explanatory Statement to Shareholders pursuant to Section 369 of the Companies Act 2016 in relation to the Proposed Internal Reorganisation by way of a Members' Scheme of Arrangement under Section 366 of the Companies Act 2016

### 11 February 2020

Court Convened Meeting

## PERFORMANCE REVIEW

# Investor Relations

## WE STRIVE TO MAINTAIN A TRANSPARENT AND STURDY RELATIONSHIP WITH THE INVESTMENT COMMUNITY

In the context of continuous improvement in our disclosure, transparency and corporate governance, the Board and the Senior Management aim to provide the investment community with transparent, clear and complete picture of the Group's performance and prospect.

We have a dedicated investor relations team and multiple effective communication channels where we are fully committed in maintaining high standards in the distribution of relevant and material information on the development of the Group to our investment community such as on business strategies, financial performance and current initiatives taken in achieving Reimagining TNB. We believe by consciously and proactively engaging our investment community, this will enhance our shareholders' understanding on the Group's current and way-forward plans.

Our list of communication channels are as follows:

- Quarterly and Full Year Financial Results Announcements
- Engagement session with the investment community through one-on-one/group meetings, investor conferences and non-deal roadshows
- IR Corporate Day
- Interactive sessions with shareholders at the Annual General Meeting
- Site Visits to TNB's power plants
- IR section in TNB's website
- Bursa filings & Press Releases
- Annual Integrated & Sustainability reports

Our investor relations' section in TNB's website at [www.tnb.com.my](http://www.tnb.com.my) is the key platform for our stakeholders, both local and foreign, to secure the latest as well as historical corporate financial and other investor-related information of TNB. This information will aid them in making sound investment decisions.

Furthermore, the Investor Relations team updates the Board and the Senior Management on our shareholdings, investor relations activities, consensus from analysts and investment community, as well as share price performance on a regular basis to ensure that the Management is constantly up-to-date with the market condition. This information will aid them in creating long-term value for our shareholders.

## ACTIVE ENGAGEMENTS WITH THE INVESTMENT COMMUNITY

During the year, our Investor Relations team and the Senior Management have actively engaged the investment community where we hosted as well as joined one-on-one and group meetings with our shareholders, analysts and potential investors. These include our active participation in investor conferences and non-deal roadshows, both locally and abroad, to ensure that we are able to reach out and engage to as many investors as possible. Details of our engagements are as below:

Key Events	FY2019	FY2018	FY2017
Number of Analyst Briefing (Annual/Quarterly Results Announcement and Special Briefing)	4	5	4
Number of Investor Conferences & Non-deal Roadshows (NDR)	8	6	7
Number of engagements (analysts/fund managers) via in-house/external meetings, investor conferences and NDR	615	461	454

### IR Calendar of Events for FY2019

#### 4 January 2019

> CIMB 10' Malaysia Corporate Day (Kuala Lumpur, Malaysia)

#### 18 January 2019

> CLSA Renewable Day (Kuala Lumpur, Malaysia)

#### 11 - 15 March 2019

> Nomura NDR (New York, Boston, San Francisco & Los Angeles, USA)

#### 19 March 2019

> Maybank Invest Malaysia (Kuala Lumpur, Malaysia)

#### 24 - 25 June 2019

> CIMB NDR (Singapore)

#### 2 - 5 July 2019

> Maybank NDR (London & Edinburgh, UK)

#### 18 July 2019

> TNB Sepang Solar Site Visit (Selangor, Malaysia)

#### 4 September 2019

> Citi's Malaysia Investor Symposium 2019 (Kuala Lumpur, Malaysia)

## INVESTMENT COMMUNITY'S FEEDBACK

During our various engagement sessions with the investment community, the key topics of interest amongst others are as follows:

- MESI 2.0 reform
- Proposed Internal Reorganisation
- Group's business strategy and performance, both domestic and international
- Updates on Incentive Based Regulation
- Group Financial results
- New business ventures such as broadband and rooftop solar PV
- Sustainability matters

We appreciate the views and feedback from our shareholders and investors during these sessions and any key concerns are regularly reported to the Board and the Senior Management for their deliberation and actions.

## BUILDING LONG-TERM SHAREHOLDER VALUE

We are committed in building long-term value for our shareholders and we have been consistently rewarding them through the declaration of interim and final dividend in each financial year.

In 2019, TNB Board of Directors has approved a final single tier dividend of 20.0 sen per share, raising the single tier dividend total to 50.0 sen per share. This translates to a dividend payout ratio of 56.0% from the Group's Adjusted PATAMI, effectively hitting the higher tier of the company's 30% to 60% dividend policy consistently for the last three (3) financial years.

As a token of appreciation to our loyal shareholders, in conjunction with our 70th anniversary, TNB Board of Directors has also approved a special dividend of 50.0 sen per share, bringing the total dividend per share to RM1.00, amounting to RM5.69 billion. This marks TNB's highest dividend payout to date.

## ANALYST COVERAGE

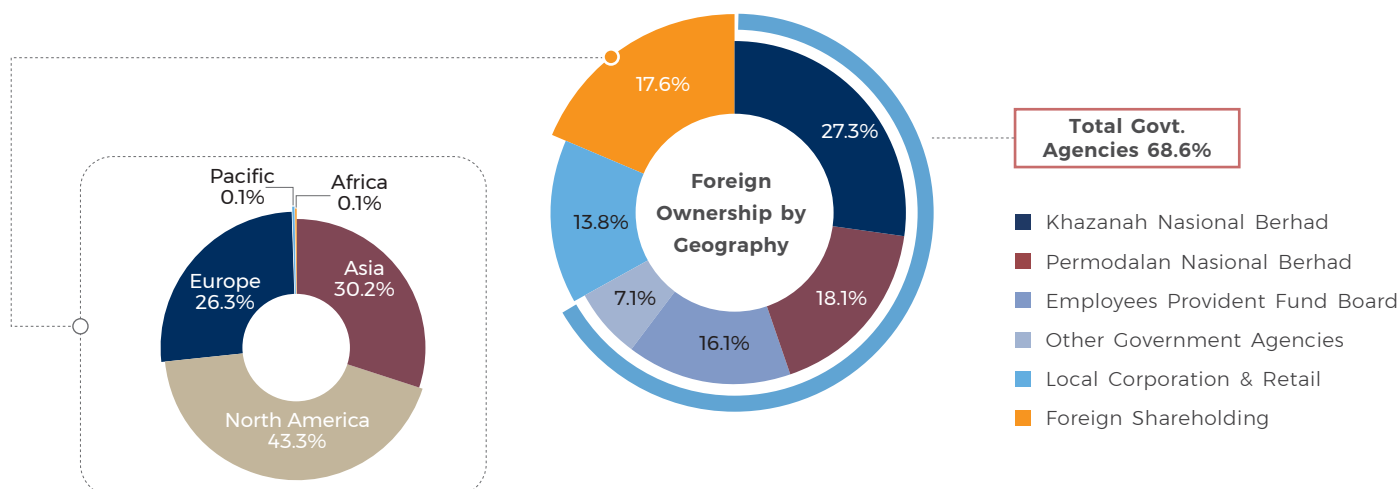
We maintain strong links with our 24 sell-side research analysts to ensure that all TNB related information which flows to the market are accurate and consistent with the Group's performance and latest developments.

Affin Hwang Investment Bank	AllianceDBS Research	AmInvestment Bank
Bank of America (BofA)	BIMB Securities Research	CGS-CIMB Securities
Citi Research	CLSA	Credit Suisse
Hong Leong Investment Bank	HSBC Global Research	J.P. Morgan
KAF Equities	Kenanga Investment Bank	Macquarie Capital Securities
Maybank Investment Bank	MIDF Amanah Investment Bank	Morgan Stanley Research
Nomura	Public Investment Bank	RHB
TA Securities	UBS Global Research	UOB KayHian Securities

## SHAREHOLDER INFORMATION

As at 2 March 2020, Khazanah Nasional Berhad remained as our largest shareholder, with 27.3% of shareholding. Other Government related agencies cumulatively holds around 41.3% with Permodalan Nasional Berhad at 18.1%, Employees Provident Fund at 16.1% while others at 7.1%. The balance of 31.4% are held by Other Local Corporations, Malaysian Retail and Foreign Shareholders.

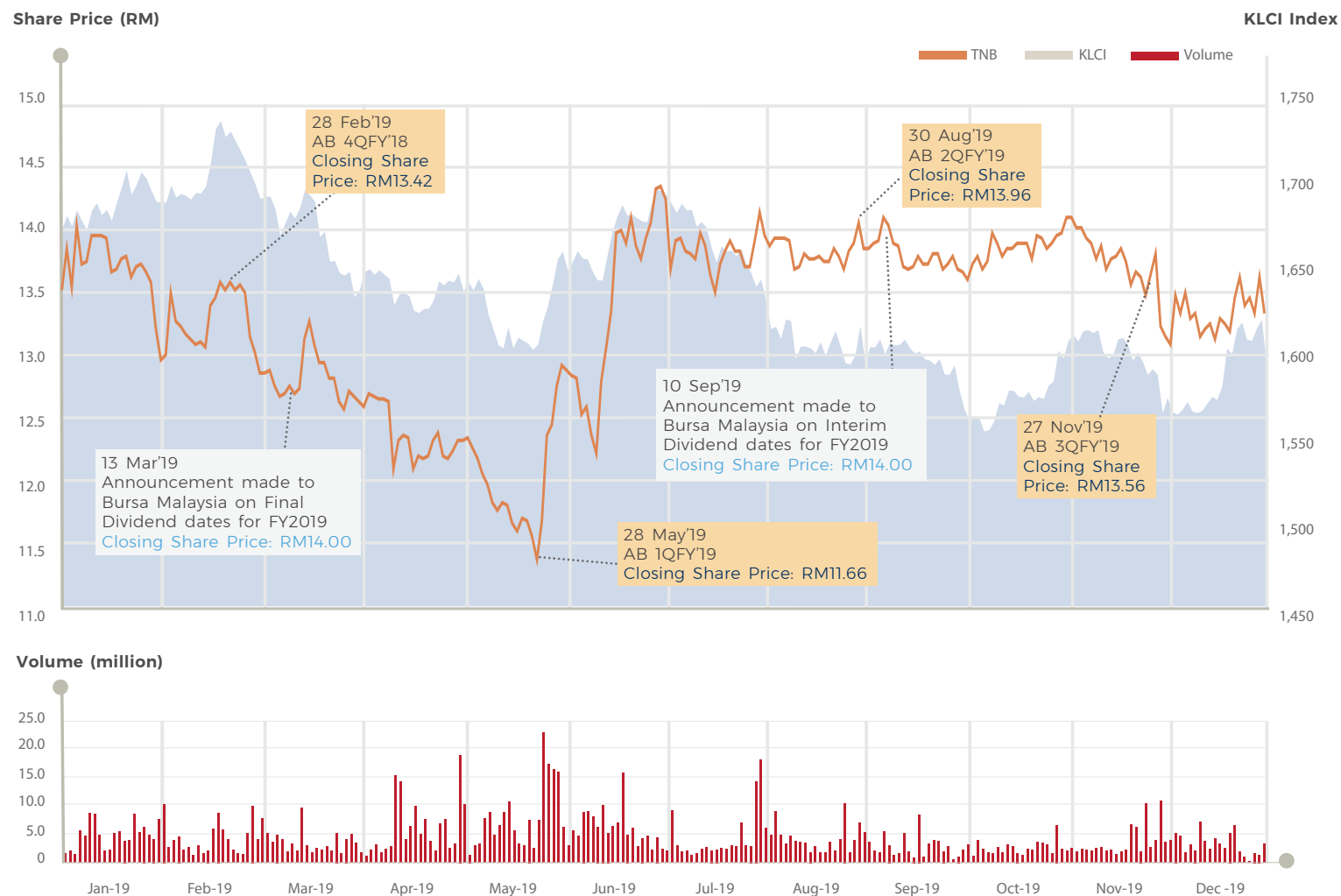
Based on the geographical spread of our foreign shareholding, the largest shareholding base is North America with 43.3%, followed by our shareholders from Asia (excluding Malaysia) and Europe, which accounted for 30.2% and 26.3% of the shares respectively.



## PERFORMANCE REVIEW

## Investor Relations

## TNB SHARE PRICE, FBM KLCI INDEX AND VOLUME TRADED IN FY2019







# LEADERSHIP

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Our Board of Directors

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Our Senior Management

# Corporate Information

## BOARD OF DIRECTORS

### TAN SRI AHMAD BADRI MOHD ZAHIR

Chairman  
Non-Independent Non-Executive Director  
(Redesignated as Chairman  
w.e.f. 12 March 2020)

### DATUK SERI AMIR HAMZAH BIN AZIZAN

President/Chief Executive Officer  
Non-Independent Executive Director

### AMRAN HAFIZ BIN AFFIFUDIN

Non-Independent Non-Executive Director

### NORAINI BINTI CHE DAN

Senior Independent Non-Executive Director

### GEE SIEW YOONG

Independent Non-Executive Director

### JUNIWATI RAHMAT HUSSIN

Independent Non-Executive Director

### GOPALA KRISHNAN K.SUNDARAM

Independent Non-Executive Director

### ONG AI LIN

Independent Non-Executive Director

### DATO' ROSLINA BINTI ZAINAL

Non-Independent Non-Executive Director

### DATO' CHEOK LAY LENG

Independent Non-Executive Director  
(Appointed w.e.f. 2 March 2020)

### TAN SRI LEO MOGGIE

Non-Independent Non-Executive Director  
(Cessation of Office as Chairman  
w.e.f. 12 March 2020)

## SENIOR INDEPENDENT NON-EXECUTIVE DIRECTOR

### Noraini binti Che Dan

Email : norainicd.integrity@tnb.com.my

## COMPANY SECRETARY

### Norazni binti Mohd Isa

(LS 0009635)  
(SSM Practicing Certificate No. 201908000492)

## SHARE REGISTRAR

### Boardroom Share Registrars Sdn. Bhd.

199601006647 (378993-D)  
11<sup>th</sup> Floor, Menara Symphony  
No. 5, Jalan Prof. Khoo Kay Kim  
Seksyen 13  
46200 Petaling Jaya  
Selangor Darul Ehsan  
Malaysia

Telephone : +603-7890 4700  
Facsimile : +603-7890 4670

## DIVIDEND SERVICE PROVIDER

### Bursa Malaysia Depository Sdn. Bhd.

198701006854 (165570-W)  
10<sup>th</sup> Floor, Exchange Square  
Bukit Kewangan  
50200 Kuala Lumpur  
Malaysia

Telephone : +603-2034 7751  
Facsimile : +603-2026 3712

## PRINCIPAL BANKER

### Malayan Banking Berhad

196001000142 (3813-K)

## EXTERNAL AUDITORS

### Messrs PricewaterhouseCoopers PLT

(LLP0014401-LCA & AF 1146)  
Chartered Accountants  
Level 10, 1 Sentral  
Jalan Rakyat  
Kuala Lumpur Sentral  
P.O. Box 10192  
50706 Kuala Lumpur  
Malaysia

Telephone : +603-2173 1188  
Facsimile : +603-2173 1288

## REGISTERED OFFICE

### Tenaga Nasional Berhad

199001009294 (200866-W)  
Pejabat Setiausaha Syarikat, Tingkat 2  
Ibu Pejabat Tenaga Nasional Berhad  
No. 129, Jalan Bangsar  
59200 Kuala Lumpur  
Malaysia

Telephone : +603-2296 5566  
Facsimile : +603-2283 3686  
Website : www.tnb.com.my  
TNB Careline : 15454  
(for power outage or  
TNB street light  
malfunction)  
: 1-300-88-5454  
(for billing and  
account enquiries)

Online Whistle : wbis.tnb.com.my

Blowing  
Information  
System

Toll Free : 1-800-888-862

## INVESTOR RELATIONS

### CoE Investor Relations

Group Finance Division  
Tenaga Nasional Berhad  
4<sup>th</sup> Floor, TNB Headquarters  
No. 129, Jalan Bangsar  
59200 Kuala Lumpur  
Malaysia

Telephone : +603-2296 5566  
Facsimile : +603-2108 2034  
Email : tenaga\_ird@tnb.com.my

## STOCK EXCHANGE LISTING

Main Market of Bursa Malaysia  
Securities Berhad  
(Listed since 28 May 1992)

## CREDIT RATINGS

Local Rating Agency		International Rating Agency	
Issuer Rating		Issuer Rating	
RAM Rating Services Berhad (RAM)	AAA Stable	Standard & Poor's Ratings Services (S&P)	BBB+ Stable
Malaysian Rating Corporation Berhad (MARC)	AAA <sub>IS</sub> /AAA Stable	Moody's Investors Services (Moody's)	A3 Stable

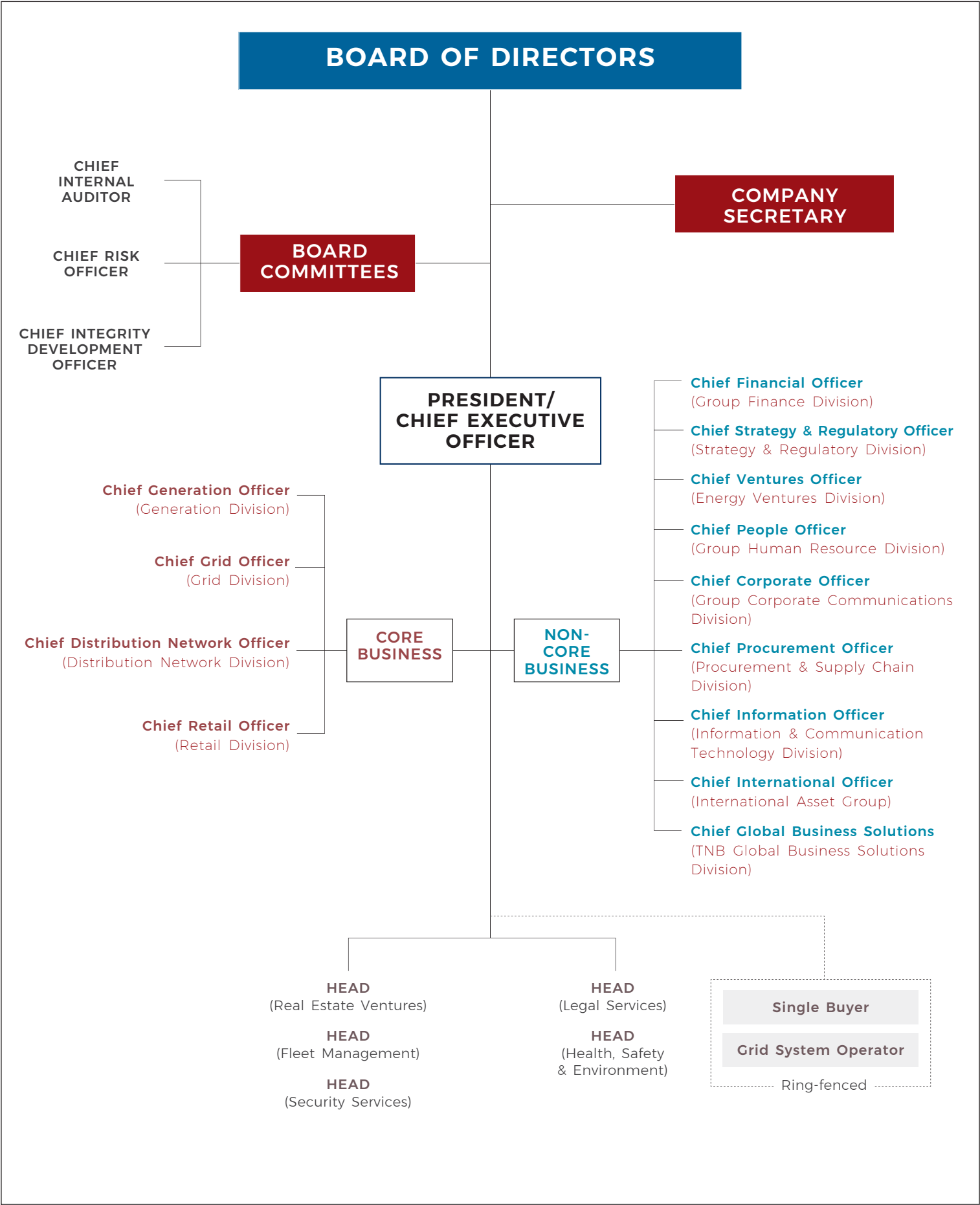
## AMERICAN DEPOSITORY RECEIPTS PROGRAMME (ADR)

ADR Level 1

## AGM HELP DESK

Telephone : +603-2107 4515/4516/4517  
(Share Administration Section  
Company Secretary's Office  
Tenaga Nasional Berhad)

# Organisational Structure





# Board of Directors

**DATO' CHEOK LAY LENG**

Independent  
Non-Executive Director  
(Appointed w.e.f. 2 March 2020)

**DATO' ROSLINA**

**BINTI ZAINAL**  
Non-Independent  
Non-Executive Director

**DATUK SERI AMIR**

**HAMZAH BIN AZIZAN**  
President/Chief  
Executive Officer,  
Non-Independent  
Executive Director

**NORAZNI BINTI**

**MOHD ISA**  
Company Secretary

**AMRAN HAFIZ**

**BIN AFFIFUDIN**  
Non-Independent  
Non-Executive Director

**GEE SIEW YOONG**

Independent  
Non-Executive Director





**TAN SRI AHMAD BADRI  
MOHD ZAHIR**  
Chairman,  
Non-Independent  
Non-Executive Director  
*(Redesignated as Chairman  
w.e.f. 12 March 2020)*

**JUNIWATI RAHMAT  
HUSSIN**  
Independent  
Non-Executive Director

**GOPALA KRISHNAN  
K.SUNDARAM**  
Independent  
Non-Executive Director

**TAN SRI LEO MOGGIE**  
Non-Independent  
Non-Executive Director  
*(Cessation of Office as Chairman  
w.e.f. 12 March 2020)*

**NORAINI  
BINTI CHE DAN**  
Senior Independent  
Non-Executive Director

**ONG AI LIN**  
Independent  
Non-Executive Director



# Our Board of Directors



**TAN SRI AHMAD BADRI MOHD ZAHIR**

Chairman,

**Non-Independent Non-Executive Director\***  
(Redesignated as Chairman w.e.f. 12 March 2020)

\* Appointed Director by the Minister of Finance (Incorporated) (MoF Inc.), the Special Shareholder of TNB

F



**TAN SRI LEO MOGGIE**

Non-Independent

**Non-Executive Director\***

(Cessation of Office as Chairman w.e.f. 12 March 2020)

\* Appointed Director by MoF Inc., the Special Shareholder of TNB

F



**DATUK SERI AMIR HAMZAH BIN AZIZAN**

President/Chief Executive Officer,

**Non-Independent Executive Director\***

Appointed Director by MoF Inc., the Special Shareholder of TNB



**AMRAN HAFIZ BIN AFFIFUDIN**

**Non-Independent Non-Executive Director\***

Appointed Director by Khazanah Nasional Berhad, the Major Shareholder of TNB

F NR L I



**NORAINI BINTI CHE DAN**

Senior Independent Non-Executive Director

A F NR R L



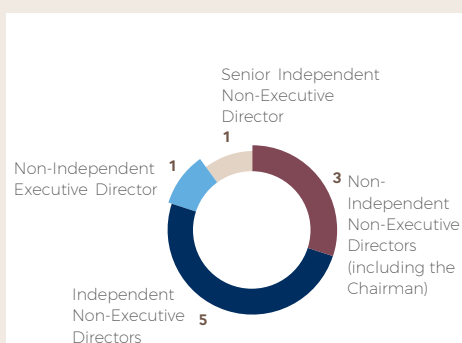
**GEE SIEW YOONG**

Independent Non-Executive Director

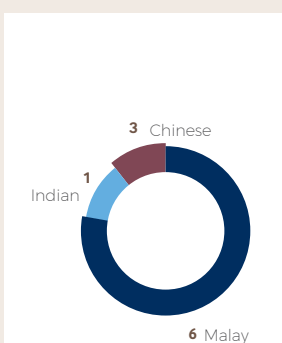
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## Board at a Glance

