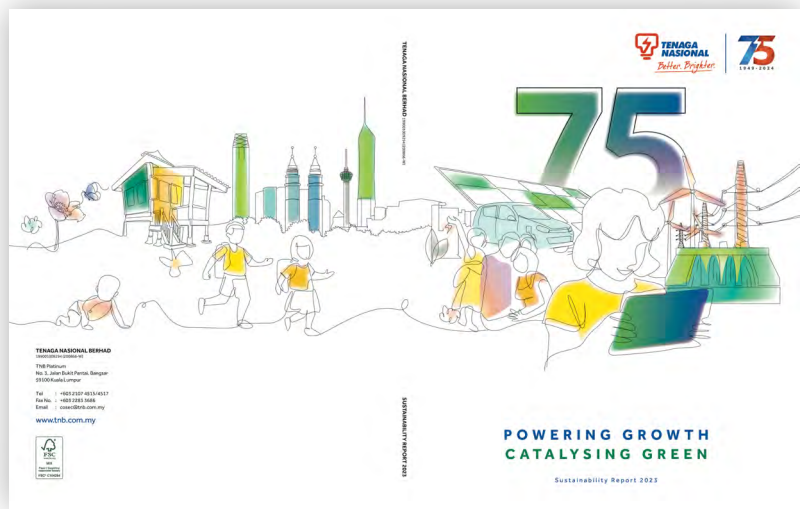


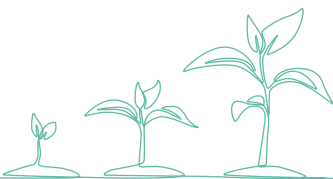
POWERING GROWTH CATALYSING GREEN

Sustainability Report 2023

INSIDE THIS REPORT



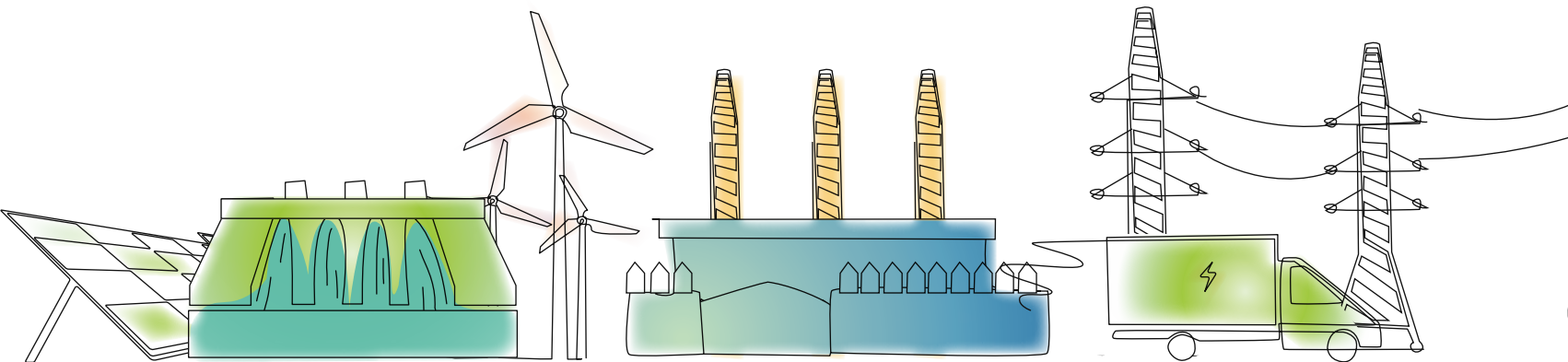
POWERING GROWTH CATALYSING GREEN



Our annual report cover celebrates TNB’s remarkable 75-year journey, depicted through intricate line drawings narrating two compelling storylines encapsulating evolution and growth. In the upper segment, the illustration eloquently traces Malaysia’s societal advancement, symbolising the transition from quaint rural landscapes to bustling urban metropolises. This narrative mirrors TNB’s trajectory, evolving from a traditional power provider to a pioneer championing sustainable energy solutions. It reflects the unwavering commitment to the Energy Transition Plan, with the ultimate aim of achieving Net Zero by 2050.

As we celebrate our 75th anniversary, the cover serves as a testament to our enduring mission: Powering Growth, Catalysing Green. It showcases TNB’s leadership in fostering sustainable growth, spearheading the transition towards a greener future. The bottom illustration delves into the individual’s social and economic journey, underscoring TNB’s dedication to societal progress and inclusivity.

Together, these visuals encapsulate TNB’s profound impact on shaping Malaysia’s trajectory and our collective aspirations for a Better, Brighter Future. From inception, marked by the nation’s electrification, to present-day leadership in green energy solutions, TNB remains steadfast in the commitment to driving sustainable progress. As we embark on the next phase of our journey, we stand poised to continue leading the charge towards a more resilient and sustainable energy landscape. TNB’s 75th anniversary on 1 September 2024 marks a significant milestone in our shared history, intricately woven into the fabric of Malaysia’s growth and progress.



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03 OUR SUSTAINABILITY APPROACH

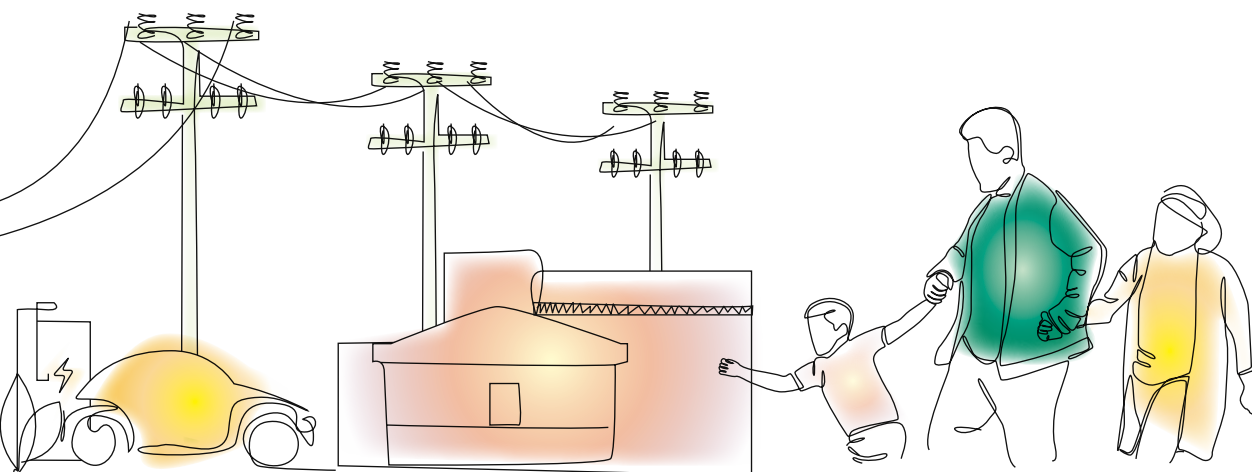
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NAVIGATION ICONS



This icon tells you where you can find related information in this Report.



Scan this QR code to view it online or visit www.tnb.com.my

BASIS OF THIS REPORT

Tenaga Nasional Berhad's (TNB) annual Sustainability Report (Report) communicates our sustainability performance, strategies and initiatives for the financial year ending 31 December 2023. We strive to lead as a provider of sustainable energy solutions, underpinned by our dedication to the Environmental, Social and Governance (ESG) principles through our various initiatives.

Our sustainability journey towards Net Zero Emissions by 2050 focuses on the integration of the ESG principles into our Reimagining TNB (RT) corporate strategy and business operations. We have prioritised eight (8) UN SDGs to deliver sustainable value and empower our people and the wider community. We aim to achieve the objectives in each sustainability pillar by addressing matters that are material to us.



REPORTING SCOPE AND BOUNDARIES

This Report encompasses the operations of the TNB Company and its subsidiaries (TNB Group) according to TNB's corporate structure. It presents details on active subsidiaries with effective holding. This Report excludes joint ventures and vendor activities unless explicitly mentioned.

As part of good reporting practices, we strive to be transparent and balanced in reporting on matters deemed material. We have diligently tracked and disclosed relevant targets alongside three (3) years of historical key performance indicators where available, to the best of our ability.

REPORTING PERIOD

This Report covers the period of 1 January to 31 December 2023, unless stated otherwise. Our Sustainability Reports are issued on an annual basis and our last standalone Sustainability Report was published in July 2023.

REPORTING STANDARDS AND FRAMEWORKS

This Report has been prepared with reference to the Global Reporting Initiative (GRI) Universal Standards 2021. The GRI Content Index can be found on pages 139 - 141 of this Report.

We are committed to meeting Bursa Malaysia's sustainability reporting requirements and strive to align with other international reporting standards and frameworks. We are aware of and closely monitor global developments in sustainability reporting standards, such as those of the International Sustainability Standards Board (ISSB) and the Taskforce on Nature-related Financial Disclosures (TNFD). Among the requirements and standards that have guided the preparation of this Report include:

- **Bursa Malaysia's Main Market Listing Requirements (MMLR)**
- **Bursa Malaysia Sustainability Reporting Guide (3rd Edition)**



Global Reporting Initiative (GRI) Standards and GRI Electric utilities Sector Disclosures



Task Force on Climate-related Financial Disclosures (TCFD)



United Nations Sustainable Development Goals (UN SDGs)

BASIS OF THIS REPORT

MATERIALITY

The information presented in this document is considered material to TNB in relation to our material matters. These matters are identified as issues that can affect our ESG performance significantly and aid in stakeholders' evaluation of our operations. Our key issues stem from a comprehensive materiality assessment that includes input from both internal and external stakeholders.

 Refer to Materiality Assessment on page 31.


PROGRESSIVE STATEMENTS

This Report includes forward-looking statements regarding the Group's objectives, strategies, plans, and future initiatives, which are closely intertwined with TNB's business, financial and non-financial performance. These statements contain words and phrases such as "expects", "targets", "intends", "anticipates", "believes", "estimates", "may", "plans", "projects", "should", "would" and "will."

It is important to note that these statements should not be interpreted as a guarantee of future operating or financial performance, as they are subject to potential risks or unforeseen consequences for TNB. Factors that may cause actual results to differ materially from those expressed in the forward-looking statements include global, national and regional economic and social conditions, or matters that have not been reviewed or reported on by our auditors.

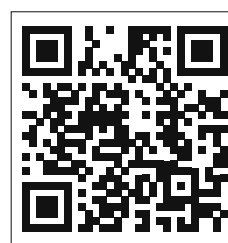
INTERNAL ASSURANCE

The disclosures in this Report are aligned with the Sustainability Statement published in the Integrated Annual Report (IAR) 2023. The Sustainability Statement has been internally reviewed by the TNB Group Internal Audit.

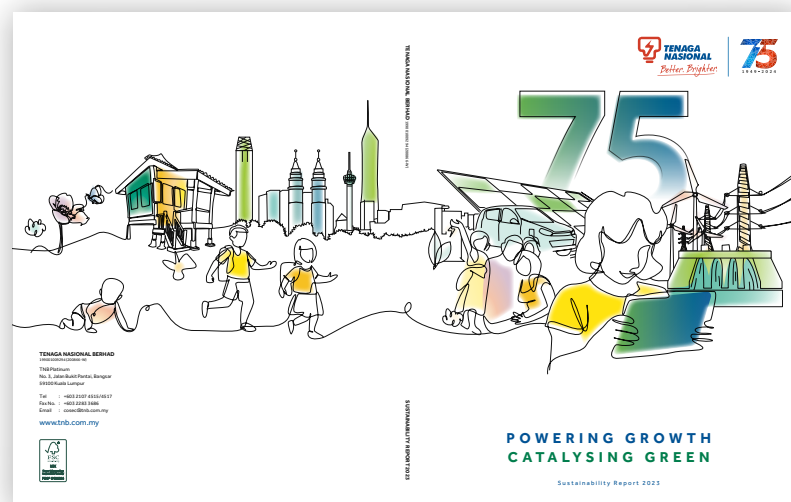
 Refer to our Statement of Assurance for FY2023 Sustainability Statement in the IAR 2023 on page 116.

OUR REPORTING SUITE

This Report complements the IAR 2023, which offers stakeholders a detailed and balanced overview of TNB's financial, sustainability and corporate governance performance. It consists of the Corporate Governance Overview Statement (CGOS), Statement on Risk Management and Internal Control (SORMIC) and Financial Statements. The goal of the IAR 2023 is to present our stakeholders with an accurate view of how we generate value, manage capital decisions, face challenges and evolve, alongside our future expectations and vision.



Scan the QR code to access TNB's IAR 2023.



FEEDBACK

We value input, suggestions and comments from all stakeholders, as they are instrumental in helping us to meet our sustainability commitments and enhance our reporting practices. Please share your feedback with us via sustainabilityhq@tnb.com.my.

TNB ESG SCORE CARD

ENVIRONMENTAL

GHG Scope 1 emissions

**38.92**mil tCO₂e2022: 38.58 mil tCO₂e

GHG Scope 1 Emissions Intensity

**0.5465**tCO₂e / MWh2022: 0.5507 tCO₂e / MWh

GHG Scope 2 Emissions

**0.39**mil tCO₂e2022: 0.32 mil tCO₂e

GHG Scope 3 Emissions (Business travel)

**0.037**mil tCO₂e

GHG Scope 3 Emissions (Employee commuting)

**0.063**mil tCO₂e

Total energy consumption within TNB

**404,523,322**

GJ

Renewable Energy capacity

**4,375**

MW

Toxic Emissions



Sulphur dioxide

34,977

metric tonnes

2022: 27,412 metric tonnes



Particulate matter

6,540

metric tonnes

2022: 1,881 metric tonnes



Carbon monoxide

16,107

metric tonnes

2022: 8,180 metric tonnes



Nitrogen oxides

41,936

metric tonnes

2022: 31,024 metric tonnes

Hazardous waste recycling rate

**47.42%**

Fresh water consumption

**10,096**

ML

SOCIAL

Annual employee turnover rate

**3.30%**

2022: 3.91%

Women in senior management

**26.3%**

2022: 24.3%

Rate



Employees

0.74

2022: 0.82



Contractor

0.27

Number of employees trained on health and safety standard

**14,014**

2022: 18,986

Average hours of training per employee

**47** hours

2022: 43 hours

Total amount invested in the community

**RM99.04**** million

2022: RM12.2 million

Total number of beneficiaries

**6,635**

GOVERNANCE

Women on Board of Directors

**45.45%**

2022: 54.6%

Percentage of division/ subsidiary assessed for risk related to corruption

**97%**

Number of employees and vendors undergone anti-corruption training



Employees

25,574

2022: 14,238



Vendors

267

Anti Bribery Management System Internal Audit

**100%**

Spending on local vendors

**RM17.18*** billion

2022: RM10.38 billion

Number of substantiated complaints concerning breaches of customer privacy and losses of customer data

**0** 2022: 0

* Data disclosed for FY2023 is based on spending under TNB Group, including fuel purchases.

** Data disclosed for FY2023 includes educational support to YTN, UNITEN, and Corporate Social Responsibility (CSR) initiatives.

TNB ESG SCORE CARD

ESG RATING

TNB remains steadfast in its commitment to managing and transparently reporting on ESG matters.

We have dedicated significant effort to ensure enhanced disclosures, aiming to achieve improved ratings through our diligent work. We leverage rating agencies' assessments to improve on our sustainability strategy and operational frameworks. By engaging with diverse business operations across TNB, we formulate targeted action plans to address ESG concerns effectively.

In 2023, TNB continued to advance in ESG management and performance. Our rating scores in prominent ESG indexes and organisations demonstrated an upward trend compared to the previous year.



TNB maintained its BBB rating in the Morgan Stanley Capital International (MSCI) ESG Ratings as of January 2024, indicating our consistent performance since January 2019. The rating shows TNB's track record in effectively managing significant ESG risks and opportunities, demonstrating a commitment to aligning with or surpassing industry standards.

Although the BBB rating has been maintained since 2022, we observed notable improvements. There have been noteworthy score enhancements in the Environmental pillar, specifically in Opportunities in Renewable Energy and Carbon Emissions, and in Human Capital Development under the Social Pillar. Our intensified efforts in these areas underscore our unwavering dedication to progress our Energy Transition Plan and in developing the skillsets of our employees.

**TNB's MSCI ESG
Rating Score =
BBB
(January 2024)**



Allows investors to assess a company's exposure to and management of ESG issues in multiple dimensions.

**TNB's FTSE Russell ESG
Rating Score =
3.5
(June 2024)**



Runs a global disclosure system to support companies, cities, states and regions to measure and manage their risks and opportunities on climate change, water security and deforestation.

**TNB's CDP Climate Change
Score =
C
(March 2024)**



Helps companies and investors identify ESG issues that pose potential financial risks. It measures the degree to which ESG issues are putting a company's entire value at risk.

**TNB's Sustainalytics ESG
Rating Score =
30.4
(May 2024)**

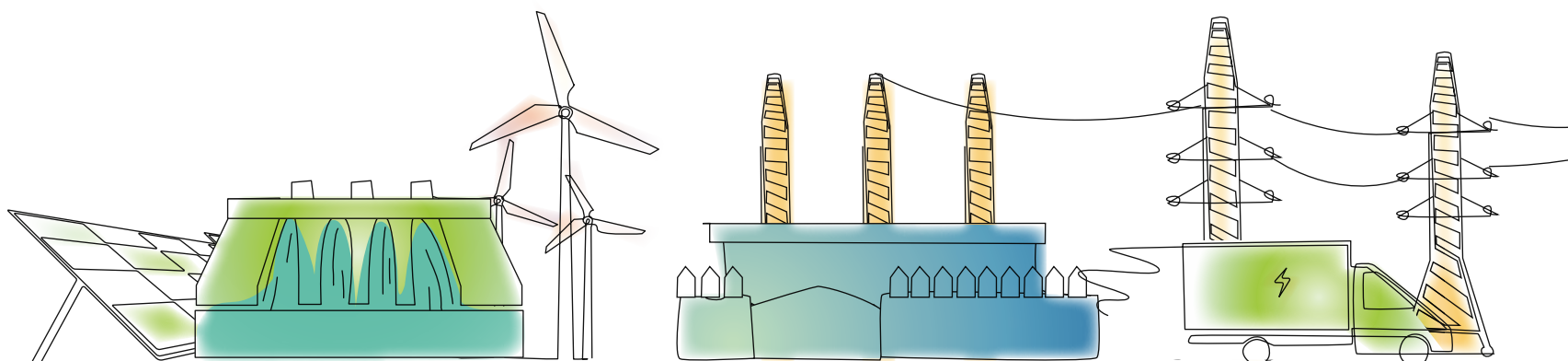


Looking ahead, TNB remains unwavering in its dedication to sustainability, continuously seeking new opportunities to drive positive impact and exceed ESG expectations.

WE ARE TNB

GENERATION

GRID



Integrity

- We uphold the highest ethical standards and do what is right, all the time
- We are fair, honest and transparent in everything we do
- We always seek to achieve mutual benefit for the country, company and customers

Collaborative

- We trust each other, believe in teamwork and win together as one company
- We proactively help each other, communicate clearly and provide constructive feedback
- We embrace diversity and inclusivity and we value outside-in perspectives

Professionalism

- We take full ownership and accountability for our actions
- We consistently demonstrate high performance and productivity
- We are result-focused and carry out our duties with discipline

OUR CORE VALUES

OUR PURPOSE

Together we brighten lives through innovative and sustainable solutions towards a better world

OUR ASPIRATION

To be a leading provider of sustainable energy solutions in Malaysia and internationally

Customer Centricity

- We seek to truly understand customers' needs and always stay a step ahead
- We continue to build trust by delivering on our promises
- We look for unexpected ways to delight our customers

Mindfulness

- We know who we are and we stand by our values
- We are empathetic, respectful and compassionate to others and the environment
- We protect the safety and promote the well-being of our people and the public

Forward Thinking

- We are bold, challenge the status quo and encourage agility and innovation
- We commit to ensuring the sustainability of TNB in all aspects
- We make informed decisions and learn from our mistakes

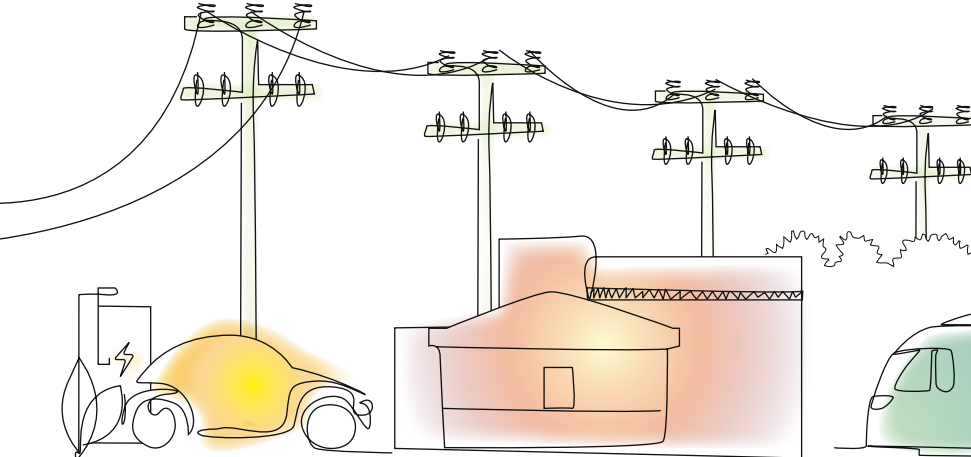
OUR CUSTOMER PROFILE

BREAKDOWN OF CUSTOMERS
(PENINSULAR MALAYSIA AND SABAH)

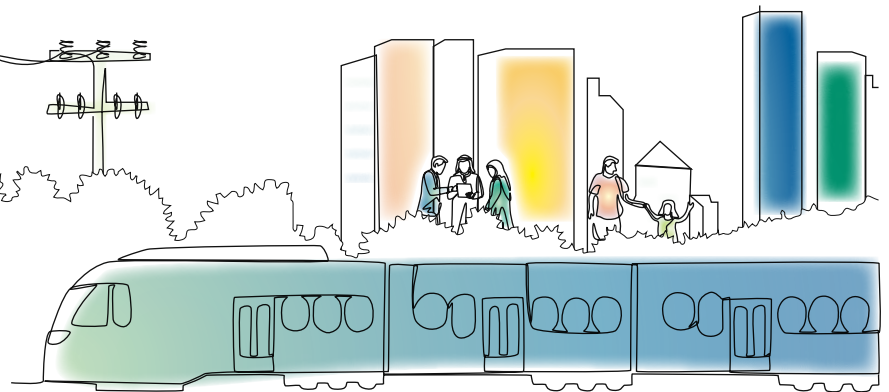
Others*
110,444

WE ARE TNB

DISTRIBUTION NETWORK

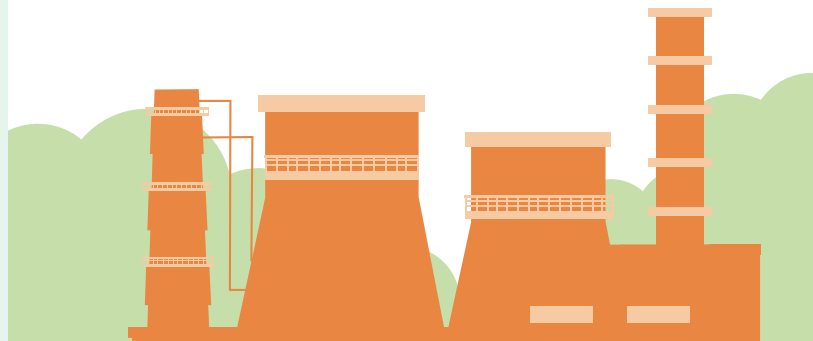


RETAIL



INDUSTRIAL

For over 75 years, we have been committed to serving our industrial, commercial and residential customers.



Our industrial customers are manufacturers of goods and services. While they are the smallest segment of our customers, they account for the largest share of our electricity sales.

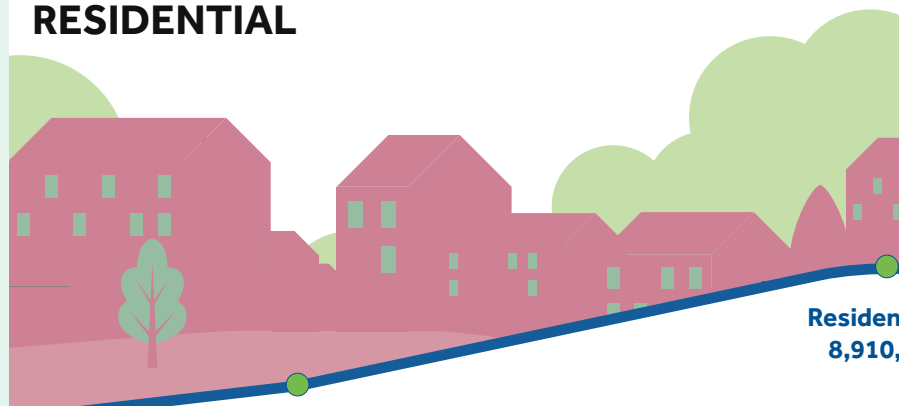
Our commercial customers are mainly involved in business activities that drive the country's economy and are the biggest contributor to our electricity sales.



COMMERCIAL

Our residential customers make up the largest customer segment, representing approximately 8.9 million of our 10.85 million customers. We empower them to manage their energy consumption and encourage them to adopt a smarter and greener lifestyle.

RESIDENTIAL



Residential**
8,910,066

Commercial
1,796,239

Industrial
36,051

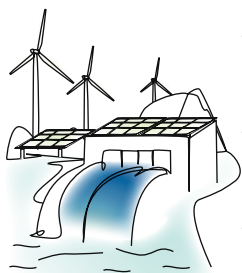
Total **10.85 million**

* Others include Mining, Agriculture, RE, Free Unit and Street Light.
** Residential (Tariff A - Domestic).

WE ARE TNB

OUR STRATEGY

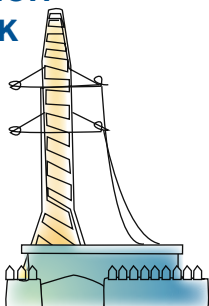
DELIVER CLEAN GENERATION



Top Priorities

- Grow renewable energy capacity
- Target strategic international markets for growth
- Optimise existing generation fleet performance
- Advance gradual decarbonisation

DEVELOP ENERGY TRANSITION NETWORK



Top Priorities

- Ensure grid reliability and operation
- Enhance network to be flexible, automated, secure
- Leverage innovation for network improvement

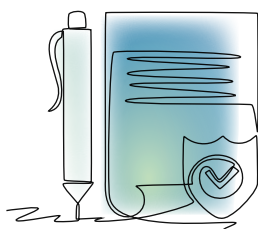
DYNAMIC ENERGY SOLUTIONS



Top Priorities

- Transform customer experience with personalised services
- Drive growth through innovative solutions
- Focus on exceeding customer expectations

DRIVE REGULATORY EVOLUTION



Top Priorities

- Collaborate with stakeholders for stable regulations
- Advocate for policies supporting energy transition
- Engage in strategic dialogues for regulatory sustainability

OUR CAPITALS

Financial Capital

Shareholders' Funds
RM61,082.7 million

Effective Weighted Average Cost of Funds (%)



Manufactured Capital

Oil⁽¹⁾:
240MW, 1.47%Gas:
5,270MW, 32.37%Hydro:
2,638MW, 16.20%Renewable⁽²⁾:
1,321MW, 8.11%Coal:
6,790MW, 41.70%Mini Hydro:
24MW, 0.15%Total:
16,283MW, 100.00%

Natural Capital

Coal:
459,653,191.6TJDistillate:
N/AGas:
227,148,980.2TJOil⁽¹⁾:
129,700,214.0TJ

Intellectual Capital



Research and development

Operational and service innovations

Technology and business model innovations

Human Capital



TNB Group No. of Employees: 34,543

RM189.58 million investment in learning and development

Reward structures linked to performance and value drivers

Social and Relationship Capital



Build Trust

Customers

Investors

Government

Employees

NGOs

Create Value

Trade Unions

Vendors

Communities

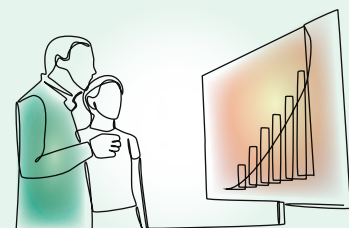
Notes:

(1) Oil refers to petroleum-based fuel (inclusive of diesel, oil and distillates).

(2) Renewable - comprises wind, solar, biogas, distributed generation solar and biomass.

VALUES CREATED AND THEIR IMPACT

Economic



Fuel and Other Operating Costs

Fuel Costs
RM19,452.3 million

Other Operating Costs
RM37,918.8 million

Capital Providers
Total Shareholder Dividend
RM2,537.5 million

i Refer to IAR 2023 pages 77-78 for more information.

Community



11
Adopted Schools

2,160
Graduates

2,500
Primary School Students Assisted

i Refer to IAR 2023 pages 90-93 for more information.

Customers



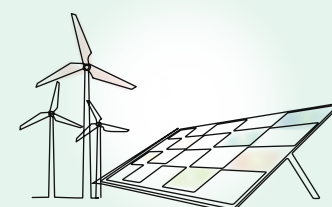
Total Energy Units Sold⁽³⁾
128,822.3GWh

Customer Accounts:
Peninsular Malaysia
10.16 million

Sabah & F.T. Labuan
0.69 million

i Refer to IAR 2023 pages 87-89 for more information.

Environment



Greenhouse Gas (GHG) Emissions Intensity⁽⁴⁾
0.55 tCO₂e/MWh

GHG Emissions Mitigated⁽⁴⁾
7.30 million tCO₂e

GHG Emissions Mitigated due to:
(1) Renewables
(2) Energy Efficiency
(3) Low-carbon Generation
(4) Tree Planting

i Refer to IAR 2023 pages 82-86 for more information.

OUTCOMES

OPERATING PROFIT (RM million)



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



(3) From power plants in which TNB has controlling stake for the period of FY2023.

(4) For TNB operations in Peninsular Malaysia only for the period of FY2023.

JOINT LEADERSHIP STATEMENT

**DATO' ABDUL RAZAK
BIN ABDUL MAJID**

Chairman



**DATUK IR. MEGAT
JALALUDDIN BIN MEGAT
HASSAN**

President/Chief Executive Officer



Dear Stakeholders,

At Tenaga Nasional Berhad (TNB), we believe that true sustainability is a collaborative effort, deeply rooted in the insights and values of our stakeholders. Our commitment to sustainability is not just about compliance with regulatory requirements but also fostering a transparent and inclusive dialogue. We are dedicated to continuously improving our transparency, guided by the voices of our community. Central to our sustainability journey is our aspiration to achieve Net Zero Emissions by 2050, a goal that reflects our collective vision for a sustainable future. This journey is supported by our Energy Transition (ET) strategy, which aims to integrate sustainability and ESG principles into every aspect of our operations.

At the core of it, we are most concerned about addressing the energy trilemma which involves balancing energy security, energy equity and environmental sustainability. We are meeting this challenge head on by investing in renewable energy, enhancing the resilience of our transmission and distribution networks, and improving energy efficiency. Our efforts are supported by initiatives such as exploring innovative solutions like carbon capture and storage (CCS) and integrating green technologies to ensure that our energy solutions are sustainable, equitable and reliable for all.

KEY DEVELOPMENTS IN 2023

The year 2023 marked a significant progress of the nation's energy transition, and we are excited to bring the aspiration into reality through our strategic initiatives. In 2023, we demonstrated thought leadership through the successful organisation of the Energy Transition Conference in August, which gathered a diverse range of local and international experts, policymakers and industry leaders to engage in strategic discussions on the future trajectory of energy transition.

The conference served as the launchpad for one of Malaysia's most important energy transition blueprints, the National Energy Transition Roadmap (NETR), which was launched by Malaysia's Prime Minister, YAB Dato' Seri Anwar bin Ibrahim. This roadmap aims to steer Malaysia's shift from traditional fossil fuels-based economy to a high-value green economy.

As part of Malaysia's NETR, TNB is spearheading three of NETR's flagship projects involving large-scale renewable energy (RE) and clean technology initiatives, namely the Centralised Large-Scale Solar (LSS) Parks, Hybrid Hydro-Floating Solar (HHFS), and the Co-firing of Hydrogen and Ammonia. Collectively, these initiatives have the capability to deliver over 3,000MW of renewable energy capacity by 2040. The conference led to collaboration across sectors with significant agreements and partnerships aimed at accelerating the journey towards ET.

JOINT LEADERSHIP STATEMENT



In December 2023, TNB participated in Malaysia's delegation to the 28th Conference of the Parties (COP28) in Dubai. It marked a significant milestone in our ongoing dialogue with global stakeholders on climate action and energy transition, enabling us to engage directly with key voices in the just energy transition discourse. By engaging globally, forming strategic partnerships and showcasing our investments in renewables and smart technologies, we are turning our plans into tangible actions that are aligned with the global sustainability agenda.

The year 2023 also saw us enhancing our governance framework to better reflect our commitment to sustainability. The enhancement of the Board Risk Committee (BRC) to the Board Sustainability and Risk Committee (BSRC) underscores our dedication to integrating stakeholder-driven sustainability into our business strategies. The appointment of a Chief Sustainability Officer (CSO) is a testament to our resolve in this area, ensuring that our sustainability strategies are effectively deployed and aligned with the expectations of our stakeholders. The BSRC and our CSO play vital roles in embedding ESG principles throughout TNB, with the CSO leading the sustainability division. This ensures that our actions are in harmony with the values and needs of those we serve.

Overall, TNB achieved a commendable performance through the implementation of various strategic initiatives, and we are pleased to report that the achievements you witness today are the result of the careful execution of our strategies and initiatives. In recognition of our efforts, we have been ranked first in Malaysia for ESG Transparency Reporting by Global ESG Monitor. Our focus on decarbonisation has been positive so far for the investor community, and I believe we will further attract more sustainable investors as they now see how serious we are in our commitment to ESG.

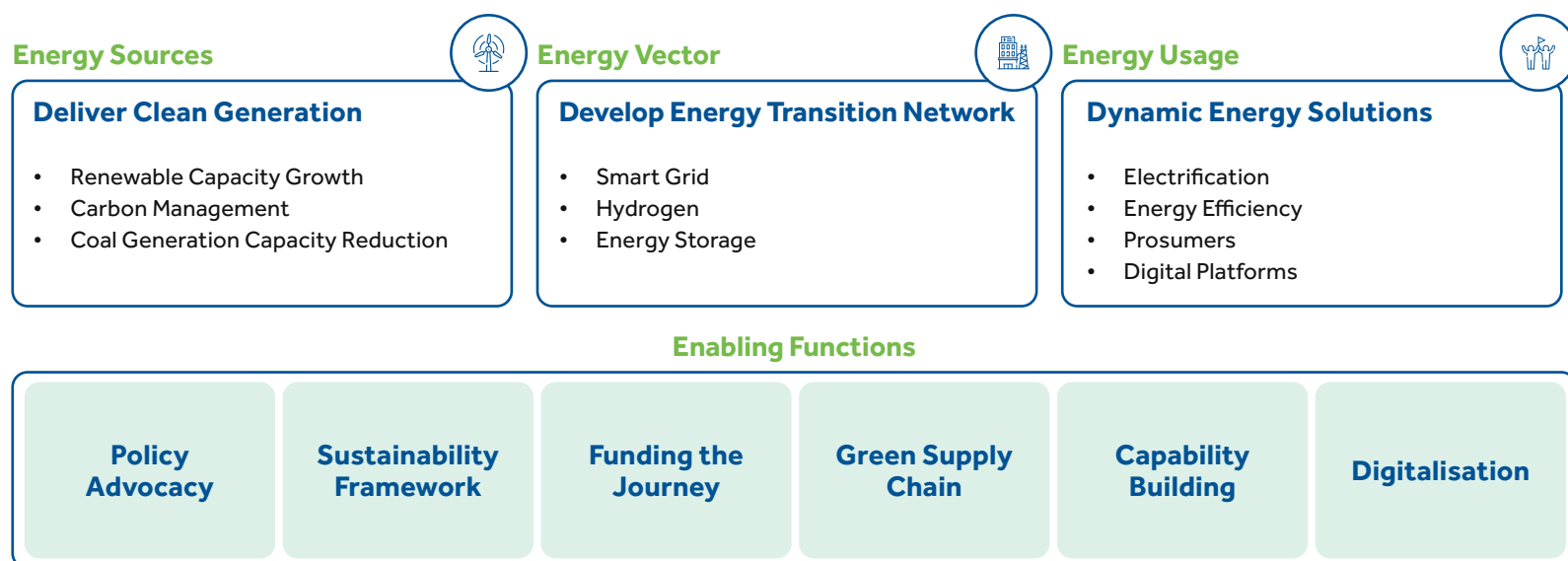
In realising our Net Zero 2050 Aspiration, to date, we have secured around 4.4GW RE capacity in domestic and international markets.

Looking ahead, we understand the urgency of the climate crisis and our role in supporting the economy, while leading in sustainability efforts. However, this requires a delicate balance between meeting our customers' need for reliable and affordable energy while reducing our carbon footprint. All these efforts are aimed at ensuring sustainable growth for the company as we progress towards supporting the NETR and becoming a leading provider of sustainable energy solutions.

TNB'S ENERGY TRANSITION AGENDA

We recognise that the transition to a low-carbon economy will be challenging, but at the same time, it offers a host of opportunities for a utility like ours to embark on transformational and impactful change. This approach is the cornerstone of our Reimagining TNB (RT) 2.0 strategy, which has four pillars to guide the business, and is further supported by the ET Plan. Both these plans have undergone a refresh in 2023, with the establishment of three strategic pillars under the ET Plan that are further aligned with the RT strategy. These pillars will drive our transition from a fossil-based energy mix to cleaner, more sustainable energy sources. The three pillars are supported by six core enabling functions that include policy advocacy to allow us to navigate the evolving energy sector's regulatory landscape.

JOINT LEADERSHIP STATEMENT



Thus, from the energy generation perspective, we are cognisant of the need for us to decarbonise our generation fleet in a sustainable and responsible manner. Our approach is three-pronged, whereby we will significantly increase our renewable energy capacity, improve our carbon management, and gradually reduce our coal generation capacity. We then look towards exploring new energy domains such as hydrogen and energy storage, as well as enhancing the grid to ensure it can support the variability of renewable energy sources.

On the consumer front, we remain as strong supporters of the government agenda to electrify the transportation sector and to create a new generation of prosumers who are energy literate and advocates of renewable energy. Here, we believe that a key enabler of our energy transition efforts will be our ongoing digital transformation, which will deliver platforms that will make the ET journey more easily accessible and enhance our capabilities to manage a sustainable energy ecosystem.

ENHANCING COLLABORATIONS TO ACCELERATE THE ET JOURNEY

To achieve our ambitions, we are employing a whole-of-society approach across the board, recognising the scale and technical challenges that need to be overcome. We are collaborating with leading industry players and stakeholders up and down the value chain to create synergies that will accelerate the energy transition.

In the renewable energy space, we have forged collaborations to explore new solutions such as repowering retired coal and gas plants with green hydrogen, in addition to other efforts to broaden the use of solar energy through partnerships with property developers. In our quest to decarbonise our operations, especially for our conventional thermal plants in Malaysia, we recognise that CCS is a crucial pathway. Therefore, we have partnered with leading domestic and international companies to explore the implementation of CCS technology in our thermal plants. We are also exploring the co-firing of coal with biomass and ammonia as a strategy to lower carbon emissions and transition to cleaner energy sources.

Furthermore, TNB continues to prioritise the adoption of Battery Electric Vehicles (BEVs) to facilitate the electrification of the transportation sector. We have demonstrated this through our sustained rollout of BEV charging facilities across Malaysia and collaborations to broaden access to charging facilities. We have also collaborated with the Malaysia Zero Emission Vehicle Association (MyZEVA), which actively advocates for the development of related legislation, policies and standards for electric vehicles (EVs). In addition, we continue to be involved in the MESI (Malaysian Electricity Supply Industry) study, which aims to address the challenges of decarbonisation in the context of the energy trilemma.

ADVANCING HOLISTIC DEVELOPMENT AND COMMUNITY EMPOWERMENT

At TNB, our employees are the backbone of our success, and their development and empowerment are pivotal to our organisational growth and sustainability. Our approach includes comprehensive training initiatives, diversity and inclusion efforts, and robust employee engagement strategies to foster an agile, innovative and inclusive workforce.

Our Learning and Development (L&D) framework emphasises practical experiences and ethical employment practices, ensuring our employees remain agile and relevant. Through our training arm, TNB Integrated Learning Solutions Sdn Bhd (ILSAS), we nurture an inclusive environment that appreciates diverse perspectives and experiences. The programmes by ILSAS are extended to our vendors and contractors, as we seek to elevate the capability of our talent across our value chain and promote inclusive ESG practices among our vendors and contractors. We are also committed to fostering gender diversity by striving to increase women's representation across all employee categories from 26% to 30%, underscoring our dedication to an inclusive and equitable workplace.

JOINT LEADERSHIP STATEMENT

Effective labour relations are crucial for a harmonious workplace and achieving our organisational goals. We foster collaboration and mutual trust through regular engagements, training and dialogues tailored to our needs. Labour rights are integral to TNB's Core Values, which uphold the highest standards of ethics, honesty, integrity and respect. We are currently drafting a Labour Rights Policy to govern internal stakeholders and address compliance with major shareholders' concerns, considering local and global labour standards, including Malaysian law, International Labour Organization (ILO) standards, and the United Nations Global Compact (UNGC) Principles. This policy will be actively communicated and promoted to ensure compliance. Regular updates will be incorporated through engagement with internal and external stakeholders, upholding the high standards outlined within.

TNB is deeply committed to fostering sustainable communities through strategic investments and impactful initiatives. In 2023, we invested RM99 million in community programmes, reflecting our dedication to social responsibility and sustainable development. Our collaboration with the Ministry of Rural and Regional Development has been pivotal in powering rural areas, including remote villages and indigenous settlements. Recognising the impacts of our projects on surrounding communities, we implemented a comprehensive resettlement programme for approximately 300 impacted Orang Asli households at our Nenggiri Hydro Project site, supporting income restoration and upliftment through housing, amenities, land for plantations, and training programmes.

On the education front, Universiti Tenaga Nasional (UNITEN), TNB's education arm which offers industry-focused courses, ensures that our graduates are equipped with the skills and knowledge required to meet the evolving energy industry needs. UNITEN plays a crucial role in advancing education and employability. It supports students financially through scholarships such as *Yayasan Canselor UNITEN* (YCU) and *Tabung Amanah Zakat UNITEN* (TAZU), addressing the critical issue of affordability in tertiary education.

GOVERNANCE: BUILDING A SUSTAINABLE FUTURE

Our governance structure is the bedrock of our commitment to securing a sustainable and leading position in the energy sector. The Board of Directors (BOD) and Management play active roles in making informed decisions that add value to stakeholders and provide stable financial returns to our shareholders. Our governance framework ensures that ethical conduct and compliance with laws are integral to our operations, reinforcing trust and integrity across all levels of the organisation.

Central to our governance is the TNB Code of Business Ethics (COBE), which sets high standards of ethical conduct for the BOD and employees, in line with the Malaysian Code on Corporate Governance 2021 (MCCG). COBE ensures adherence to laws and regulations, promotes sound employment practices, and safeguards confidentiality and privacy. It also addresses conflicts of interest, the giving and accepting of business courtesies, and the protection and proper use of TNB's assets and resources.

By defining the principles of business integrity, COBE guides how TNB interacts with shareholders, employees, customers, suppliers and communities, ensuring that all business is conducted legally and ethically to enhance and protect TNB's reputation. Our firm stance against bribery and corruption is further reflected in our Integrity Pledge and Integrity Pact.

TNB upholds robust risk management practices and sound internal controls as key components of our corporate governance standards. The Board of Directors consistently upholds its responsibility to establish and maintain effective risk management and internal control systems. These systems are designed to manage, rather than eliminate, risks, providing reasonable assurance against material losses, misstatements, or other significantly adverse consequences. This commitment safeguards shareholders' investments and the Group's assets, ensuring the long-term sustainability and resilience of our operations.

GOING FORWARD

As we move forward, TNB remains unwavering in its dedication to driving sustainability and transparency across all facets of its operations. This commitment goes beyond regulatory compliance; it is about fostering a culture of accountability, innovation, and stakeholder engagement. By integrating ESG principles into our core operations, we aim to create long-term value for our stakeholders while contributing to broader national and global sustainability goals.

The progress we have made in 2023 in streamlining and strengthening our sustainability governance structures has set a strong foundation for the continued integration of ESG principles into all aspects of our operations. To further accelerate our efforts, we will continue to prioritise the digitalisation of ESG data to enhance transparency and facilitate informed decision-making. Advanced data analytics and digital platforms will allow us to track our progress towards net zero aspirations and other sustainability targets with greater precision. This data-driven approach will provide opportunities for us to identify areas for improvement, optimise resource use and make evidence-based decisions that align with our ESG commitments.

Looking ahead into 2024, we will continue to drive our strategic initiatives to pursue business growth while fulfilling our net zero commitments. To deliver on our RT 2.0 strategy, we intend to invest up to RM13.8 billion in 2024 to deliver clean generation, developing an energy transition network and providing dynamic energy solutions. Our focus remains on advancing the strategic initiatives to foster business growth while fulfilling our net zero commitments.