### COMPOSITION

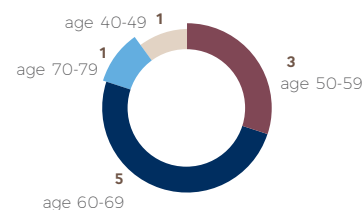


### ETHNICITY



### AGE

The current Board's age distribution falls within the respective age groups as follows:



### GENDER

Female Directors currently represent 50% of Board Composition in line with government aspiration which also consistent with Practice 4.5 of the Malaysian Code on Corporate Governance 2017





**JUNIWATI RAHMAT HUSSIN**  
Independent Non-Executive Director

NR L T R I



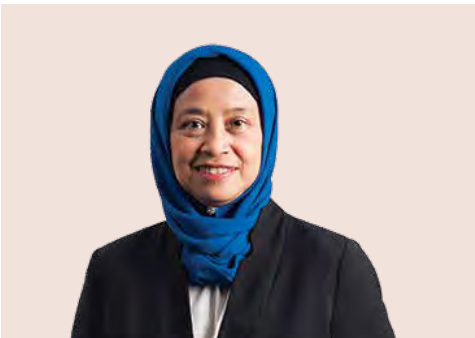
**GOPALA KRISHNAN K.SUNDARAM**  
Independent Non-Executive Director

I A R



**ONG AI LIN**  
Independent Non-Executive Director

A R I

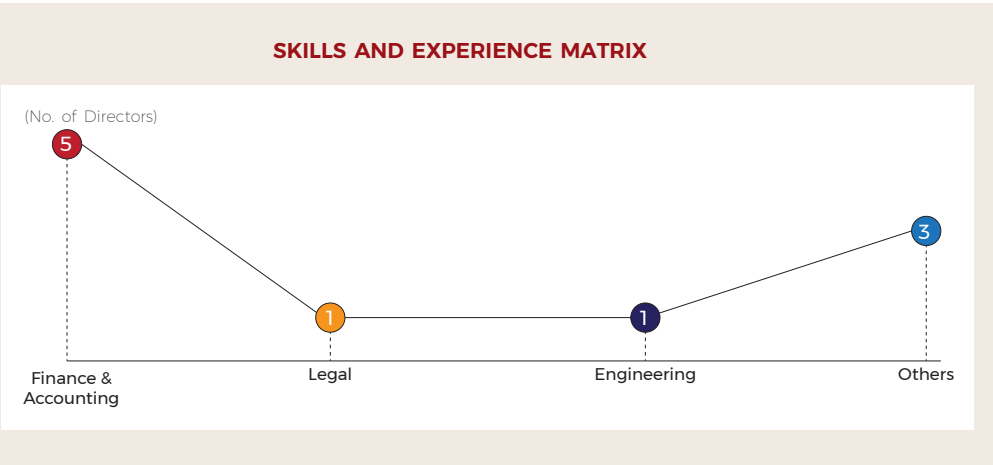


**DATO' ROSLINA BINTI ZAINAL**  
Non-Independent Non-Executive Director

A F T



**DATO' CHEOK LAY LENG**  
Independent Non-Executive Director  
(Appointed w.e.f. 2 March 2020)



**A COMMITTED BOARD**

Chairman of Respective Committee	Board Nomination and Remuneration Committee
Board Audit Committee	Board Risk Committee
Board Finance and Investment Committee	Board Long Term Incentive Plan Committee
Board Tender Committee	Board Integrity Committee

For complete details of the Board of Directors' Profile, please refer to pages 2 to 12 in Corporate Governance & Financial Statements 2019.

# Our Senior Management



**DATUK SERI AMIR HAMZAH BIN AZIZAN**

President/Chief Executive Officer



**NAZMI BIN OTHMAN**

Chief Financial Officer



**DATUK FAZLUR RAHMAN BIN ZAINUDDIN**

Chief Strategy & Regulatory Officer



**Ir. ROSLAN BIN ABD RAHMAN**

Chief Generation Officer



**DATUK Ir. HUSAINI BIN HUSIN**

Chief Grid Officer



**DATUK Ir. BAHARIN BIN DIN**

Chief Distribution Network Officer



**Ir. MEGAT JALALUDDIN BIN MEGAT HASSAN**

Chief Retail Officer



**DATO' NOR AZMAN BIN MUFTI**

Chief Ventures Officer



**DATO' MUHAMMAD RAZIF BIN ABDUL RAHMAN**

Chief People Officer







**DATUK WIRA ROSLAN BIN AB RAHMAN**

Chief Corporate Officer

GEMC GPC GMTC TMSC CRSC



**AMIR MAHMOD BIN ABDULLAH**

Chief Procurement Officer

GEMC GPC ComPEC BIC CRSC



**FAZIL BIN IBRAHIM**

Chief Information Officer

GEMC GPC GMTC BIC CRSC



**MOHD SHAHAZWAN BIN MOHD HARRIS**

Chief International Officer

GEMC GPC BIC CRSC



**MOHAMAD ARIFF BIN ZAINOL**

Chief Global Business Solutions

GEMC GPC GMTC IBRC CRSC



**NORAZNI BINTI MOHD ISA**

Company Secretary

GEMC GPC CRSC

## MEMBERSHIP KEY

<b>GEMC</b>	GROUP EXECUTIVE MANAGEMENT COMMITTEE
<b>GPC</b>	GROUP PEOPLE COMMITTEE
<b>GMTC</b>	GROUP MANAGEMENT TENDER COMMITTEE
<b>ComPEC</b>	COMMODITY PROCUREMENT EXECUTIVE COMMITTEE
<b>BIC</b>	BUSINESS INNOVATION COUNCIL
<b>IBRC</b>	INCENTIVE BASED REGULATION COUNCIL
<b>TMSC</b>	TNB MESI 2.0 STEERING COMMITTEE
<b>CRSC</b>	CORPORATE REORGANISATION STEERING COMMITTEE
<b>SESB EC</b>	SABAH ELECTRICITY SDN. BHD. (SESB) EXECUTIVE COMMITTEE

For complete details of the Profile of Senior Management, please refer to pages 14 to 21 in Corporate Governance & Financial Statements 2019

# BE SMART BE IN CONTROL

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- Home Security
- Energy Monitoring
- Smart Home Automation

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**maevi**

HOME ENERGY MANAGEMENT SYSTEM

MAKING ELECTRICITY VISIBLE

Tenaga Nasional Berhad 199001009294 (200866-W)

The background is a dark grey collage of various icons in shades of brown and gold. These icons include a pair of scales of justice, a clock face, a person's head with a checkmark, a handshake, a classical building with columns, interlocking gears, a large clock, a shield with a checkmark, and a hand holding a smartphone. A semi-transparent brown rectangle is centered over the collage, containing the title and page number.

# GOVERNANCE

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Protecting Value Through Effective Governance



# Protecting Value Through Effective Governance

## ABOUT OUR INTEGRATED REPORT (IR)

We believe that Integrated Reporting requires fundamentally a different way of reporting on WHAT makes an organisation successful, HOW it creates value over time and WHY it relies on a much broader set of capitals (or resources) other than just financial capital. IR is essentially therefore, a mechanism by which we present the full picture of our Company's use of all relevant capitals (or resources).

This IR is our primary report to our investors and all other stakeholders.

Through our business activities, we take into account considerations of our stakeholders as we pursue with our strategic goals and to have positive impact on society and deliver sustainable shareholder value.

### Leading the way for value creation through good governance

The Board and Management strive to chart our business direction and create maximum shared value across all spheres, led by our Vision 'to be among the leading corporations in energy and related businesses globally' as we drive strategic responses and heed market needs.

We anchor on our shared values of Customer first, Business excellence, Integrity and Caring all of which shape our business ethics and operations and form the backbone of our business conduct. In the course of doing so, we do not waver from our goal of continued focus of creating value to our stakeholders.

We respond to risks and opportunities, ensure relevance and sustainability of the business model and acknowledge the needs of all stakeholders. This strategy enables TNB to remain steadfast in managing our operations supported by good governance and simultaneously, meeting and delivering financial targets.

TNB is committed to the highest standards of governance, ethics and integrity

## 01

### Our Governance Policy

Our Board is committed to the highest standards and levels of governance, ethics and integrity within the Group. The Board recognises that in doing so, the Company will maintain the trust of its many stakeholders. To this end, we work responsibly, with honesty and integrity in order to deliver value for all stakeholders. We undertake this commitment with unabated vigour to ensure our operations are carried out safely, our people are empowered to achieve their goals and there is continuous close engagement with stakeholders.

The Board believes that excellence in corporate governance is vital to achieve the highest standards of professionalism and business ethics across the Company's spectrum of business activities.

In TNB, we embrace world class business practices and robust institutional frameworks and constantly review, enhance and strengthen these practices to ensure we act in the best interest of our stakeholders.

TNB, the largest electricity utility in Malaysia, with its core business of providing electricity utility in the country is a key contributor to nation building. Our activities represent the entire electricity production and supply value chain.

TNB adopts world class governance practices and globally recognised standards for sustainable practices to ensure sustained strength of our business segments and services.

We believe that our sustainability agenda through efforts such as renewable energy and other environmental as well as social initiatives will not only take TNB into the future, but will also allow us to continue to grow our business in the long-term. In doing so, we are resilient and at the same time, flexible in adopting new regulatory changes, responding and adapting to the challenging and competitive regional and global business environment.

In TNB, good governance is not a box – ticking exercise. It entails far more than legislative, regulatory compliance and principles of best practices.

We believe that good governance with value-driven objectives as its mainstay, contributes to raising values through enhanced accountability, strong risk and performance management, transparency and effective leadership.

Good corporate governance creates and sustains shareholder value; ensures that our behaviour is ethical and promotes positive outcomes for all stakeholders.



## 02

### Values-driven objectives of our Board: Pillar of sustainable value-creation



Values-driven objectives of our Board are rooted in corporate governance principles and best practices espoused in the Malaysian Code on Corporate Governance 2017 (MCCG), reporting disclosures and increased compliance requirements (Main Market Listing Requirements of Bursa Malaysia Securities Berhad (MMLR), Companies Act 2016 and other applicable regulations).

The Board's governance oversight is guided by its commitment to its responsibilities and governance objectives. The governance objectives provide a mechanism to measure and evaluate performance in applying the MCCG principles and outcomes.



- **Effective ethical leadership**

Strong leadership is critical to value creation. The Board sets the tone, provides leadership and vision and leads the Group ethically, effectively and responsibly.

The Board has the power to shape the Group's direction and culture through its corporate governance philosophy and ethical practices. In this way the Board ensures that the Group plays a significant role in society as a major employer, tax payer, skills provider and facilitator of the country's economic growth.

The Board does not place itself in a comfortable setting and does not remain static. Challenge and teamwork are essential features of the Board. In decision-making, Board members act with independence, competence, diligence, inclusivity, insight and courage.



- **Strategy, performance and reporting**

The Board takes accountability for the Group's performance. The Board sets the Group's strategic aims and ensures that the necessary resources are in place to meet its objectives and review Management's performance.

The Board supports the Group in its implementation of the Group's value-driven strategic objectives and achieving them. The required disclosures in respect of these are contained in this IR and other reports available at the Company's website at [www.tnb.com.my](http://www.tnb.com.my).



- **Governance of functional areas of the Group's business**

The Board provides leadership and vision to the Group, ensuring sustainable growth and delivery of the Group's business for the benefit of all stakeholders. In the governance of functional areas, good practices prevail.



- **Governing Structures and Delegation**

The Board provides guidance and oversight to the Group on the management of risk & internal control and nomination & remuneration governance through its Board Committees.



- **Sustainable Growth and Stakeholders**

In providing leadership and vision to the Group, the Board ensures sustainable growth and delivery of the Group's purpose and objectives for the benefit of all stakeholders.

The Board will ensure a stakeholder inclusive approach.

## Protecting Value Through Effective Governance

### 03

#### Collective responsibilities of the Board

The Board bears legal responsibility to govern the organisation. Board members have a collective responsibility and individuals do not hold separate authority. Our Board is collectively responsible for the long term success of TNB and delivering sustainable value through oversight of the management of the Group's business.

The Board is committed to continuous improvement of our corporate governance principles, policies and practices and does so through awareness of evolving regulation and best practices.

The Board strives to ensure that good governance is practiced throughout TNB as a fundamental part of discharging its primary governing roles and responsibilities to protect and enhance stakeholders' value and raise the performance of the Company.

The main functions of the Board include the following:

- formulates, reviews, approves and monitors strategic business plans, goals and policies
- identifies and manages principal risks affecting the Company
- reviews the adequacy and integrity of the Company's internal control system
- ensures appropriate policies are in place, adopted, executed effectively and regularly reviewed
- oversees and evaluates the conduct and performance of the Management and the Group's business
- succession planning with regards to Top Management positions and their remuneration
- ensures and provides accountability to its members or shareholders and to some extent, towards a wider range of stakeholders

In doing so, the Board is committed to the following responsibilities:

- delegates management to a competent senior management team to implement, execute the Group's strategies and policies and ensures the robustness of the process
- ensures that the Company maintains a sound system of internal control and robust risk management function and practices to safeguard shareholders' investment and the Group's assets
- safeguards and minimises the impact to the environment in the course of achieving the Group's objectives, reflecting its commitment to economic support for longer term sustainability with focus on positive impact to the environment and the community at large
- ensures compliance with appropriate legislation, regulations and appropriate best practices
- governs disclosures to enable stakeholders to assess effectively the Group's performance

### 04

#### Engaging with the Company's business on strategic matters

Although the Board maintains its independence, it is important that it engages with Management on multiple levels to understand fully the Company's business:

- Board members serve on the various Board committees and engage in strategy sessions and other specific matters such as financial results.
- Board debates and approves the Company's business plan and budget. In 2019, the Board dealt with key focus areas which were discussed during the 2019 Board Breakout Session, among others are, Malaysia Electricity Supply Industry (MESI) 2.0: Developing the Future Electricity Sector Blueprint and TNB Participation in Telco and National Fiberisation and Connectivity Plan.
- Board conducts on-site visits to operations and business units and meetings with Management may be requested from time to time.

# 05

## Risk Management

Risks arising from a constantly shifting global Volatility, Uncertainty, Complexity and Ambiguity (VUCA) market environment are among the major challenges our business faces in progressing with our goal of growing shareholders' value in a sustainable manner.

Risk management is fundamental to the Group's strategy and our electricity utility business. The pervasiveness of risk in this industry means that the Board deems risk management as an integral part of our business strategy.

Risk management oversight is carried out by the Board and the Board Risk Committee (BRC). The BRC is assisted by the Risk Management Department in discharging its duties and responsibilities.

The BRC reviews and deliberates Key Risk Indicators reported through a Quarterly Risk Dashboard. These indicators provide early warning or signals of increasing risk exposures to the Group.

The business environment within which TNB operates, requires us to be vigilant in our risk management and to continuously ensure effective mitigation are in place.

We have identified six risks that may prevent the Group from achieving its strategic and long-term objectives, namely,

- Inability to keep pace with changing customers' expectations
- Competency mismatch to drive strategy
- Inability to adapt to changing market environment
- Inability to leverage on available and new technology
- Ineffective engagement and communication to stakeholders
- Regulatory constraints that can negatively impact TNB businesses

# 06

## Board Independence

The Board is diverse in demographics, skills and experience.

The Board comprises 60% of Independent Directors who promote independent judgement and diverse mind-sets and opinions. All Directors must exercise their judgement independently, irrespective of status. All Directors are assessed annually via the Board Effectiveness Evaluation and Board Independence Assessment. The Directors assessed in 2019 maintained their independent status.

# 07

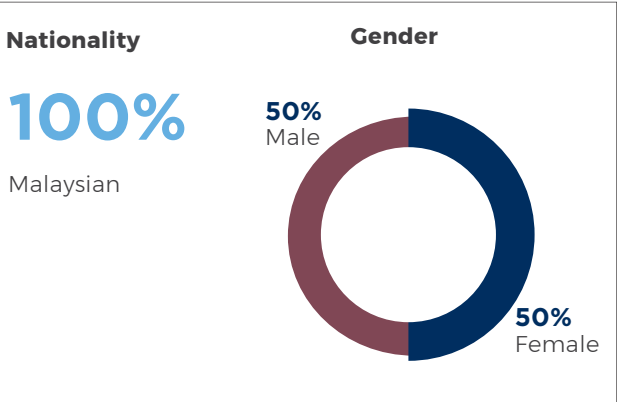
## Board Diversity

The Directors bring with them years of experience in managing sustainable business growth and collectively represent a formidable leadership with diversity of perspectives that support effective decision-making.

In the rapidly transforming and evolving business environment, diversity is important to remain relevant and sustainable. Diversity that embraces gender, race, ethnicity and skills/experience at Board level is a key consideration in our Board selection process.

Female Directors currently represent 50% of the Board composition in line with the Government's aspiration and Practice 4.5 of the MCCG.

Diversity at Board level (skills & experience, gender, nationality)



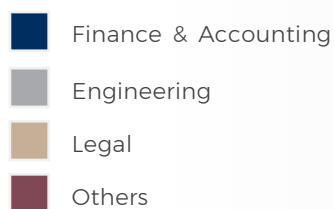
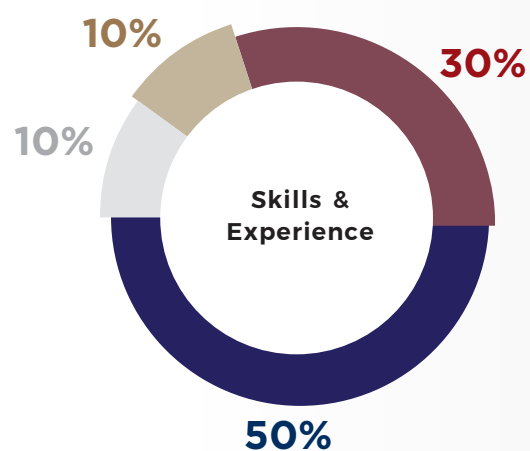
## Protecting Value Through Effective Governance

### 08

#### Board Skills

The Board has members with a broad range of skills that can help create value in the interests of all stakeholders.

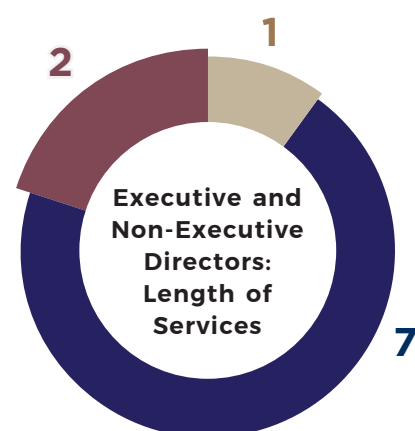
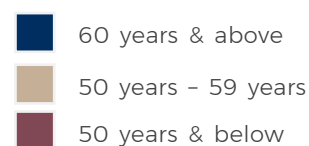
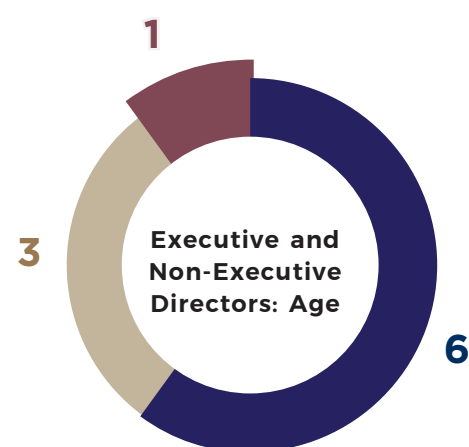
With the appropriate mix of skills and experience the Board is assured that it is well equipped to guide and steer TNB's strategy into the future and thereby create value.



### 09

#### Board Tenure and Experience

A blend of experience and new insight





# 10

## Board of Directors

### Chairman, Non-Independent Non-Executive Director

#### **TAN SRI AHMAD BADRI MOHD ZAHIR**

Chairman: FIC

(Redesignated as Chairman and appointed as Chairman of FIC w.e.f. 12 March 2020)

### Non-Independent Non-Executive Director

#### **AMRAN HAFIZ BIN AFFIFUDIN**

Director

Member: FIC, BNRC, BLTIP and BIC

#### **DATO' ROSLINA BINTI ZAINAL**

Director

Member: BAC, FIC and BTC

(Appointed as Director and member of BAC, FIC & BTC w.e.f. 15 March 2019 and 28 March 2019 respectively)

#### **TAN SRI LEO MOGGIE**

(Cessation of Office as Chairman w.e.f. 12 March 2020)

### Independent Non-Executive Director

#### **NORAINI BINTI CHE DAN**

Senior Independent Director

Chairman: BAC

Member: FIC, BNRC, BRC and BLTIP

#### **GEE SIEW YOONG**

Director

Chairman: BRC

Member: BTC

#### **JUNIWATI RAHMAT HUSSIN**

Director

Chairman: BNRC and BLTIP

Member: BTC, BRC and BIC

#### **GOPALA KRISHNAN K.SUNDARAM**

Director

Chairman: BIC

Member: BAC and BRC

#### **ONG AI LIN**

Director

Member: BAC, BRC and BIC

#### **DATO' CHEOK LAY LENG**

Director

(Appointed w.e.f. 2 March 2020)

### Non-Independent Executive Director

#### **DATUK SERI AMIR HAMZAH BIN AZIZAN**

President/Chief Executive Officer

(Appointed w.e.f. 2 April 2019)

## Protecting Value Through Effective Governance

### 11

#### Ensuring and Protecting Value

We have adopted the principles and guidelines set out in ISO 31000:2018, 'Risk Management - Guidelines' in the design and implementation of the TNB Risk Management Framework.

The framework explicitly brings our focus to the purpose of risk management, which is for value creation and protection in the achievement of objectives.

This framework, which is applicable across the Group, provides a structured and consistent approach to risk management for informed decision-making.

#### We have the following in place:

- clear leadership and commitment through the establishment of the Board Risk Committee (BRC) to ensure the Group has in place a sound and robust enterprise risk management framework.
- a structured risk assessment process to guide the Group to identify, analyse, evaluate and treat risks.
- an online real-time tool and database of risk information that is accessible by all employees to enable monitoring, review and reporting of risks.
- a risk management policy where all employees are accountable and responsible to manage risk and to continually cultivate a risk culture that is transparent, collaborative and adaptive.
- an independent internal audit function.
- a Group Corporate Governance Framework that monitors the application of the principles and practices of the MCCG and other regulatory requirements.

#### Stakeholders



Customers



Investors



Trade-  
Unions



Communities



Government



Employees



Vendors



Non-Governmental  
Organisations

### 12

#### Our Approach to Compliance

We comply with applicable various legislations and regulatory requirements, of which are MMLR, MCCG, Companies Act 2016, Malaysian Financial Reporting Standards and International Financial Reporting Standards.

Appropriate procedures and mechanisms are in place to ensure full and continuous adherence to these.

We monitor and report on compliance through the BAC, which is a Board Committee established by the Board to assist the latter in its oversight role.

Our business compliance covers a wide range of ethical and regulatory areas, among others including anti-competition, strategic trade, anti-bribery and corruption, international sanctions and data protection.

The principles governing our ethical standards and compliance can be found, among others, within the TNB Code of Ethics, TNB Ethics & Integrity Policy, TNB Confidentiality Policy, Whistleblowing Procedure, Corporate Disclosure Policy and the TNB Corporate Integrity Management System Handbook.

## 13

### Values and Culture

The Board is committed to a corporate culture that encompasses and embraces ethical conduct within the Group.

The Board sets the tone for governance within the Group. The Board believes that without the right culture to reflect the Group's moral and ethical beliefs and standards, employees will have difficulty embracing the core values and behaviours which are the embodiment of this organisation.

We are cognisant that our culture journey will continuously evolve in the context of our overall strategy. As we move forward in an agile, digital, fast-paced, customer-centric and highly competitive environment, new mind-sets and capabilities will be required to manage and thrive in this changed corporate landscape.

## 14

### Conflict of Interest

A Director is prohibited from using his or her position or confidential or price-sensitive information to benefit herself or himself or any related third party, financially or otherwise.

Directors are also required to inform the Board of conflicts or potential conflicts of interest that they may have in relation to particular transaction/business or other directorships. They must declare any actual or potential conflict of interest before hand and shall abstain from the Board's deliberation.

A Director may accept other Board appointments provided the appointments do not conflict with the Group and/or adversely affect the Director's duties.

A Non-Executive Director should not hold more than five (5) directorships of listed companies, as prescribed by the MMLR.

## 15

### Fair and Responsible Remuneration

The Board strives to ensure that remuneration is fair and transparent, promoting positive outcomes aligned with legitimate expectations of all stakeholders.

Remuneration of employees is linked to sustainable value creation objectives in line with the Group's strategy. It is based on distinct performance targets and market benchmarking.

## 16

### Driving Innovation

Our Intellectual Capital is borne through the adoption of an innovation led culture which encourages innovative thought processes and approaches in meeting our customers' requirements.

To remain relevant and competitive in this digital age the Board is proactive and places innovation as one of its governance responsibilities. The Board acknowledges the strategic importance of innovation to create sustainable value.

## 17

### Engaging with Investors on Environment, Social and Governance (ESG) Matters

We believe in maintaining the highest standards of responsible business practices and this is evident in the strong relationships we have with our stakeholders.

We continually engage with stakeholders on ESG and strategic matters. The engagement enables the Board to exercise constructive influence as and when appropriate and to protect their interests.

By continuously engaging with our stakeholders, we are able to keep abreast of evolving social and environmental expectations.

We use our stakeholders' insights to fortify our business strategy with the ultimate aim of delivering value to society at large.

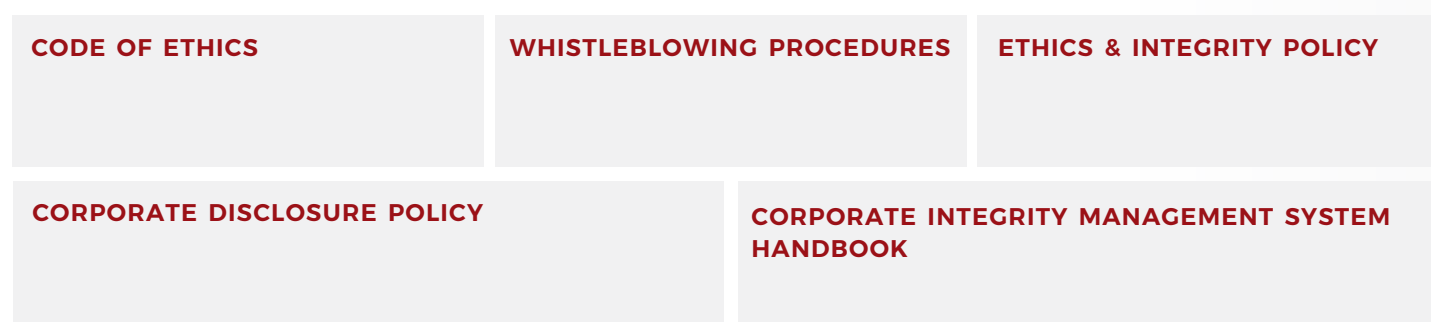
## Protecting Value Through Effective Governance

# 18

### Ethics and Human Rights

An organisation must fundamentally add value for stakeholders by adopting a responsible business philosophy.

At TNB, we believe in doing business responsibly. The Board assumes ultimate responsibility for TNB's ethics performance and adherence to human rights principles. This responsibility is delegated to Management which uses various tools to fulfil its mandate, among others including:



In our efforts to apply high standards of ethical decision-making, taking stakeholder requirements into consideration to ensure value creation, we undertook the following actions during the financial year:

TNB has a well-thought-out set of Shared Values made publicly available and communicated to the workforce. First among the TNB Shared Values is Integrity. The five (5) Principles of Integrity are:

#### 5 PRINCIPLES OF INTEGRITY



The Handbook covers five (5) TNB Corporate Integrity Management System (TCIMS) policies which are Anti Bribery Policy, Gifts, Hospitality and Related Benefits Policy, Conflicts of Interest Policy, Whistleblowing Policy and Integrity Pact and Committee Integrity Pledges Policy.



19

Our Board and Board Committees



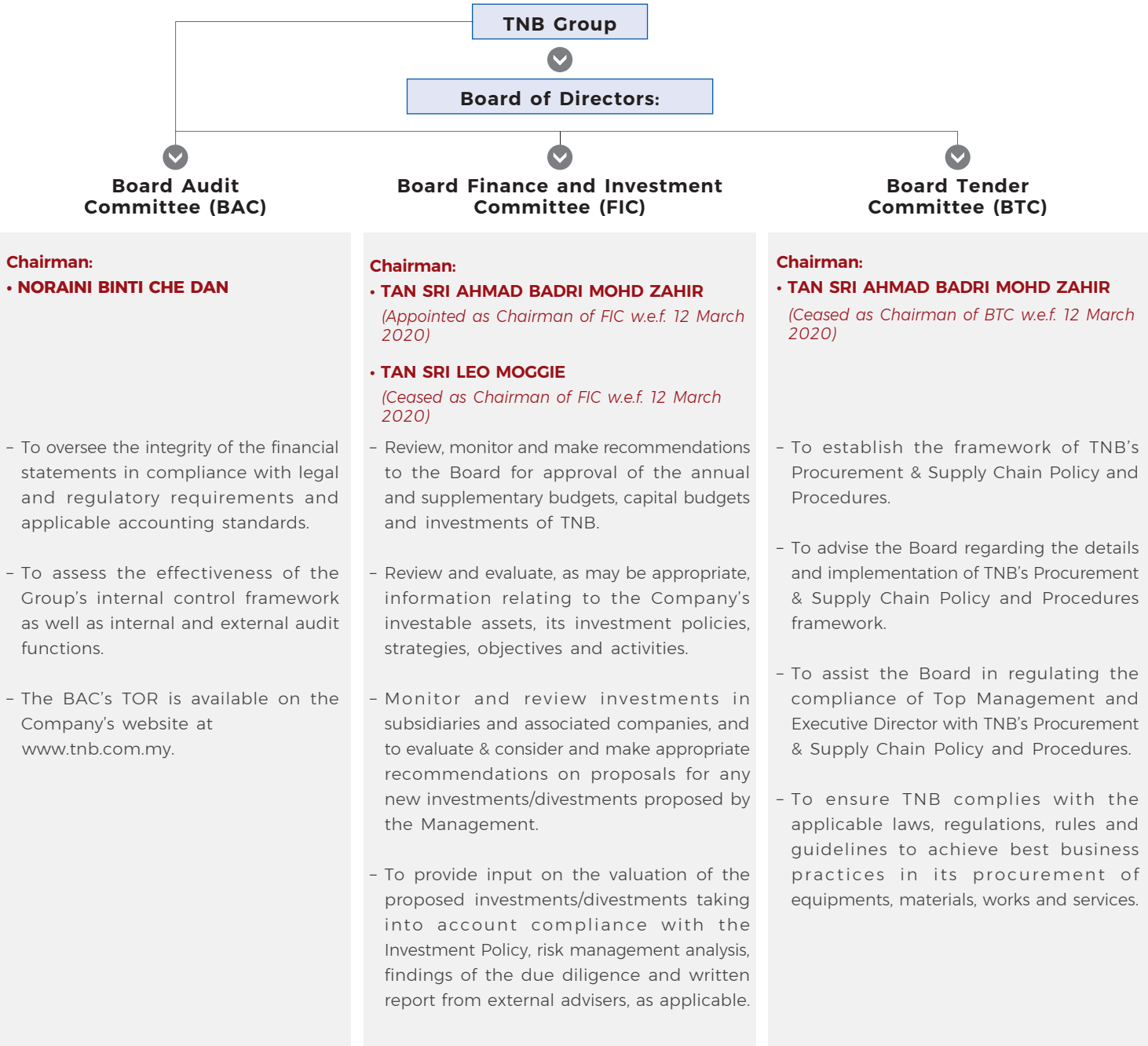
The Board provides leadership and strategic guidance to safeguard stakeholder value creation within a framework of prudent and effective controls. This makes it possible for the Group to assess and manage risk to ensure long-term sustainable development and growth.

The Board is ultimately accountable and responsible for the performance and affairs of TNB and ensures that the Group adheres to high standards of ethical behaviour.

The Board Committees assist the Board in the discharge of its duties and responsibilities.

Each Board Committee has a formal written Terms of Reference that are effectively delegated in respect of some of the Board’s responsibilities.

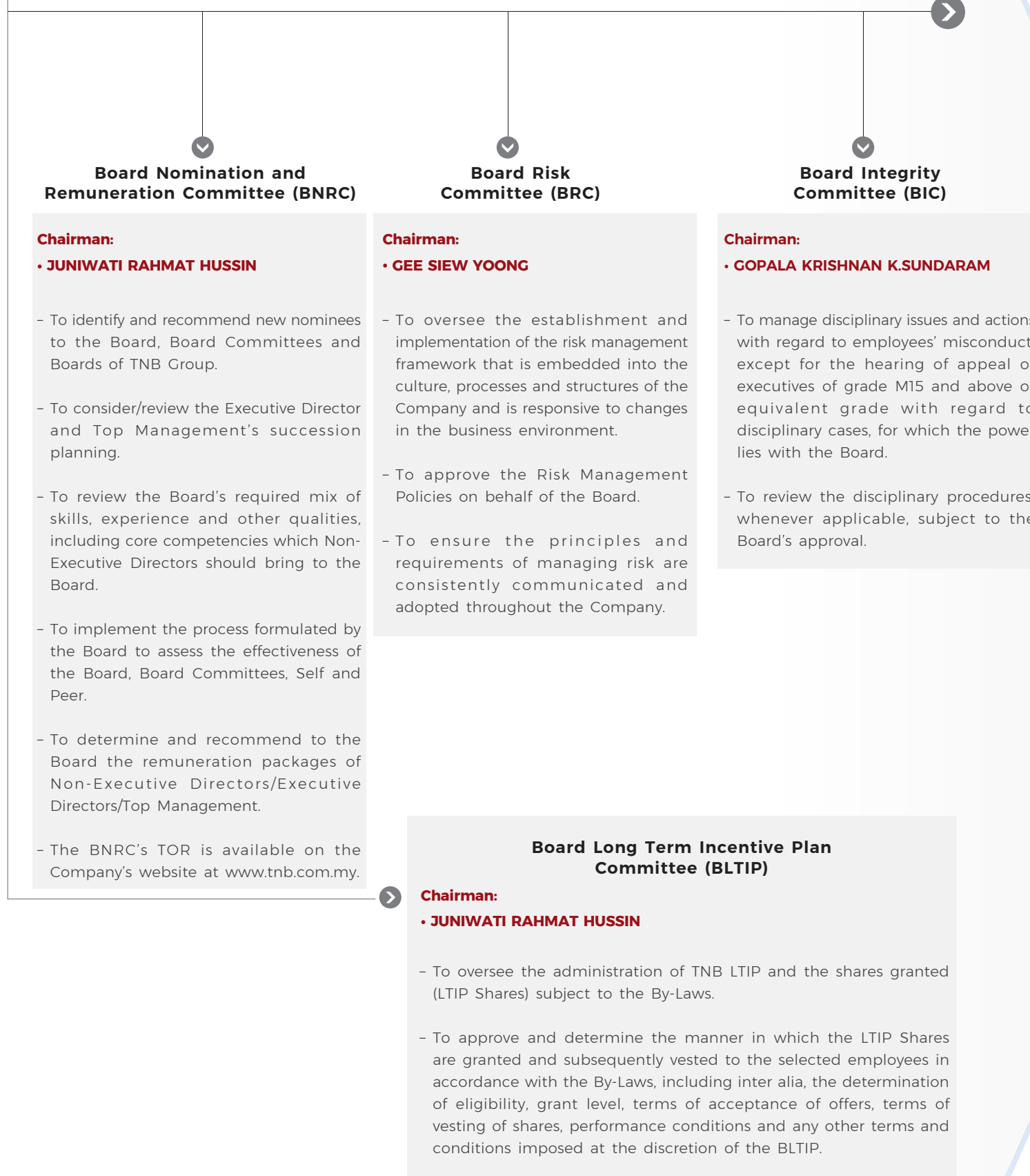
The Board monitors these responsibilities to ensure effective coverage of and control over, the Group’s operations.



## Protecting Value Through Effective Governance

### 19

#### Our Board and Board Committees (Cont'd)



## 20

### Our Group Top Leadership Team

The Group Leadership Team is a diverse and experienced Management team that comprises the following:

#### **DATUK SERI AMIR HAMZAH BIN AZIZAN**

President/Chief Executive Officer

#### **NAZMI BIN OTHMAN**

Chief Financial Officer

#### **DATUK FAZLUR RAHMAN BIN ZAINUDDIN**

Chief Strategy & Regulatory Officer

#### **Ir. ROSLAN BIN ABD RAHMAN**

Chief Generation Officer

#### **DATUK Ir. HUSAINI BIN HUSIN**

Chief Grid Officer

#### **DATUK Ir. BAHARIN BIN DIN**

Chief Distribution Network Officer

#### **Ir. MEGAT JALALUDDIN BIN MEGAT HASSAN**

Chief Retail Officer

#### **DATO' NOR AZMAN BIN MUFTI**

Chief Ventures Officer

#### **DATO' MUHAMMAD RAZIF BIN ABDUL RAHMAN**

Chief People Officer

#### **DATUK WIRA ROSLAN BIN AB RAHMAN**

Chief Corporate Officer

#### **AMIR MAHMOD BIN ABDULLAH**

Chief Procurement Officer

#### **FAZIL BIN IBRAHIM**

Chief Information Officer

#### **MOHD SHAHAZWAN BIN MOHD HARRIS**

Chief International Officer

#### **MOHAMAD ARIFF BIN ZAINOL**

Chief Global Business Solutions

#### **NORAZNI BINTI MOHD ISA**

Company Secretary

# Little actions can make a world of difference



Every day, we use electricity to power our lives. That's why we need to be smart about how we use energy. Starting by making small changes in our daily routine - from switching off idle appliances to choosing cold over hot for laundry or showers. It may seem simple. But if all 32 million of us did our part, imagine the power of good we can achieve together.

For more smart energy tips, visit [myelectricitybill.my](http://myelectricitybill.my)



# SUSTAINABILITY STATEMENT

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# Sustainability Statement

At TNB, we believe that sustainability is integral to our strategy to be amongst the top utility companies globally. We are committed to operating as a socially and environmentally responsible organisation, nurturing world-class talents and harnessing continuous innovation and technology for continuous growth.



## ABOUT THIS STATEMENT

In this Sustainability Statement, we aim to provide clear and transparent information on the management of our material sustainability matters. We also include our performance, targets and initiatives that are integrated within our corporate and sustainability strategy.

Our sustainability pillars are the cornerstone of sustainability at TNB:

### Governance

Marks our commitment, driven by our Board to reinforce ethical business practices and forward-looking culture under the theme **'Spirit of Responsibility'**.



### Economic

Defines our continued aspiration to provide reliable and efficient energy in the local and international Electricity Supply Industry (ESI) for a better and brighter future under the theme **'Empowering the Nation'**.



### Environmental

Defines our commitment to minimise our environmental impact wherever we operate under the theme **'Environmental Stewardship'**.



### Social

Revolves around how we develop long-term and meaningful relationships with our customers, employees and communities to enhance their trust under the theme **'Embracing Relationships'**.



## Reporting Framework, Scope and Boundary

This statement was prepared based on Bursa Malaysia Securities Berhad's ("Bursa Malaysia") Main Market Listing Requirements, Bursa Malaysia Sustainability Reporting Guide 2<sup>nd</sup> Edition, the Global Reporting Initiative (GRI) Standards: Core Option and the GRI Electric Utilities (EU) Sector Disclosures. We are also progressively aligning our sustainability practices to the United Nations Sustainable Development Goals (UN SDGs) and are currently studying the adoption of Task Force on Climate-Related Financial Disclosures (TCFD) framework.

For the purposes of this statement, the scope and boundary of the information covers TNB's key business, mainly comprising:

- TNB Company, which is defined as all TNB divisions. We have highlighted the instances where the scope has been extended to TNB Group, which covers TNB Company and its subsidiaries.
- Operations in Peninsular Malaysia.

We have also indicated where our disclosures cover international operations.

The scope excludes joint ventures and supplier activities, unless otherwise stated.

*Please refer to our upcoming Sustainability Report 2019 for detailed information.*

## Reporting Period

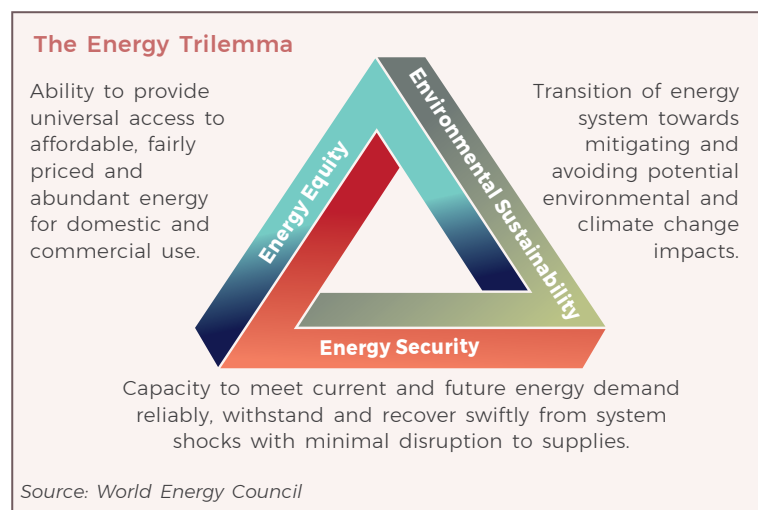
The statement period covers TNB's Financial Year of 2019 (FY2019), which is from 1 January 2019 to 31 December 2019. Where data for FY2019 is not available, the most recent data is provided.



## SUSTAINABILITY AT TNB

### Managing Sustainability

Driven by the unprecedented scale of climate change, the world is undergoing energy transition, from a carbon-intensive system towards a low-carbon and renewables-driven future. The progress towards a sustainable energy future, however, needs to be delicately balanced against the imperative to develop and sustain the well-being of the nation and communities.



### TNB's Approach

TNB remains steadfast in providing affordable electricity to the public while improving service quality and minimising environmental impacts. As such, we take the following approach to address the energy trilemma:

- Upgrading infrastructure to ensure the reliability of current and future electricity supply
- Optimising system efficiency to provide affordable and fair tariffs
- Venturing and investing in renewable energy and cleaner power assets

Our Sustainability Strategy guides the management of sustainability in our daily operations, enabling the achievement of our strategic plan for 2017 to 2025, Reimagining TNB, as depicted in the following diagram:

### TNB's Sustainability Strategy



In this regard, we have continued our direct contributions to four (4) of the UN SDGs, namely Goal 7 (Affordable and Clean Energy), Goal 8 (Decent Work and Economic Growth), Goal 13 (Climate Action), and Goal 17 (Partnerships for the Goals). We are taking a progressive step in our sustainability journey this year by further aligning our aspirations and contributions with the Malaysian Government's latest development blueprint, the Shared Prosperity Vision 2030 (SPV 2030).

For more information on TNB's contribution to the UN SDGs, please refer to the "What Matters to Us" section on pages 104 to 105.

In FY2019, we are studying the adoption of the TCFD framework, starting with a climate scenario analysis. We will progressively enhance our disclosures in line with TCFD.

### Sustainability Governance

TNB's Group-wide sustainability is overseen by the TNB Board of Directors ("the Board") who is also cognisant of the importance of integrating sustainability in the strategic direction of the organisation, decision-making processes and operational performance. TNB's sustainability initiatives and performance fall under the purview of the relevant management committees, including the Sustainability Development Committee (SDC), chaired by the President/Chief Executive Officer.

The SDC's role is to review, evaluate and advise on sustainability and green energy-related initiatives prior to further review from other relevant committees, including the Board. Decisions to escalate issues to higher approving authorities are subject to our Procurement & Supply Chain Policy and Procedures, and Limits of Authority (LOA) guidelines.

Sustainability initiatives and their implementation are cascaded to divisions and subsidiaries for incorporation into their respective business and operational areas.


In FY2019, the SDC has discussed the following matters including, but not limited to:

- Review of material matters
- Sustainability disclosures
- Sustainability projects under TNB Green Energy Development Fund (TGEDF)
- GHG emissions assessment and monitoring
- TNB's contributions to the UN SDGs, SPV 2030 and future plans
- Climate-related disclosures and alignment to the TCFD


## Sustainability Statement

### TNB'S STAKEHOLDER ENGAGEMENT APPROACH


We value the insights and inputs from our stakeholders. We have strengthened our relationships with our key stakeholders via proactive engagement through various platforms. The table below showcases our key stakeholders, the various engagement platforms, their areas of interest or concern and how we address it.