DATO' ABDUL RAZAK BIN ABDUL MAJID

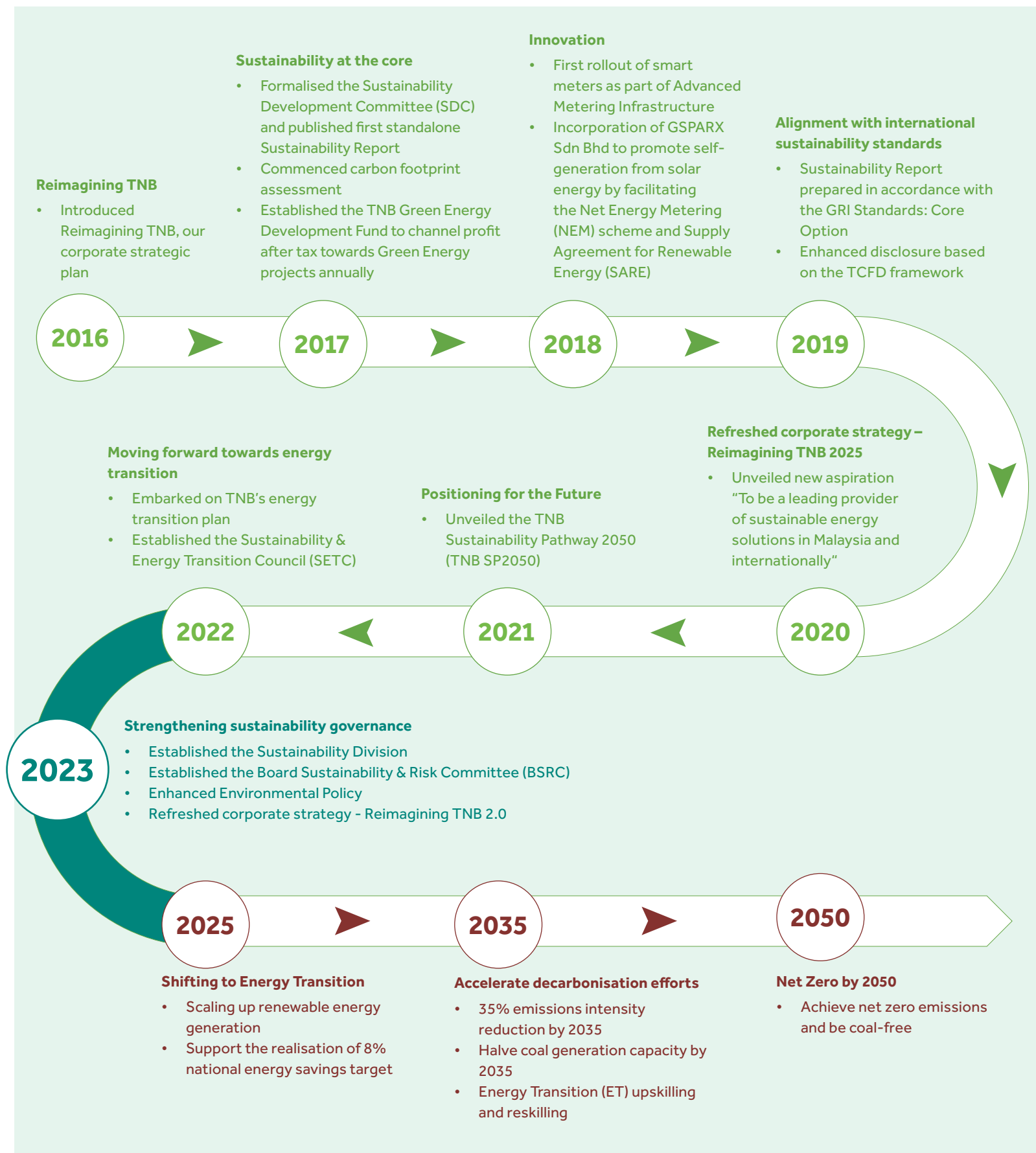
Chairman

DATUK IR. MEGAT JALALUDDIN BIN MEGAT HASSAN

President/Chief Executive Officer

OUR SUSTAINABILITY JOURNEY

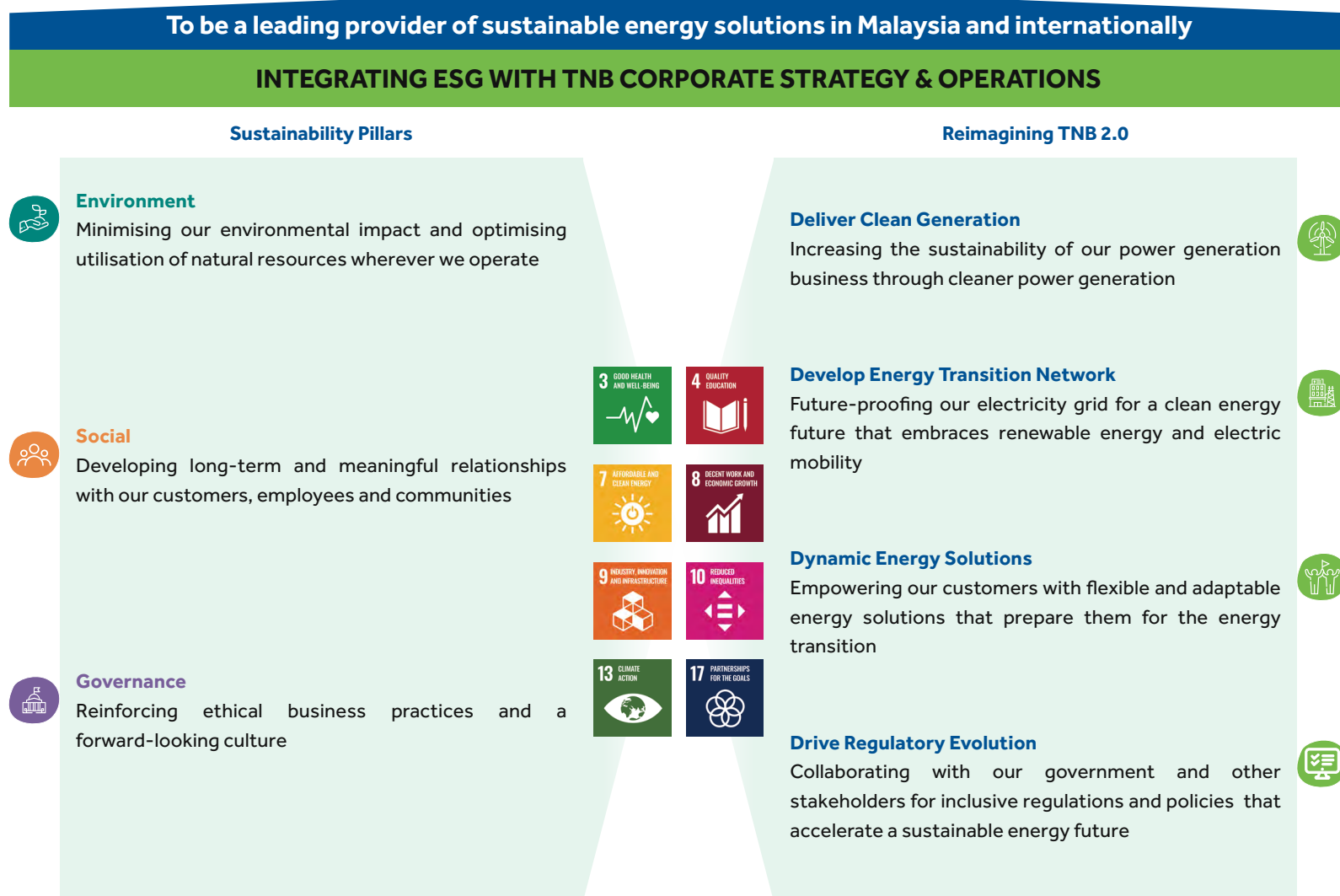
We started our sustainability journey with the Reimagining TNB strategy, and we continue to strive towards our Net Zero aspiration by 2050.



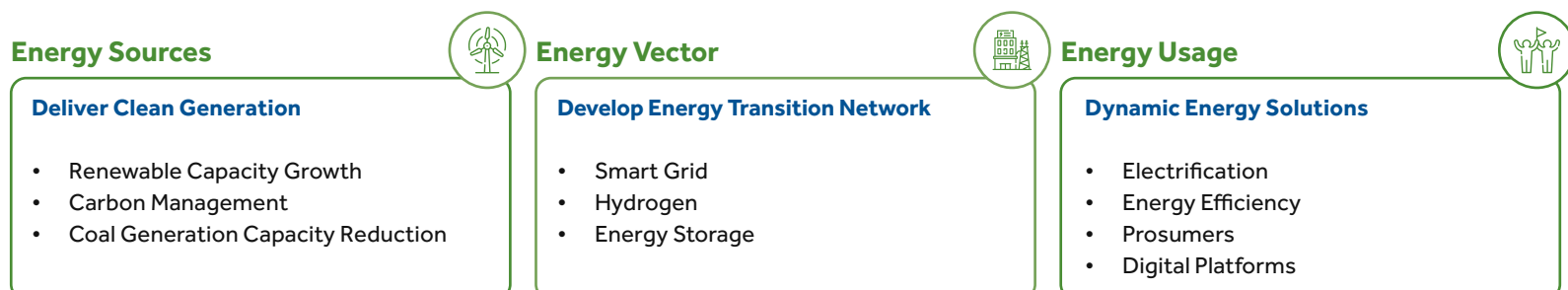
OUR SUSTAINABILITY JOURNEY

Our sustainability journey towards Net Zero Emissions by 2050 focuses on ESG pillars integrated into our Reimagining TNB 2.0 corporate strategy and business operations.

We have prioritised eight (8) UN SDGs to deliver sustainable value and empower our people and the wider community. We aim to achieve the objectives of each sustainability pillar by addressing matters that are material to us.



The TNB Energy Transition (ET) Plan, an extension of the RT 2.0 strategy, strengthens our sustainability journey by focusing on three (3) strategic pillars supported by critical enablers in shifting from a fossil-based energy mix to greener energy sources. These initiatives cut across the electricity value chain, from transitioning power generation to cleaner sources, enhancing the electricity network infrastructure, enabling more green solutions and facilitating consumer participation in the energy transition, including digitalisation and electrification.

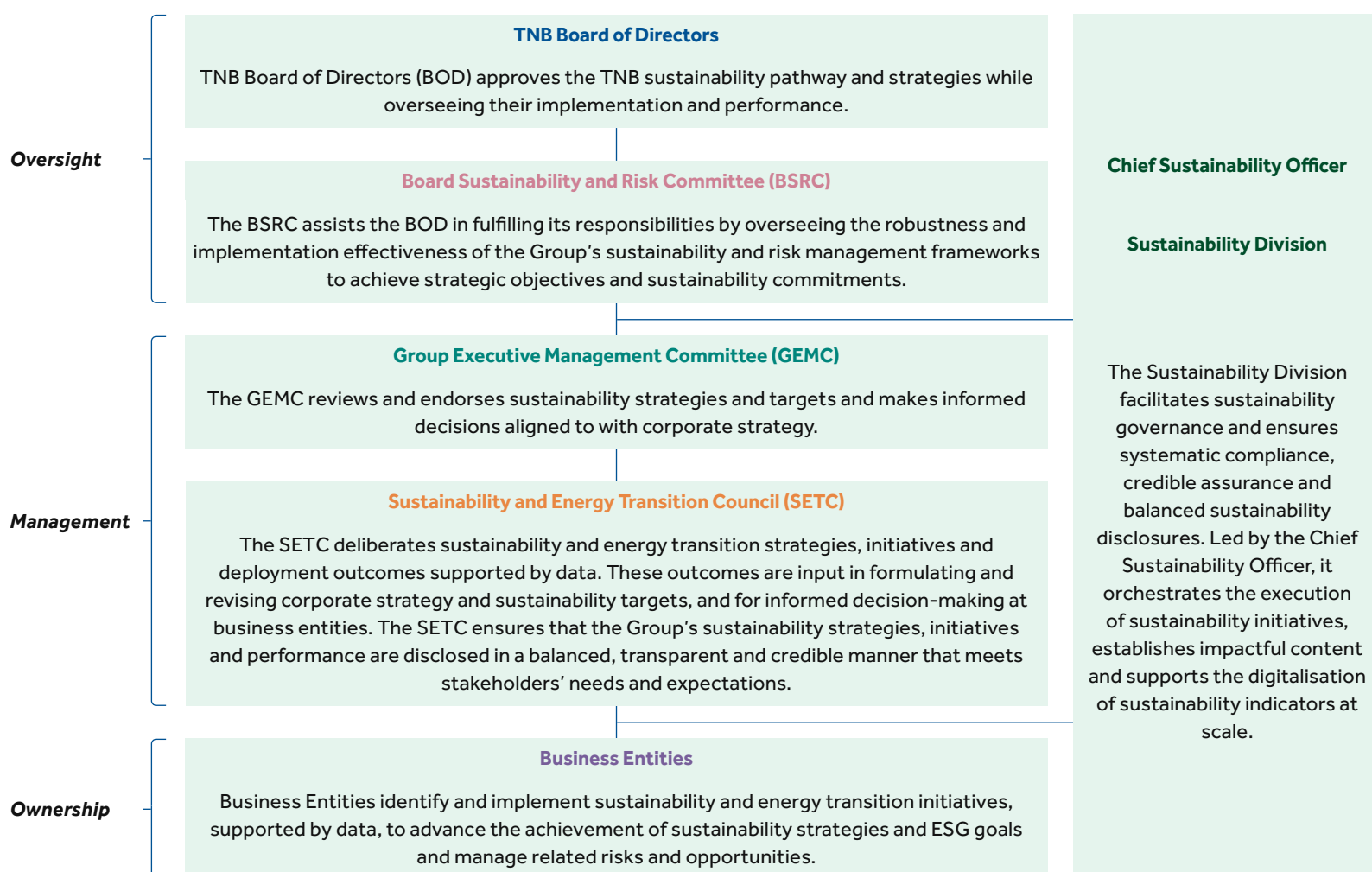


OUR SUSTAINABILITY JOURNEY

SPEARHEADING OUR SUSTAINABILITY AGENDA THROUGH STRENGTHENED GOVERNANCE STRUCTURE

A strong sustainability governance and leadership structure is vital to spearhead our sustainability agenda and provide us with clear and definitive guidance to achieve our net zero aspirations. Our sustainability governance forms a part of the TNB Governance Framework that is aligned with the principles of the MCCG 2021. The TNB Sustainability Governance Structure is in place to facilitate oversight, strategic management and implementation of sustainability strategies and initiatives at all levels.

TNB Sustainability Governance Structure



A key development to strengthen the TNB Sustainability Governance Structure is the renaming of the Board Risk Committee (BRC) to the Board Sustainability and Risk Committee (BSRC). With enhanced terms of reference, the BSRC remains dedicated to overseeing the effective implementation of sustainability initiatives with robust risk management to address exposures and harness opportunities and to ensure strategic integration of sustainability into operations and decision-making.

To further enhance the deployment of our sustainability strategies, the BOD approved the formation of the Sustainability Division, which our first Chief Sustainability Officer has led since June 2023. The primary function of the Sustainability Division is to ensure the effective deployment of our sustainability strategies to meet targets and to strengthen sustainability governance across the Group. The division engages, facilitates and advises the Business Entities on their day-to-day implementation of sustainability and energy transition initiatives.



For more information on the members of the BSRC and its terms of reference, refer to the Corporate Governance section, Principle A Board Leadership & Effectiveness in the IAR 2023.

OUR SUSTAINABILITY JOURNEY

The SETC, led by the President/Chief Executive Officer (CEO), continues to play its role in steering the development of sustainability and energy transition strategies and policies, and its implementation as well as providing oversight and input on opportunities and risk exposures. In addition to TNB Top Management, who are SETC members, selected future leaders are also active members to ensure the long-term continuity of our sustainability and energy transition agenda.

The key functions of the SETC are to:

- Define sustainability targets and commitments that align with and support the overarching TNB business strategy
- Shape energy transition outcomes that foster growth, create value and proactively address sustainability challenges, including climate-related risks
- Deliberate prioritised initiatives based on the TNB Materiality Matrix and Sustainability Deployment Blueprint and endorse the allocation and utilisation of resources
- Steer sustainability performance and progress against target
- Streamline data governance for timely and balanced sustainability disclosures
- Oversee stakeholder management and engagement that meets stakeholders' needs and expectations

FY2023 ESG KPIs for TNB Top Management

In 2023, sustainability-linked Key Performance Indicators (KPIs) were further enhanced and embedded within the senior management's performance evaluation scorecard to drive group-wide accountability in steering our sustainability performance. Sustainability performance objectives relating to the ESG pillars are tied to the President/CEO and Top Management KPIs, as shown below:

KPI		CEO	CFO	MD GENCO	CGO	CDNO	CReO	CNeO	CSVO	CSO	CRSMO	CPeO	CIO	CPO	CGBSO	CoSec	CRO	CIDO	CIA
Overall TNB ESG Rating Score		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Environment	Renewable Energy Growth & Opportunities	✓		✓			✓	✓											
	Carbon Emissions Rating/Score			✓															
	Battery Storage (Grid)				✓														
	Data Centre Power Usage Effectiveness												✓						
Social	Lost-Time Injury Frequency Rate (LTIFR)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Energy Literacy										✓								
	Human Capital Development Rating/Score											✓							
Governance	Integrity Health Index	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Corporate Governance Rating/Score		✓													✓			✓
	Corporate Behaviour Rating/Score													✓				✓	
	ESG Risk Profiling																✓		

i For more information on the remuneration policies for Board and Top Management, refer to the Corporate Governance section, Principle A Board Leadership & Effectiveness in the IAR 2023.

OUR SUSTAINABILITY JOURNEY

Environmental:

Climate Change and Environment

- Support transition to a low-carbon economy
- Minimise environmental impact

Material Matters

Energy Transition and Innovation

Contributing to the national RE target and driving innovation to anticipate changing trends and build business resilience.



Environmental Management

Responsible consumption and effective management of environmental impacts.



Climate Change and Emissions

Efforts to address climate change impacts and manage greenhouse gas (GHG) emissions.



Social:

Engaging Our People and Cultivating Talent

- Foster a favourable working environment that boosts employee morale and development
- Protect the safety, health and well-being of our employees

Creating Shared Values with Communities

- Enrich the lives of communities by driving socio-economic upliftment

Material Matters

Safety, Health and Well-being

Promoting a working culture that upholds high standards of occupational health and safety, and protects employee welfare.



Community Development and Human Rights

Channelling investments to the community and educational programmes to advance positive socio-economic impacts.



Sustainable Supply Chain

Engaging in sustainable supply chain practices and strengthening the local energy ecosystem.



OUR SUSTAINABILITY JOURNEY

Social:

Material Matters



Employment Culture

Creating a diverse and inclusive culture while closely engaging with our employees.



Governance:

Responsible Governance and Strengthening Business Resilience

- Provide reliable and efficient energy for customers
- Supply electricity domestically and internationally
- Reinforce ethical and safe business culture

Material Matters



Responsible Business and Financial Performance

Ensuring robust corporate governance in TNB to achieve business and financial growth.



Reliable Energy and Fair Tariffs

Ensuring the availability, affordability and reliability of electricity in the short, medium and long term, including in the event of emergencies and crises.



Customer Experience and Satisfaction

Committed to empowering customers with smarter and sustainable solutions by engaging effectively with customers.



Cybersecurity Management

Safeguarding digital systems and customer privacy from cybersecurity risks, threats and attacks by ensuring data security.



OUR SUSTAINABILITY JOURNEY

Legend:

12 Strategic Risks (SR)

SR1 Catastrophic disruptions from external factors	SR5 Regulatory uncertainty	SR9 Gaps in workforce capabilities to deliver Reimagining TNB strategy and sustainability aspiration
SR2 Inability to keep pace with Environment, Social and Governance (ESG) developments and transitions globally	SR6 Unable to be competitive in non-regulated business (international and domestic)	SR10 Failure to ingrain TNB culture in employees' behaviour in supporting Reimagining TNB strategy and sustainability aspiration
SR3 Unfavourable energy transition and climate change policies and regulations	SR7 Inability to remain as the electricity provider of choice of customers	SR11 Failure to mitigate physical risks caused by climate change
SR4 Unfavourable Electricity Supply Industry (ESI) regulatory implementation and outcome	SR8 Ineffective capital allocation to maximise value creation	SR12 Disruptions to supply chain

RT Pillar (RTP)

 Future Generation Sources
 Grid of the Future
 Winning the Customer
 Future Proof Regulation

RT Enabler (RTE)

 Capital Allocation and Value Creation
 Corporate and Organisation Structure
 Digital and Data Analytics
 Culture, Capabilities and Performance Management

Linking Performance to the Global Agenda

TNB prioritises SDGs and provides performance goals contributions through investments, solutions and business practices. Eight (8) of the 17 goals guide our sustainability agenda: SDG 3, "Good Health and Well-being"; SDG 4, "Quality Education"; SDG 7, "Affordable and Clean Energy"; SDG 8, "Decent Work and Economic Growth"; SDG 9, "Industry, Innovation and Infrastructure"; SDG 10, "Reduced Inequalities"; SDG 13, "Climate Action"; SDG 17, "Partnerships for the Goals".



We ensure the safety and long-term well-being of our workforce. Pursuing this goal allows us to focus our efforts on preventing the loss of lives and ensuring that our people are well taken care of while working at TNB. During the unprecedented global pandemic we took steps to reduce the spread of infection at our operations while "keeping the lights on".



We believe that quality education is the key to socioeconomic upliftment, and it should be equitable to all. Thus, our educational development programmes focus on providing opportunities to underprivileged communities in hope of transforming lives.



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.



We promote sustainable business performance and create employment opportunities. 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.



We recognise the importance of having in place a strong, robust infrastructure that is flexible enough to transition into the new energy landscape while fostering innovation. As part of our commitment to achieving this, we are ramping up our R&D efforts, investing in renewable energy and green technologies, and accelerating digitalisation to mitigate climate change and adapt to new market directions.



We strongly believe in an equal society and aim to provide support to disadvantaged and impoverished communities through our corporate social responsibility programmes as well as expanding our grid infrastructure to allow equitable access to electricity. We also strive to provide equal opportunity in recruitment and career development for all our employees.



We support Malaysia's commitment to becoming a carbon-neutral nation by as early as 2050, recognising the increasing importance of mitigating and adapting to climate change. In this regard, we seek to reduce our greenhouse gas (GHG) emissions intensity and the environmental impact resulting from our operations.



We will continue to forge partnerships with key 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.

We align our metrics, targets and key initiatives for each material matter with the global agenda. The table below showcases our performance thus far and defines our future focus areas for our long-term sustainability commitment.