<b>Customers</b>  Our customers comprise of domestic, commercial and industrial customers, including Small & Medium-sized Enterprises and large corporations			
Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>Customer service outlets</li> <li>Call centre</li> <li>myTNB mobile application and online portal</li> <li>Customer surveys</li> <li>Social media</li> <li>Roadshows</li> <li>Campaigns</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing</li> <li>Ongoing</li> <li>Ongoing</li> <li>Ongoing</li> <li>Ongoing</li> <li>As needed</li> <li>Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Accessible and reliable supply of electricity</li> <li>Affordable electricity tariffs</li> <li>Energy efficiency</li> <li>Billing and payment platforms</li> <li>New technologies (e.g. smart meters)</li> <li>Customer service</li> <li>Green energy/Renewable Energy (RE)</li> </ul>	<ul style="list-style-type: none"> <li>Delivering Sustainable Value, page 108</li> <li>Customer Centricity, page 114</li> </ul>

<b>Government</b>  The Malaysian Federal and State Governments, parliamentarians, municipal councils, regulators and federal & state agencies			
Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>Meetings and briefings</li> <li>Site visits</li> <li>Round table sessions</li> <li>One-to-one engagements</li> <li>Outreach programmes</li> </ul>	<ul style="list-style-type: none"> <li>Monthly</li> <li>As needed</li> <li>As needed</li> <li>Ongoing</li> <li>Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory and operational compliance</li> <li>Regulatory framework (including Malaysia Energy Supply Industry (MESI) 2.0 and Renewable Energy Transition Roadmap)</li> <li>Social and environmental risk of new projects and development</li> <li>Disaster management</li> <li>Cyber security risks and initiatives</li> <li>New initiatives and technology</li> <li>Nation-building initiatives, including community development</li> <li>Security &amp; reliability of supply</li> <li>Accessibility of electricity supply</li> <li>Affordable tariff</li> </ul>	<ul style="list-style-type: none"> <li>Our Governing Principles, page 107</li> <li>Delivering Sustainable Value, page 108</li> <li>Strengthening Partnerships Brightening Surrounding Communities, page 128</li> </ul>

<b>Investors</b>  Institutional and retail investors, analysts and potential investors with interest			
Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>Financial results announcements</li> <li>Annual and Sustainability Reports</li> <li>Investor relations events, conferences and roadshows</li> <li>One-to-one and group engagements</li> <li>Site visits</li> <li>Annual General Meeting (AGM)</li> <li>Investor Relations Corporate Day</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly</li> <li>Annually</li> <li>Based on Investor Relations annual programme</li> <li>Quarterly</li> <li>Once/twice a year</li> <li>Annually</li> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Group business strategy and internal reorganisation</li> <li>Malaysia Electricity Supply Industry (MESI) 2.0 reform</li> <li>Changes in the regulatory framework and electricity supply industry</li> <li>Operational and financial performance</li> <li>Current and future Environment, Social &amp; Governance (ESG) efforts</li> </ul>	<ul style="list-style-type: none"> <li>Delivering Sustainable Value, page 108</li> <li>Our Governing Principles, page 107</li> <li>Customer Centricity, page 114</li> <li>Minimising Environmental Impacts, page 117</li> <li>Climate Change, page 119</li> <li>Enhancing Capabilities, page 121</li> <li>Prioritising Health, Safety and Personal Well-Being, page 126</li> <li>Strengthening Partnerships Brightening Surrounding Communities, page 128</li> </ul>



**Employees**

Our 36,307 full-time employees in TNB Group, excluding contractors

Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>One-to-one engagements</li> <li>Townhalls</li> <li><i>Turun padang</i> and other outreach programmes</li> <li>Online portal (intranet), newsletters, emails and TV TNB</li> <li>Employee surveys</li> <li>Corporate Social Responsibility (CSR) events</li> <li>Social media</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing</li> <li>Annually</li> <li>As needed</li> <li>Ongoing</li> <li>Biannually</li> <li>Ongoing</li> <li>Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Talent and skill development</li> <li>Career development</li> <li>Employee well-being and workplace culture</li> <li>Health and safety</li> <li>Employee satisfaction</li> <li>Employee engagement on TNB's strategies and initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing Capabilities, page 121</li> <li>Prioritising Health, Safety and Personal Well-Being, page 126</li> </ul>

**Trade Unions**

Three (3) registered unions and two (2) workers associations that cover all executive and non-executive employees

Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>Joint meetings and engagement sessions</li> <li>Negotiations</li> <li>Collective agreements</li> <li>One-to-one engagements</li> </ul>	<ul style="list-style-type: none"> <li>Annually</li> <li>As needed</li> <li>As needed</li> <li>As needed</li> </ul>	<ul style="list-style-type: none"> <li>Employee welfare and issues</li> <li>Collective bargaining</li> <li>Employee engagement on TNB's strategies and initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing Capabilities, page 121</li> </ul>

**Vendors**

4,750 contractors and suppliers

Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>One-to-one engagements</li> <li>Training and workshops</li> <li>TNB Vendors Day</li> <li>Outreach programmes</li> </ul>	<ul style="list-style-type: none"> <li>As needed</li> <li>As needed</li> <li>Annually</li> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Training and capability development</li> <li>Industry support for business growth</li> <li>Potential health and safety impacts</li> <li>Procurement processes</li> </ul>	<ul style="list-style-type: none"> <li>Delivering Sustainable Value, page 108</li> <li>Prioritising Health, Safety and Personal Well-Being, page 126</li> </ul>

**Communities**

Local communities in or near areas where we operate, including those affected by our operations

Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>Outreach programmes</li> <li>CSR events</li> <li>Townhalls</li> <li>Dialogue sessions</li> <li>Sporting events</li> </ul>	<ul style="list-style-type: none"> <li>As needed</li> <li>Ongoing</li> <li>As needed</li> <li>As needed</li> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Community development and support</li> <li>Communication on development plans and projects</li> <li>Potential health and safety impacts</li> <li>Potential environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening Partnerships Brightening Surrounding Communities, page 128</li> <li>Minimising Environmental Impacts, page 117</li> </ul>

**Non-Governmental Organisations (NGOs)**

Consumer associations, environmental groups and chambers of commerce

Engagement Platforms	Frequency of Engagement	Areas of Interest or Concern	Our Response by Topic
<ul style="list-style-type: none"> <li>One-to-one engagements</li> <li>Outreach programmes</li> <li>Seminars and knowledge sharing sessions</li> <li>Collaboration sessions</li> </ul>	<ul style="list-style-type: none"> <li>As needed</li> <li>Ongoing</li> <li>Ongoing</li> <li>As needed</li> </ul>	<ul style="list-style-type: none"> <li>Affordable tariffs</li> <li>Innovation in technology and renewable energy</li> <li>Sustainability and potential environmental impacts</li> <li>Quality of service</li> <li>Supply reliability</li> </ul>	<ul style="list-style-type: none"> <li>Delivering Sustainable Value, page 108</li> <li>Minimising Environmental Impacts, page 117</li> </ul>



























## Sustainability Statement

### WHAT MATTERS TO US

#### Our Material Matters and Commitment to the UN SDGs

Our materiality assessment workshop was conducted in FY2017 (ending 31 August 2017) to identify material sustainability matters that could have significant economic, environmental and social impacts, both to our business and to our stakeholders. We conduct an annual review of our material matters to determine their importance by considering various factors that would impact TNB, including the latest industry trends, regulations and sustainability issues, as well as our stakeholders' interests and concerns. In FY2019, we reviewed the material matters with Top Management and the SDC, and have concluded that all existing material matters remain our priorities. As we recognise the urgency and significance of climate change towards the industry and our business, we have redefined the "Greenhouse Gas (GHG) Emissions" material matter to "Climate Change", as approved and endorsed by the SDC. This is to reflect our progressive efforts in line with the Government's commitment to the Paris Agreement.

We disclose our management of material matters through our eight (8) topics under four (4) sustainability themes: Spirit of Responsibility, Empowering the Nation, Environmental Stewardship and Embracing Relationships. We also continue to map our relevant direct or indirect contribution to the UN SDGs against each topic.

Section	Topics	Material Matters	Contribution to SDGs
<b>Governance</b> Spirit of Responsibility 	<b>Our Governing Principles</b> Promoting ethical and safe practices is driven by the TNB Board and shared by our management and employees to reinforce a sound business and forward-looking culture.	<ul style="list-style-type: none"> <li>Responsible and Ethical Business Practices</li> </ul>	<b>Indirect SDGs:</b> 
<b>Economic</b> Empowering the Nation 	<b>Delivering Sustainable Value</b> Regulatory changes in the energy landscape, along with the shift in focus towards renewable energy and digitalisation require TNB to be both cost-effective and efficient to remain competitive.	<ul style="list-style-type: none"> <li>Business and Financial Performance</li> <li>Energy Efficiency</li> <li>Fuel Mix Policy</li> <li>Efficient Technology and Innovation</li> <li>Asset Optimisation</li> <li>Cyber Security Management</li> <li>Sustainable Supply Chain</li> <li>Reliable Energy and Fair Tariffs</li> <li>Renewable Energy</li> </ul>	<b>Direct SDGs:</b>    <b>Indirect SDGs:</b>  
	<b>Customer Centricity</b> We seek to win customer trust and loyalty over the long-term through effective engagement, quality of service and exceptional customer experience.	<ul style="list-style-type: none"> <li>Customer Experience</li> <li>Energy Efficiency</li> </ul>	<b>Direct SDGs:</b>     <b>Indirect SDGs:</b>  
<b>Environmental</b> Environmental Stewardship 	<b>Minimising Environmental Impacts</b> TNB strives to protect and conserve the environment in our operations and decision-making in line with our commitment for continuous improvement of environmental performance.	<ul style="list-style-type: none"> <li>Environment Management</li> <li>Biodiversity Management</li> <li>Natural Resource Consumption</li> <li>Waste Management</li> </ul>	<b>Direct SDGs:</b>  <b>Indirect SDGs:</b>    
	<b>Climate Change</b> We are committed towards reducing our carbon footprint by embracing and supporting renewable energy generation and energy efficiency to reduce greenhouse gas emissions.	<ul style="list-style-type: none"> <li>Climate Change</li> <li>Renewable Energy</li> <li>Energy Efficiency</li> </ul>	<b>Direct SDGs:</b>     <b>Indirect SDGs:</b>  

Section	Topics	Material Matters	Contribution to SDGs
<b>Social</b> Embracing Relationships 	<b>Enhancing Capabilities</b> Our people are essential to TNB's success. We strive to continually strengthen our leadership, enhance employees' performance and develop talent.	<ul style="list-style-type: none"> <li>Diversity and Inclusion</li> <li>Workplace Culture</li> <li>Employee Engagement</li> <li>Capability Development</li> </ul>	<b>Direct SDGs:</b>  <b>Indirect SDGs:</b>   
	<b>Prioritising Health, Safety and Personal Well-Being</b> We prioritise our employees' occupational health and safety, and well-being as it not only facilitates higher workplace productivity but also builds their sense of confidence and security.	<ul style="list-style-type: none"> <li>Safety and Emergency Preparedness</li> <li>Health and Well-being</li> </ul>	<b>Direct SDGs:</b>  <b>Indirect SDGs:</b>  
	<b>Strengthening Partnerships Brightening Surrounding Communities</b> We strive to make people's lives better and brighter by equipping them with necessary and relevant skills, sustaining the environment and enhancing their livelihood. We engage in a wide range of programmes that seek to leave a long-lasting positive impact on people and communities.	<ul style="list-style-type: none"> <li>Community Development</li> <li>Education</li> <li>Stakeholder Relationship</li> </ul>	<b>Direct SDGs:</b>   <b>Indirect SDGs:</b>    

Please refer to page 106 for more information on our contributions to the four (4) UN SDGs.

## Sustainability Statement

### Linking Our Performance to Global Agendas

We have mapped our specific sustainability performance and direct contributions to four (4) UN SDGs. TNB will also continue to align our strategies, material matters, key performance indicators (KPIs) and targets with the UN SDG agenda.

	<b>SDG 7: Affordable and Clean Energy</b>	<b>Ensure access to affordable, reliable, sustainable and modern energy for all</b>
Achieving this goal will contribute to economic, environmental, social development and well-being. We are focused on this goal by prioritising energy efficiency, clean energy technology and related infrastructure.		
<b>Relevant performance indicators:</b>		
<b>Equivalent Availability Factor (EAF)</b> <b>83.35%</b> Performance for wholly-owned power plants in Peninsular Malaysia	<b>System Average Interruption Duration Index (SAIDI) for Peninsular Malaysia at</b> <b>48.13</b> minutes/customer/year	<b>System Availability</b> <b>99.78%</b>
Please refer to page 110 for more information on our operational performance in FY2019.		
	<b>SDG 8: Decent Work and Economic Growth</b>	<b>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</b>
We have always placed great importance in creating employment opportunities that value and respect human rights. This goes well beyond legal compliance or upholding our reputation, as we also strongly believe that this is the backbone of positive business performances across our value chain.		
<b>Relevant performance indicators:</b>		
<b>Total number of new hires in FY2019 by TNB Company</b> <b>1,398</b>	<b>Employability rate within six (6) months upon graduation for UNITEK graduates</b> <b>94%</b>	<b>Revenue for FY2019</b> <b>RM50,939.70</b> million
<b>Total training hours (general and leadership)</b> <b>1.09</b> million hours		
	<b>SDG 13: Climate Action</b>	<b>Take urgent action to combat climate change and its impacts</b>
We support Malaysia's commitment to the Paris Climate Change Agreement signed at COP 21, recognising the increasing importance of mitigating and adapting to climate change. In this regard, we seek to reduce our GHG emissions intensity and the environmental impacts resulting from our operations.		
<b>Relevant performance indicators:</b>		
<b>Total GHG emissions mitigation</b> <b>5.75</b> million tCO <sub>2</sub> e	<b>Energy savings from TNB buildings</b> <b>782,259</b> kWh	<b>Total GHG emissions intensity</b> <b>0.57</b> tCO <sub>2</sub> e/MWh
<b>TNB's target to grow renewable energy capacity to</b> <b>1,700</b> MW, both domestically and internationally by 2025		
	<b>SDG 17: Partnerships for the Goals</b>	<b>Strengthen the means of implementation and revitalise the global partnership for sustainable development</b>
We will continue to form partnerships with all stakeholders including Government agencies, industry experts, businesses and NGOs, both within and outside the energy sector. This is to meet future electricity demands in a sustainable manner, as well as to give back to the community.		
<b>Relevant performance indicators:</b>		
<b>Total contribution to community development programmes</b> <b>RM40.25</b> million	<b>TNB's partnership with Yayasan Kebajikan Nasional (YKN) and Institut Jantung Negara Foundation (IJNF) for Better Brighter Shelter programme focusing on upgrading the dormitories and transit homes for hospitals</b>	<b>TNB's partnership with telecommunication companies for the National Fibreisation and Connectivity Plan</b>
<b>TNB Energy Services Sdn. Bhd. (TNBES) partnership with Malaysian Green Technology Corporation (MGTC) to install electric vehicle (EV) charging stations nationwide. To date, 29 stations have been installed</b>		



SP I R I T   O F   R E S P O N S I B I L I T Y



OUR GOVERNING PRINCIPLES

Promoting ethical and safe practices is driven by the Board and shared by our management and employees to reinforce sound business and forward-looking culture.



KEY FY2019 HIGHLIGHTS:

Full roll out of TNB Corporate Integrity Management System (TCIMS)

Introduced new reporting channel for whistleblowing

4,538 employees attended the Integrity Engagement Programme (IEP)

**Related Material Matter(s):**  
• Responsible and Ethical Business Practices

At TNB, we are committed to conducting business responsibly, with honesty and integrity to strengthen the confidence of our stakeholders. The Board is cognisant of its crucial role in demonstrating high standards of corporate governance. The Board also ensures this Shared Value of integrity is effectively cascaded within the Group.

CORPORATE GOVERNANCE AND RISK MANAGEMENT

Our Corporate Governance Model defines the conduct we expect from our employees and external parties across the organisation. It includes the TNB Risk Management Framework that governs and integrates risk management into our business and decision-making processes, in line with the ISO 31000:2018 Risk Management – Guidelines. We go beyond compliance

and conduct periodic reviews of risks to ensure relevance and effectiveness. In upholding high standards, the Management and Board regularly review and approve Group policies, codes and procedures as continual improvement for risk mitigation.

*For more information, please refer to Statement on Risk Management and Internal Control section on pages 54 to 59 of CGFS 2019.*

INSTILLING A CULTURE OF INTEGRITY

We have retained our certification of ISO 37001:2016 Anti-Bribery Management System and are implementing the TNB Corporate Integrity Management System (TCIMS) across the Group to drive an integrity-based culture and compliance with local and international anti-bribery standards.

As part of the TCIMS effort, there was an update to the Whistle Blowing procedure. Whistleblowers now have an option to make a direct report to five key personnel, in addition to the current channels of the Whistle Blowing Information System (<https://wbis.tnb.com.my/>). Further details can be found at <https://www.tnb.com.my/ethics-governance/whistle-blowing/>.

In FY2019, 55 Integrity Engagement Programme (IEP) sessions were conducted across the Group and participated by 4,538 employees. Another of our key initiatives include the TNB-MACC Corruption Prevention Programme, a strategic collaboration with the Malaysian Anti-Corruption Commission (MACC) to provide anti-corruption education and to shape a high-integrity workforce. The programme, held in four series from July to November 2019, was participated by 200 employees.

## Sustainability Statement

### DELIVERING SUSTAINABLE VALUE



#### EMPOWERING THE NATION

Regulatory changes in the energy landscape, along with the shift in focus towards renewable energy and digitalisation require TNB to be both cost-effective and efficient to remain competitive.



#### KEY FY2019 HIGHLIGHTS:

Implemented the National Fiberisation and Connectivity Plan (NFCP) pilot project in Jasin, Melaka

Jimah East Power (2 X 1,000MW) commercially operational in FY2019

RM9.28 billion spent on local suppliers in FY2019

#### Related Material Matter(s):

- Business and Financial Performance
- Energy Efficiency
- Fuel Mix Policy
- Renewable Energy
- Reliable Energy and Fair Tariffs
- Asset Optimisation
- Safety and Emergency Preparedness
- Cyber Security Management
- Efficient Technology and Innovation
- Sustainable Supply Chain

### OVERVIEW OF OUR ENERGY INDUSTRY LANDSCAPE

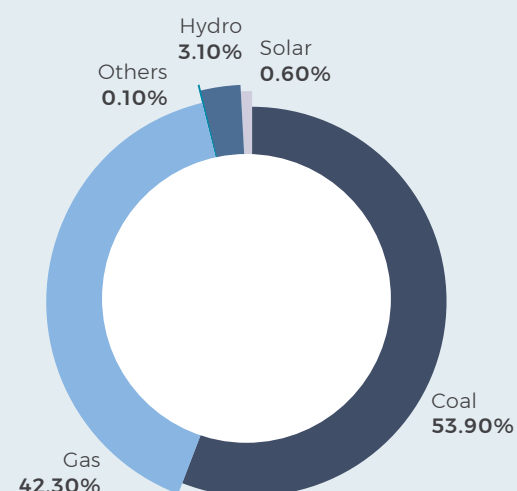
FY2019 marks another year of success as we have achieved strong financial growth across our businesses, domestically and internationally. This has allowed us to continue to create value for our key stakeholder groups through maximised value distribution.

To read more on TNB's business performance and the value distribution to stakeholders, please refer to Performance Review section on pages 62 to 70.

#### Generation Fuel Mix

The generation fuel mix in Peninsular Malaysia operates on the optimal generation capacity development plan, established by the Planning & Implementation Committee for Electricity Supply and Tariff (*Jawatankuasa Perancangan dan Pelaksanaan Pembekalan Elektrik dan Tariff*, JPPPET) under the purview of MESTECC. This plan aims to strike a delicate balance between economic, environmental and energy security factors. While gas and coal will continue to be the main source of power generation in the medium term, there will be an increased uptake of renewable energy (RE) generation, especially solar.

Generation Fuel Mix in Peninsular Malaysia for FY2019



#### Awards won:

**"Most Outstanding Utility Sector in Malaysia"**  
(Asia Money Awards 2019)

## HOW WE GENERATE ENERGY

We remain steadfast in achieving our strategic plans over the coming years, and the key to strengthening future growth is the expansion of our generation capacity. We will continue to assure stable and reliable electricity supply for the nation by venturing into new technologies for cleaner power as well as renewables. Our current low-carbon generation portfolio includes cleaner power assets which emit less GHG as compared to conventional assets.

### Cleaner Power Generation

For FY2019, one of the most significant achievements in acquiring cleaner power assets is the commencement of operations in the Ultra-Supercritical Coal-Fired (USC) Power Plant of 2 x 1,000MW capacity, Jimah East Power, in Negeri Sembilan. USC Power Plants use an efficient coal-burning technology with 40% thermal efficiency, which differs from conventional coal-fired power plants that have 36% thermal efficiency. This is TNB's third USC plant and the fourth one in Malaysia, which has contributed to the increase in TNB's installed capacity from 12,369.53MW to 13,469.53MW.

Meanwhile, the Southern Power Generation combined-cycle gas turbine (CCGT) plant at Pasir Gudang, Johor that is due for completion by July 2020 uses the 9HA.02 gas turbine technology. It is expected to achieve a combined-cycle thermal efficiency exceeding 60%, which is higher than the conventional gas-fired power plants thermal efficiency and will eventually translate to lesser GHG emissions.

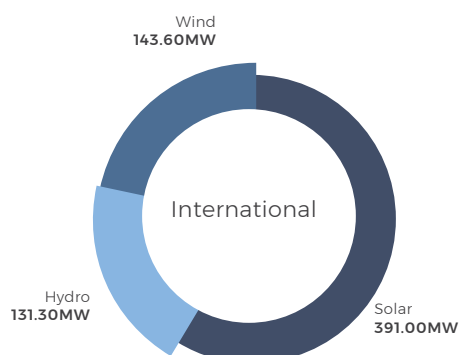
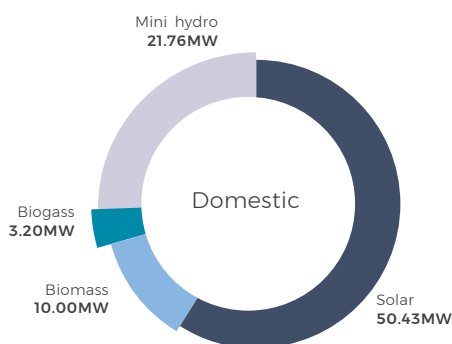
### Renewable and Green Energy

We continue to work towards achieving our RE target of 1,700MW installed capacity by 2025, both domestically and internationally. This will contribute to Government's target of 20% RE generation capacity mix by 2025.

To achieve our RE target, we continue to aggressively venture into the domestic and international renewables market which are led by TNB Renewables Sdn. Bhd. (TRe) and International Asset Group (IAC), respectively. Internationally, we have invested in RE including solar and wind energy across the United Kingdom, Turkey and India. In Malaysia, our RE portfolio is still largely contributed by solar. The first LSS in Sepang, Selangor generates 50MW with a System Availability of over 99%. Our second LSS is currently under construction in Bukit Selambau, Kedah and it is expected to generate 30MW by end of 2020.



#### TNB's RE Portfolio for FY2019



#### Other key highlights for FY2019:



TNB has partnered with governmental and private bodies to install solar PV panels on Government buildings, residential units, educational institutions as well as commercial and industrial properties. These partnerships have enabled TNB to secure a peak generation close to 25MW through more than 100 projects.

GSPARX Sdn. Bhd. (GSPARX) facilitates the implementation of the Net Energy Metering (NEM) scheme and the Supply Agreement for Renewable Energy (SARE). GSPARX has secured rooftop solar PV projects totalling 25MW (24MW for commercial & industrial buildings and 0.5MW for residential buildings) in FY2019. To date, 0.43MW worth of solar PV projects have been completed and entered the domestic RE mix.



The construction of our 20<sup>th</sup> mini hydroelectric station at Sungai Tersat, Kuala Berang, Terengganu with a designed capacity of 4MW is currently 70% completed and is expected to operate in 2020.



TNB is collaborating with Public Works Department (*Jabatan Kerja Raya, JKR*) on RE for the mutual benefit in four areas: the promotion of green technology by focusing on public awareness and outreach; smart nation by embarking on industrial revolution 4.0, smart city solutions; precision operation by optimising asset management; and research excellence by conducting continuous research initiatives in RE technology.

## Sustainability Statement

### PRIORITISING OPERATIONAL RELIABILITY AND PERFORMANCE

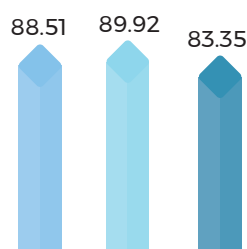
Given our responsibility to provide reliable electricity, it is imperative that our operations across the value chain performs smoothly, efficiently and exceptionally. We rely on the synergy between our asset optimisation plans and Business Continuity Management (BCM) Framework to drive this agenda. The systems in place have resulted in continuous improvement in our operational performance, for instance, in our SAIDI and SAIFI.

For more information on our performance and initiatives, please refer to our Strategic Business Review section on pages 50 to 51.

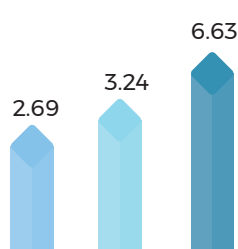
The reliability of our operations can be reflected through our performance in the following parameters:

#### Operational Performance for Peninsular Malaysia

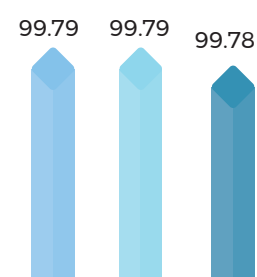
##### Equivalent Availability Factor (EAF) (%)\*



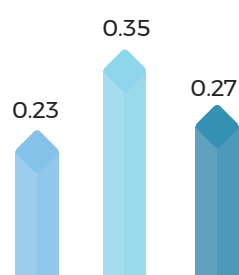
##### Equivalent Unplanned Outage Factor (EUOF) (%)\*



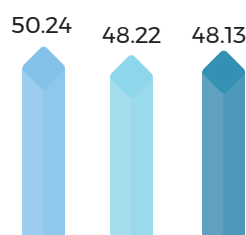
##### System Availability (%)



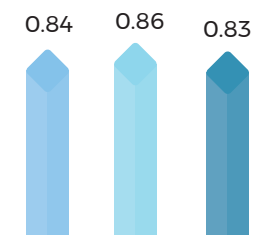
##### Transmission System Minutes (Minutes)



##### SAIDI (Minutes/Customer/Year)



##### SAIFI (Frequency/Customer/Year)



\* Performance for wholly-owned power plants in Peninsular Malaysia

■ FY2017 ■ FY2018 ■ FY2019

### Asset Optimisation

Given the importance of energy to national security, our assets are classified as Critical National Information Infrastructure (CNII). We recognise our responsibility to ensure this infrastructure is maintained and protected, hence we have adopted a holistic asset management approach to fulfil this need.

Our Asset Management Plan is an effective asset management system with ISO 55001:2014 Asset Management certification provides TNB the roadmap for achieving greatest value from physical assets by optimising cost, risk and performance across the asset lifecycle. Under this plan, we outline the implementation activities necessary to realise TNB's asset management policy, strategy and objectives. We have also implemented Asset Performance Management System (APMS) as part of our enterprise asset management solution to establish and verify a holistic view of asset management throughout its lifecycle, thus, facilitating analysis of investments, operations, maintenance, risks and opportunities, as well as performance and sustainability.



We continue to undertake the following asset management and optimisation initiatives for FY2019:

Project	Description
<b>Preventive Maintenance (PM) and Condition-Based Maintenance (CBM)</b>	Ensure assets in optimal condition and monitors certain indicators for signs of decreasing performance or upcoming failure.
<b>SAIDI 50 Initiatives</b>	Enables early detection of defects, asset replacement and introduction of new technologies. Focuses on reduction in frequency & duration of planned/unplanned outages.
<b>Business Turnaround Programme</b>	Aims to unlock asset potential and enhance performance of TNB's generation power plants through cost savings, cost avoidance and better inventory management.
<b>Intelligent Predictive and Diagnostic Monitoring (IPDM) System</b>	Utilises a software that enables plant operators to detect anomalies in the operations of major assets, thus allowing for early preventative actions.
<b>Asset Mid-life Overhaul</b>	Enables safer and more cost-efficient overhead line maintenance.
<b>Drones</b>	Enhances land planning functions and Geospatial Information System (GIS) data.
<b>Online Monitoring System for Gas Analysis</b>	Assesses the condition of transformer bushings and gas-insulated switchgears.
<b>Automatic Fault Analysis and Fault Location Identification System</b>	Assists operation and maintenance team for faster decision-making during restoration processes.

### Business Continuity Management

Our TNB BCM Framework has been designed to provide a structured approach in managing business continuity in TNB Group by enabling prompt and effective response and recovery before, during and after a crisis. Each division uses the BCM Framework as a guideline to design and implement a business continuity plan that specifically caters to their respective business functions. Our customised plans that are in place include Emergency Response Plan (ERP) at our power plants and cyber security management.

*For more information, please refer to Statement on Risk Management and Internal Control section on pages 54 to 59 of CGFS 2019.*

### Emergency Preparedness

All TNB power plants require Emergency Response Plan (ERP) to ensure their resilience in avoiding disruption to the power generation business. The effectiveness of ERP is measured by the ability of the emergency management team to carry out a timely and appropriate response. All power plants are required to design, implement and conduct regular tests on the effectiveness of their ERP

through drills against various plant-specific emergency scenarios. There were 12 drills conducted in FY2019.

We also conducted Integrated Community Based Disaster Management (ICBDM) exercises together with local agencies at our hydroelectric power plants, as a subset of ERP. This exercise is tailored specifically for communities who live within close proximity of our hydroelectric power plants to educate the local residents on the procedures and actions to be taken against potential disasters. Examples of activities under ICBDM include evacuation drills as well as dam safety awareness briefings and workshops.

### Cyber Security Management

Cyber security at TNB encompasses the protection of data integrity and accessibility to ensure uninterrupted power supply from our power transmission system. We are safeguarded by our Cyber Security Operation Model (CSOM) and are ISO 27001:2013 Information Security Management System certified. We conduct regular audits at the National Load Despatch Centre on relevant critical infrastructure.

Our cyber security governance is cascaded to the divisional level throughout the business, with committees specifically tasked to oversee policies, mitigation actions and response plans, as well as initiatives to strengthen our defence against cyber threats. For FY2019, we have conducted one cyber drill exercise covering critical business areas across the organisation. This includes periodic cyber attack simulations, cyber security awareness sessions for our employees, and an internal cyber security conference.



### Awards won:

**"Cyber Security Project of the Year 2019"**  
(Malaysia Cyber Security Awards 2019 held by CyberSecurity Malaysia)







**"Share Guide Association Malaysia (SGAM) IT Users Group"**  
(SGAM ICT Conference and Awards 2019 held by SGAM)

## Sustainability Statement

### UTILISING INNOVATIVE TECHNOLOGY TO PROVIDE EXCELLENT OPERATIONAL PERFORMANCE

TNB is progressively moving towards an integrated system by using technology to deliver greater flexibility and develop products and services that are accessible to our customers. The implementation of the Grid of the Future involves the digitalisation of our grid system to accommodate and meet emerging industry demands.

The following projects contribute to the enhancements to our grid infrastructure:

Project	Description	FY2019 Status/Highlights
<b>Distributed Generation (DG) Infrastructure</b> 	Enhances network visibility, transparency and reliability for all DG connection.	Network visibility enhancements include: <ul style="list-style-type: none"> <li>Upgrading of sensors and transducers in the related equipment to enable bi-direction flow monitoring</li> <li>Installation of Supervisory Control and Data Acquisition (SCADA) at all medium-voltage (MV) connected DG (RE) for monitoring &amp; visibility</li> </ul>
<b>Advanced Metering Infrastructure (AMI)</b> 	Enhances meter reading by introducing remote automated readings and detailed load profile information, thus enabling better load management and future tariff options.	Deployment of smart meters continued in Melaka (Phase 1), while deployment in Klang Valley (Phase 2) commenced in November 2019. In FY2019, there were 281,066 units of smart meters installed primarily in Melaka. Moving on, the next phase of installation will be in selected areas in Klang Valley, with a target to install 1.2 million smart meters by 2020.  <i>For information on smart meters, please refer to Feature Story: Smart Meters on page 116.</i>
<b>Mobility Solutions</b> 	Increases work efficiency amongst field employees.	There is a roadmap to roll out mobility solutions for projects linked to distribution automation, asset management systems, substation maintenance systems and information systems.
<b>Volt-VAr Optimisation</b> 	Enables TNB to perform control and system network optimisation, which improves electricity supply quality, increases its efficiency and provides electricity savings to customers.	This project has delivered a total of 272MVar, which is an increase from 113MVar last year.
<b>Geospatial Information System (GIS)</b> 	Provides accurate location information to manage, operate and analyse TNB's network assets.	Successfully rolled out 11kV CPP Online Approval function and 33kV CPP function to APP users nationwide. In addition, GIS also successfully rolled out 11kV CPP functions to APP and AD users in Selangor, Perlis, Pulau Pinang, Kelantan and Melaka.  Medium voltage data production has been completed for all states except Perak which is targeted to be completed by 2020.
<b>Distribution Automation</b> 	Provides real-time management of network operations.	To date, 22% out of the 72,729 11kV substations have been equipped with SCADA.



#### Completion of Kuala Perlis-Langkawi Submarine Cable

As part of TNB's capital expenditure to strengthen the country's electricity infrastructure, particularly the Grid connectivity, we are enhancing the fully automated electric system in Langkawi by installing a 26.5km submarine cable. The work to lay the submarine cable was completed in 2019.

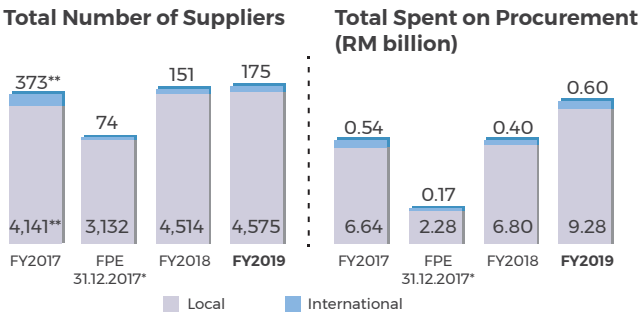
#### Digital Connectivity

We have completed the NFCP Pilot project at Jasin, Melaka in FY2019 to test the technical, safety and security aspect of the open-access network and to assess commercial viability of the wholesale broadband business. The project enabled 1,100 homes with better broadband coverage with a speed of up to 1Gbps. We are also in partnership with telecommunication companies to leverage our network infrastructure and widen the coverage of broadband access nationwide.



SUSTAINABLE SUPPLY CHAIN

The scale of TNB supply chain and business provides the opportunity for us to positively influence our suppliers' and partners' environmental, social and ethical performance. We support Malaysian suppliers and play a role in strengthening the local value chain ecosystem. We are guided by TNB's Procurement & Supply Chain Policy and Procedures, and the Procurement Code of Conduct to realise our values of treating all our suppliers with respect and integrity.

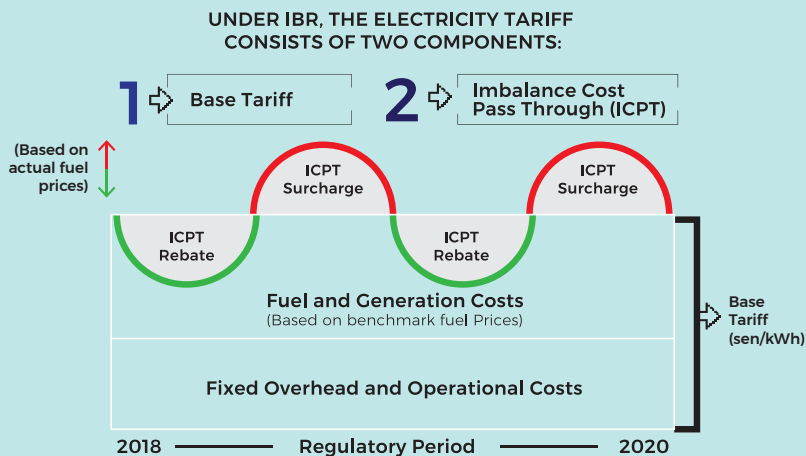


\* FPE31.12.2017 denotes 1 September 2017 to 31 December 2017  
\*\* Data has been restated due to errata

FEATURE STORY:  
RELIABLE ENERGY WITH AFFORDABLE TARIFFS

As the national electricity provider, TNB is committed towards contributing to Goal 7 of the UN SDGs by providing access to affordable, reliable and sustainable energy for all. TNB is delicately balancing the energy trilemma to deliver a high quality supply and service while assisting transformation of MESI to the benefit of Malaysian customers. In pursuing clean energy, TNB also balances the accessibility and security of electricity supply to achieve the nation's long-term development goals and ensure the upliftment of all communities. This goal is in line with the Government's SPV 2030 Strategic Thrust (ST) 6 on regional inclusion by providing affordable and reliable energy.

The electricity tariff model is subject to the Government's regulatory mechanism, featuring the Incentive Based Regulation (IBR) framework. IBR is a framework for electricity tariff setting, with built-in incentives to improve efficiency of regulated entities and give greater transparency for customers. Under IBR, tariffs comprise the base tariff and Imbalance Cost Pass-Through (ICPT). The base tariff rate is maintained over a three-year period, while ICPT, which includes rebates or surcharge, is reviewed every six months.



Source: [www.energywatch.com.my](http://www.energywatch.com.my)

Additionally, in lower-income households, the Government has a targeted assistance programme to finance their monthly electricity bills, with a subsidy of up to RM40. Those eligible to the subsidy mainly comprise underprivileged and hardcore poor communities who are registered in the eKasih system.

The contribution of IBR and ICPT aims to safeguard our customers' access to affordable energy while supporting a sustainable energy industry. This is to ensure financial sustainability of the system and give greater transparency and certainty in tariff setting to the customers.

SPV 2030:  
Strategic Thrust 6:  
Regional Inclusion

UN SDG:  
Goal Seven (7)



Base tariff is set to reflect the base cost for fuel and generation, the capital cost, as well as the operation, maintenance and administration costs of all the regulated business entities. ICPT, on the other hand, is another element in the electricity tariff which acts as an adjustment mechanism to reflect changes in fuel and generation costs in customers' tariffs. This is to ensure financial sustainability and reliability of supply in the system.

If global fuel prices and generation costs decrease, the difference between the price and cost assumptions and the base tariff will be reflected through rebates for customers and thus, reduce their electricity bill. Conversely, an increase in global fuel prices and generation costs cause a surcharge to be imposed on customers. Subject to Government's approval, any surcharge as a result of additional fuel and generation costs may be cushioned by the *Kumpulan Wang Industri Elektrik (KWIE)*. Domestic customers with a monthly consumption of more than 300kWh are subjected to the ICPT mechanism. However, to lessen the burden of lower-income groups, domestic customers with a monthly consumption of 300kWh and below are not affected by the ICPT mechanism.

Details on the ICPT rebates and surcharges to the customers can be found at <https://www.tnb.com.my/faq/tariff/>.

## Sustainability Statement

### CUSTOMER CENTRICITY



#### EMPOWERING THE NATION

We seek to win customer trust and loyalty over the long-term through effective engagement, quality of service and exceptional customer experience.



#### KEY FY2019 HIGHLIGHTS:

Customer Satisfaction Index (CSI) at 8.1	281,066 customers equipped with smart meters primarily in Melaka, with a limited number in Klang Valley	39 Energy Efficiency programmes conducted for industrial, commercial and domestic customers	<b>Related Material Matter(s):</b> <ul style="list-style-type: none"> <li>• Customer Experience</li> <li>• Energy Efficiency</li> </ul>
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#### WINNING AND SUSTAINING OUR CUSTOMERS

The opening up of the retail space through MESI 2.0 in the future will allow customers to have more choices in both the supply and demand for electricity. Likewise, TNB is moving into a position where customers will play a more significant role in the electricity supply industry.

#### Customer Engagement and Satisfaction

We value the insights, feedback and concerns of our customers, and aim to strengthen their trust in us as well as for the development of new solutions. Thus, we leverage on our various customer interaction channels for strong and regular engagements. Our annual CSI is the primary platform to gauge how happy our customers are with our service delivery and solutions. Our CSI takes into consideration several aspects such as TNB's reputation, branding, reliability of electricity supply and energy efficiency. In FY2019, we scored 8.1 in our CSI, same as the previous year.

Recognising the preferred channel of communication amongst our customers, we have extended our interaction channel through social media platforms such as Twitter, Facebook and Instagram to

enhance our communication with them. We constantly value feedback from our customers which will enable us to take proactive actions leading towards continuous improvement in our service delivery and customers' experience. We have a systematic approach to resolve all received feedback to ensure that all service requests, complaints, comments, enquiries and concerns are effectively addressed in a timely manner.

#### Safeguarding Customer Privacy

With the greater integration of technology in people's lives as well as big data trends,

protecting our customers' data and security is becoming top priority. At TNB, data privacy and access are managed through the Cyber Security Operating Model (CSOM), policies and security controls. To date, we have implemented over 100 security controls as part of the initiatives to strengthen our online payment security through the Payment Card Industry Data Security Standard (PCI DSS). So far, there have been no reported complaints regarding breaches of customer privacy or loss of customer data.

*For more information on cyber security, please refer to page 108 in the "Delivering Sustainable Value" section.*

#### TNB Customers in Peninsular Malaysia in FY2019



Domestic  
**7,553,229**



Industrial  
**30,520**



**TOTAL**  
**9,248,922**



Commercial  
**1,575,198**



Others  
**89,975**

\* "Others" consists of mining, street lighting, agriculture, RE generators





### TNB Customers' Interaction Channels

#### Click:

- myTNB Mobile Application
- myTNB Portal
- Social media (@TNBCareLine)
- SMS
- Write-in (email)
- Web Chat

#### Call:

- Contact Centre & Interactive Voice Response (IVR)

#### Come Over:

- Kedai Tenaga
- Kiosk
- 3rd Party Services
- Key Account Managers

## SOLUTIONS BEYOND THE kWh

We constantly work towards finding new ways to enrich the lives of our customers. We empower them with tools to navigate the complexities of the electricity supply industry and deliver a customer-led approach to improve customer experience.

### Enabling Smarter Choices for Our Customers

Our smart solutions for customers comprise the AMI initiative and its deployment of smart meters, as well as the energy efficiency (EE) solutions outlined below:

*For more information on smart meters, please refer to the Feature Story: Smart Meters on page 116.*

In FY2019, we conducted 39 EE programmes which include the sharing of EE leaflets, gallery walk and EE talk with various groups such as Government agencies, industrial & commercial users, residential customers, NGOs, community leaders, university students, school pupils as well as TNB staff. During these programmes, we also promoted our EE solutions and long term sustainable lifestyle through the following:

Projects	Description
<b>Making Electricity Visible (MaEVI)</b>	An energy management system that helps customers monitor their electricity consumption, automate their appliances and improve their home security, through a mobile application.
<b>Energy Performance Contracts (EPCs)</b>	An arrangement between energy services companies and facility owners with the primary purpose of improving EE through investment in energy efficient equipment.
<b>Home Energy Report (HER)</b>	Provides customers with personalised energy usage reports through myTNB.

### Encouraging the Local RE Market through Facilitating Customers' Needs

We provide several avenues to encourage RE generation and supply amongst our customers including the key initiatives as shown in the table below. This year, we introduced myGreen+ and mGATS, which are expected to boost green energy development in Malaysia. myGreen+ provides customers with the option of purchasing green energy without having to install RE fittings while mGATS allows customers to purchase Renewable Energy Certificates (REC).

*For more information on myGreen+ and mGATS, please refer to the Feature Story: myGreen+ and mGATS on page 120.*

Projects that expand the local RE market	Description
<b>Feed-in Tariff (FiT) Programme</b>	Enables owners of solar PV systems with Feed-in Approvals to supply electricity to the grid at a fixed price.
<b>Net Energy Metering (NEM) Scheme</b>	<p>Promoting prosumers by allowing customers to export the excess energy produced from their installed solar PV systems on their rooftops or premises to the grid on a "one-to-one" basis. As of 2019, we have secured 1,273 participants with a total capacity of 74.5MW.</p> <p>Via GSPARX, we have implemented beyond-the-meter transactions for SARE such as solar leasing, Power Purchase Agreement (PPA) or a hybrid of both. To date, GSPARX has sold solar PV panels to 139 customers with a total capacity of 25MW.</p>

## Sustainability Statement

### FEATURE STORY: SMART METERS

SPV 2030:  
Strategic Thrust 2:  
Key Economic Growth  
Activities



UN SDG:  
Goal Eight (8)



In view of Reimagining TNB's transition towards Grid of the Future journey, TNB is diligently implementing Advanced Metering Infrastructure (AMI), or also known as Smart Meters to help improve our services efficiently and provide new customer experience through digitalisation. The initiative aligns with TNB's commitment towards Goal 8 of the UN SDG and SPV 2030's ST2 by driving productivity & digital innovation, and key economic growth activities.

Compared to the conventional electricity meter, smart meters are equipped with additional digital and telecommunication facilities for two-way communication. This enables the smart meter to record customers' electricity usage and automatically communicates the information daily through various channels, primarily using Radio Frequency (RF) and to a lesser extent Power Line Carrier (PLC) and Cellular Network technologies. This information is available through myTNB mobile application and myTNB Portal (data down to 30 minutes interval), allowing customers to easily track their previous days' consumption data. Through these applications, customers are empowered to manage their energy consumption more efficiently, resulting in a reduction of electricity bills and carbon footprint.

TNB has set a target of installing 9 million smart meters across Peninsular Malaysia in phases under the AMI initiative by year 2026. A total of 281,066 smart meters were successfully installed primarily in Melaka and with limited numbers in Klang Valley as of December 2019. Phase 2 of the initiative targets to install 1.2 million smart meters in selected urban areas by 2020.



MINIMISING ENVIRONMENTAL IMPACTS



Environmental Stewardship

TNB strives to protect and conserve the environment in our operations and decision-making in line with our commitment for continuous improvement of environmental performance.



KEY FY2019 HIGHLIGHTS:

Generation Division is certified with ISO 14001:2015 Environmental Management System

4,200 mangrove saplings planted

Additional International Union for Conservation of Nature (IUCN) site at Pergau Dam (Sungai Perak Hydroelectric Station) with 44 identified fish species

- Related Material Matter(s):**
- Environment Management
  - Natural Resource Consumption
  - Waste Management
  - Biodiversity Management

GOVERNING ENVIRONMENTAL MATTERS

Protecting the environment in which we operate is one of our key priorities to maintain business sustainability. In view of the importance of environmental conservation, our Generation Division is certified with ISO 14001:2015 Environmental Management System. Our environmental performance is overseen by the Environmental Management Committee (EMC), which comprises the Environmental Performance Monitoring Committee (EPMC) and the Environmental Regulatory Compliance Monitoring Committee (ERCMC).

NATURAL RESOURCES MANAGEMENT

The nature of our business requires us to utilise natural resources, mainly fuel and water, on a large scale. These resources are essential to generate electricity, and we are aware of the importance of managing our consumption not just for business sustainability, but the impact that it has on the environment.

We continue to implement initiatives to enhance our resource efficiency. All our power plants have a system that tracks water consumption monthly under the plant optimisation and waste minimisation programme, in compliance with ISO 14001:2015. Any high water consumption that deviates from the norm will be investigated and followed up with an action and mitigation plan. In FY2018, our total water consumption across all TNB operations came up to 8,047.94 megalitres.

WASTE MANAGEMENT

We seek to practice optimal waste management including reducing waste generation within our businesses and the safe disposal, where applicable. Our centralised waste management system and practices comply with relevant regulations. All wastes and effluents generated from TNB's power plants are managed, disposed and/or discharged as per the regulatory requirement set by the Department of Environment (DOE). Our Health, Safety and Environment (HSE) Guidelines on Scheduled Waste Management, along with our optimisation programmes further guide our proper waste management.