OUR SUSTAINABILITY JOURNEY



Good Health and Well-being

We promote healthy living and well-being of our people

SDG targets and indicators:

- **Target 3.6** - Halve the number of global deaths and injuries from road traffic accidents
Indicator 3.6.1 - Death rate due to road traffic injuries
- **Target 3.8** - Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all
Indicator 3.8.1 - Coverage of essential health services

TNB Material Matters:

- Safety, Health and Well-being
- Employment Culture

TNB's Metrics and Targets:

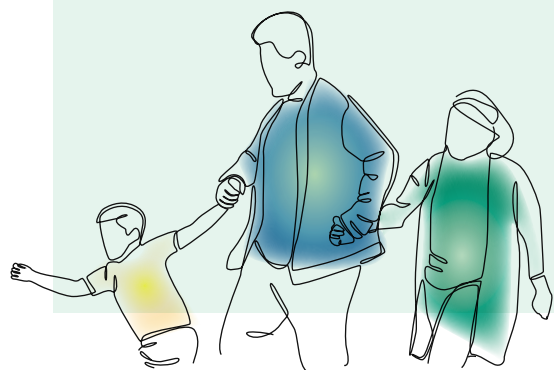
- Zero fatalities

FY2023 performance:

- Related to indicator 3.6.1 - Number of motor vehicle fatalities: 1
- Related to indicator 3.8.1 - Provide employees and dependents with free medical treatment and medicine

Focus beyond FY2023:

- Continue to enhance our HSE standards and procedure to reduce fatalities and injuries
- Continue to provide safe, effective and reliable medical care to employees



Quality Education

We provide quality education and financial support to the community

SDG targets and indicator :

- **Target 4.3** - Equal access to affordable and quality technical, vocational and tertiary education
Indicator 4.3.1 - Participation rate of youth and adults in formal and non-formal education and training
- **Target 4.4** - Increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Indicator 4.4.1 - Proportion of youth and adults with skills
- **Target 4.5** - Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
Indicator 4.5.1 - Parity indices for all education indicators

TNB Material Matters:

- Community Development
- Human Rights

TNB's Metrics and Targets:

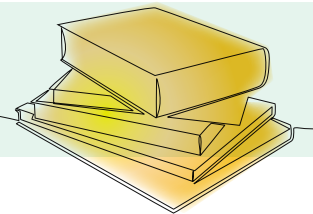
- Number of students and trainees in TNB education and learning centres
- Expenditure on scholarships and convertible loans

FY2023 performance:

- Related to indicator 4.3.1 - Number of students enrolled in UNITEN: 5,927
- Related to indicator 4.3.1 - Number of scholarship and convertible loan recipients: 6,103
- Related to indicator 4.3.1 - Expenditure on scholarships and convertible loans: RM80.8 million
- Related to indicator 4.4.1 - Number of trainees trained in TNB education and learning centres at ILSAS: 47,511 trainees
- Related to indicator 4.5.1 - Number of recipients of My Brighter Future (myBF) programme for B40 households: 2,398 recipients

Focus beyond FY2023:

- Continue to provide financial and non-financial support to develop future talent
- Enhance our education facilities through digitalisation



OUR SUSTAINABILITY JOURNEY

7 AFFORDABLE AND CLEAN ENERGY



Affordable and Clean Energy

We prioritise energy efficiency, clean energy technology and related infrastructure

SDG targets and indicators:

- **Target 7.1** - Ensure universal access to affordable, reliable and modern energy services
Indicator 7.1.1 - Proportion of population with access to electricity
- **Target 7.2** - Increase substantially the share of renewable energy in the global energy mix
Indicator 7.2.1 - Renewable energy share in the total final energy consumption
- **Target 7.3** - Double the global rate of improvement in energy efficiency
Indicator 7.3.1 - Energy intensity measured in terms of primary energy and GDP

TNB Material Matters:

- Reliable Energy and Fair Tariffs
- Energy Transition and Innovation
- Climate Change and GHG Emissions

TNB's Metrics and Targets:

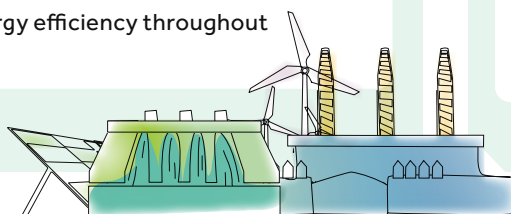
- Increase RE capacity to 8.3GW by 2025
- Maintain System Average Interruption Duration Index (SAIDI) under 50 minutes/customer/year through SAIDI 50 initiative
- Achieve 85% on the Smart Grid Index by 2025

FY2023 performance:

- Related to indicator 7.1.1 - Total customers in Peninsular Malaysia: 10,161,957
- Related to indicator 7.1.1 - Smart Grid Index (%): (no assessment for FY23)
- Related to indicator 7.1.1 - SAIDI in Peninsular Malaysia (minutes/customer/year): 46.1
- Related to indicator 7.2.1 - Total renewable energy generation capacity (MW): 4,375
- Related to indicator 7.3.1 - Energy intensity in power generation for customers (GJ/ MWh): 5.39

Focus beyond FY2023:

- Participate actively in the development of IBR's Regulatory Period 4 (RP4) to address the energy trilemma effectively
- Aspire to grow TNB's domestic and international RE assets
- Enhance and modernise our asset and infrastructure to support energy transition
- Adopt and promote energy efficiency throughout our value chain



8 DECENT WORK AND ECONOMIC GROWTH



Decent Work and Economic Growth

We promote sustainable business performance and create employment opportunities

SDG targets and indicators:

- **Target 8.5** - Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Indicator 8.5.2 - Unemployment/employment rate, by sex, age and persons with disabilities
- **Target 8.6** - Substantially reduce the proportion of youth not in employment, education or training
Indicator 8.6.2 - Proportion of youth (aged 15-24 years) not in education, employment or training
- **Target 8.8** - Protect labour rights and promote safe and secure working environments for all workers
Indicator 8.8.1 - Fatal and non-fatal occupational injuries of workers

TNB Material Matters:

- Responsible Business and Financial Performance
- Community Development and Human Rights
- Employment Culture

TNB's Metrics and Targets:

- Zero fatalities
- LTIFR <1.0
- Tax and zakat contributions
- TNB Reskilling Malaysia Programme
- PROTÉGÉ training

FY2023 performance:

- Related to indicator 8.5.2 - Number of differently abled employees: 26 employees
- Related to indicator 8.6.1 - Number of TNB Reskilling Malaysia trainees successfully matched with jobs: 661 trainees
- Related to indicator 8.6.1 - Cumulative number of PROTÉGÉ trainees: 6,610 trainees
- Related to indicator 8.6.1 - Number of new hires below the age of 35: 292 employees
- Related to indicator 8.8.1 - Number of fatalities (TNB employees; TNB contractors): 4
- Related to indicator 8.8.1 - LTIFR: 0.74

Focus beyond FY2023:

- Sustain strong revenue growth that subsequently leads to high tax and zakat contributions
- Prioritise training and capabilities building to elevate skill development
- Continue both financial and non-financial support in enhancing the quality of education for all



OUR SUSTAINABILITY JOURNEY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Industry, Innovation and Infrastructure

We build infrastructure and develop innovation to accommodate socioeconomic growth and low-carbon transition of the nation

SDG targets and indicators:

- **Target 9.4** - Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes
Indicator 9.4.1 - CO₂ emission per value added
- **Target 9.5** - Enhance scientific research, upgrade the technological capabilities
Indicator 9.5.1 - Research and development expenditure

TNB Material Matters:

- Energy Transition and Innovation
- Climate Change and GHG Emissions

TNB's Metrics and Targets:

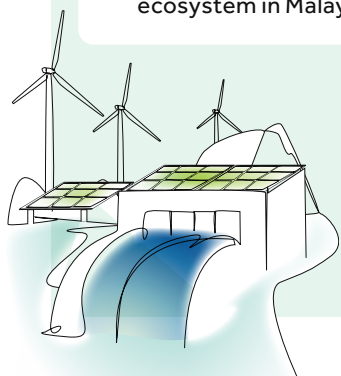
- Install 9 million smart meters across Peninsular Malaysia in phases under Advanced Metering Infrastructure (AMI) initiative by 2029
- Allocate 3.5% of our Profit After Tax (PAT) for our research and development (R&D) activities

FY2023 performance:

- Related to indicator 9.4.1 - Cumulative number of smart meters installed: 3,549,489
- Related to indicator 9.4.1 - Number of smart meters installed in FY2023: 873,740
- Related to indicator 9.4.1 - Cumulative reduction of carbon emissions through Energy Budget programme: 80,711 tCO₂e
- Related to indicator 9.4.2 - Percentage of PAT for R&D investment: 1.07%

Focus beyond FY2023:

- Continue to fund R&D into new emerging technologies that support our current business and future business areas including decarbonisation, RE, energy storage, electric mobility, smart cities and digitalisation
- Explore new business models for energy storage solutions
- Provide investment to uplift the EV development and ecosystem in Malaysia



10 REDUCED INEQUALITIES



Reduced Inequalities

We combat inequality regardless of gender, race, religious beliefs or economic status within our organisation

SDG targets and indicators:

- **Target 10.3** - Ensure equal opportunity and reduce inequalities of outcome
Indicators 10.3.1 - Proportion of population reporting having personally felt discriminated
- **Target 10.5** - Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations
Indicators 10.5.1- Financial soundness indicators

TNB Material Matters:

- Community Development and Human Rights
- Employment Culture

TNB's Metrics and Targets:

- Increase the percentage of women in senior management roles
- Proper handling of grievance mechanism

FY2023 performance:

- Number of substantiated complaints concerning human rights violations: 0 complaints
- TNB Group gearing ratio: 0.5

Focus beyond FY2023:

- Continue to empower women's employability and presence in management level through talent and training programmes



OUR SUSTAINABILITY JOURNEY

13



Climate Action

We support Malaysia's commitment to the Paris Agreement and seek to mitigate our GHG emissions and environmental impacts, as well as adapting to climate risks

SDG targets and indicators:

- **Target 13.2** - Integrate climate change measures into national policies, strategies and planning
Indicator 13.2.2 - Total greenhouse gas emissions per year
- **Target 13.3** - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Indicator 13.3.1 - Extent to which education for sustainable development are mainstreamed in the organisation

TNB Material Matters:

- Climate Change and GHG Emissions
- Energy Transition and Innovation

TNB's Metrics and Targets:

- 35% emissions intensity reduction by 2035, from base year FY2020
- Halve coal generation capacity by 2035
- Net zero emissions and coal-free by 2050
- Reskill and upskill TNB's employees to support TNB's sustainability plan and energy transition

FY2023 performance:

- Related to indicator 13.2.1 - GHG emissions intensity: 0.5465 million tCO₂e/MWh
- Related to indicator 13.3.1 - Participants in Energy Transition academy: 55 participants

Focus beyond FY2023:

- Implement ET plan and monitor performance
- Reskill and upskill TNB employees to support energy transition plan, which contributes to climate change mitigation and adaptation
- Account for Scope 3 GHG emissions

17



Partnerships for the Goals

We continue to form partnerships with key stakeholders with the objectives to meet future industry demands and contribute positively to the environment and the community

SDG targets and indicators:

- **Target 17.1** - Strengthen domestic resource mobilisation, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection
Indicator 17.1.1 - Revenue as a proportion of GDP
- **Target 17.17** - Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships
Indicator 17.17.1 - Amount committed to public-private partnerships for infrastructure and development

TNB Material Matters:

- Responsible Business and Financial Performance
- Sustainable Supply Chain
- Community Development and Human Rights

TNB's Metrics and Targets:

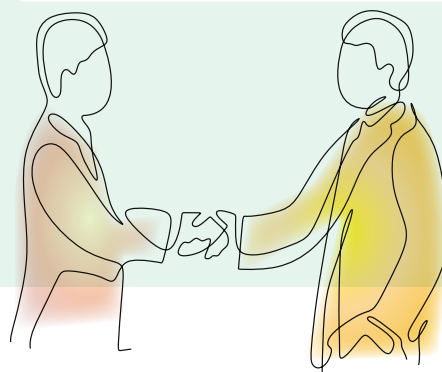
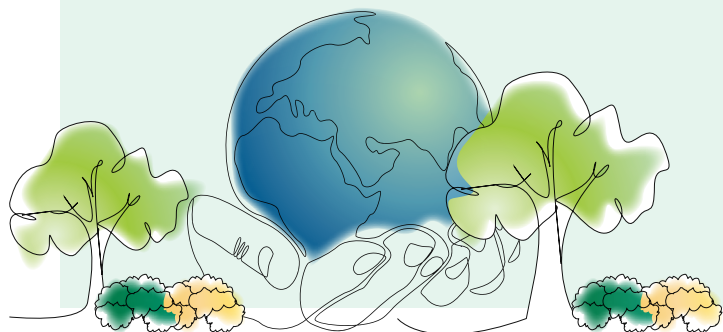
- Commit 1% of our Profit After Tax (PAT) to community programmes
- Increase expenditure on community development programmes
- Establish a wide range of partnerships to promote accessible and clean energy as well as uplifting the communities

FY2023 performance:

- Related to indicator 17.17.1 - Percentage of PAT spent on community programmes: 3.8%
- Related to indicator 17.17.1 - Total contribution to community development programmes: RM99 million
- Related to indicator 17.1.1 - Ratio of Group revenue over Malaysia GDP: 3.7%

Focus beyond FY2023:

- Explore innovative and new technologies through strategic partnerships with public and private entities to accelerate energy transition
- Strengthen collaborations for community development and environmental management



OUR SUSTAINABILITY JOURNEY

MEMBERSHIPS AND ASSOCIATIONS

We value the connections nurtured through our memberships and affiliations and have cultivated partnerships with various associations and organisations. These connections are instrumental in keeping us abreast with industry trends, broadening our networks, sharing expertise and accessing valuable skills, knowledge and collaborative opportunities. This section showcases our participations and contributions to organisations, associations and networks related to sustainable development. We believe that by being part of these alliances, we can play a pivotal role in shaping a sustainable future, propelling us forward on our journey towards energy transition.



Refer to We Are TNB in IAR 2023 on page 8 for more information about TNB's participations in memberships and associations.

Heads of ASEAN Power Utilities/Authorities (HAPUA)

HAPUA, a prominent international organisation in Southeast Asia, fosters collaboration among members to enhance regional energy security and electricity supply reliability. Malaysia is part of the Association of Southeast Asian Nations (ASEAN) member countries.

TNB's Achievement/Contribution:

- We collaborated with HAPUA to conduct a joint feasibility study exploring a cross-border electricity interconnection between Sumatra, Indonesia, and Peninsular Malaysia. This partnership involved Indonesia's PT Perusahaan Listrik Negara (PLN) and the ASEAN Centre for Energy (ACE). The initiative is crucial for integrating renewable energy sources and driving economic growth across ASEAN.

CEO Action Network (CAN), Malaysia

CAN is led and operated by private sector leaders to influence policies and drive actions for accelerating sustainable development and business practices in Malaysia and beyond.

TNB's Achievement/Contribution:

- TNB has participated in a series of engagement sessions and collaborated with leading corporations and agencies to send a strong signal to the market of CAN members' traction and commitment to sustainability.

30% Club, Malaysia Chapter

The 30% Club, Malaysia Chapter, advocates for at least 30% representation of women on the Board of Directors and in senior management.

TNB's Achievement/Contribution:

- As a member, we aim to achieve at least 30% representation of women by FY2025.
- We are currently at 26% women representation in senior management as of 2023.
- 50% of TNB's Board of Directors are female directors.

Malaysia Zero Emission Vehicle Association (MyZEVA)

MyZEVA provides a platform to promote the use of Battery Electric Vehicles (BEVs) to relevant stakeholders.

TNB's Achievement/Contribution:

- A founding member of MyZEVA and actively collaborates with MyZEVA by providing technical expertise, industry know-how, facilities and participating in programmes which contributed to the development of BEVs in Malaysia.

Malaysian Photovoltaic Industry Association (MPIA)

MPIA, a non-profit organisation, promotes the growth of Malaysia's photovoltaic (PV) industry by providing a collaborative platform for manufacturers, developers, researchers and policymakers. Through networking events and knowledge-sharing initiatives such as conferences and workshops, MPIA advances the solar energy sector and facilitates capacity building within the industry.

TNB's Achievement/Contribution:

- TNB's wholly owned subsidiary, GSPARX, is a registered member of MPIA.
- In 2023, GSPARX invested in solar PV systems for retail electricity customers, aligning with MPIA's vision by unlocking value in the local renewable energy market.

OUR SUSTAINABILITY JOURNEY

AWARDS AND ACCOLADES

In our pursuit of becoming the best sustainable energy solutions provider in Malaysia and globally, we received various awards and recognitions on both local and international platforms.

Power Sector

Asian Power Awards 2023

The awards honour companies which have taken innovative and game-changing steps to address the effects of the climate crisis and meet the growing demand for energy.

- Information Technology Project of the Year - Hydro Catchment Area Surveillance (THYCAS)
- Innovative Power Technology of the Year - Leveraging Innovative IT Applications by IIOT, Wireless Vibration & Temperature Monitoring System for Continuous Ship Unloader (CSU)
- Clean Coal Technology (CCT) utilisation for Large Power Generation
- Gold Award - Transmission & Distribution Project of the Year

Enlit Asia Power & Energy Awards 2023

The awards distinguish those planning and implementing projects that significantly improve business practices across the key themes of Enlit; power generation, transmission and distribution, the smart grid, renewable energy and the energy revolution, innovation, and individual contribution.

- Transmission & Distribution Networks Project of the Year Award - GIS Distribution Networks

Energy Integration Pioneer in South East Asia by State Grid Electric Power Research Institute

This award acknowledged TNB's distribution network (DN) as a pioneer in supporting the NETR through DN Smart Utility project initiatives.

Institute of Electrical and Electronics Engineers (IEEE) Malaysia 2023 Industry Awards

- GSPARX - Outstanding Industry Award (Engineering & Technology)

Geoinnovation Awards for 2023 from Esri Malaysia

- TNB was recognised for its Geospatial Land Value Information (GeoLVI), a new application that will improve budget optimisation for land acquisition through enhanced accuracy on land estimation cost for identified projects related to future Target Network and Annual Transmission Development Plan

Islamic Finance Awards 2023

- Best Sustainability Sukuk - Corporate Category (Asia Pacific by Country)

Human Resource

Employee Experience Awards 2023 Malaysia

These awards honour organisations that have truly prioritised employee experience and recognise employers who have harnessed the power of employee-centric strategies to drive value and maintain a competitive edge.

- Silver Award - Best In-House Learning Academy Category
- Gold Award - Best Succession Planning Strategy
- Gold Award - Best Hybrid Work Model

The Malaysia Education & TVET Awards (META) 2023

- ILSAS won Malaysia's Best Institution (Human Resources Reskilling)

Sustainability

The BrandLaureate Sustainable Business and Brands Inspirational Achievement Awards 2022-2023

This inspirational award is dedicated to all businesses that believed in their brands and stayed committed to them.

- Sabah Electricity Sdn Bhd - Most Successful Sustainable Valuable Brands (Sustainable Integrated Utility Provider)

Sustainability & CSR Malaysia Awards 2023

- Company of the Year (Energy) - Outstanding ESG Champion Award

Kasih Madani Award at Sambutan Bulan Keluarga Kebangsaan 2023

- Corporate CSR Category

Media

TNB's special documentary *Misi: Kembalikan Kuasa Kenyir* won three (3) international awards:

28th Asian Television Awards 2023

- Best Documentary Programme

Content Asia Awards 2023

- Bronze Award for Best Factual Programme Made in Asia for Single Asia Market

Construction Media Award by Construction Industry Development Board (CIDB) 2023

- First Place in Television & Online Video Broadcast Media (News & Documentaries) Category

WHAT MATTERS TO OUR STAKEHOLDERS

OUR SUSTAINABILITY AGENDA IS FOCUSED ON WHAT MATTERS TO OUR STAKEHOLDERS

An essential aspect of our sustainability agenda involves understanding how to create value for our key stakeholders, maintaining open communication and keeping them informed and updated. Stakeholder engagement helps us to determine our material sustainability matters and prioritise them based on their significance. By engaging with stakeholders continuously, we can monitor changes in stakeholder expectations and adapt our strategies and practices accordingly to ensure that our actions align with their needs and expectations.

Legend: ■ All the time ● Ongoing ◆ As needed ◆ Quarterly ▲ Annually ★ Biannually



CUSTOMERS

Residential and non-residential segments encompass business customers in the commercial and industrial sectors, such as Government, Large Businesses, and Micro, Small, and Medium Enterprise (MSMEs).

Engagement Platform

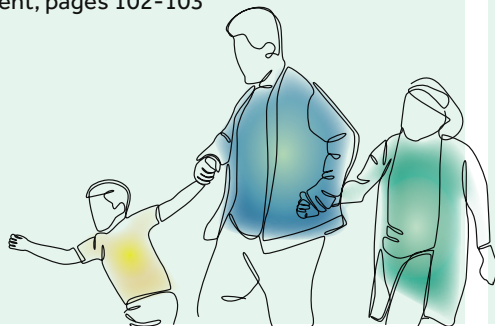
- One-stop centres (*Kedai Tenaga*)
- Call centre
- myTNB mobile application and online portal
- Customer surveys
- Social platform activities
- ◆ Roadshows
- ◆ Campaigns
- ◆ One-to-one engagements
- ◆ E-mail

Areas of Interest or Concern

- New technologies (implementation of the smart meters and their offerings, smart solutions, solar solutions and platform solutions)
- Customer experience and service delivery
- Accessible, affordable and reliable supply of electricity
- Regulated and non-regulated innovative solutions
- Customer education on energy literacy and renewable energy
- Customer take-up rates on green/sustainable solutions
- Matters related to Personal Data Protection Act (PDPA) compliance

Our Response

- Customer Experience and Satisfaction, pages 83-85
- Reliable Energy and Fair Tariffs, pages 56-58
- Energy Transition and Innovation, pages 37-47
- Cybersecurity Management, pages 102-103



EMPLOYEES

TNB Group has 34,543 full-time employees (contractors excluded).

Engagement Platform

- Townhall sessions
- *Turun padang*, brown-bag sessions and other outreach programmes
- Online portal (intranet), newsletters, emails and digital boards
- ▲ Employee survey
- One-to-one engagements
- ◆ Social platform activities
- ◆ Corporate social responsibility (CSR) programmes
- ◆ Webinars

Areas of Interest or Concern

- Performance, rewards and benefits
- Health and safety
- Employee well-being and workplace culture
- Talent and skills development
- Employee satisfaction
- TNB strategies and initiatives

Our Response

- Employment Culture, pages 104-113
- Safety, Health and Well-being, pages 59-67
- Community Development and Human Rights, pages 86-95



WHAT MATTERS TO OUR STAKEHOLDERS

OUR SUSTAINABILITY AGENDA IS FOCUSED ON WHAT MATTERS TO OUR STAKEHOLDERS

Legend: ■ All the time ● Ongoing ◆ As needed ◈ Quarterly ▲ Annually ★ Biannually



GOVERNMENT AND REGULATORS

The Malaysian federal and state governments, parliamentarians, municipal councils and regulators.

Engagement Platform

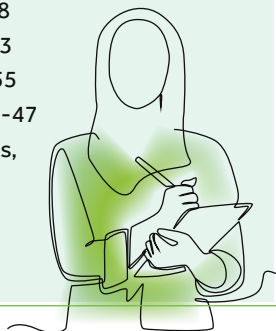
- Meetings and briefings
- ◆ Site visits
- ◆ Round table sessions
- One-to-one engagements
- Outreach programmes
- ▲ Summits/conferences
- ◆ Feedback sessions

Areas of Interest or Concern

- Regulatory and operational compliance
- Changes in the regulatory framework and electricity supply industry
- Disaster management (flood, dam safety) and cybersecurity management
- Nation-building initiatives (stimulates economic growth through green energy and job opportunities, and benefits the *rakyat* well-being)
- Energy trilemma (Security, Affordability, Sustainability)
- ESG and Energy Transition initiatives
- Development programmes for local Bumiputera vendors
- Rural development initiatives

Our Response

- Responsible Business and Financial Performance, pages 32-36
- Reliable Energy and Fair Tariffs, pages 56-58
- Cybersecurity Management, pages 102-103
- Climate Change and Emissions, pages 48-55
- Energy Transition and Innovation, pages 37-47
- Community Development and Human Rights, pages 86-95



INVESTORS

Institutional and retail investors, analysts and potential investors with interest.