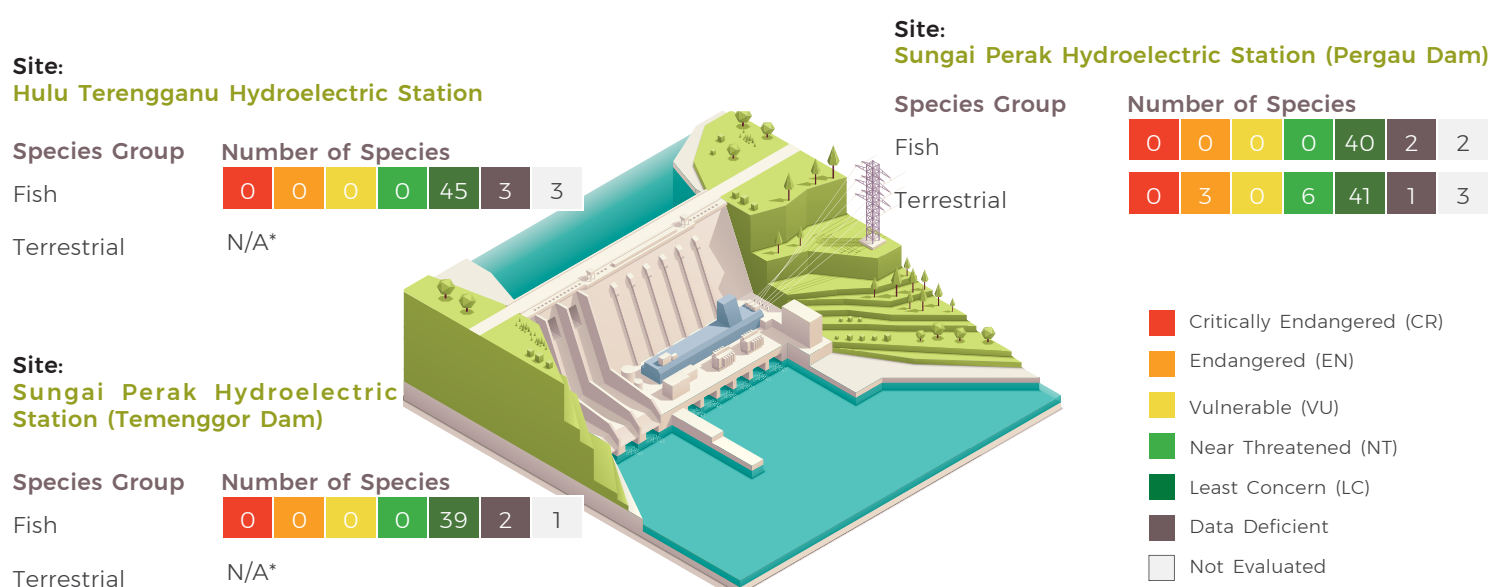
## Sustainability Statement

### BIODIVERSITY MANAGEMENT

The nature and scale of our operations, as well as the geographical spread, will raise inherent environmental challenges. Conservation and management of environmental risks are not only essential to ensure our long-term business sustainability, but it also benefits the communities where we operate.

TNB works with environmental organisations to understand how to better protect areas that are rich in biodiversity and contribute to the well-being of our communities. This year, we have continued the International Union for Conservation of Nature (IUCN)'s Red List study at the Hulu Terengganu Hydroelectric Station, Sungai Perak Hydroelectric Station (Temenggor Dam), and Sungai Perak Hydroelectric Station (Pergau Dam). In FY2019, a total of RM5.68 million, RM0.26 million and RM1.76 million were spent on these three sites, respectively.

#### Key Findings of IUCN Red List Studies as of FY2019



\* There is no quantitative data for FY2019 as the study on terrestrial species for the site were concluded in FY2018.

These hydroelectric stations continue to pursue and implement other biodiversity-related initiatives, as highlighted below:

Site	Initiatives carried out in FY2019
<b>Hulu Terengganu Hydroelectric Station</b>	<ul style="list-style-type: none"> <li>Forest rehabilitation: Seedlings from forest trees and grass were replanted for the forest regeneration process in a disturbed site</li> <li>Kelah Sanctuary: The Tagal system was implemented at Sungai Tembat and Sungai Sireh</li> <li>Environmental Education and Awareness Camp for secondary school students</li> </ul>
<b>Sungai Perak Hydroelectric Station</b>	<ul style="list-style-type: none"> <li>Establishment of <i>Taman Perlindungan Ekosistem Sultan Ismail Petra</i> at Pergau dam</li> <li>Pergau Scientific Expedition 2019: This was participated by local universities, Jabatan Perhilitan and Forest Research Institute of Malaysia (FRIM) and the data obtained was used to facilitate the State Government's plan to gazette <i>Taman Perlindungan Ekosistem Sultan Ismail Petra</i> as a State Park</li> <li>Developed Fish Resources Management Plan for sustainable hydroelectric operation and business model that create potential economic growth to local community via Community Based Tourism (CBT) programme. This project is a continuity study for a project on natural resources conservation of Royal Belum State Park, which has been completed last year</li> </ul>





CLIMATE CHANGE



Environmental Stewardship

We are committed towards a low-carbon economy by embracing and supporting renewable energy generation and energy efficiency to reduce greenhouse gas emissions.



KEY FY2019 HIGHLIGHTS:

5,750,636.42 tCO<sub>2</sub>e  
GHG emissions  
mitigated (scope 1  
and 2)\*

Rolled out the  
GHG Emissions  
Management  
System (GEMS)

Wisma TNB Jalan Anson  
won First Runner Up in  
the National and ASEAN  
Energy Awards 2019 for  
Energy Management in  
Building

Related Material Matter(s):

- Climate Change
- Renewable Energy
- Energy Efficiency

\* Emission mitigated for FY2018, figures for FY2019 are in progress.

ADDRESSING CLIMATE CHANGE

Climate change mitigation and adaptation are both equally important and time-sensitive in tackling today's climate crisis. As a response, the Malaysian Government remains committed to achieve its target of reducing 45% of GHG emissions intensity by 2030 relative to the emissions intensity of GDP in 2005. This consists of 35% on an unconditional basis and a further 10% upon receipt of climate finance, technology transfer and capacity building from developed countries. TNB is supportive of the Government's goal as we transit towards a low-carbon economy. This approach addresses our stakeholders' concerns while ensuring business resilience against climate change.

Our mitigation efforts are reflected through the monitoring of our carbon footprint, the expansion of low-carbon generation portfolio and cleaner power assets, as well as EE practices. This year, we are looking into addressing climate

change through a more holistic manner by studying the adoption of the TCFD framework, which will facilitate the management of climate change through the four recommended aspects of Governance, Strategy, Risks, and Metrics & Targets. This will eventually help determine the climate change mitigation and adaptation measures for TNB Group.

In line with the recommendations from the TCFD Framework, we have initiated a scenario analysis and study to identify climate-related risks and opportunities in our business. The study is targeted for completion in 2020. Meanwhile, we have conducted a climate risk awareness workshop for the relevant departments and executives as part of our ongoing effort to enhance internal capability and awareness on TCFD and climate change.

The management of climate-related matters is currently under the purview of the SDC, with oversight from the Board.

OUR CARBON FOOTPRINT

Monitoring carbon footprint helps us to identify the business activities that are more carbon-intensive and thus allowing us to develop emissions management plans. To track our carbon footprint through a more systematic approach, we have introduced GEMS in FY2019. We have recorded a GHG emissions intensity of 0.57 tCO<sub>2</sub>e/MWh in FY2018, which is an increase compared to FY2017, due to the addition of TNB power plant. We will continuously work towards mitigating our GHG emissions through our low-carbon generation assets and EE initiatives.

For more information on our low-carbon generation, please refer to page 109 under How We Generate Energy.

## Sustainability Statement

TNB's GHG Emissions	Unit	FY2016	FY2017	FY2018
Total emissions (Scope 1 and Scope 2)	tCO <sub>2</sub> e	29,061,190.00	33,503,804.22	37,117,610.37
Emissions mitigated	tCO <sub>2</sub> e	2,359,770.65	6,703,345.15*	5,750,636.42
Emissions intensity	tCO <sub>2</sub> e/MWh	0.55	0.54	0.57

\* This data has been restated due to additional emission mitigation from advanced combined cycle technology (TNB Prai Sdn. Bhd.) and electric vehicles.

### Managing Energy Efficiency

Since 2014, TNB buildings have been undergoing EE improvement programmes via systematic performance management. Initiatives in the pipeline include improvement of equipment and enhancing employees' competencies on EE.

We retrofit facilities across our office buildings to improve EE. Our EE retrofitting effort has been recognised, for example,

MESTECC awarded Wisma TNB Jalan Anson, Pulau Pinang as the First Runner Up in the National Energy Awards 2019 for Energy Management in Buildings and Industries – Small/Medium Building category. This same building went on to win the First Runner Up in the ASEAN Energy Awards 2019 for Energy Management in Buildings and Industries under the Small/Medium Building category, awarded by the ASEAN Centre

for Energy. Furthermore, we provided EE training to all TNB employees as well as conducted a series of EE awareness programmes to develop more energy managers.

As a result of our EE programmes, a total of 782,259kWh were saved this year.

### FEATURE STORY:

## myGreen+ AND mGats

In line with Malaysia's ratification of the 2015 Paris Agreement, TNB is committed towards a low carbon economy by embracing and supporting RE energy generation and reduction of GHG emissions. We are cognisant of our role to assist the Government's target to achieve 20% RE generation capacity mix by 2025, while also contributing to the Goal 13 of the UN SDGs on Climate Action and SPV2030's ST 6 in promoting regional inclusion via green energy accessibility.

In 2019, TNB introduced the Malaysia Green Attribute Tracking System, (mGATS) and myGreen+ schemes to encourage the uptake of RE. mGATS provides a platform for corporations, for example, RE generators, retailers and customers, to trade energy harvested from renewable sources through the Renewable Energy Certificate (REC). The REC is a certificate that represents the delivery of 1MWh of green energy to the grid and the bearer of REC can directly sell green energy to buyers through mGATS. In 2019, TNB issued 700,000 RECs.

The myGreen+ scheme was introduced as an option for customers to opt for green energy without having to spend on the high initial investment of rooftop solar or other forms of RE generation. This scheme offers customers a premium tariff of 8 sen/kWh in 100kWh blocks through a subscription certificate issued by TNB. Since its launch in October 2019, a total of 1,016MWh units subscribed to myGreen+ by customers in supporting green energy.

More details of these two programmes can be found on <https://www.tnb.com.my/mygreenplus/>.

SPV 2030:  
Strategic Thrust 6:  
Regional Inclusion



UN SDG:  
Goal Thirteen (13)



### myGreen+ Updates as of FY2019:

**Total Opening Quota (kWh)**  
**37,267,230**

**Subscriptions (kWh)**  
**1,016,000**

**No. of Customers Subscribed**  
**46**

**Available Quota (kWh)**  
**36,251,230**

ENHANCING CAPABILITIES



Embracing Relationships

Our people are essential to TNB's success. We strive to continually strengthen our leadership, enhance employee performance and develop talent.



KEY FY2019 HIGHLIGHTS:

1.09 million training hours for TNB Company

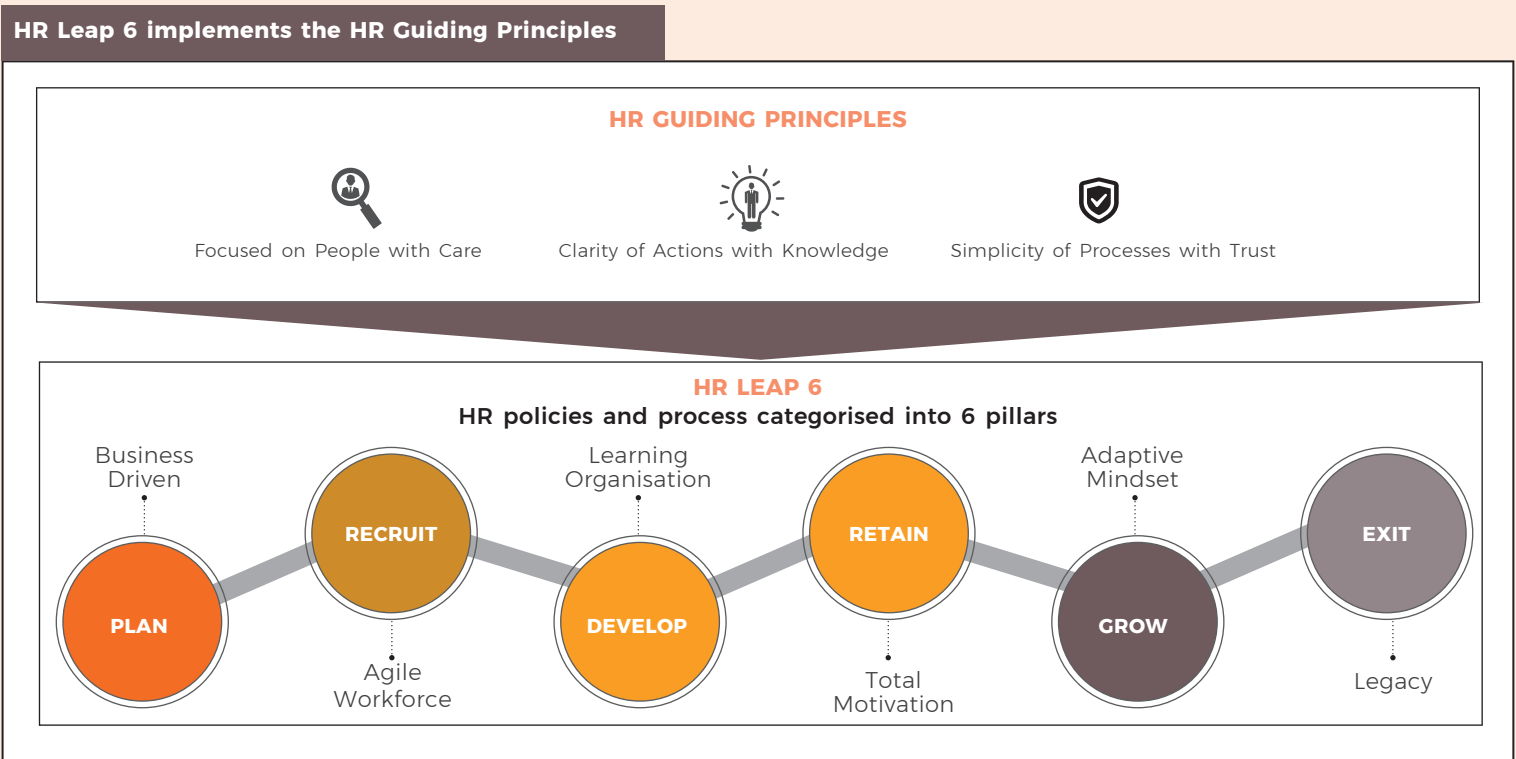
Established Grid and Distribution Academy

Top 50 best companies to work in Asia by HR Asia Awards

- Related Material Matter(s):**
- Diversity and Inclusion
  - Workplace Culture
  - Employee Engagement
  - Capability Development

We are committed to attract, develop and retain the right talent as we recognise that the capability of our employees and the workplace culture are key components in delivering our Reimagining TNB strategy. We have been recognised as an “Employer of Choice” and are driven to consistently prove it.

Our Human Resources (HR) strategy, HR Leap 6, launched in FY2018, implements HR guiding principles and aligns TNB's people development with Reimagining TNB.



## Sustainability Statement

### TALENT ATTRACTION AND RECRUITMENT

We are not only focused on recruiting talents with the relevant skills, but also individuals who share the same values as our organisation.

Our key talent recruitment highlights for FY2019 include:

- Participation in local career fairs (International Islamic University Malaysia (IIUM), National Defence University of Malaysia (UPNM), Universiti Malaysia Terengganu (UMT), and Sunway University)
- Strategic partnership with iCube, a UK-based student society to brand TNB in innovation
- University relationships, such as "Tea with Tenaga" and career talks

### CAREER DEVELOPMENT AND TRAINING

Similarly, capability development is an essential part in helping TNB achieve business growth and sustainability. We strive to create a High-Impact Learning Culture that recognises the value of learning and provide our people with extensive opportunities for career growth. In FY2019, over RM183 million was invested in Learning and Development related initiatives and there was an average of 6 man-days of training per employee for TNB Company. RM10 Million spent to cultivate 705 youth potentials through Professional Training and Education for Growing Entrepreneurs (PROTÉGÉ), is part of the Government's initiatives to train graduates who have yet to gain employment.

Since 2018, individualised "Learning Journeys" were rolled out to all employees, providing them with an opportunity to discuss career aspirations and carve out their chosen career path. As of FY2019, the Learning Journeys have been fully implemented across core divisions, while implementation is still in progress for other divisions.

#### Career Development and Training Highlights

Total  
**1,085,160** training  
hours by TNB Company

**New targeted interventions involving business simulation and gamification introduced** based on Competency Gap Analysis



**38,000** hours for  
Leadership Training

More than **RM183 million** invested in training and development

#### CEM Highlights

**38** project  
assignments  
in the CEM platform



**2,889** employees  
attended the CEM development  
programmes



CEM Engagement  
Score of  
**91.39%**



#### Career Enhancement Management (CEM)

TNB's CEM is a platform that helps to closely align an employee's role to their specific skillset and competencies throughout their employment period up until their planned retirement. This is especially useful for periods of transition within the company as many of the affected individuals will be reskilled for the requirements of their current and future roles.

Key CEM programmes and initiatives include:

- Mindset Change Programmes/Team Enhancement Programmes
- Business Acumen Programmes
- Financial Awareness Programmes
- Pre-Retirement Programmes
- Project Assignment Forums
- Safety Culture Workshop





Division Academies

This initiative is a collaboration with TNB Integrated Learning Solution Sdn. Bhd. (ILSAS) to develop Subject Matter Experts (SMEs) who will be able to provide on-the-job technical training and upskilling within their respective divisions. SMEs play a significant role in the Division Transformation Programme and help deliver a sustainable high business performance.

To date, the following divisions have set up their respective academies, and the key highlights for FY2019 include:

**Division Academies According to Business Functions**

**Generation**  
FY2019 Highlights

Programmes under Generation Academy:

- **47 participants** from various divisions and subsidiaries graduated from Generation Leadership Development (GLD) programme
- **40 participants** from non-executive level graduated from SME Batch 6
- **40 participants** from executive level graduated from SME Batch 7

**Distribution Network**  
FY2019 Highlights

Leadership development training to contribute to Distribution Network financials

- **30 executives** attended the first batch of training. The outcome included setting KPIs for savings in operating expenditure

**Grid**  
FY2019 Highlights

Leadership and business acumen skills development programme

- **30 executives** attended this 16-week programme
- **19 cost-efficiency projects** were initiated

Leadership Development

Leadership development is an integral part of structured succession planning at TNB. As such, we have identified Internal Leadership Competencies and integrated these desired skills and qualities within our employees’ Competency Assessment and Technical Competencies. This assures the establishment of a strong network of capable and confident leaders.

Since FY2017, TNB’s Transformation Accelerator Strategy has been supporting the delivery of Reimagining TNB by identifying candidates for the important role of Delta Leaders. Individuals chosen for this position are recognised as being able to contribute the most to TNB’s value creation. They would have shown high competency in quantitative assessments and are matched to specific roles to drive

this strategy. So far, 46 positions have been identified.

Furthermore, one of our key infrastructures is the Leadership Development Centre (LDC), which specialises in formulating experiential leadership and development programmes catered to employees at all levels. A key initiative under the LDC is our Leadership Drive (LD). The LD integrates experiential learning with classroom lessons and mission-based work assignments to train employees who showcase the potential to become business leaders. To date, there have been three batches, as below:

- LD Batch One: 32 trainees
- LD Batch Two: 11 trainees
- LD Batch Three: 70 trainees

We also offer Master of Business Administration (MBA) programme which equips future leaders with strategic thinking and essential business skillsets from one of the leading universities in the world. The MBA is offered by Universiti Tenaga Nasional (UNITEN), in partnership with the Melbourne Business School, University of Melbourne, Australia. In FY2019, 32 selected employees are expected to graduate from the fourth cohort of this programme, from February 2019 to October 2020.

# Sustainability Statement

## TALENT RETENTION

We strive to retain our employees through competitive benefits and remuneration, meaningful engagements and impactful career development. It is important for our employees to feel secure in that their well-being is safeguarded and they have exposure to the necessary learning and capability development.

We offer a range of employee benefits, including:



Medical treatments that cover employees and their dependents, as well as retirees



Counselling services



Childcare facilities and nurseries



Sports and recreation facilities



Housing accommodation and staff quarters

## ENGAGING AND LISTENING TO OUR PEOPLE

We encourage two-way communications with our employees and leverage on various channels to provide opportunities for open discourse on their experience working at TNB.

Our Employee Engagement Score (EES) survey is conducted biennially to measure engagement level within the organisation. An action plan workshop was conducted to address areas of improvement raised in the 2018's EES. Engagement Pulse Surveys (EPS) were introduced as an

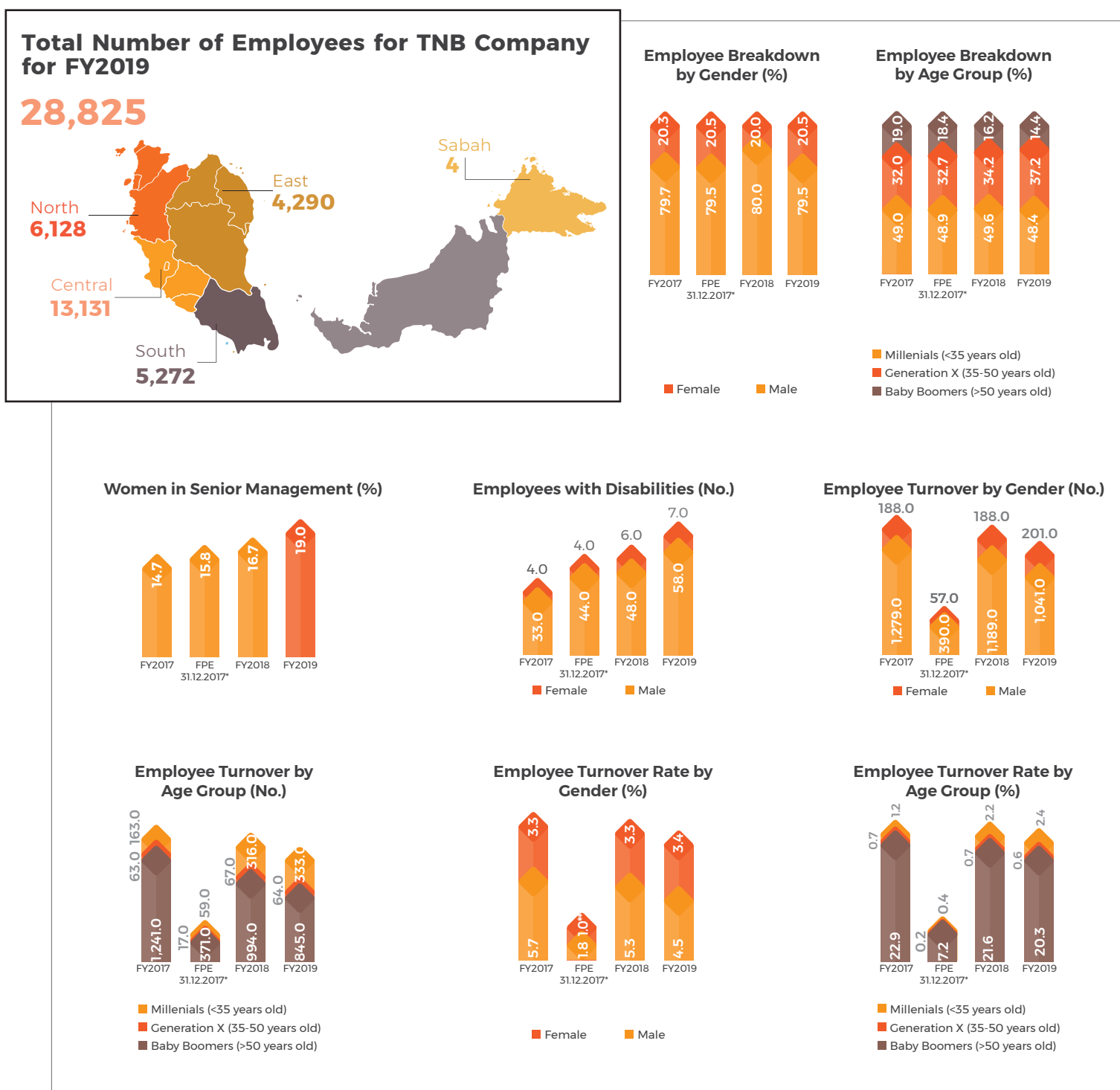
interim survey before the upcoming EES to identify critical areas of improvement for immediate action from heads of business units. Two (2) EPS have been conducted in May and August 2019, which received a score of 88% and 90% respectively, showing better rating than EES 2018's score of 86%. This positive trend highlights that we are moving in the right direction to address our employees' needs and effectively empowering them to strive for excellence.