Engagement Platform

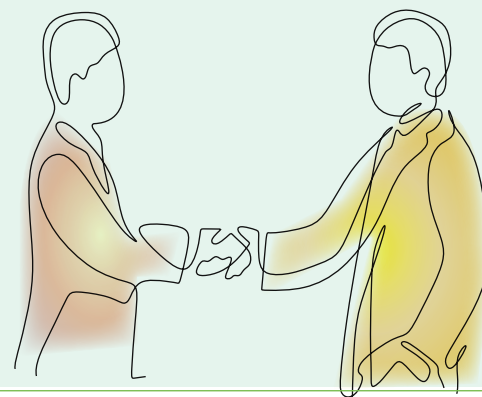
- ◈ Quarterly and Full Year Financial Results disclosures
- One-to-one engagement/group meetings with the investment community
- ▲ Investor conferences and Non-Deal Roadshows
- ▲ Annual General Meeting
- ◆ TNB corporate website's Investor Relations section
- ◆ Bursa filings and Press Releases
- ▲ Annual Integrated Report and Sustainability Reports
- ◆ Email updates to the investment community

Areas of Interest or Concern

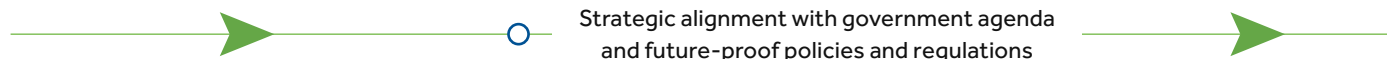
- Business strategy and performance
- Regulatory risk due to high fuel cost environment
- ESG and Energy Transition Plan
- Financial sustainability and returns
- Growth catalyst

Our Response

- All TNB Material Matters, pages 32-113



Our Stakeholder Engagement Approach:



i The above table is to be cross referenced with the IAR Corporate Governance section, Principle C Integrity in Corporate Reporting and Meaningful Relationship with Stakeholders.

WHAT MATTERS TO OUR STAKEHOLDERS

OUR SUSTAINABILITY AGENDA IS FOCUSED ON WHAT MATTERS TO OUR STAKEHOLDERS

TRADE UNIONS & ASSOCIATIONS

Three (3) registered unions and two (2) workers associations covering all categories of employees.

Engagement Platform

- ◆ Joint Consultative Council (JCC)
- ◆ Negotiations for Collective Agreements (CA)
- ◆ Syndication and engagements

Areas of Interest or Concern

- Mitigation and resolution of issues
- Employee health and well-being
- Engaging employees on company's strategies and initiatives
- Impact of new policies or policy revision to employees

Our Response

- Safety, Health and Well-being, pages 59-67
- Employment Culture, pages 104-113



COMMUNITIES

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

Engagement Platform

- ◆ Outreach programmes
- ◆ CSR programmes
- ◆ Townhall sessions
- ◆ Dialogue sessions
- ◆ Sporting events

Areas of Interest or Concern

- Public facilities and basic infrastructure
- Full compliance with legal and regulatory requirements
- Coordination of drills and crisis management
- Energy literacy
- Accessible and reliable supply of electricity
- Efficiency of service

Our Response

- Community Development and Human Rights, pages 86-95
- Employment Culture, pages 104-113



Develop the capability of our people and communities to inculcate a high performing culture and increase the level of energy literacy

Resolve issues and create excellent engagement experiences with all key stakeholders

WHAT MATTERS TO OUR STAKEHOLDERS

OUR SUSTAINABILITY AGENDA IS FOCUSED ON WHAT MATTERS TO OUR STAKEHOLDERS

Legend: ■ All the time ● Ongoing ◆ As needed ◈ Quarterly ▲ Annually ★ Biannually

NON-GOVERNMENTAL ORGANISATIONS (NGOs) & ASSOCIATIONS

Consumer associations, think tank groups, environmental groups, chambers of commerce and international associations, for example the Heads of ASEAN Power Utilities/Authorities (HAPUA) and Association of the Electricity Supply Industry of East Asia and Western Pacific (AESIEAP).

Engagement Platform

- ◆▲ One-to-one engagements
- ◆ Outreach programmes
- ◆ Seminars
- ◆ Collaboration sessions
- ◆ Social media
- ★ Meetings and knowledge sharing sessions

Areas of Interest or Concern

- Affordable tariff
- Innovation in technology and RE
- Quality of service
- Supply reliability
- Current and planned ESG efforts
- Energy literacy
- Environment and occupational safety and health
- Compliance with legal and regulatory requirements

Our Response

- Reliable Energy and Fair Tariffs, pages 56-58
- Energy Transition and Innovation, pages 37-47
- Environmental Management, pages 68-82
- Safety, Health and Well-being, pages 59-67



VENDORS

We have 3,848 active contractors and suppliers.

Engagement Platform

- ◆ Engagement sessions with suppliers and contractors
- ◆ Road Tour Dialogues
- ◆ Vendor training and awareness
- ◆ Joint Operations Centre

Areas of Interest or Concern

- Industry support for business growth through technology and solutions
- Training and capability development
- Potential health and safety impacts
- Procurement processes
- Fraud and bribery awareness
- New business opportunities and future developments

Our Response

- Sustainable and Responsible Supply Chain, pages 96-101
- Responsible Business and Financial Performance, pages 32-36
- Safety, Health and Well-being, pages 59-67



MATERIALITY ASSESSMENT

TNB MATERIALITY ASSESSMENT

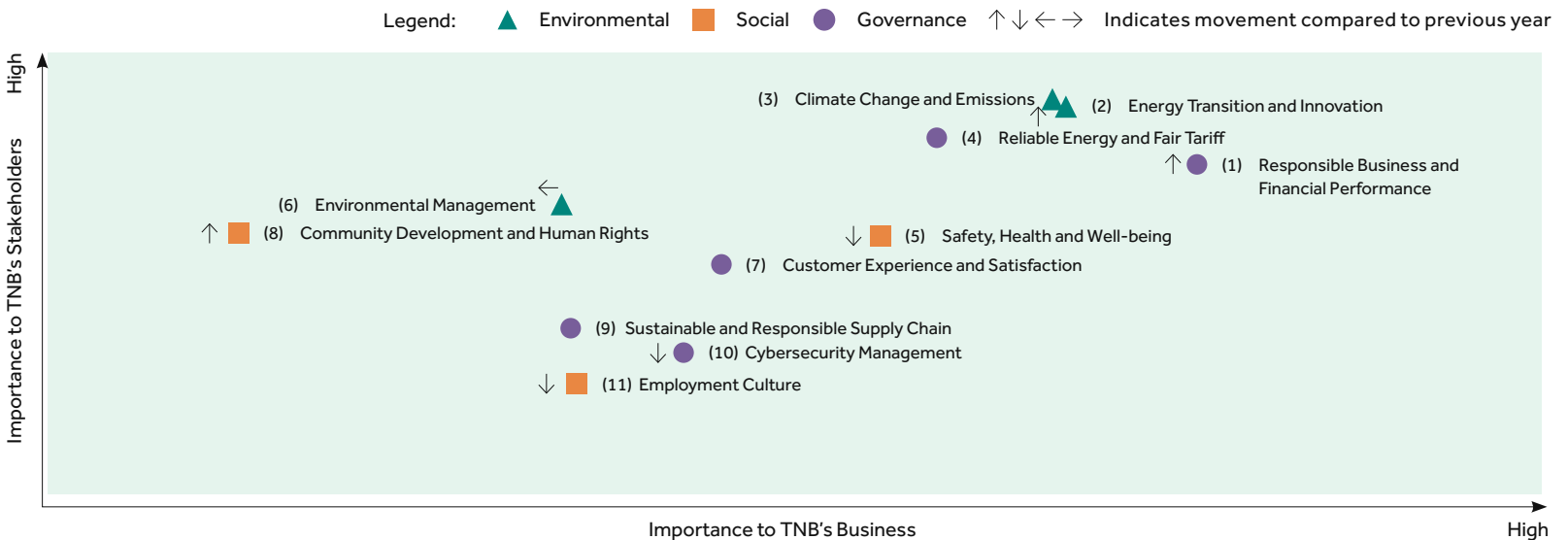
With the above in mind, our sustainability agenda focuses on material ESG matters outlined in our materiality matrix. We have a comprehensive materiality assessment every two (2) years; the last assessment was in FY2022. This assessment allows us to stay ahead of emerging trends, changing stakeholder expectations and other operational challenges. In 2023, we carried out a limited-scale materiality review.

We based the materiality assessment process on the following three (3) phases, as guided by the Bursa Sustainability Reporting Guide (3rd Edition):

Identification 1	Prioritisation 2	Validation 3
<ul style="list-style-type: none"> Considering TNB's business strategy (Reimagining TNB and TNB ET Plan) and strategic risks Gap assessment input from: <ul style="list-style-type: none"> Stakeholder groups ESG Pathway to 'A' and Beyond project team External benchmarks 	<ul style="list-style-type: none"> Obtain feedback from identified personnel from business entities, overseeing and directly engaging with external or internal stakeholder groups to prioritise the relative importance of material matters from the perspective of stakeholder groups and their impact on TNB Review the prioritisation of the material matters in the matrix 	<ul style="list-style-type: none"> Deliberation and validation by the SETC of the reviewed TNB Materiality Matrix Approval by the TNB BOD of the reviewed TNB Materiality Matrix

As a result, the 11 material matters for FY2023 are depicted in the materiality matrix below.

TNB MATERIALITY MATTERS 2023



The following is a summary of critical updates to the TNB Materiality Matrix FY2023 as compared to FY2022:

- Matters related to "Customer Experience and Satisfaction", previously disclosed as a sub-topic in "Responsible Business and Financial Performance", are now a separate material matter, highlighting increasing customer expectations towards accelerating energy transition and energy efficiency.
- "Energy Transition and Innovation" and "Climate Change and Emissions" remain key priorities for stakeholders and TNB.
- "Environmental Management" has shifted to a slightly lower priority for TNB. Environmental matters relating to emissions, water and waste form part of our energy transition, as well as climate change material matters and strategy.
- "Responsible Business and Financial Performance" has shifted to a higher priority, reflecting our strategy and focus on responsibly balancing the energy trilemma.

- "Community Development and Human Rights" has increased in priority for stakeholders, reflecting their interest in TNB's management of a just energy transition across the value chain, particularly regarding human rights.
- Prioritisation for "Cybersecurity Management", "Safety, Health and Well-being" and "Employment Culture" has lowered, reflecting stakeholders' confidence of the outcome in our ongoing initiatives.
- The material matter related to the supply chain has been refined to "Sustainable and Responsible Supply Chain", emphasising the importance of sustainable and responsible practices across the entire supply chain.

Our revised materiality matrix renews our focus on material matters, which forms the basis of our Sustainability Statement. The respective indicators facilitate the monitoring and measurement of our sustainability performance.

Cross reference with the Sustainability Performance Table in the Sustainability Statement, which includes linkages of performance to UN SDGs.

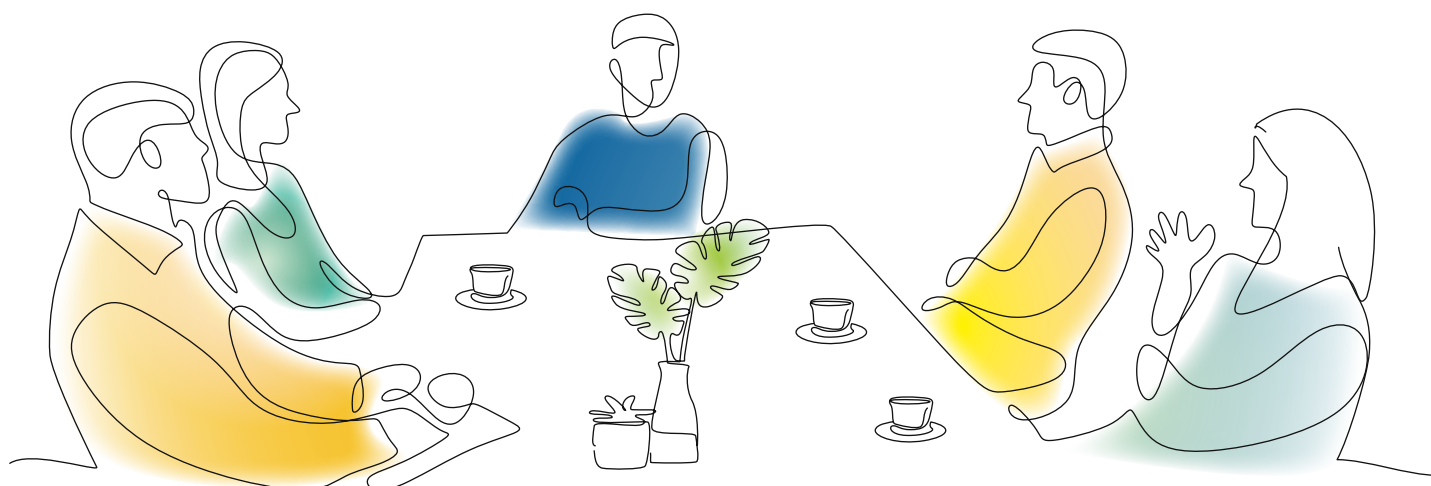
MM1

RESPONSIBLE BUSINESS AND FINANCIAL PERFORMANCE

We are committed to upholding responsible business practices while maintaining solid financial performance. Our strategy aims to foster long-term resilience by leveraging our core activities and exploring new growth opportunities sustainably, delivering value to our shareholders. Our corporate governance structure complies with the MCCG to effectively facilitate our business operations.

Supported by a strong governance structure, the BOD and Management play active roles in making strategic decisions aimed at securing TNB's position as a leader in the energy sector, enhancing value for stakeholders and providing stable financial returns to our shareholders. We remain committed to our dividend policy, which aims to provide stable and sustainable dividends, while maintaining an effective capital structure that supports our growth and expansion strategies.

Refer to Corporate Governance on page 119 and Financial Statements on page 196 in the IAR 2023.



MM1: RESPONSIBLE BUSINESS AND FINANCIAL PERFORMANCE



MANAGEMENT APPROACH



Leading with Good Governance

The Board provides leadership to the Company and direction for the Management. It has collective responsibility and accountability to shareholders for the long-term success of the Group. Led by TNB Chairman, Dato' Abdul Razak bin Abdul Majid, the Board is supported by the Board Sustainability and Risk Committee (BSRC), which deliberates and recommends sustainability framework and policy to the Board. Through the BSRC, the Board oversees sustainability practices in TNB, ensuring the robustness of sustainability and risk management frameworks, as well as the effectiveness of their implementation in achieving strategic objectives and sustainability commitments. Additionally, the Board is also supported by the following committees:

Board Audit Committee

Board Finance and Investment Committee

Board Tender Committee

Board Nomination and Remuneration Committee

Board Long Term Incentive Plan Committee

Board Integrity Committee

i Refer to Sustainability Governance on page 16 for more information about the BSRC.
Refer to Board Leadership & Effectiveness on page 147 of the IAR 2023.

TNB Risk Management Framework

Risk management at TNB is governed by the TNB Risk Management Framework, which is based on the principles and guidelines of ISO 31000:2018, "Risk Management – Guidelines". This framework offers a structured and consistent approach to risk management across the Group, aiming to create and protect value as demonstrated through its elements.



The framework is approved by the Board and reviewed annually. The implementation of the TNB Risk Management Framework is detailed in the following six risk governance documents:

TNB Risk Management Framework

TNB Risk Management Policy

TNB Risk Assessment Process

Risk Review

Risk Report

Key Risk Indicator

i Refer to Statement on Risk Management and Internal Control (SORMIC) on page 184 of the IAR 2023.

Corporate Policies and Guidelines

Group-wide policies and procedures are approved by the Board and Management to embed internal control principles and ethics across business operations. These policies are regularly reviewed to maintain their relevance and effectiveness, ensuring they support TNB's strategic and operational objectives effectively. These policies are listed below:

TNB Code of Business Ethics

TNB Ethics & Integrity Policy

TNB Confidentiality Policy

TNB Asset Management Policy

TNB Risk Management Policy

TNB Personal Data Protection Policy

TNB Diversity & Inclusion Policy

TNB Environmental Policy

TNB Security Policy

TNB Investment Process Control: Updated Investment Process and Investment Risk Methodology

TNB ICT Security Policy and ICT Codes of Practice

MM1: RESPONSIBLE BUSINESS AND FINANCIAL PERFORMANCE

TNB Limits of Authority

TNB Safety & Health Policy

TNB Disciplinary Procedures

TNB Communication Policy

TNB Procurement and Supply Chain Policy and Procedures

TNB Group Human Resource Circulars and Guidelines

TNB Group Financial Policies and Procedures

► TNB Code of Business Ethics (COBE)

The BOD adheres to the TNB Code of Business Ethics (COBE), which sets a high standard of ethical conduct for company directors and employees, as per the MCCG requirements. This code ensures compliance with legal and regulatory requirements, promotes sound employment practices, and maintains confidentiality and privacy. It includes provisions on conflicts of interest, giving and accepting business courtesies, and the safeguarding and proper use of TNB's assets and resources. Additionally, the COBE outlines the principles of business integrity in TNB's interactions with shareholders, employees, customers and suppliers. All employees are expected to conduct business in accordance with the applicable laws, rules and regulations and in a manner that enhances and protects the reputation of TNB.

On 25 August 2023, the Board sanctioned the updated COBE, extending its applicability to all directors and employees across the organisation. This code serves as a comprehensive standard of conduct, aligned with TNB's core values, policies, disciplinary procedures and regulatory requirements. It is available on TNB's official website at www.tnb.com.my and serves as a guiding framework for all stakeholders.

► TNB Corporate Integrity Management System (TCIMS)

Established in 2017, the TCIMS is designed to foster an integrity-based culture and ensure high levels of compliance with both local and international anti-bribery standards. The objectives of the TCIMS are to elevate TNB to international standards of integrity, mitigate the risk of misconduct and corruption, and improve the Company's integrity culture. The TCIMS consists of the following four key policies:

Anti-Bribery Policy

TNB upholds a zero-tolerance approach to bribery and corruption. This policy applies equally to all our business dealings with commercial and government entities and countries worldwide without exception and without regard to regional customs, local practices or competitive conditions.

Conflict of Interest (COI) Policy

This policy mandates all personnel to declare any potential, perceived, or actual conflicts of interest promptly, using established mechanisms. All personnel sign an Integrity Pledge and COI declaration annually, and directors and top management must disclose their interests, particularly in competing businesses, to ensure transparent and ethical decision-making.

Gifts, Hospitality, and Related Benefits Policy

This policy outlines strict guidelines on the acceptance of gifts and hospitality, aiming to ensure transparency in all interactions with external parties. It includes provisions for political donations, strictly overseen by the Board Integrity Committee (BIC), which to date has not approved any political contributions. Annual audits ensure compliance with this policy, maintaining the integrity of corporate interactions.

Whistleblowing Policy

This policy supports an open working environment where unethical or unlawful conduct can be reported confidentially and without fear of reprisal. TNB provides multiple channels for reporting, including an online system and a toll-free number, ensuring all concerns are investigated independently and feedback is provided where applicable. In 2023, the Whistle Blowing Information System (WBIS) was enhanced to strengthen the management of integrity governance data with effective reporting and continued compliance with Malaysian Anti-Corruption Commission (MACC) requirements.

► Integrity Pledge and Conflict of Interest (COI) Declarations

All employees completed the annual and situational signing of the Integrity Pledge and COI declarations. In 2023, a total of 28,602 employees completed the Integrity Pledge online, while 28,594 employees made their COI declarations.

► Integrity Pact for Vendors

Active vendors managed by the Procurement & Supply Chain Division are required to sign an Integrity Pact, which is a legal agreement for parties to act in accordance with an agreed set of practices to prevent bribery during their commercial interactions.

The Integrity Pact promotes corruption-free operations for both TNB and the vendor during the award and execution of a contract. The implementation of the pact yields other benefits such as greater transparency in contracting and enhancement of public confidence and trust.

Vendors are mandated to declare that they are not involved in practices that are not in line with good governance, including those related to corruption offences, conflict of interest and confidentiality of information, and to report any offences and state actions taken.

MM1: RESPONSIBLE BUSINESS AND FINANCIAL PERFORMANCE

► Anti-Bribery Management System (ABMS)

TNB has been proactive in enhancing organisational integrity. Notably, in 2017, we were the first listed corporation in Malaysia to embark on achieving the ISO 37001:2016 ABMS certification. TNB integrates this international anti-bribery standard into its strategic decision-making processes at the Board and management levels, as well as in day-to-day operations. We conduct regular audits and fraud risk assessments to foster continuous improvement.

Fraud Risk Assessment

Fraud risk exposure is continually assessed across all business operations to identify exposures in areas such as bribery, abuse of power, theft, false claims, cheating and disciplinary matters. The outcomes of these assessments enable the identification of mitigations to address root causes and strengthen our integrity culture. Related risk ratings and controls are digitalised in the TNB Risk Information System to facilitate our management in monitoring the effectiveness of mitigations.

ABMS Audit & Fraud Risk Assessments	Financial Year				Total
	FY2020	FY2021	FY2022	FY2023	
No. of ABMS Certification/ Recertification Audits by SIRIM				2	
No. of ABMS Internal Audits (Division/Department)	22	16	20	21	78
No. of ABMS Internal Audits (Subsidiary)	N/A	N/A	N/A	5	5
No. of Fraud and Bribery Risk Assessments (Division/Department)	21	21	21	21	84
No. of Fraud and Bribery Risk Assessments (Subsidiary)	16	16	16	16	64

Organisational Anti-Corruption Plan

On top of conducting fraud and bribery risk management, TNB has established the Organisational Anti-Corruption Plan (OACP), which was approved by the BIC in 2023. The OACP outlines anti-corruption actions and initiatives across the TNB Group to address governance issues, prevent corruption and integrity violations and elevate transparency and accountability, while inculcating a culture of ethics and integrity.

► Training and Communication Plan

The Training and Communication Plan (TCP) is an important component in TNB's strategy to combat corruption and foster a strong integrity culture. This comprehensive plan includes ethical standards training for all employees, contractors and vendors, tailored to close gaps identified through the annual Integrity Health Index (IHI). The training programmes under the TCP also fulfil the TRUST requirements under Section 17A of the MACC Act 2009.

Activities range from e-learning modules to seminars, ensuring broad and effective dissemination of integrity principles. In 2023, the TCP successfully completed 23 initiatives including targeted training sessions and integrity programmes to strengthen the overall ethical behaviour in the company. This includes issuance of monthly integrity e-posters and bulletins to all personnel.

One of the key highlights was the TNB Integrity Day on 21 December 2023, aimed at cultivating and educating employees to improve their awareness and commitment to upholding integrity. It was attended by 301 participants, including top management, Integrity Coordinators, TNB unions and personnel from various business operations. The event was also broadcasted via online platforms such as Webex, Facebook and TNB Powerfaces for greater reach. During the event, the TNB COBE and OACP were launched, and lessons from an ex-offender on his journey, "*Kutemui Tuhan di Penjara*", were shared. Thirty personnel across the TNB Group were recognised as Integrity Champions for consistently exhibiting integrity values in carrying out their day-to-day responsibilities.

Additionally, integrity e-learning is mandatory for all active TNB vendors to complete once every three (3) years, emphasising their responsibility to adhere to our integrity principles and the available misconduct reporting channels.

Annually, the Board and top management participate in a seminar with the objective to enhance awareness on corporate liability and corporate governance. In 2023, the seminar focused on the law behind corporate governance.

MM1: RESPONSIBLE BUSINESS AND FINANCIAL PERFORMANCE

Training Programme	No. of Programmes	No. of Participants
Board of Directors	1	8
Top Management		
i. Integrity e-learning	1	14
ii. Ethics Seminar	1	14
Permanent and Contract Employees		
i. Integrity e-learning	1	27,526 (Permanent Employees: 25,574 Contract Employees: 1,952)
ii. Integrity Awareness & Engagements at Business Entities	69	9,142
iii. Joint Programme with the MACC	5	628 (Employees: 552; Vendors/Contractors: 76)
iv. ISO 37001:2016 Anti Bribery Management System Internal Auditor Training	2	105
Active Vendors & Suppliers (e-learning & webinar):	2	3,739 (e-learning: 3,548 & webinar: 191)

In addition, collaborative integrity programmes with the MACC are carried out subsequent to the signing of a Memorandum of Understanding (MoU) with MACC in 2022, emphasising our commitment to integrity.

Integrity Audits and Integrity Health Index

Surveillance and recertification audits by SIRIM, involving various TNB divisions and subsidiaries, consistently affirm our adherence to the ISO 37001 standard. The outcomes from these audits are reviewed by the Integrity Council and the BIC, including the status of actions taken.

We have in place an Integrity Health Index (IHI), which has been integrated into the management's Key Performance Indicators. Aimed at assessing TNB's integrity performance and the various aspects of TNB's Integrity Health, the IHI enables us to identify gaps and develop strategies for improvement. This includes evaluating the effectiveness of our integrity awareness, communication and practices within the organisation.

In 2023, the IHI incorporated additional elements, including the completion of COI declarations, Integrity Pledges and integrity e-learning, for a holistic assessment. This approach sets a new baseline for evaluating TNB's integrity health compared to previous years. In 2023, we achieved an overall IHI score of 87.16%.

IHI Scores Trend (2021–2023)



OUR PERFORMANCE

Bursa Malaysia Indicators

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Target
Anti-Corruption*							
1	Percentage of employees who received training on anti-corruption by employee category	C1 (a)	%	-	41.03	79.7	100
	• Senior Management		%	-	1.57	1.0	
	• Executive		%	-	7.74	18.7	
	• Non-Executive		%	-	31.72	60.0	
2	Percentage of operations assessed for corruption-related risks	C1 (b)	%	-	-	97.00	100
3	Confirmed incidents of corruption and action taken	C1 (c)	Number	5	1	5	Zero incidents of corruption

* Past years' data has been reported for the total number of employees. FY2023 data has been reported aligning with the GRI 205-1 Anti-corruption definition, and based on time of record.

MM2

ENERGY TRANSITION AND INNOVATION

Malaysia aims to achieve net zero emissions by 2050, transitioning from fossil fuels to renewables and green energy. TNB recognises the significance of this transition for climate action, environmental protection, resource conservation, energy security and economic growth. While expanding renewable energy, natural gas remains an important energy source in providing cleaner and reliable power supply for the country. We are committed not to build any new coal plants, additionally no new coal plants will be constructed the existing coal plants will only provide sufficient energy supply in the short to medium term.

TNB's Energy Transition Plan focuses on three pillars, backed by initiatives to shift from fossil fuels to greener sources, aligning with its broader Reimagining TNB (RT) programme. We are also actively supporting the National Energy Transition Roadmap (NETR) through flagship projects such as solar parks and hybrid hydro floating solar PV, as well as co-firing of hydrogen and ammonia. The NETR aims to reduce the nation's carbon footprint and has clearly spelled out the initiatives and projects required to achieve net zero by 2050.



MANAGEMENT APPROACH



We have embarked on a journey to make our power generation cleaner and more sustainable by shifting towards renewable energy sources, investing in energy vectors and advocating for the efficient usage of energy.

Energy Sources



Deliver Clean Generation

- Renewable Capacity Growth
- Carbon Management
- Coal Generation Capacity Reduction

Energy Vector



Develop Energy Transition Network

- Smart Grid
- Hydrogen
- Energy Storage

Energy Usage



Dynamic Energy Solutions

- Electrification
- Energy Efficiency
- Prosumers
- Digital Platforms



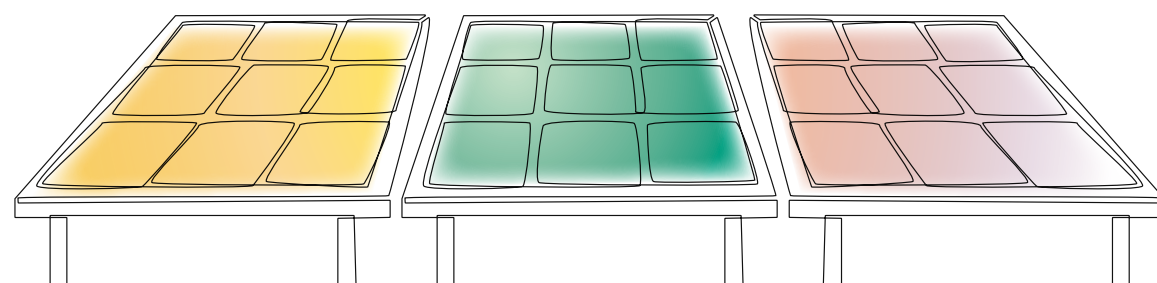
Refer to MM3 (Climate Change and Emissions) for initiatives on carbon management and coal generation, pages 48-55.



Energy Vector

The energy transition, marked by a shift from conventional fossil fuel-based energy sources to cleaner and more sustainable alternatives, significantly impacts electrical grids. Distributed energy resources (DERs) such as rooftop solar panels play a pivotal role in creating a more decentralised energy landscape.

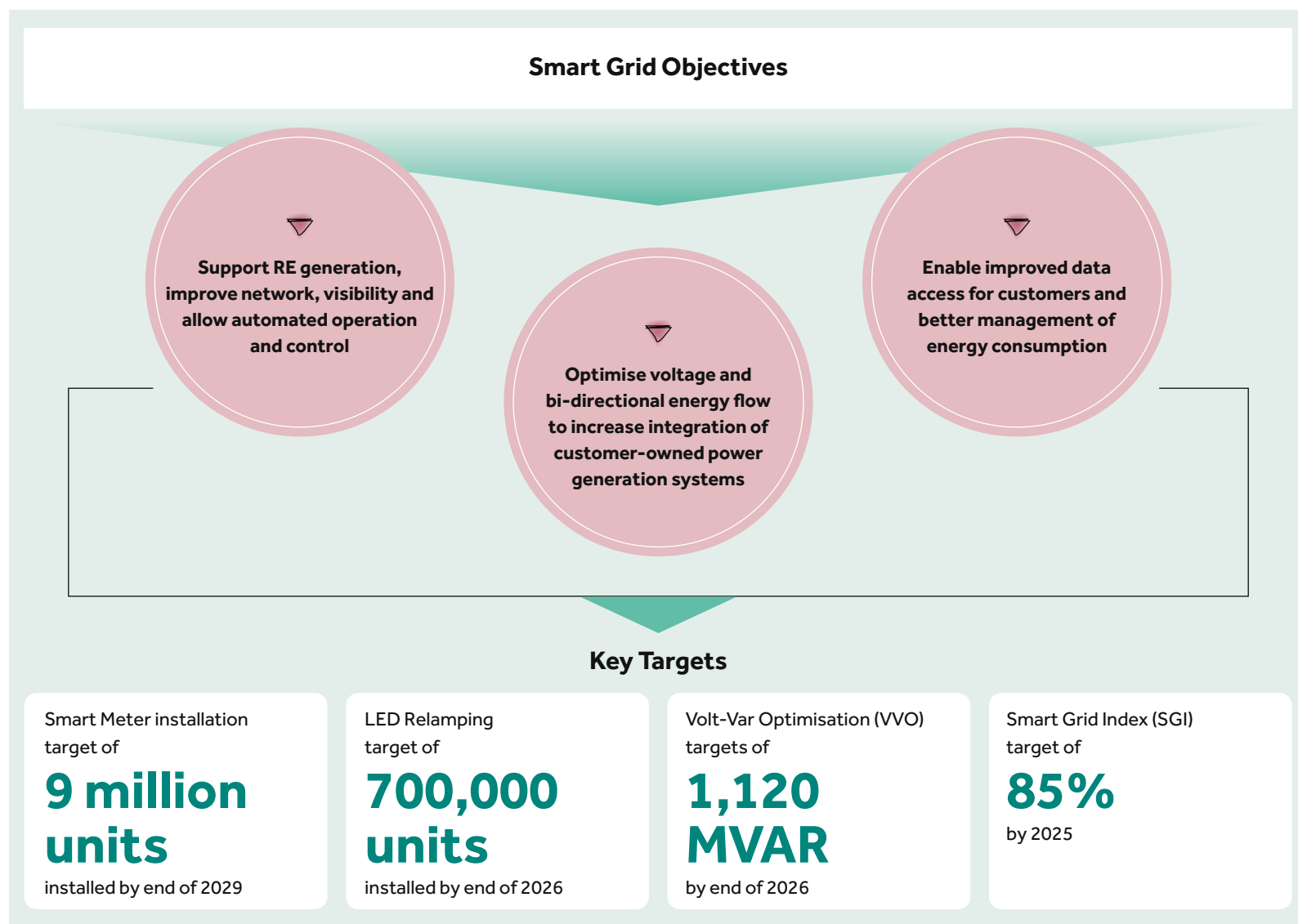
Unlike the traditional one-way flow of energy from power plants to consumers through the transmission and distribution grid, this decentralisation introduces a bi-directional flow of electricity. Consumers now increasingly become prosumers, actively participating in both electricity production and consumption. The management of these dynamic energy flows necessitates the implementation of smart grids and Advanced Metering Infrastructure (AMI).



MM2: ENERGY TRANSITION AND INNOVATION

Powering the Future with Smart Grid

TNB remains committed to upgrading our national grid, ensuring it stays reliable, resilient and flexible to support Malaysia's energy transition. We plan to invest RM21 billion over three years until 2024, to strengthen the grid and maintain energy supply reliability. Our grid's reliability is evident, as it meets our Guaranteed Service Levels (GSL) without exceeding recovery time limits.



In 2023, the Grid and Distribution Network divisions invested over RM2.9 billion and RM5 billion of capital expenditure, respectively, in securing, maintaining and modernising our national grid. The highlights of our smart grid initiatives include the facilitation of RE penetration into the system, expanding AMI and real-time network monitoring and control. Additionally, in 2023, we enhanced our efforts in realising the ASEAN Power Grid aspiration by forming strategic partnerships with ASEAN Member States in the region.

Facilitation of Renewable Energy (RE) Penetration

The growth of Large Scale Solar (LSS) is flourishing, with the operational capacity of 473MW in the distribution network and 1,190MW in the grid network. TNB's physical grid infrastructure can handle up to 6,000MW without major upgrades, provided solar power expansion follows planned phases and allocations.

To support LSS expansion, we focus on enhancing grid flexibility and ensuring system stability. We have partnered with the Sustainable Energy Development Authority Malaysia (SEDA) to create a Distributed Generation Hosting Capacity map. This map, accessible through a Geographic Information System (GIS) platform, identifies available connection points and capacities for DERs at the medium voltage level (33kV and 11kV). This simplifies the process of connecting renewable energy sources to the grid and aids in effective RE planning efforts.

MM2: ENERGY TRANSITION AND INNOVATION

Advanced Metering Infrastructure (AMI)

The AMI is crucial for managing the complex energy system and empowering customers by providing visibility into the network. Since the deployment of the AMI project, 3,549,489 smart meters have been installed, primarily in the Klang Valley, Melaka, Kedah and Penang. In 2023, an additional 873,740 smart meters were installed, surpassing our target of 600,000 units. TNB is mandated to extend AMI and smart meters to over nine million Ordinary Power Customers (OPC) in Peninsular Malaysia by 2027 and beyond.

With AMI, customers with smart meters can monitor their energy usage through half-hourly analyses. This detailed information helps customers manage their energy consumption effectively, leading to cost savings and environmental benefits. The data from smart meters also aids TNB in identifying grid issues and understanding consumer behaviour, further improving service delivery. Customers can access this information through the myTNB mobile app and myTNB Portal, enabling them to optimise their energy usage.

Optimising Distribution Network Assets

In a significant step toward enhancing our infrastructure and service reliability, we have undertaken a series of initiatives to optimise our Distribution Network (DN) assets, compliant with the latest ISO 55000 Asset Management standards. Following the introduction of our enhanced Asset Management Policy, several critical projects have been implemented to fortify and streamline our network:

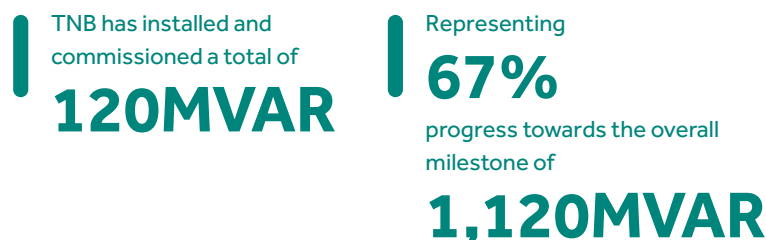
Distribution Automation (DA)

TNB continues to implement Distribution Automation (DA) in our substations focusing on remote monitoring and control. We have equipped 4,002 substations in 2023 with DA, serving 2.6 million customers. Since 2014, approximately 28,340 substations have been updated, impacting 34% of Peninsular Malaysia's substations and benefitting about three million customers. This infrastructure has reduced the average restoration time for unplanned outages by 20%, with outages typically restored within 15 minutes. The goal is to expand DA to 41% of substations by the end of 2024, 64% by 2027, and 84% by 2030. This effort aims to enhance efficiency and reliability of our distribution network.

Voltage and Reactive Power Management

Volt-Var Optimisation (VVO) is a system that optimises voltage and reactive power management in the distribution network. By managing voltage levels and reactive power within distribution code limits, VVO achieves network loss savings, enhances voltage stability and minimises the impact of integrating renewable energy into network.

TNB has installed and commissioned a total of 120MVAR, bringing the cumulative installation since FY2018 to 750MVAR. This represents 67% progress towards the overall milestone of 1,120MVAR. As a result, there has been a reduction in losses amounting to 480,000kWh.



Geographic Information System (GIS)

This system plays a key role in mapping our electrical distribution assets to the customer meters, significantly improving the delivery of real-time notifications regarding supply interruptions.

Advanced Distribution Management System (ADMS)

As a cornerstone of our Smart Grid Capabilities, ADMS integrates multiple systems into a central platform, enhancing our ability to manage renewable energy sources effectively.

Smart Energy Management Infrastructure (SEMI)

Initiated as part of our Smart Utility Masterplan, SEMI comprises platforms that facilitate comprehensive energy management, from connectivity to monitoring and forecasting of DER.

IoT Device Integration

With over 130 online feeder pillars equipped with IoT devices, we now have enhanced capabilities for real-time monitoring and management, improving both load management and network performance.

Greening Malaysia's Islands

The Pulau Tenaga Hijau project in Pulau Redang is currently in its second phase, following the commissioning of the BIPV on Pulau Perhentian. Full electrification of these islands is expected to be completed by 2027.

MM2: ENERGY TRANSITION AND INNOVATION

Optimising Grid Assets and Efficiency

As one of the recognised top performers in the International Transmission Operation & Maintenance Study (ITOMS), we continue to be a leader among international transmission utilities.

One significant stride in our journey has been the integration of IEC61850 technology, pivotal for the modernisation of digital substations. A successful pilot project at PMU Kajang Estate has set a new standard for future substation projects, exemplified by subsequent implementations at PMU 275kV The Light and PMU 275kV Laloh. Furthermore, the enhancement of our Self-Healing Grid capabilities through the Wide Area Intelligent System (WAIS) underscores our proactive approach to managing the complexities of the grid. Complementing these technological upgrades, the Asset Investment Planning Management (AIPM) system facilitates a strategic analysis of investment opportunities, enhancing the grid reliability and operational capabilities.

To facilitate easier applications of grid-connected projects, we are currently developing Generation Connection Management System (GCMS). The GCMS is a digital platform that allows external parties (consultants/developers) to submit applications for Power System Study and Model Validation in grid-connected projects in Peninsular Malaysia. The GCMS platform will automate the tasks necessary for each study, while providing better data security, and enhancing coordination and productivity. The platform facilitates the automation of this repetitive manual process of generator application effectively. The system underwent a User Acceptance Test and is pending actual implementations.

In addition, advancements in the Automatic Fault Analysis (AFA) system have resulted in more efficient fault location identification and enhanced decision-making processes. The deployment of the Substation Digital Intelligent Infrastructure (SDII) is a leap forward, providing real-time data integration and insights that drive better operational decisions. These technologies have not only enhanced our grid's efficiency but have also set a high standard for asset management and preventative maintenance.

Enhancing the Interconnected ASEAN Power Grid



Cross-border connections are crucial for ASEAN's energy transition and decarbonisation efforts. The ASEAN Power Grid aims to enhance regional grid stability and security while facilitating resource-sharing

and RE expansion across Member States. In 2023, the Electricity Generating Authority of Thailand (EGAT) and TNB formed a Joint Working Committee (JWC) to study the feasibility of increasing the interconnection capacity between Peninsular Malaysia and Thailand. The study assessed technologies, power system dynamics, operations, maintenance and costs to promote RE adoption and regional infrastructure development.

Memorandums of understanding (MoUs) have been signed with ASEAN nations like Indonesia, Thailand and Singapore, to collaborate on interconnection projects. Ongoing studies are currently conducted to establish new cross-border electricity links, connect Peninsular Malaysia with Sumatera in Indonesia, and develop a second link to Singapore. The MoU with EGAT focuses on exploring RE opportunities in Thailand, including floating solar, solar rooftop and ground-mounted solar projects. Through these partnerships, TNB aims to strengthen ASEAN power connections and promote regional infrastructure development for RE.

IMPACT STORY:

Building Bridges: TNB's Cross-Border Collaborations

The national grid is linked to Thailand's transmission system operated by EGAT through a 300kV HVDC interconnection, capable of transmitting 300MW and a 132kV HVAC overhead line with a maximum capacity of 80MW. Similarly, the connection to Singapore's transmission system at Woodlands Avenue is facilitated by two 230kV submarine cables with a firm capacity of 1,100MW. Since January 2019, TNB has entered into an agreement with SP Power Assets Ltd outlining the scope, responsibilities and cost-sharing mechanisms for shared electricity supply assets to ensure uninterrupted electricity supply.

The ASEAN Power Grid (APG) initiatives represents cross-border collaborations in this region. The Laos-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) is the first multilateral cross-border electricity trade involving four (4) ASEAN countries. LTMS-PIP serves as a precursor to the APG by enabling electricity trading across borders. Regional connectivity offers numerous benefits, including promoting renewable energy growth, enhancing energy security and generating positive economic impacts. As of 23 June 2022, LTMS energy transactions have totalled nearly 270,000MWh.

Energy Storage

Among the ten (10) flagship catalyst projects in the NETR is the introduction of the Battery Energy Storage System (BESS), known as "Projek Rintis Sistem Penstoran Bateri". The BESS project aims to support the target of achieving 70% RE capacity by 2050. In 2023, the Grid Division conducted a feasibility study to identify suitable locations for this large-scale BESS project. TNB will oversee the implementation of this pilot project, with a planned energy capacity of 400MWh. The Grid System Operator will manage its operations, while regulatory oversight will be provided by the Energy Commission. The project is scheduled to commence in 2025.

MM2: ENERGY TRANSITION AND INNOVATION



Energy Usage

Consumers are pivotal in driving a successful energy transition. In 2023, we made substantial progress in fostering a sustainable transportation environment, promoting the uptake of renewable energy among consumers and empowering them through digital solutions. Additionally, we introduced tailored solutions for data centre customers, such as the Greenlane Pathway, a centralised platform for streamlined services and broadband solutions for specific customer segments.

Electrification of Mobility



TNB plays a crucial role in supporting the Battery Electric Vehicles (BEVs) charging demand, from ensuring the grid and network are ready to support this growth, to addressing range anxiety via strategic placement of TNB Electron charging points and offering convenience of charging experience on a single platform. As a demonstration of our commitment to bolstering the BEV ecosystem in the country we are allocating an investment of RM90 million from 2022 to 2024.

TNB is actively collaborating with the Malaysian government and regulatory bodies through its membership in the Zero Emission Vehicle Association (ZEVA) to shape the EV landscape. As one of the founding members of ZEVA since 2021, TNB has worked closely with the relevant ministries and government agencies in shaping regulatory frameworks and garnering essential support for the BEV industry.

The efforts included conducting a joint study with the Ministry of Transportation on the electrification of public transportation and developing safety standards and processes for Charge Point Operators (CPOs) with the Energy Commission. TNB has also engaged with the Prime Minister's Office to consider the impact of fuel subsidies on EV adoption and advocate for the deployment of Direct Current Fast Chargers (DCFC) along key highways, ensuring alignment with national transportation goals. These strategic engagements are designed to align with national policies and leverage existing incentives to accelerate the adoption of EVs across the country.

To achieve our goals, we have formulated a 10-year roadmap that details a phased approach. This entails expanding the EV charging network, reducing emissions, and aiming to achieve 105,000 BEVs on the roads by 2030. Key initiatives include becoming a one-stop EV solutions provider and collaborating with local authorities to boost EV adoption. We also collaborate internally and externally to drive various development initiatives, including forming partnerships with EV stakeholders, sponsoring EV-related research, electrifying TNB's vehicle fleet and providing training for employees in EV technology.

ILSAS established an EV Training Hub in 2023 to develop a workforce that has the skills for the EV sector. The hub provides extensive training on EV technologies. In order to strengthen staff competency progressively, ILSAS plans to pursue international certification. The training course has trained 131 participants, strengthening the industry's expertise within EV ecosystem.

Furthermore, TNBX Sdn Bhd functions as our charging point operator in the EV market, while Tenaga Switchgear Sdn Bhd (TSG) manufactures equipment and chargers for TNB Electron stations.



Refer to MM11 (Employment Culture) for building energy transition capability by ILSAS, pages 104-113.