We will consistently engage our employees to ensure that our workforce is energised and focused on creating value and positive impacts. With the understanding that employees require safe channels to express their concerns, or grievances, we have also provided a formal grievance policy and whistleblowing channel.

*To read more on our Whistle Blowing Procedures, please refer to the Ethics, Integrity & Trust section on page 62 of CGFS 2019.*

## DIVERSITY AND INCLUSION

TNB values diversity in the workforce and promotes an inclusive environment that respects and nurtures people of different race, gender, age, disability, religion, and life experience. Diversity in our workforce catalyses innovation which is essential to drive our business performance and better serve our customers. We are committed to provide equal opportunities and support employees of diverse abilities and backgrounds to thrive in the workplace. As a result, in FY2019, there was an increase in the percentage of women in senior management roles and the number of people with disabilities in the organisation. We are planning to organise more initiatives to promote gender diversity in the future.



\* FPE31.12.2017 denotes 1 September 2017 to 31 December 2017

\*\* Data has been restated due to errata.

## Sustainability Statement

### PRIORITISING HEALTH, SAFETY AND PERSONAL WELL-BEING



#### Embracing Relationships

We prioritise our employees' occupational health and safety, and well-being as it not only facilitates higher workplace productivity but also builds their sense of confidence and security.



#### KEY FY2019 HIGHLIGHTS:

Launched the HSE wallet mobile application as a platform to practice Tenaga Safety Culture and report any potential incidents

A decrease in the Lost Time Injury Frequency (LTIF) from 2.08 in FY2018 to 1.47 in FY2019

Roll out of the Total Wellness BookDoc Mobile Application to employees

#### Related Material Matter(s):

- Safety and Emergency Preparedness
- Health and Well-being

#### WHAT HEALTH AND SAFETY MEANS TO US

As a responsible employer, it is important to create a safe and healthy workplace and take effort to eliminate work-related injuries and illnesses. We consistently seek to uphold high standards of safety, as reflected in the progressive certifications from OHSAS 18001:2007 Occupational Health and Safety Assessment Series to ISO 45001:2018 Occupational Health and Safety in some of our core divisions. We have policies and management systems in place, which is complemented by our efforts to instil a safety culture that encourages shared responsibility values in our employees, workers, suppliers and surrounding communities.

TNB's Safety and Health Policy guides our safety governance framework. We are also in the process of implementing the Health, Safety and Environment Management System (HSEMS), which replaces the Safety Excellence Management System. This year, the first edition of the HSEMS Manual was launched by our CEO during our HSE Technical Conference, where all heads of business units were present. At the same time, TNB has an overarching Health, Safety and Environment Steering Committee, supported by division-level

Safety and Health Committee that convenes on a quarterly basis to discuss their strategic direction for HSE-related matters, safety performance and mitigations.

To cascade our safety culture to all employees and workers, we mainly leverage on our Tenaga Safety Culture (TSC) that is centred around four (4) safety core values, which are Assess, Comply, Intervene and Actively Caring. We continue to implement TNB's Life-Saving Rules, comprising nine (9) rules on life-saving and injury-prevention measures that ensures people on site as well as those on the road "Get Home Safe". We also communicate the best practices and lessons learned across all our business operations through the Behaviour Based Safety programme.

We believe in encouraging employees and workers to take ownership in ensuring safety in their respective work areas to prevent work-related hazards or hazardous situations. As such, we empower our employees and workers to play a role in identifying HSE risks. They can utilise the Hazard Identification, Risk Assessment and Determining Control (HIRADC) procedures to identify hazards at

workplace and assess the related risks. These risks are then further analysed and addressed through a hierarchy of controls before the necessary control action is identified.

Our other initiatives to expedite HSE compliance include:

- Conducting various risk assessments, such as Chemical Health Risk Assessment (CHRA) and Ergonomic Risk Assessment (ERA), at relevant divisions to identify critical risks in our business operations.
- Engage an in-house Occupational Health Doctor to enable the early detection of occupational diseases. This is in line with the Department Occupational Safety & Health (DOSH)'s OSH Masterplan 2020 which focuses on inculcating a sense of responsibility amongst employees to drive a preventative culture at the workplace.
- Participating in the Systematic Occupational Health Enhancement Level Programme (SOHELP), which is a strategic partnership with DOSH to increase the occupational health competency amongst HSE practitioners. This year, five (5) power plants were involved.



Behavioural Assessment Programme

This programme is built on the Behaviour Based Safety programme and is catered towards instilling a safety-drive mindset amongst meter readers who use motorcycles to carry out their jobs. It is designed to complement the Defensive Riding exercise which was rolled out in 2018. The first phase of implementation for this programme was conducted from April to July 2019 to meter readers across 88 selected subzones.

Safety Performance, Training and Awareness

For continual improvement of our health and safety system, we regularly engage with our employees and workers to gather their feedback. While the divisional Safety and Health Committee serves as the main channel to convey HSE-related matters, we also have in place the TNB Safety Information System, Potential Incident Platform, Safety Quality Audit, Safety Quality Enforcement, Safety Inspection and Management by Walk-about, amongst others. We are progressively utilising more digital technology as a key strategic driver for TNB’s HSE business plan. We launched the HSE wallet mobile application as a platform to practice Tenaga Safety Culture and report any potential incidents. In FY2019, 72,577 incidents were reported through this application.

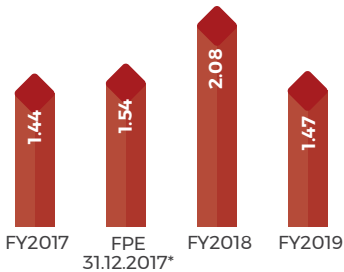
Additionally, we take into account current safety issues in TNB to tailor our safety training and awareness sessions for our employees and workers, examples of which include HSE Technical Conference, Gallery Walks, AP Refresher Training and Safety Weeks.

In this regard, we have seen a decrease in the Lost Time Injury Frequency (LTIF) from 2.08 in FY2018 to 1.47 in FY2019. The majority of the injuries were due to motor vehicle accidents and slip, trip and falls.

TNB’s Safety Performance for FY2019

Number of Lost Time Injuries (LTI)	Number of Lost Days	Lost Days Severity Rate (per million man-hours)
114	2,565	33.16

Lost Time Injury Frequency (LTIF) (per million man-hours)



\* FPE31.12.2017 denotes 1 September 2017 to 31 December 2017

However, we regret to report four (4) fatalities this year, all involving contractors for non-electrical work. As part of our efforts to mitigate these unfortunate incidents and increase awareness, we conducted retraining, took steps to improve workplace safety and reviewed our safety procedures.

SUPPORTING EMPLOYEE HEALTH AND WELLNESS

We believe that supporting the health and well-being of our employees is an integral part of building resilience, work satisfaction and high productivity. As such, we conduct various programmes and events to promote a healthy lifestyle amongst our employees and their families. Some highlights for FY2019 include:

- The Ministry of Health’s *Komuniti Sihat Pembina Negara* (or “KOSPEN PLUS”) programme, for which TNB is a signatory, focuses on six (6) scopes, healthy diet, no smoking, active lifestyle, weight management, health screening and healthy mind.
- Facilities that are focused on healthy lifestyle and habits have been established in several of our workplaces, including eight (8) certified healthy cafeterias and 61 TNB gyms that have the latest equipment and in-house certified trainers.
- The Total Wellness Programme and corresponding awareness sessions have been conducted in 159 TNB stations nationwide to date. Through this programme, we have compiled the basic health data of 15,687 employees.
- TNB Family Wellness Day saw a turnout of 8,439 employees in April 2019 and 9,921 employees in October 2019. The event featured several booths providing healthy food, health and cancer marker screenings as well as sports items.
- TNB’s Energy Night Run was held on 27 July 2019 in conjunction with TNB’s 70<sup>th</sup> anniversary to not only encourage a healthy lifestyle, but also to educate the public on energy conservation. This event saw participation from 3,500 individuals and employees.

We are leveraging on technology to promote a healthy lifestyle through the BookDoc Mobile Application. In FY2019, there have been over 10,000 downloads by our employees. We have also launched the BookDoc Premium Programme to encourage employees to achieve 70 billion steps collectively. A total of 11,801 TNB employees participated in this programme.

Moving forward, we aim to establish Wellness Profiles for all TNB employees. This will serve as a platform to reach out to employees who may need support and/or help to overcome their health struggles.

## Sustainability Statement

### STRENGTHENING PARTNERSHIPS BRIGHTENING SURROUNDING COMMUNITIES



#### Embracing Relationships

We strive to make people's lives better and brighter by equipping them with necessary and relevant skills, sustaining the environment and enhancing their livelihoods. We engage in a wide range of programmes that seek to leave a long-lasting positive impact to people and communities.



#### KEY FY2019 HIGHLIGHTS:

RM40.25 million of total contributions and sponsorships

Achieved the BOLD2025 (UNITEN's strategic plan) target to be top 200 by 2021 as UNITEN was ranked #195 for the QS Asia

212 households benefitted from *Projek Baiti Jannati* and *Program Mesra Rakyat*

#### Related Material Matter(s):

- Community Development
- Education
- Stakeholder Relationship

At TNB, we aspire to better the lives of surrounding communities by creating positive impacts and contributing to nation-building. Our investment in community programmes, initiatives and activities help ensure that we are delivering meaningful change for our stakeholders and beneficiaries, and we also encourage our employees to get involved. In FY2019, we invested a total of RM40.25 million to community programmes, based on our three beliefs for community upliftment:



#### Economic and Social

We believe that capability, social, and community development supports liveability and enhances livelihood by uplifting the economic and social quality of life.



#### Environment

We believe that the future of our planet and next generation depends on our responsible behaviour today.



#### Education

We believe that education can transform lives of not just one individual but families and generations.

## FEATURE STORY: RURAL ELECTRIFICATION

SPV 2030:  
Strategic Thrust 2:  
Key Economic Growth  
Activities



UN SDG:  
Goal Seventeen (17)



It has been our ongoing effort to make electricity accessible to as many Malaysians as possible, especially communities still without a connection to the national grid. Our strategic actions to realise this commitment contribute towards Goal 17 of the UN SDGs.

We have been working closely with the Government to provide electricity infrastructure in rural areas, *Orang Asli* settlements, small estates, islands and other remote villages. This partnership and corresponding initiatives are in line with SPV 2030's ST 2 in providing equitable economic opportunities by improving living conditions.

With the support of the Ministry of Rural Development (*Kementerian Pembangunan Luar Bandar, KPLB*), the Rural Electrification Programme (*Bekalan Elektrik Luar Bandar, BELB*) aims to supply power to villages that are beyond the operational area of local authorities. We help connect these villages to TNB's grid lines or through off-grid alternatives, such as solar hybrids, generator sets, mini hydro and the like, for settlements that are too remote to be connected to our grid lines. A total of 26 villages have benefitted from this initiative to date, allowing them to have access to basic needs for their day-to-day activities as well as to create opportunities for economic growth.

With a similar purpose, the Village Street Lighting Project (*Projek Lampu Jalan Kampung, LJK*), launched in 2002, ensures that public areas in remote villages such as police stations, religious buildings and roads, are well lit at night to support safe communal activities. Also funded by KPLB, a total of 37,835 units of street lights were installed in 7,911 villages at a cost of RM30.76 million.

Additionally, we continued our Home Rewiring Programme that was introduced in 2017. This programme aims to rewire underprivileged homes in Peninsular Malaysia. It is our target to rewire 1,000 homes through this initiative. To date, 93 homes have been refurbished under this programme, with RM306,399.00 spent in FY2019.



## Sustainability Statement

### ECONOMIC AND SOCIAL TRANSFORMATION

#### Homes for Basic Well-being

As part of our efforts to contribute to nation-building, TNB is driven to help raise the standard of living of marginalised communities as well as work towards sustainable development for all.

Through the Home for the Needy programme, we provide liveable spaces that have electricity, water and proper sanitation, by refurbishing or building new homes. In collaboration with State Governments, the target beneficiaries from this programme include single parents, senior citizens and individuals with disabilities. This programme consists of the *Projek Baiti Jannati* (PBJ), and *Program Mesra Rakyat* (PMR). In FY2019, both these programmes benefitted 181 and 31 families, respectively, through a total contribution of approximately RM9.96 million.

Additionally, the Better Brighter Shelter (BBS) programme provides accommodation via dormitories and transit homes for families whose members are undergoing treatment in the hospitals. These facilities benefit folks from the not so well to do families especially those coming from rural areas or outskirts of the capital Kuala Lumpur. Since its inception in 2017, there are two (2) Government-owned hospitals that are linked to this programme: Serdang Hospital and the National Heart Institute (*Institut Jantung Negara*, IJN). TNB has formed partnerships with the National Welfare Foundation (*Yayasan Kebajikan Negara*, YKN) for Serdang Hospital and the IJN Foundation for IJN, to focus on upgrading the dormitories and transit homes at each location respectively. Approximately RM3.49 million has been allocated for this programme to be implemented from 2017 to 2021. In FY2019, we included Hospital Melaka within this programme for the period of 2019 to 2023.

#### Energy Efficient Communities

TNB aspires to support communities by providing energy efficient infrastructure.

Our programme to replace High-Pressure Sodium Vapour streetlights to Light Emitting Diode (LED) streetlights, which commenced in FY2018, aims to improve cost efficiency in all state capital cities. LED lights are more energy and cost efficient and reduce the risk of street lighting failure from 15% to less than 1%. To date, we have installed 326,053 lights out of the 579,080 selected approved cities across Peninsular Malaysia.

With the help of our subsidiary, TNBES, we have carried out a few initiatives to install RE fittings in community buildings. This includes the installation of smart self-generative solar PV systems in a newly-built dementia day-care centre, *Pusat Jagaan Harian Dementia* in Perak. The installation, which supports the NEM scheme, is expected to generate about 3,900kWh per month with approximately RM2,000 cost savings from monthly electricity bills.







ENVIRONMENTAL SUSTENANCE

As part of our environmental stewardship, we have been carrying out conservation efforts to restore forest spaces.

TNB Janamanjung Sdn. Bhd. (TNBJ) has been conducting an annual mangrove planting programme to improve the protection of coastal environments and encourage the production of sustainable fisheries in the Janamanjung vicinity. Since 2013, over 1,000 mangrove saplings are planted per year, and to date, we have planted 9,200 saplings. In FY2019, TNBJ’s mangrove planting initiative took place at Kampung Sungai Tiram, Lekir, Perak with 3,200 new saplings planted. We have also expanded this mangrove planting initiative to Group-wide, with 1,000 mangrove saplings planted in Hutan Simpan, Pulau Ketam, Kuala Perlis.

TNB has also been a long-standing supporter in conserving firefly colonies in Malaysia. The project was originally a collaboration with the Selangor State Government via the Kuala Selangor District Council (*Majlis Daerah Kuala Selangor*, MDKS) to carry out the project in Kampung Kuantan which has one of the largest firefly colonies in Southeast Asia. The success of the pilot project resulted in the expansion of locations to Kampung Yak Yah, Kemaman, Terengganu; Kampung Sungai Timun, Rembau, Negeri Sembilan; and Kampung Dew, Taiping, Perak. In FY2019, approximately RM5.7 million was spent on this project, with RM1.87 million spent on research and development.

To read more on our biodiversity protection efforts, please refer to the “Minimising Environmental Impacts” section on page 117.

TRANSFORMING LIVES THROUGH EDUCATION

We make significant investments into education, whether through our educational institutions or community programmes. This is a testament to our belief that education is an enabler of socioeconomic well-being. We aspire to create long-term positive impacts to the lives of the current and future generations.

Our key education institutions comprise our EduHub – UNITEN, LDC and TNB ILSAS as well as our foundation, Yayasan Tenaga Nasional (YTN).

UNITEN – the Energy University

Established in 1997, UNITEN offers opportunities to study in the field of engineering, computing and informatics, energy economics, and business management to both local and international students at all tertiary education levels. UNITEN has also been a hub for energy research given TNB’s position in the electricity supply industry.

UNITEN Highlights

Won **12 gold medals during the 30th International Invention, Innovation & Technology Exhibition (ITEX)** which is the highest number amongst all participants



**6 UNITEN researchers were awarded the prestigious Leaders in Innovation Fellowship** from the Royal Academy of Engineering, United Kingdom

**Top 5 in Malaysia for Engineering and Technology** in Times Higher Education World University Rankings 2020

**#195** in QS Asia University Rankings 2020

## Sustainability Statement

Programme	Description	FY2019 Highlights
<b>Smart UniverCity</b>	A collaboration between UNITEN and TNB to enable UNITEN to become a living lab for smart city solutions.	<ul style="list-style-type: none"> <li>Smart Mobility: Two (2) UNITEN electric buses were introduced</li> <li>Smart Energy: Optimised chiller and air handling units operation using closed-circuit television (CCTV) and video analytics</li> <li>Smart Lifestyle: Student mobile applications (UNITENLife and Boost) to utilise cashless payment and access latest campus-wide announcements and updates</li> </ul>
<b>Research Highlights</b>	UNITEN Research Hub, comprising six (6) entities to conduct research focusing on the well-being of society.	<ul style="list-style-type: none"> <li>Six (6) research programmes were launched this year with the aim to address national issues, for example environmental hazards and dengue hotspot areas, as well as ways to promote current developments, like decarbonisation, EE and innovation.</li> </ul>

### TNB Integrated Learning Solution Sdn. Bhd. (ILSAS)

For more than 30 years, ILSAS has been the official training institute for TNB employees and a premier technical training institute for other professionals in the power and utility business. ILSAS is ISO 9001:2015 certified and has adopted the United Kingdom Accreditation Service (UKAS) standards for the quality of its training and administration. It has in place a business plan for 2019-2030 to become a Global Leader Learning Solutions Provider.

ILSAS has  
**314 employees**  
consisting of **148 trainers**

Trained  
**61,067 individuals**  
in FY2019



Achieved  
**RM120 million**  
in revenue for  
FY2019

### Award won: “Best Exhibitor”

*(Human Resources Development Fund (HRDF) Conference and Exhibition 2019)*

Key initiatives and highlights for ILSAS in FY2019 include:

- Training programmes related to smart meters, drones, digital innovation amongst others, as well as those carried out under PROTÉGÉ, Distribution Academy and Retail Academy
- Collaboration with TNB's Retail Division to execute capability development and application of knowledge (e.g. Retail Academy and Retail Innovation)

We continue and pursue to maintain the following certifications and accreditations:

- Approved by the Energy Commission (EC) to carry out competency courses
- Approved as a City and Guilds (UK) Centre
- Certified as an Institute of Leadership Management (ILM) (UK) Centre
- Certified as a Department of Occupational Safety and Health (DOSH) Examination Centre
- Authorised Centre for Sustainable Energy Development Authority (SEDA)

### Yayasan Tenaga Nasional

Founded in 1993, YTN provides financial aid to various causes, organisations and communities, with the focus on YTN Scholarship programmes. It is governed by a Board of Trustees and supported by an organisation committee and team.

**RM66.10 million**  
of total investments for  
YTN Scholarships in  
FY2019



**YTN supported 700 outstanding Malaysian students** in FY2019 through YTN Scholarships

In FY2019,  
**1,862 students**  
have benefitted from **the YTN scholarships and convertible loans** to pursue tertiary education

## Educational Development Programmes

### Promoting High-Quality Education in Schools

We believe that a significant component of improving access to quality education is through making improvements to schools, the leadership and teaching methods, as well as instilling a learning culture amongst the students.

Our key initiative, the Trust Schools Programme is a public-private partnership between the Ministry of Education (MoE) and Yayasan AMIR, a non-profit foundation established in 2011 by Khazanah Nasional. Teachers are exposed to new teaching and learning methods that would benefit the students who will be put through an effective co-curriculum framework.

TNB has also committed RM800,000 respectively to eight (8) schools to improve the delivery of curriculum and enhance the school management with the view of promoting sustainable education practices. The eight (8) schools that benefitted from this programme are:

- Sekolah Menengah Kebangsaan Seri Samudera, Perak;
- Sekolah Kebangsaan Seri Samudera, Perak;
- Sekolah Menengah Kebangsaan Kg. Jawa, Selangor;
- Sekolah Kebangsaan Kg. Jawa, Selangor;
- Sekolah Menengah Kebangsaan Seri Paka, Terengganu;
- Sekolah Kebangsaan Paka 111, Terengganu;
- Sekolah Menengah Kebangsaan Jeli, Kelantan; and
- Sekolah Kebangsaan Jeli 1, Kelantan

Likewise, the Pintar Schools Adoption Programme assists under-performing schools with the view to improve the academic and extracurricular performance. Initiatives such as motivational camps, tuition classes, examination seminars and workshops, and hockey trainings are organised at the respective schools. Since 2017, TNB has adopted 18 schools nationwide under this programme. In FY2019, up to 120 students have benefitted and TNB has contributed a total of RM2.19 million to this programme.



### Advocating Equal Learning Opportunities

All students deserve the opportunity to learn, however, underprivileged students face more barriers and challenges in the pursuit of education. As such, we strive to help by subsidising school fees and providing supplies.

Our annual Back-to-School programme has been rebranded to *Ceria ke Sekolah* and it takes place before the school year starts. TNB had the privilege to sponsor school supplies, such as school uniforms, bags, shoes and stationeries. This programme caters specifically to primary school students from low-income families. In FY2019, 6,100 students benefitted in 37 locations nationwide.

Launched in 2018, TNB also carries out the B40 Programme with a total of 300 students being adopted to date. This programme is targeted for secondary school students, specifically those in Form 3, from B40 families. Three (3) schools in Kuala Lumpur are our beneficiaries: Sekolah Menengah Kebangsaan Bukit Bandaraya, Sekolah Menengah Kebangsaan Bangsar and Sekolah Menengah Kebangsaan Seri Pantai. From 2018 to 2020, each student will receive RM1,500 a year and sponsorships to attend self-development programmes organised by TNB, including motivational camps and outreach programmes. In addition, we have launched the Better Brighter Vision programme in partnership with Tun Hussein Onn Eye Hospital to provide eye screening procedures and corrective glasses for primary and secondary students from B40 families that need this support. We have allocated a total of RM67,000 for this programme, which has benefitted 600 students from five (5) schools in Kuala Lumpur.



## Sustainability Statement

### FEATURE STORY:

### MY BRIGHTER FUTURE



In FY2019, MyBF has awarded scholarships to 3,564 students who are pursuing their tertiary studies in Science, Technology, Engineering and Mathematics (STEM) as well as Technical and Vocational Education and Training (TVET) subjects at seven (7) public universities, community colleges and polytechnic institutions in Malaysia. The MyBF scholarship covers tuition fees, boarding and living expenses throughout the duration of their studies. This enables students to have some financial security, allowing them to focus on their studies and future careers.

MyBF not only provides financial aid but also the opportunity for students to develop the necessary skills to prepare them for future success. YTN conducts multiple development programmes for MyBF recipients throughout the year. These programmes allow students to sharpen their professional and entrepreneurial skills, as well as facilitate networking sessions between scholars and industry leaders.

Muhamad Akidd Mohd Sharif, a recipient of MyBF scholarship enrolled in BSc Electrical Engineering Technology at *Universiti Teknikal Malaysia Melaka (UTeM)*, was the first batch of MyBF beneficiaries at UTeM. "I feel very fortunate to have been offered the MyBF scholarship. I am now motivated to finish my studies and to realise my dream of becoming a professional engineer. I hope as I graduate, I will be able to support my family and empower my community by sharing my experiences. I wish to continue YTN's legacy by establishing an NGO that helps underprivileged youths gain access to tertiary education and provides opportunities to the less fortunate communities to achieve socio-economic growth."