MM2: ENERGY TRANSITION AND INNOVATION

TNB's 10-year roadmap for Malaysia's EV Industry

CHARGING INFRA

- Business model as charge point operator
- Partnership
- Platform and mobile app

ADVOCACY

- Local authorities on EV charges permit
- EV charging rate incentives study
- Submission of paper to the government
- Industry coalition

R&D

- Smart charging
- Network impact



INITIATE

- TNB fleet electrification
- Staff incentive
- Langkawi as EV hub
- Reskilling by ILSAS



- Build up EV charging points
- Operate EV charging network



Initiate R&D on Vehicle-to-Grid (V2G) and autonomous vehicle



Electrify TNB's fleet (10%)



One-stop EV solutions provider



- Advocating for autonomous vehicle
- Leverage Vehicle-to-Grid technology



Electrify TNB's fleet (30%)

"SEED"
2022-2024

"DEPLOY"
2025-2027

"SCALE"
2028-2030

EV Charge Points

In the year under review, we continued to deploy BEV charging stations along Peninsular Malaysia's highways and trunk roads to ensure customers would be able to travel with ease and convenience all over the country.

Under the TNB Electron brand, TNB has successfully installed 32 charge points, including both DC and AC points across Malaysia, with over 2,500 unique users to date. The brand's visibility is further enhanced by continuous updates on the progress of charge point installations during quarterly briefings to analysts. This transparency builds trust and reassures both potential and existing EV customers of TNB's commitment to a robust EV infrastructure.

Successfully installed

32

charge points, including both DC and AC points

Successfully acquired

2,500

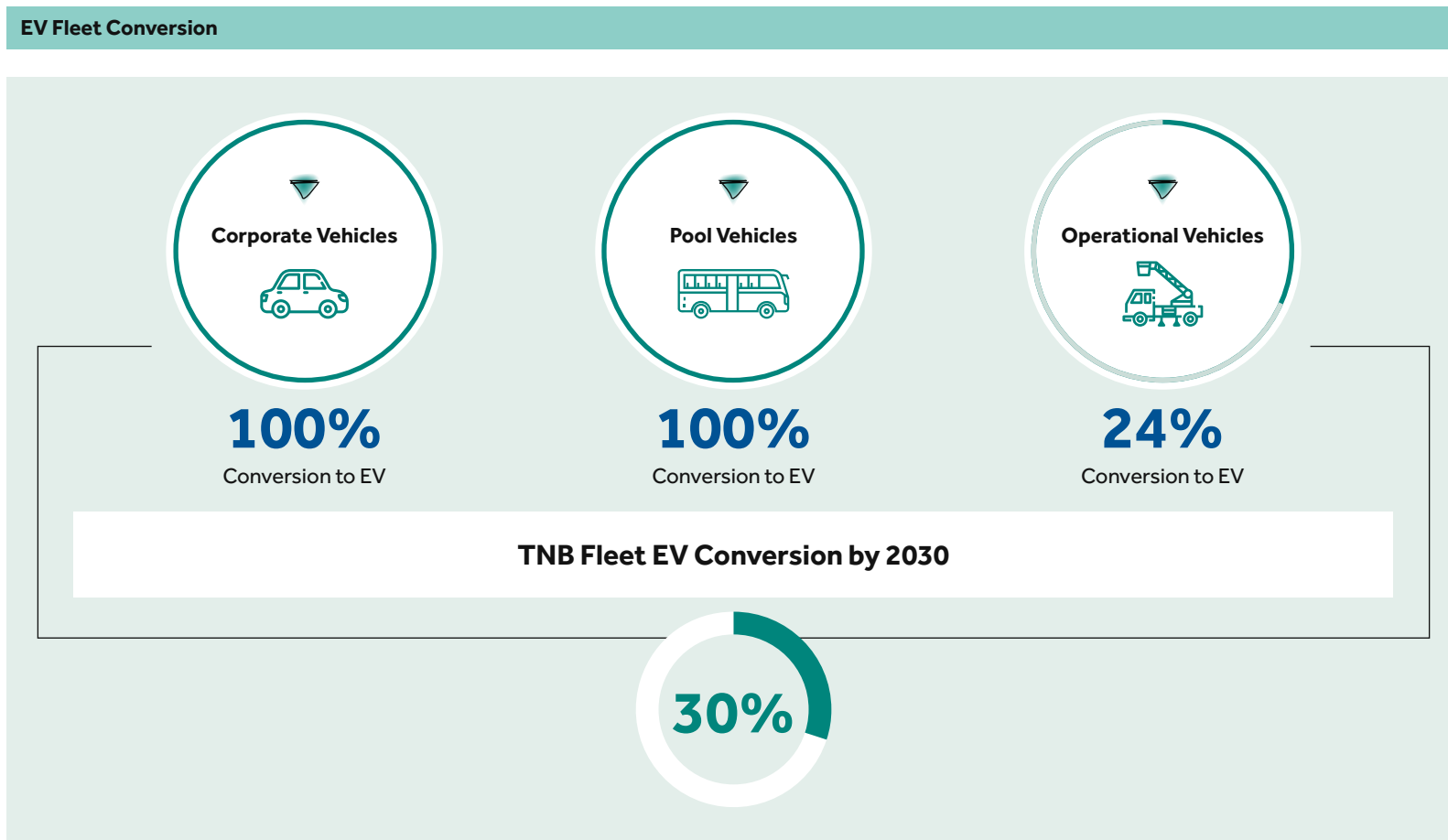
unique users to date



MM2: ENERGY TRANSITION AND INNOVATION

TNB Electron Charge Point Locations	Total Charge Points
6 DC charge points along PLUS Highway	14 DC charge points 18 AC charge points
2 DC charge points at AEON Big Wangsa Maju	
6 DC charge point at TNB Bangsar for JFM	
18 AC charge points at TNB Platinum	

Looking ahead, TNB intends to deploy additional EV charging points along Peninsular Malaysia's highways, trunk roads, public commercial premises and TNB premises. This expansion forms part of a broader strategy to facilitate seamless travel for BEV owners, addressing the increasing demand for sustainable transportation options. By enhancing the availability of charging infrastructure, TNB aims to support the adoption of electric vehicles, reduce carbon emissions and contribute to national environmental goals.

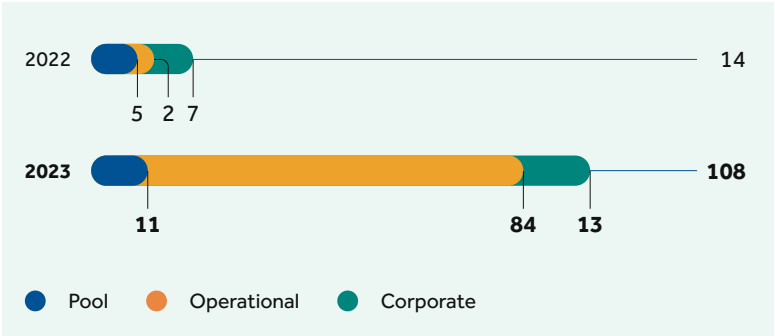


MM2: ENERGY TRANSITION AND INNOVATION

TNB has set a goal to transition 30% of its vehicle fleet to EVs by 2030, structured across three phases. In 2023, we electrified 108 vehicles comprising operational EVs such as pickup trucks, vans and passenger vehicles, allowing us to assess the advantages and limitations of EVs in TNB operations.



Embracing a proactive stance, TNB has initiated piloting of EV usage for its operations. These efforts resulted in the deployment 94 new units, comprising 82 operational vehicles, six (6) pool vehicles and six (6) corporate vehicles, increasing TNB's EV fleet to 108 units. With a targeted replacement exceeding 1,000 units, TNB's commitment echoes the Malaysian government's ambition outlined in the NETR to achieve 15% of the total industry volume (TIV) by 2030.



MM2: ENERGY TRANSITION AND INNOVATION

Enabling RE Adoption by Customers

Rooftop Solar Prosumers

We encourage our customers to actively participate in our energy transition efforts and we have expanded our self-generation solar solutions. These are done under the Net Energy Metering (NEM) and Supply Agreement for Renewable Energy (SARE) schemes through TNB's wholly-owned subsidiary, GSPARX.

PROSUMER PROGRAMME	STATUS
Rooftop solar PV (via GSPARX) Through GSPARX, we empower customers by encouraging them to become prosumers through self-generated electricity. GSPARX allows customers (residential, commercial and industrial) to install solar PV at zero upfront cost and enjoy savings via self-consumption.	GSPARX has secured a total of 340MWp cummulative of rooftop solar PV projects at government buildings, universities, commercial and industrial segments and successfully installed around ~105MWp for SARE and Outright Purchase projects.
Supply Agreement of Renewable Energy (SARE) SARE offers through TNBX, provides a seamless billing experience to both customers and asset owners, as it is a comprehensive agreement covering metering, billing and collection services and solar PV system offerings.	We have secured a cumulative capacity of 264MWp across 695 solar projects through SARE agreements.
SuriaShield TNBX, a subsidiary focusing on sustainable energy solutions, has launched SuriaShield to provide residential solar PV insurance.	In FY2023, 348 customers subscribed to SuriaShield as their trusted partner in protecting and maintaining their solar PV assets.

Green Energy Solutions for Consumers: Green Electricity Tariff (GET) Programme

With the implementation of the GET since 2022, customers can purchase indirectly a clean electricity supply without having to install their own solar rooftop or other RE installations. The RE resources for the GET Programme are generated by solar power plants under the LSS Programme, hydropower stations and any other qualified RE plants approved by the Energy Commission. Customers enrolled in the GET Programme receive the Malaysia Renewable Energy Certificate (mREC) after the end of each calendar year. TNB continues to provide platforms to facilitate customer enrolment. In 2023, a total of 4,224GWh were subscribed by 2,808 customers in this programme.

Customer Empowerment through Digitalised Lifestyles

Our customers play a crucial role in driving the energy transition through informed decisions and active participation in renewable energy and energy efficiency initiatives. By 2023, we successfully installed over 3.5 million smart meters and had 6.7 million subscribers on myTNB app. The combination of the smart meter and myTNB enables customers to monitor their energy consumption in near real-time, effectively manage their budgets, and track their electricity usage, facilitating efficient energy management.

By 2023, we successfully installed over
3.5 million
 smart meters

6.7 million
 users have subscribed the myTNB app

myTNB bersama anda!

Maklumat akaun anda dan pelbagai perkhidmatan TNB tersedia di hujung jari dengan aplikasi & portal myTNB. Pada bila-bila masa, di mana-mana sahaja.

Nikmati kemudahan ini!

- Tukar kepada e-Bill di aplikasi myTNB hari ini
- Rancang penggunaan tenaga dengan Energy Budget*
- Pantau penggunaan elektrik bulanan atau harian*
- Hantar maklum balas

Segalanya lebih mudah di portal myTNB!

- Permohonan baharu sambungan bekalan elektrik
- Penukaran nama pemilik akaun
- Jadualkan janji temu untuk ke Kedai Tenaga

www.mytnb.com.my

*Ciri tersedia dengan smart meter

TNB Careline @Tenaga_Nasional tnbcareline@tnb.com.my

MM2: ENERGY TRANSITION AND INNOVATION

The myTNB Energy Budget feature further enhances energy management for smart meter users with threshold alerts. As of 2023, approximately 287,625 customers have subscribed to this feature, collectively reducing electricity usage by 86,935MWh, equivalent to avoiding approximately 60,856 tonnes of CO₂ emissions.

Looking ahead, we will introduce a new feature on myTNB, known as myHome. Designed to offer convenience and support to residential customers, myHome comprises two components: Connect My Premises, which helps customers manage their electricity connection on the go, and Checklist, which provides valuable guidance for customers when relocating homes.

In 2023, we were honoured with the Best Public Utility App award at the PC.Com Awards 2023, recognising our efforts to elevate customer experience and empowering them to participate in our sustainability journey.



Refer to MM3 (Climate Change and Emissions) for more information on energy efficiency, pages 48-55, and MM7 (Customer Experience and Satisfaction) for digital billing on pages 83-85.

Differentiated Solutions for Targeted Customers

Green Lane Pathway and Strategic Offerings for Malaysia's Data Centre Market

In 2023, we established the Green Lane Pathway to streamline the establishment of data centres in Malaysia. This initiative has significantly accelerated the process, enabling data centres to connect three times faster than before. The implementation period has been reduced from 36 to 48 months to just 12 months. Additionally, we have established a One-Stop Centre (OSC) to assist with data centre investment, providing dedicated support services. Our team offers round-the-clock maintenance support and customised solutions tailored to the specific needs of each data centre.

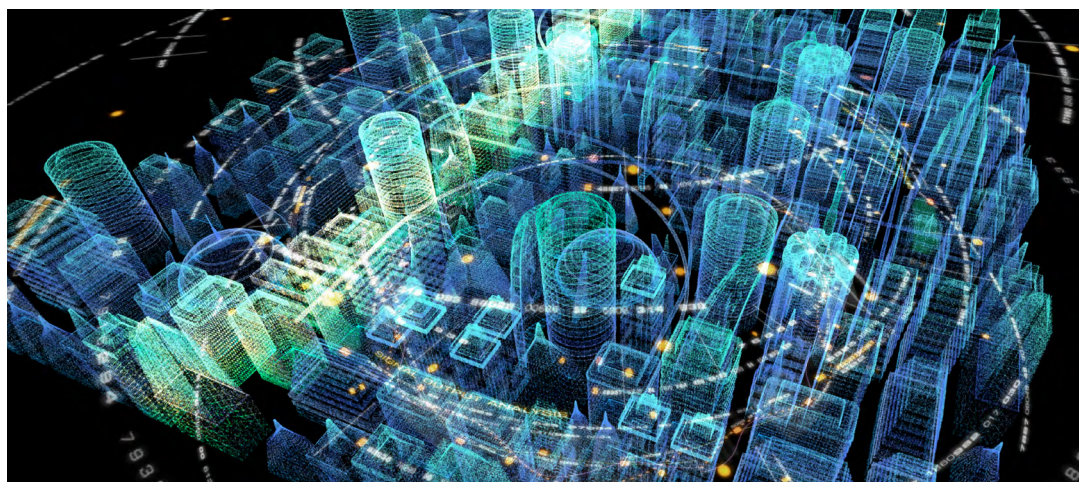
63
supply applications

Projected data centre demand
8,202MW
mainly from Johor and the Klang Valley

48 months to **12** months

TNB has experienced a notable increase in demand for electricity connections from data centres, receiving 63 supply applications from data centre customers. These applications represent a total maximum demand of 8,202MW, mainly from Johor and the Klang Valley. As of 2023, three (3) high voltage level projects have already been completed.

Expanding Digital Inclusion with Targeted Broadband Solutions



TNB has entered the internet fibre network and city broadband solutions arena through Allo Technology Sdn Bhd (Allo). This enables TNB to support the deployment of smart home technologies with high-speed internet. Allo also provides affordable fixed broadband internet access to specific groups such as the B40 community, persons with disabilities (PWDs), senior citizens, the Malaysian Armed Forces (ATM) veterans, Royal Malaysian Police (PDRM) retirees and Maritime Enforcement Agency Malaysia (APMM) retirees.



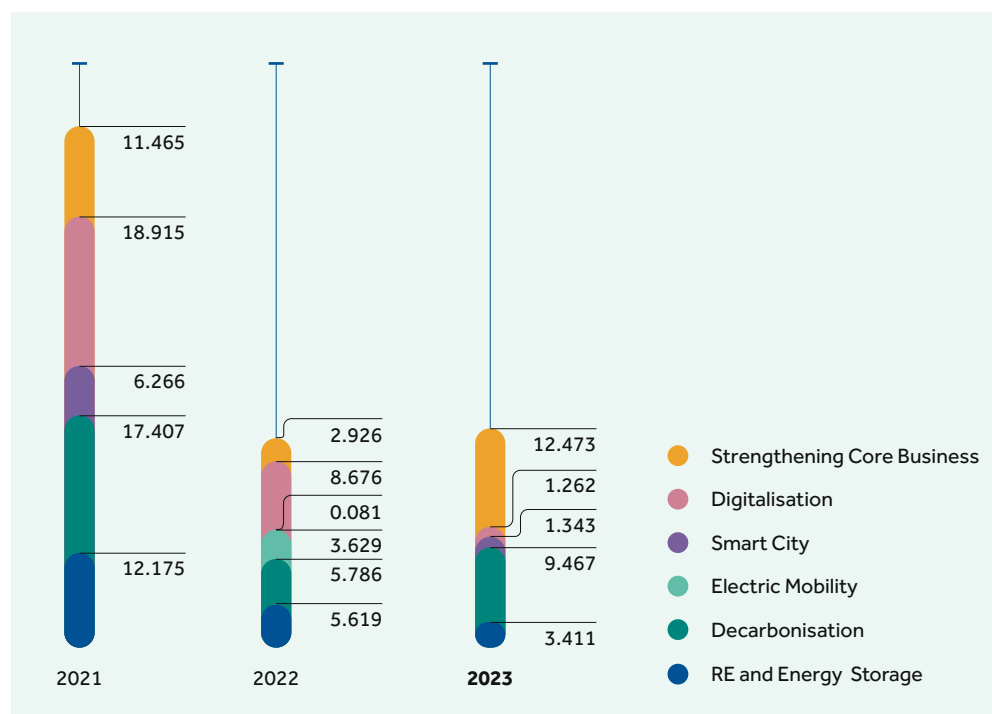
Refer to MM7: Customer Experience and Satisfaction for more information on TNB's efforts via Allo Technology Sdn Bhd on pages 83-85.

MM2: ENERGY TRANSITION AND INNOVATION

Driving Innovation for Energy Transition

Our research and development in new technologies and innovations towards energy transition are overseen by the Technology Council, supported by the Technology Team to provide technology insight for better decision-making processes, the council oversees TNB's R&D and Innovation Strategy and Policy, as well as TNB's Technology Roadmaps that provide the required funding to assist the innovation towards commercialisation.

TNB R&D investments



Since 2022, our R&D, innovation, and technology expenditures have been centralised under the TNB Technology Fund, governed by the Technology Council and guided by the Technology Management Process (TMP). The fund's scope includes projects and business opportunities aligned with TNB's Energy Transition strategy, capability development in decarbonisation, digitalisation and electrification, and business innovation and growth initiatives. The council has approved six projects, with a total investment of RM20.8 million, covering technology such as Carbon Capture, Utilisation, and Storage (CCUS), Hydrogen, Energy Storage Systems, Renewable Offshore Floating Solar, EV charging platforms and digital platforms.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
1	RE capacity*	-	MW	3,499	3,780 (9.8% growth)	4,375 (16% growth)	Target: 8.3GW by 2025**
2	Number of smart meters (AMI) installed	-	Number	945,625	838,830	873,740	9 million by 2029
3	Number of EV charging points	-	Number	-	3 DC 3 AC	14 DC 18 AC	134 DC by 2025 10-20% by 2030

* Total includes solar capacity at MWp.

** Target includes assets under operation/construction/development.

MM3

CLIMATE CHANGE AND EMISSIONS

We support Malaysia's commitment to the Paris Agreement and seek to mitigate our GHG emissions and environmental impacts, as well as adapting to climate-related risks, which includes raising global temperatures, increasing of seawater levels, floods, heat waves and soil movement. We acknowledge the impacts we have on climate change, as well as the threats of climate change to our existing infrastructure and business sustainability.

At the core of TNB's Energy Transition (ET) Plan lies the ambition to achieve net zero emissions and coal-free plant operations by 2050. The transition to net zero emissions began with an interim target of a 35% reduction in emissions intensity by 2035 before achieving net zero emissions by 2050. The delivery of these targets is anchored on our business operations, national policies and international frameworks on climate change that are aligned with supporting Malaysia's ambitious goals of achieving carbon neutrality by 2050.



MANAGEMENT APPROACH



► Climate Change

We persist in evaluating and mitigating both physical and transition risks, drawing guidance from the Representative Concentrating Pathways (RCP) scenarios by the Intergovernmental Panel on Climate Change (IPCC), as well as scenarios suggested by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). Furthermore, we identify business opportunities linked to the transitioning to a low-carbon economy and execute adaptation strategies for climate change impacts like floods, heatwaves, soil movement and coastal flooding. Our long-term climate change and emissions strategy is set out in the TNB ET Plan, as illustrated below:

Reduction of Carbon Emissions

We aim to lower our carbon emissions by moving towards:

Cleaner generation capacity

Increased RE capacity

Enhanced operational efficiency across the value chain

Adoption of Carbon Capture Technologies

We recognise Carbon Capture and Storage (CCS) technology as a viable solution in decarbonising the power sector. We continuously research and advance the development of this technology.

Exploration of Carbon Market Trading

We are exploring the development of carbon credits through nature-based carbon trading for emissions that are hard to abate.

To shift towards decarbonisation, we centre on progressively expanding low-carbon generation assets while gradually phasing down coal-fired generation capacity in stages. This is supported by our commitment to operate thermal power plants efficiently and investing in the research and development of innovative solutions to enhance energy generation efficiency and advance carbon capture technologies.

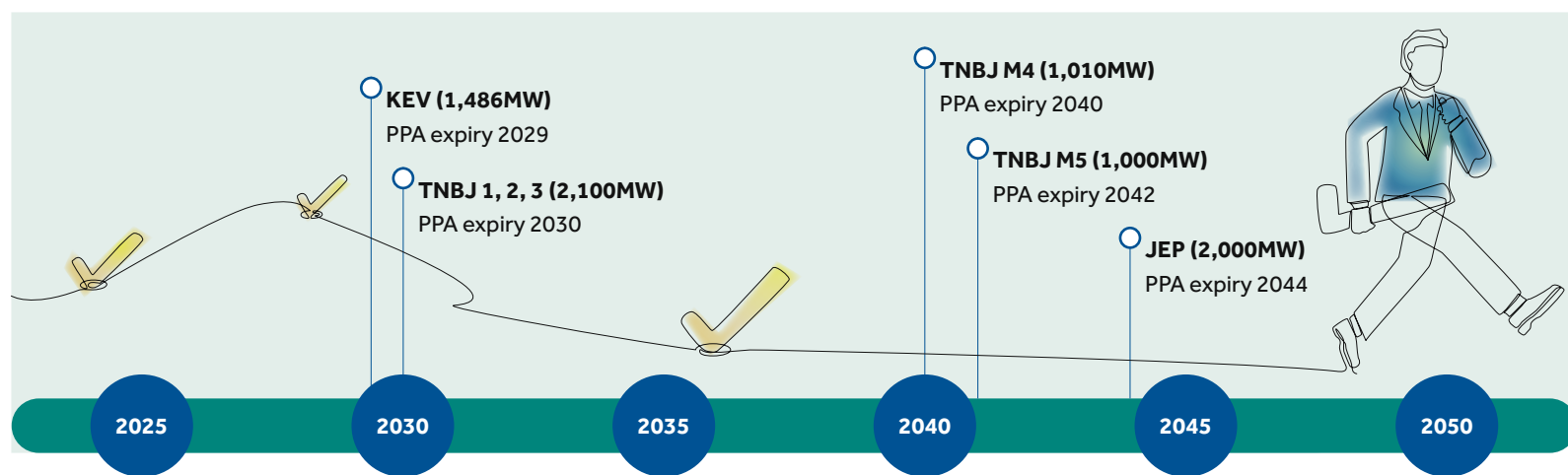
MM3: CLIMATE CHANGE AND EMISSIONS

Reducing Carbon Emissions

Cleaner Generation Capacity

Reducing Coal Generation Capacity

TNB is committed to no longer investing in greenfield coal plants since 2021. As such, we have been exploring the feasibility of retiring existing coal-fired power plants ahead of schedule, subject to shareholders' agreement and approvals from the relevant authorities and regulators. This is expected to reduce the Scope 1 GHG emissions of our coal power plants, as they retire according to their respective Power Purchase Agreements (PPAs), as follows:



To repower our coal power plants with cleaner technologies, we are focusing our efforts on three plants, namely the Kapar Energy Ventures (KEV), TNB Janamanjung (TNBJ) and Jimah East Power (JEP). By enabling existing sites and infrastructure to generate electricity with cleaner technologies, such as hydrogen-ready gas power plants and CCS technologies-equipped gas power plants, we anticipate a reduction in our Scope 1 GHG emissions.