At TNB, we believe education is an important tool in our efforts for sustained economic growth and nation-building. Through YTN, we have invested a total of up to RM21.22 million in FY2019 MyBF programme.

SPV 2030:  
Strategic Thrust 2:  
Key Economic Growth  
Activities



UN SDG:  
Goal Eight (8)



We believe in the immense power of education as a catalyst for economic empowerment and social mobility. Education and leadership development largely form our efforts in social investments, in line with our commitment to realise Goal 8 of the UN SDGs by improving employability of the marginalised youths through education. In addition, this resonates with the SPV 2030's ST 2 to facilitate economic growth in the long run.

One of TNB's key initiative in uplifting marginalised youths is the Dermasiswa My Brighter Future (MyBF) under YTN. This programme was established to promote equitable access to tertiary education, particularly for families in the B40 bracket registered under the *eKasih* scheme.

### Well Rounded Education through Sports

We recognise that success is not only defined by academic excellence. It is important for individuals to develop based on their strengths and interests. Therefore, we have reached out to support students with an interest in sports, specifically hockey. We contribute towards developing individuals who display great potential in this game through the National Hockey Development and Thunderbolts Programme, whereby we adopt sports schools and coach promising individuals. They are mentored by former national one-line hockey players, who are also TNB employees. Since 2006, several national players are amongst the alumni of this programme.

The schools adopted under this programme are:

- Sekolah Sukan Bukit Jalil, Selangor;
- Sekolah Sukan Tunku Mahkota Ismail, Johor;
- Sekolah Menengah Kebangsaan Seberang, Temerloh, Pahang; and
- Sekolah Menengah Kebangsaan Anderson, Ipoh, Perak.

In FY2019, TNB sponsored RM4 million to this programme for various leagues and championships organised by the Malaysian Hockey Confederation. Additionally, up to RM2 million was contributed to workshops for TNB coaches, allowance for TNB employees involved in the programme and other activities to promote hockey in Malaysia.





# Notice of the 30<sup>th</sup> Annual General Meeting

**NOTICE IS HEREBY GIVEN THAT** the Thirtieth Annual General Meeting (30<sup>th</sup> AGM) of Tenaga Nasional Berhad (“TNB” or “the Company”) will be held on **Tuesday, 30 June 2020** at **10.00 a.m.** at Dewan Serbaguna, Kompleks Sukan TNB, Jalan Pantai Baru, 59200 Kuala Lumpur, Malaysia to transact the following businesses:-

## AGENDA

### AS ORDINARY BUSINESS:

1. To receive the Audited Financial Statements for the Financial Year ended 31 December 2019 together with the Reports of the Directors and Auditors thereon.  
*Please refer to Explanatory Note (a)*
2. To re-elect the following Directors who retire by rotation in accordance with Clause 64(1) of the Company's Constitution and being eligible offer themselves for re-election:
  - (i) Amran Hafiz bin Affifudin
  - (ii) Noraini binti Che Dan

Gee Siew Yoong, who holds office until the conclusion of the 30<sup>th</sup> AGM, has expressed her intention of not to seek for re-election and shall retain office until the conclusion of the 30<sup>th</sup> AGM.  
*Please refer to Explanatory Note (b)*
3. To re-elect Dato' Cheok Lay Leng who was appointed to the Board and retires in accordance with Clause 63(2) of the Company's Constitution and being eligible offer himself for re-election.  
*Please refer to Explanatory Note (b)*
4. To approve the payment of the following Non-Executive Directors' fees from the 30<sup>th</sup> AGM until the next Annual General Meeting (AGM) of the Company:
  - (i) Director's fee of RM30,000.00 per month for the Non-Executive Chairman
  - (ii) Director's fee of RM20,000.00 per month for each Non-Executive Director
  - (iii) Director's fee of RM7,000.00 and RM5,000.00 per month for TNB Subsidiaries Category I and II respectively to Non-Executive Chairman.*Please refer to Explanatory Note (c)*
5. To approve the payment of benefits payable to the Non-Executive Directors (excluding Non-Executive Directors' fees) amounting to RM1,885,100.00 from the 30<sup>th</sup> AGM until the next AGM of the Company.  
*Please refer to Explanatory Note (c)*
6. To re-appoint Messrs PricewaterhouseCoopers PLT, having consented to act, as Auditors of the Company, to hold office until the conclusion of the next AGM and to authorise the Directors to fix their remuneration.  
*Please refer to Explanatory Note (d)*

**Ordinary Resolution 1**  
**Ordinary Resolution 2**

**Ordinary Resolution 3**

**Ordinary Resolution 4**

**Ordinary Resolution 5**

**Ordinary Resolution 6**

### AS SPECIAL BUSINESS:

7. Proposed Grant and Allotment of Shares to Datuk Seri Amir Hamzah bin Azizan.  

“THAT the Board (save for Datuk Seri Amir Hamzah bin Azizan) be and is hereby authorised at any time and from time to time, to cause or procure the offering and the allocation to Datuk Seri Amir Hamzah bin Azizan, the President/Chief Executive Officer of the Company, of up to 900,000 ordinary shares in TNB (TNB Shares) under the Long Term Incentive Plan for the Eligible Employees of TNB and Its Subsidiaries and Executive Directors of TNB (LTIP) as they shall deem fit, which will be vested to him at a future date, subject always to such terms and conditions of the By-Laws of LTIP.”

“AND THAT the Board be and is hereby authorised to allot and issue new TNB shares pursuant to the LTIP to him from time to time pursuant to the vesting of his Grant.”  
*Please refer to Explanatory Note (e)*
8. To transact any other business of which due notice shall have been given in accordance with the Companies Act 2016 (Act).

**Ordinary Resolution 7**

## Notice of the 30<sup>th</sup> Annual General Meeting

**FURTHER NOTICE IS HEREBY GIVEN THAT** for the purpose of determining a member who shall be entitled to attend this 30<sup>th</sup> AGM, the Company shall be requesting Bursa Malaysia Depository Sdn. Bhd. (Bursa Depository) in accordance with Clause 45(2) of the Company's Constitution and Section 34(1) of the Securities Industry (Central Depositories) Act 1991 (SICDA) to issue a General Meeting Record of Depositors (ROD) as at 23 June 2020. Only a depositor whose name appears on the ROD as at 23 June 2020 shall be entitled to attend the said Meeting or appoint proxy/proxies to attend and/or vote on his/her behalf.

### BY ORDER OF THE BOARD

#### NORAZNI BINTI MOHD ISA

(LS 0009635)

(SSM Practicing Certificate No. 201908000492)

Company Secretary

Kuala Lumpur

10 April 2020

### EXPLANATORY NOTES ON ORDINARY BUSINESSES:

- (a) **Agenda No. 1** is meant for discussion only as the provision of Section 340(1)(a) of the Act does not require shareholders' approval for the Audited Financial Statements. As such, it is not put forward for voting.
- (b) **Ordinary Resolutions 1 to 3 - Proposed Re-election of Directors in accordance with Clauses 64(1) and 63(2) of the Company's Constitution**

Clause 64(1) of the Company's Constitution provides among others, that one-third (1/3) of the Directors at the time being of whom have been longest in office shall retire by rotation at the AGM of the Company and shall be eligible for re-election.

Clause 63(2) of the Company's Constitution provides among others, that the Directors shall have power at any time and from time to time to appoint any other person to be a Director of the Company either to fill a casual vacancy or as an addition to the existing Directors. Any Director so appointed shall hold office only until the next following AGM of the Company and shall then be eligible for re-election.

The Board Nomination and Remuneration Committee (BNRC) and Board have conducted an assessment on the independence of all Independent Directors including Noraini binti Che Dan and are satisfied that she had complied with the independence criteria as required by the Main Market Listing Requirements of Bursa Malaysia Securities Berhad (MMLR) and continues to bring independent and objective judgment to the Board deliberations.

The BNRC and Board have also considered the Board Evaluation including the Self and Peer Assessment results of Noraini binti Che Dan and Amran Hafiz bin Affifudin and agreed that they have met the Board's expectation in terms of experience, expertise, integrity, competency, commitment and individual contribution by continuously performing their duties diligently as Directors of the Company.

Amran Hafiz bin Affifudin, Appointed Director by Khazanah Nasional Berhad, the major shareholder of TNB, is also standing for re-election.

The Board on 28 February 2020, had approved on the appointment of Dato' Cheok Lay Leng, as Independent Non-Executive Director with effect from 2 March 2020. With his expertise/experience that he may bring to the Board, shall further strengthen the Board composition and dynamics.

Gee Siew Yoong has expressed her intention of not to seek for re-election and shall retain office until the conclusion of the Company's 30<sup>th</sup> AGM.

The BNRC and Board hereby recommend for the re-election of each Director who is retiring at the 30<sup>th</sup> AGM.

- (c) **Ordinary Resolutions 4 to 5 - Non-Executive Directors' Remuneration**

Section 230(1) of the Act stipulates among others that the fees and any benefits payable to the Directors of a listed company and its subsidiaries shall be approved at a general meeting. As agreed by the Board, the shareholders' approval shall be sought at the 30<sup>th</sup> AGM on the Non-Executive Directors' remuneration of the Company and TNB Subsidiaries Category I and II through two (2) separate resolutions as follows:

- (i) **Ordinary Resolution 4** on the payment of Non-Executive Directors' fees for the Non-Executive Chairman and each Non-Executive Director from the 30<sup>th</sup> AGM until the next AGM of the Company.
- (ii) **Ordinary Resolution 5** on the payment of benefits (excluding Non-Executive Directors' fees) to the Non-Executive Directors from the 30<sup>th</sup> AGM until the next AGM of the Company.

The last increment of the Non-Executive Directors remuneration/benefits was made in 2013. The Board on 11 April 2018, engaged Willis Towers Watson (WTW) to conduct a holistic and independent review of the Non-Executive Directors' Remuneration with the aim to determine its market competitiveness and alignment with the latest regulations/corporate governance guidelines in Malaysia. Overall, TNB is at par with the market, for most of the compensation elements. WTW recommended that the existing remuneration policy remains and to be reviewed in one (1) to two (2) years time to stay relevant with the market.

The proposed Ordinary Resolution 4 for the payment of fees to the Non-Executive Directors of the Company and its subsidiaries from the 30<sup>th</sup> AGM until the conclusion of the next AGM is tabled herewith in line with the provision of the Act and best practices of corporate governance to ensure full disclosure.

The existing remuneration policy of Non-Executive Directors in TNB and its subsidiaries is as follows:

Description	TNB Board		TNB Subsidiaries	
	Chairman	Non-Executive Directors	Chairman	Non-Executive Directors
Monthly fixed fees	RM30,000 per month	RM20,000 per month	Category I - RM7,000 Category II - RM5,000	Category I - RM5,000 Category II - RM3,000
* Meeting Allowances (per meeting)				
(i) Board	RM2,500	RM2,000	RM1,500	RM1,000
(ii) Board Committees	RM2,000	RM1,500	RM1,000	RM800
Benefits	Medical, Business Peripherals, Electricity Bills, Travelling & Telecommunication and other claimable benefits			

\* subject to not more than three (3) payments in a month.

In determining the estimated total amount of benefits payable, the Board has considered various factors including the number of scheduled and special meetings for the Board, Board Committees and boards of subsidiaries along with the number of Non-Executive Directors involved.

Payment of Non-Executive Directors' benefits will be made by the Company and its subsidiaries on a monthly basis and/or as and when incurred, provided that the proposed Ordinary Resolution 5 be passed at the 30<sup>th</sup> AGM. The Board is of the view that it is fair and justifiable for the payment of benefits to the Non-Executive Directors be made as and when incurred, after the Non-Executive Directors have discharged their responsibilities and rendered their services to the Company.

Details of the Directors' Remuneration for the Financial Year ended 31 December 2019 are enumerated on page 41 of the Corporate Governance Overview Statement of the Corporate Governance & Financial Statements 2019.

(d) **Ordinary Resolution 6 - Re-appointment of Auditors**

Based on the External Auditors Assessment Result for the Financial Year under review, the Board Audit Committee and Board are satisfied with the quality of service, adequacy of resources provided, communication, independence, objectivity and professionalism demonstrated by the External Auditors in carrying out their functions.

Being satisfied with the External Auditors' performance, the Board recommends their re-appointment for shareholders' approval at the forthcoming AGM.

**EXPLANATORY NOTES ON SPECIAL BUSINESS:**

(e) **Ordinary Resolution 7 - Proposed Grant and Allotment of Shares to Datuk Seri Amir Hamzah bin Azizan**

The proposed Ordinary Resolution, if passed, is to empower the Directors at any time and from time to time to cause or procure the offering and the allocation to Datuk Seri Amir Hamzah bin Azizan, the President/Chief Executive Officer of the Company, of up to 900,000 TNB Shares as they shall deem fit, which will be vested to him at a future date, subject always to such terms and conditions of the By-Laws of LTIP, which was approved at the Extraordinary General Meeting of the Company held on 18 December 2014.

The Proposed Grant is the maximum number of TNB Shares that may be vested to Datuk Seri Amir Hamzah bin Azizan subject to the stretched individual and Company performance targets set by the Board Long Term Incentive Plan Committee (BLTIP) and Board, upon the vesting exercise. The BLTIP and Board (save for Datuk Seri Amir Hamzah bin Azizan) have deliberated on the proposal and concurred that the proposed maximum allowable number of TNB Shares allocation is fair and reasonable, to link the interest of the Executive Director with the long term shareholders' value enhancement and long term success of the Company.

**Additional Information on Ordinary Resolutions 1 to 3**

Additional information on the particulars of the retiring Directors, as required under Appendix 8A of the MMLR is detailed out in the Statement Accompanying Notice of 30<sup>th</sup> AGM of this Integrated Annual Report.

## Notice of the 30<sup>th</sup> Annual General Meeting

### NOTES:

1. A member of a Company shall be entitled to appoint another person as his/her proxy to exercise all or any of his/her rights to attend, participate, speak and vote at a meeting of members of the Company, in accordance with Section 334(1) of the Act.
2. Where a member is an authorised nominee as defined in accordance with the provisions of the SICDA, it may appoint up to two (2) proxies in respect of each Securities Account it holds with ordinary shares in the Company standing to the credit of the said Securities Account.
3. A member entitled to attend and vote at the Meeting is entitled to appoint not more than two (2) proxies to attend and vote on his/her behalf. Where a member appoints two (2) proxies, the appointments shall be invalid unless the proportion of the shareholdings to be represented by each proxy is specified.
4. The instrument appointing a proxy/Proxy Form shall be in writing under the hand of the appointer or of his attorney duly appointed under a power of attorney. Where the instrument appointing a proxy/Proxy Form is executed by a corporation, it shall be executed either under its common seal or under the hand of any officer or attorney duly appointed under a power of attorney.
5. A corporation which is a member may by resolution of its Directors or other governing body authorise such person as it thinks fit to act as its representative at the Meeting in accordance with Clause 51 of the Company's Constitution.
6. Duly completed Proxy Form must be deposited to the Boardroom Share Registrars Sdn. Bhd., 11<sup>th</sup> Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia not less than 24 hours before the time appointed for the taking of the poll or **no later than 29 June 2020 at 12.00 p.m.**
7. Alternatively, you may lodge the Proxy Form via the Boardroom Smart Portal at [www.boardroomlimited.my](http://www.boardroomlimited.my) before the abovementioned cut-off time. For further details on proxy lodgement, kindly refer to the Annexure of the Administrative Details of 30<sup>th</sup> AGM.
8. Pursuant to Paragraph 8.29A of the MMLR, voting at the 30<sup>th</sup> AGM of the Company will be conducted by poll.

### Registration of Members/Proxies

Registration of members/proxies attending the Meeting will start from 7.00 a.m. on the day of the Meeting and shall remain open until such time as may be determined by the Chairman of the Meeting. At the closure thereof, no person will be allowed to register for the Meeting nor enter the Meeting venue. Members/proxies are required to produce identification documents for registration.

## Statement Accompanying Notice of the 30<sup>th</sup> Annual General Meeting

(Pursuant to Paragraph 8.27(2) of the Main Market Listing Requirements of Bursa Malaysia Securities Berhad)

### The Directors who are retiring by rotation in accordance with Clause 64(1) of the Company's Constitution and seeking for re-election:

- (i) Amran Hafiz bin Affifudin
- (ii) Noraini binti Che Dan

### The Director who was appointed to the Board and is retiring in accordance with Clause 63(2) of the Company's Constitution and seeking for re-election:

- (i) Dato' Cheok Lay Leng

The profiles of the above Directors are set out in Board of Directors' Profile on pages 2 to 12 of the Corporate Governance & Financial Statements 2019.

Save for Datuk Seri Amir Hamzah bin Azizan and Dato' Roslina binti Zainal, none of the above Directors has any interest in the securities of the Company or its Subsidiaries. The details of their shareholdings in the Company is set out in the Directors' Report on page 67 of the Corporate Governance & Financial Statements 2019.



# Proxy Form

## 30<sup>TH</sup> ANNUAL GENERAL MEETING

(Before completing the form, please refer to the notes overleaf)



Number of Ordinary Share(s) held	CDS Account No.											
				-				-				

I/We, \_\_\_\_\_  
(FULL NAME OF SHAREHOLDER AS PER NRIC/CERTIFICATE OF INCORPORATION IN CAPITAL LETTERS)

NRIC No./Passport No./Company No. \_\_\_\_\_ of \_\_\_\_\_  
(FULL ADDRESS)

\_\_\_\_\_  
(FULL ADDRESS)

Telephone No. \_\_\_\_\_ being a Member of Tenaga Nasional Berhad, hereby appoints:

	FULL NAME OF PROXY AS PER NRIC IN CAPITAL LETTERS	NO. OF SHARES	PERCENTAGE (%)	
Proxy 1				or failing him/her
	NRIC No./Passport No.:			
Proxy 2				or failing him/her
	NRIC No./Passport No.:			

**TOTAL** 100%

\* the Chairman of the Meeting, as my/our proxy, to attend and vote for me/us and on my/our behalf at the **30<sup>TH</sup> ANNUAL GENERAL MEETING (30<sup>TH</sup> AGM)** of **TENAGA NASIONAL BERHAD ("TNB" or "the Company")** to be held at Dewan Serbaguna, Kompleks Sukan TNB, Jalan Pantai Baru, 59200 Kuala Lumpur, Malaysia on **TUESDAY, 30 JUNE 2020** at **10.00 a.m.** and/or at any adjournment thereof.

My/Our proxy is to vote as indicated below:

NO.	RESOLUTIONS		FOR	AGAINST
<b>ORDINARY BUSINESS</b>				
Re-election of the following Directors who retire in accordance with Clause 64(1) of the Company's Constitution:				
1.	Amran Hafiz bin Affifudin	<b>ORDINARY RESOLUTION 1</b>		
2.	Noraini binti Che Dan	<b>ORDINARY RESOLUTION 2</b>		
Re-election of the following Director who retire in accordance with Clause 63(2) of the Company's Constitution:				
3.	Dato' Cheok Lay Leng	<b>ORDINARY RESOLUTION 3</b>		
4.	Approval for payment of the following Non-Executive Directors' fees from the 30 <sup>th</sup> AGM until the next Annual General Meeting (AGM) of the Company: (i) Director's fee of RM30,000.00 per month for the Non-Executive Chairman (ii) Director's fee of RM20,000.00 per month for each Non-Executive Director (iii) Director's fee of RM7,000.00 and RM5,000.00 per month for TNB Subsidiaries Category I and II respectively to Non-Executive Chairman	<b>ORDINARY RESOLUTION 4</b>		
5.	Approval for payment of benefits to the Non-Executive Directors (excluding Non-Executive Directors' fees) from the 30 <sup>th</sup> AGM until the next AGM of the Company	<b>ORDINARY RESOLUTION 5</b>		
6.	Re-appointment of Messrs PricewaterhouseCoopers PLT as Auditors of the Company and to authorise the Directors to fix their remuneration	<b>ORDINARY RESOLUTION 6</b>		
<b>SPECIAL BUSINESS</b>				
7.	Proposed Grant and Allotment of Shares to Datuk Seri Amir Hamzah bin Azizan	<b>ORDINARY RESOLUTION 7</b>		

Please indicate with an "X" in the box provided for each Resolution as how you wish your votes to be cast. If no voting instruction is given, the proxy(ies) is/are hereby authorised to vote or abstain from voting at his/her/their discretion.

\* If you do not wish to appoint the Chairman of the Meeting as your proxy/one (1) of your proxies, please strike out the word "the Chairman of the Meeting" and insert the name(s) of the proxy(ies) you wish to appoint in the blank spaces provided.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2020

\_\_\_\_\_  
Signature(s) or Common Seal of Member(s)

**NOTES:**

1. A member of a Company shall be entitled to appoint another person as his/her proxy to exercise all or any of his/her rights to attend, participate, speak and vote at a meeting of members of the Company in accordance with Section 334(1) of the Companies Act 2016.
2. Only members whose names appear in the General Meeting Record of Depositors as at 23 June 2020 shall be entitled to attend the Meeting or appoint proxy(ies) to attend and/or vote on their behalf.
3. Where a member is an authorised nominee as defined in accordance with the provisions of the Securities Industry (Central Depositories) Act 1991, it may appoint up to two (2) proxies in respect of each Securities Account it holds with ordinary shares in the Company standing to the credit of the said Securities Account.
4. A member entitled to attend and vote at the Meeting is entitled to appoint not more than two (2) proxies to attend and vote on his/her behalf. Where a member appoints two (2) proxies, the appointments shall be invalid unless the proportion of the shareholdings to be represented by each proxy is specified.
5. The instrument appointing a proxy/Proxy Form shall be in writing under the hand of the appointer or of his attorney duly appointed under a power of attorney. Where the instrument appointing a proxy/Proxy Form is executed by a corporation, it shall be executed either under its common seal or under the hand of any officer or attorney duly appointed under a power of attorney.
6. A corporation which is a member may by resolution of its Directors or other governing body authorise such person as it thinks fit to act as its representative at the Meeting in accordance with Clause 51 of the Company's Constitution.
7. Duly completed Proxy Form must be deposited to the Boardroom Share Registrars Sdn. Bhd., 11<sup>th</sup> Floor, Menara Symphony, No. 5, Jalan Prof. Khoo Kay Kim, Seksyen 13, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia not less than 24 hours before the time appointed for the taking of the poll or **no later than 29 June 2020 at 12.00 p.m.**
8. Alternatively, you may lodge the Proxy Form via the Boardroom Smart Portal at [www.boardroomlimited.my](http://www.boardroomlimited.my) before the abovementioned cut-off time. For further details on proxy lodgement, kindly refer to the Annexure of the Administrative Details of 30<sup>th</sup> AGM.
9. Pursuant to Paragraph 8.29A of the Main Market Listing Requirements of Bursa Malaysia Securities Berhad, voting at the Meeting will be conducted by poll.
10. Registration of members/proxies attending the Meeting will start from 7.00 a.m. on the day of the Meeting and shall remain open until such time as may be determined by the Chairman of the Meeting. At the closure thereof, no person will be allowed to register for the Meeting nor enter the Meeting venue. Members/proxies are required to produce identification documents for registration.

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AFFIX  
STAMP

**BOARDROOM SHARE REGISTRARS SDN. BHD.**

11<sup>th</sup> Floor, Menara Symphony  
No. 5, Jalan Prof. Khoo Kay Kim  
Seksyen 13, 46200 Petaling Jaya  
Selangor Darul Ehsan  
Malaysia

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