Ammonia-Biomass Co-firing at Coal Power Plants

Our collaborations with Mitsui & Co. and Chugoku have been making significant progress in accelerating the viability of co-firing coal with biomass and ammonia at the Jimah East Power Plant. Following the completion of Phase 1 of the feasibility study, we commenced Phase 2 by conducting an in-depth analysis of technical behaviours. This involved a Front-End Engineering Design (FEED) study, which is a small-scale project of actual co-firing with varying concentrations of ammonia and biomass.

In September 2023, we successfully executed the EFB-Pellet Trial Burn for Unit 2 (1,000MW), marking Malaysia's first biomass mix-firing test for a supercritical boiler. The outcomes of the trial were positive and demonstrated observable emission reduction. Going forward, we plan to conduct more studies and actual tests to evaluate the technical behaviour under increased concentrations, such as increased concentration of biomass and ammonia from 3% to 5%. Conducting tests and studies consistently is a fundamental part of the process of refining and optimising our co-firing strategies.

Hydrogen Fuel: Paving the Way for a Sustainable Energy Future

We continue to accelerate the shift from a fossil-fuel-based energy mix to low-carbon energy sources like hydrogen through strategic collaboration with IHI Corporation to lower carbon emissions in identified TNB coal-fired power plants. The joint effort focuses on technical and commercial aspects with the aim of exploring hydrogen's practicality in co-firing and conducting tests using various hydrogen concentrations to achieve targeted emissions reductions.

TNB and PETRONAS have signed a Memorandum of Understanding (MOU) to expedite decarbonisation in the energy sector, progressing towards a Definitive Agreement for a Joint Feasibility Study on green hydrogen as a clean energy alternative. The MOU was built upon the initial TNB-PETRONAS MOU signed on 19 August 2022. The objective of the joint feasibility study is to assess the commercial viability of green hydrogen by considering factors such as the levelised cost of electricity (LCOE), levelised cost of hydrogen (LCOH), levelised cost of storage (LCOS) and the sales price of hydrogen (H₂).

The partnership with Siemens Energy is aimed at enhancing our capabilities in procuring, building, operating and maintaining the contractual and financial aspects of hydrogen production and its application for co-firing in thermal power plants. This facilitates the exchange of knowledge and technology transfer, enabling TNB to bolster its internal competencies and maintain a leading position in the field of hydrogen-related production and utilisation technologies.

MM3: CLIMATE CHANGE AND EMISSIONS

Increasing Renewable Energy (RE) Capacity

In 2023, TNB's RE capacity increased by 16% to 4,375MW against 3,780MW in FY2022. Our RE position in the market was markedly strengthened by the announcement of 10 flagship projects under the National Energy Transition Roadmap (NETR) in August 2023.

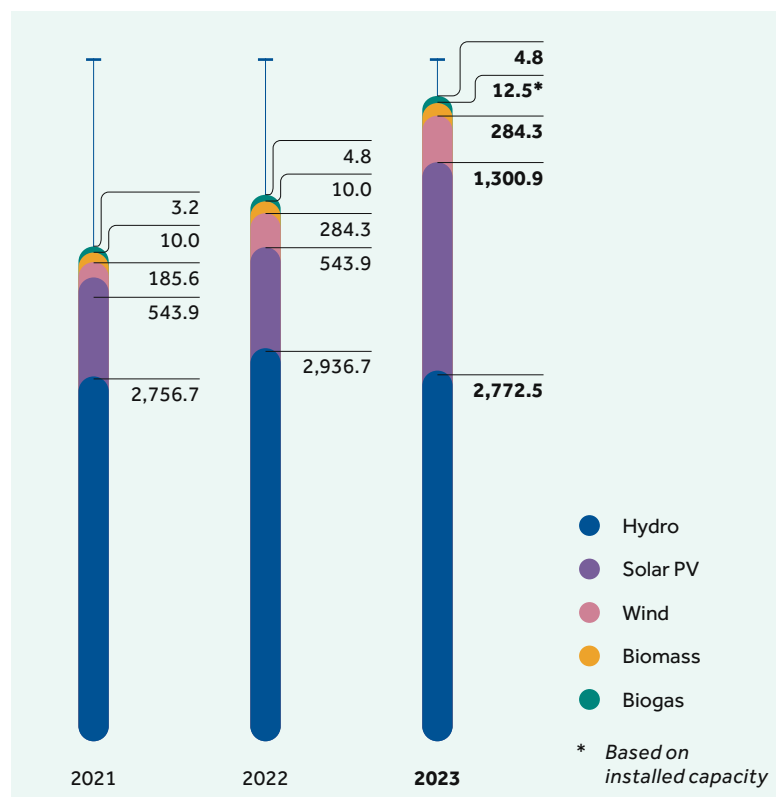
Project	Commercial Operation Date (COD)	Capacity	Status	Estimated Annual Emission Avoidance
TNB Bukit Selambau Dua (TBSS2) solar, Malaysia	2023	75MWp	Achieved COD on 21 December 2023	0.08 million tCO ₂ e/year
Solar Greenfield Development, United Kingdom	2024	102MWp	Targeted to meet COD in Q3 2024	0.05 million tCO ₂ e/year
Hybrid Hydro-Solar Project (HHFS)	2025-2040	2,424MW	Feasibility study for Phase 1 completed	3.4 million tCO ₂ e/year
5 x 150MWp Solar Park	2026	750MWp	Under development	0.11 million tCO ₂ e/year
1 x 45MWp, 2 x 13.5MWp CGPP*	2025	72MWp	Financial Investment Decision (FID) stage	0.07 million tCO ₂ e/year

* At effective shareholding

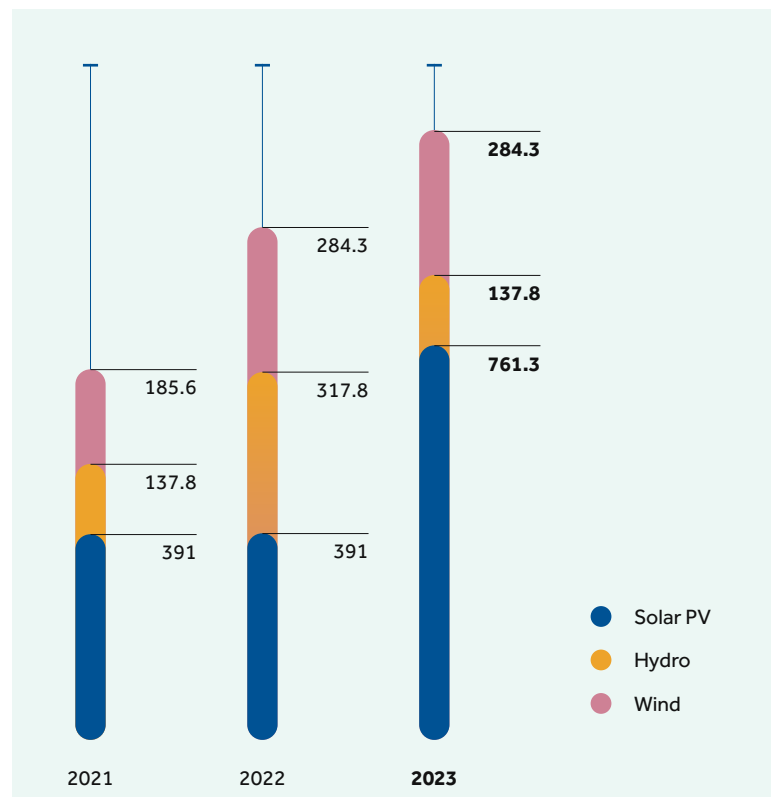
International RE Projects

Under the stewardship of the New Energy Division (NED), TNB drives international RE expansion through strategic partnerships, overseeing entities like Vantage RE and TNB Renewables. In 2023, TNB acquired a 120.5MWp operational solar project in Australia as we pushed ahead with our expansion ambitions and reinforced our commitment to RE growth. In addition, we have commenced construction on two greenfield solar power plants in the UK with a total capacity of 102MWp, expected to be operational by 2024, under a 15-year subsidy scheme. Furthermore, our European RE business has expanded to Ireland through the acquisition of a 276MWp operational solar power plant, aligning with our strategy to achieve 1GW of operational and under-construction assets internationally.

RE Installed Capacity Growth (Malaysia and International)



RE Installed Capacity Growth in International Ventures



MM3: CLIMATE CHANGE AND EMISSIONS

Corporate Green Power Programme (CGPP)

Under the government launched CGPP, TNB secured 135MWp in solar generation in 2023. The capacity comprises wholly-owned 45MWp and joint venture 45MWp facilities, which is estimated to avoid 70,646 tCO₂e per year upon commissioning.

National Energy Transition Roadmap (NETR)

Under the NETR, TNB is championing two (2) RE projects and is a partner in one (1) RE project, as elaborated below:

1 Championing Green Capacity Growth through Hybrid Hydro-Solar Project (HHFS)

The development of 2,424MW HHFS in four phases at TNB hydro dam reservoirs will increase TNB's RE capacity.

Phase	Capacity (MW)	Projected COD	Estimated Annual Emissions Avoidance (ktCO ₂ e)
1	230	2025	319
2	470	2028	652
3	800	2035	1,110
4	924	2040	1,282
Total	2,424		3,364

TNB Genco will develop Phase 1 of the project at the Temengor and Chenderoh hydro reservoirs. There will be feasibility studies conducted for the remaining phases of the project for the Terengganu and Kelantan schemes. The commissioning of all the phases of the project is expected to avoid an estimated annual emission of 3.364 million tCO₂e.

2 Championing 5 x 150MWp Centralised Solar Parks in Partnership with SMEs

TNB will collaborate with SMEs to develop centralised solar parks consisting of a 150MWp deployment per site across five (5) sites in several states. Every 150MWp park is estimated to avoid 110ktCO₂e of emissions per year for 25 years.

3 Partnership with Sime Darby Property for Rooftop Solar

TNB has partnered Sime Darby Property for the construction of 4.5MW solar capacity for 450 homes in City of Elmina and Bandar Bukit Raja, both townships in Selangor. The annual carbon emissions avoidance for this initiative is estimated to be 3,674* tCO₂e.

Enhance Operational Efficiency Across the Value Chain

Sustaining Power Plan Efficiency



Thermal power plants can reduce carbon emissions significantly by maximising their fuel consumption to generate the same amount of electricity using less fuel. To ensure the efficiency of our thermal power plants, we constantly monitor the heat rate of the thermal power plants within the TNB portfolio and implement efficiency enhancement initiatives. A lower heat rate indicates a more efficient power plant, as less fuel is consumed to produce a unit of electricity. As a result of our efforts, the efficiency (heat rate) of our thermal powerplants has improved by +1.12% from 2022 to 2023, enabling us to achieve a carbon emission reduction of 301ktCO₂e.

* Based on Malaysia Green Attribute Trading System (mGATS) calculations

MM3: CLIMATE CHANGE AND EMISSIONS

Managing GHG Emissions from Substations and Grid

We aim to reduce our sulphur hexafluoride (SF6) fugitive emissions from our substations by recycling SF6 gas at our SF6 Gas Recycling Reconditioning Centre. We plan to reuse the gas at other locations.

- **Completed 100%** of Gas Insulated Switchgear (GIS) refurbishment and SF6 leak management to **achieve <0.5% leak rate**
- **Recycled 7,511 kg** of SF6 gas
- **Usage of high temperature conductors (HTC)** for identified OHL to minimise energy losses

Improving Energy Efficiency in Our TNB Office Buildings and Premises

In 2023, TNB Global Business Solutions (TGBS) launched the "Drip by Drip, Watt by Watt" campaign, engaging 109 TNB-owned offices to promote energy efficiency by reducing electricity and water consumption. This initiative aims to promote energy-conscious practices, fostering a collective commitment to resource conservation, leading to substantial cost savings. Since the rollout of the campaign in July 2023, the electricity and water consumption have been monitored and tracked closely. As of 31 December 2023, our efforts have resulted in a reduction of 870,063kWh in electricity consumption and an estimated reduction of 659tCO₂e in Scope 2 GHG emissions.

TNB, through its wholly-owned subsidiary TNB Energy Services (TNBES), implements energy efficiency initiatives via projects that stabilise voltage levels to enable efficient energy consumption. This includes maintaining and servicing medium voltage capacitor banks at six (6) TNB substations, each with a capacity of 5MVAR.

Energy Efficiency Through Greater Customer Empowerment Enabling an Energy-Efficient Lifestyle



AWARENESS

Enhancing Customer Awareness

We actively engage with customers via social media by consistently sharing energy efficiency content to promote a smart lifestyle and enhance energy literacy. Through our *Cekap Tenaga 101* series, we share EE tips across TNB's social media platforms, including Facebook, Instagram, TikTok and YouTube. In 2023, we reached over 1.3 million users via 237 posts.

Reached over
1.3
million
users via
237 posts



In addition, we organise seminars and share energy saving tips and address issues related to high electricity consumption via radio and television interviews.



SAVE

Adopting Energy-Efficient Appliances Through SAVE 3.0

The Sustainability Achieved Via Energy Efficiency (SAVE) 3.0 programme is an initiative to boost the availability of energy-efficient appliances in the market and educate consumers about the advantages of energy saving. The programme incentivises households with e-rebates to purchase 4- or 5-star energy-efficient electrical appliances. In 2023, the programme received overwhelming response, whereby 98% of customers claimed the e-rebates. The initiative has been extended to SAVE 4.0 and scheduled for implementation from December 2023 to December 2024. In this programme, TNB acts as delivery partner in collaboration with the Ministry of Energy and Natural Resources (KeTSA), SEDA Malaysia and the Energy Commission.

98%
of customers
claimed e-rebates



Energy Budget Programme

Our myTNB mobile app has enabled customers with smart meters to adopt an energy efficient lifestyle with its interactive energy usage alerts. The app's Energy Budget is part of a suite of digital solutions to guide customers in consuming energy efficiently. Since the inception of Energy Budget, the feature has attracted over 287,625 customers, enabling the reduction of 114,953,188kWh of electricity usage. The reduction of electricity consumption is equivalent to avoiding 80,711 tCO₂e of carbon emissions and saving RM50,537,412.



COMMERCIAL

Delivering Commercial Energy Efficiency Solutions

Centralised chilled water plants, also known as District Cooling System (DCS), supply chilled water for air conditioning to multiple buildings. These DCS offer higher energy efficiency compared to conventional split unit air conditioning systems, especially for larger cooling loads. These systems are designed for durability, with a longer lifespan of around 20 years compared to the typical five-year lifespan of conventional split units. This minimises maintenance frequency, waste generation and resource consumption over time. Among the DCS plants operated by TNEC, a subsidiary of TNB are:

- 1 **Institut Jantung Negara (0.95kW/RT)**
- 2 **KLIA1 (0.9kW/RT)**
- 3 **KLIA2 (0.85kW/RT)**

MM3: CLIMATE CHANGE AND EMISSIONS

Offering Customised Energy Solutions for Commercial and Industrial Customers

TNB offers integrated energy management strategies and best practices tailored through advanced data analytics and machine learning. The Virtual Energy Manager (VEM) facilitates real-time energy data collection and analysis, supporting Physical Energy Managers (PEMs) in data analysis, monitoring, control, reporting, benchmarking, and expert consultancy. In 2023, TNB Retail successfully completed pilot projects with four (4) prominent clients: PLUS, AEON, Railway Asset Corporation and FELDA. TNB Retail has also successfully secured prominent clients such as Maxis and AEON to commercially utilise its cutting-edge VEM solution.

► Adopting Carbon Capture Technologies

Advancing Carbon Capture and Storage Solutions Through Strategic Partnerships

In 2023, we embarked on exploring the feasibility of CCS by collaborating with PETRONAS on a joint study to capture, transport and store carbon deep underground in geological formations. In addition, TNB, via TNB Genco, has partnered Toshiba to enhance the carbon capture, utilisation and storage (CCUS) capabilities.

Harnessing Microalgae for Biological Carbon Capture and Utilisation

TNB, through its research subsidiary, TNB Research Sdn Bhd, has completed seven (7) projects using the direct carbon utilisation from flue gas emissions through microalgae photosynthesis to produce biomass as by-products. The research involved commercialising the biomass, which can be cultivated and post-processed for downstream applications.

First pilot algae bio-CCU technology in Malaysia tested with actual flue gas from live coal-fired power plant

Four (4) local marine species of microalgae has been identified to capture CO₂

Development of microalgae mass cultivation and monitoring training module for local and international participants

Able to capture up to 2.3gCO₂/litre from 4,500 litres of outdoor microalgae culture facility

► Nature-based Solution Through Tree Planting Programme

We carried on our tree-planting initiative by launching the My Brighter Green Programme to commemorate TNB's 74th anniversary. All of TNB Group took part in the initiative, planting a total of 78,100 trees at 42 designated areas across the country, approximately equivalent to 174 acres and sequestering approximately 3,100tCO₂e. We will continue to create awareness in the community the promote the importance of protecting the natural environment.

Total number of trees planted
78,100 trees at
42 designated areas across the country

Area planted: Approximately
174 acres

Sequestered: Approximately
3,100tCO₂e

► Exploring Carbon Market Trading

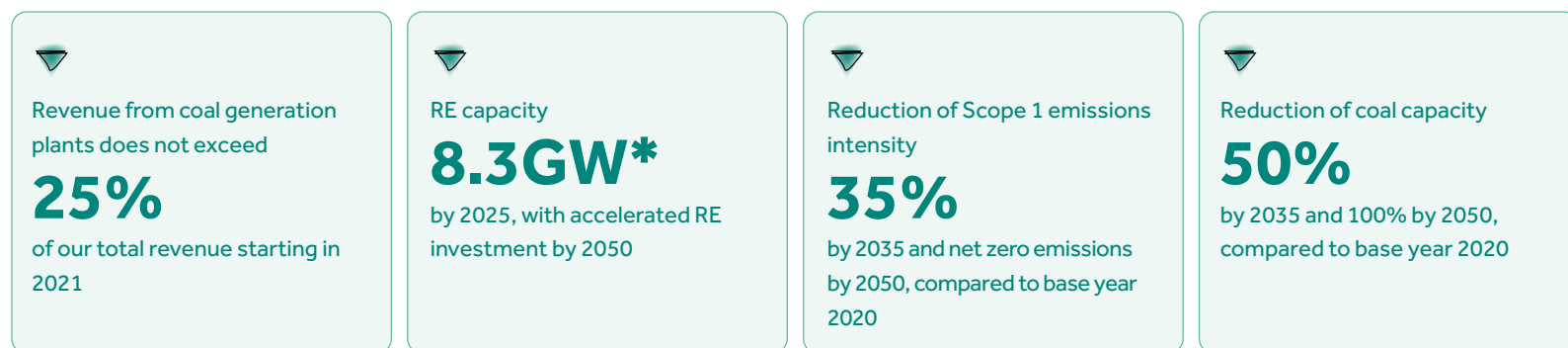
Purchasing carbon credits allows a company to offset a portion of its carbon emissions. As part of our journey towards net zero emissions by 2050, we are exploring carbon offsetting for the remaining hard-to-abate emissions with nature-based carbon trading options. However, we will first prioritise carbon reduction through investing significantly in RE options and innovative technological solutions such as carbon capture before resorting to purchasing viable, high quality carbon credits.

MM3: CLIMATE CHANGE AND EMISSIONS



OUR PERFORMANCE

We have set the following climate-related targets as pivotal milestones to achieve our net zero ambition:



* For assets under operation/construction/development.

Our carbon management performance is linked to GHG emissions that are calculated in alignment with the following guidelines and methodologies:

1. The GHG emissions methodologies applied were the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, GHG Protocol and Clean Development Mechanism (CDM).
2. The consolidation of data was based on an equity share approach.
3. The GHG emissions were assessed annually for TNB operations in Peninsular Malaysia only.

In 2023, our Scope 3 indirect GHG emissions were assessed based on Categories 6 (Business Travel) and 7 (Employee Commuting), which covered our operations in Peninsular Malaysia. The calculation methodology for both categories was distance-travelled-based using current data availability and the capacity of TNB's internal monitoring systems. This approach aligns with the GHG Protocol Scope 3 Calculation Guidance (2013).

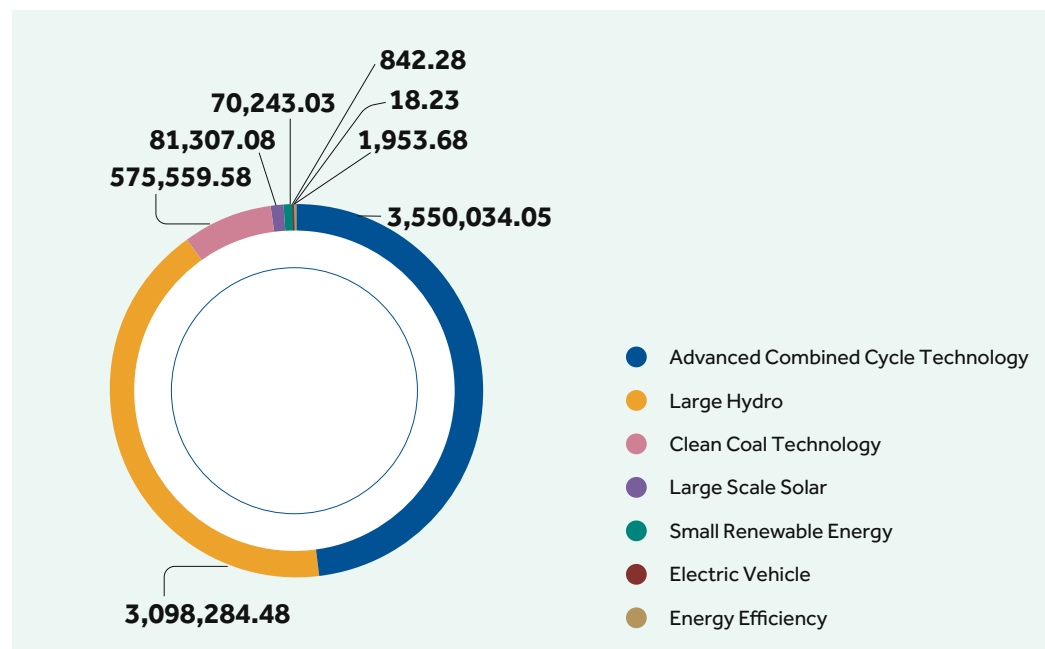
Our Scope 3 GHG emissions, along with Scopes 1 and 2 GHG emissions, have been reviewed internally to strengthen the credibility of the data disclosures.



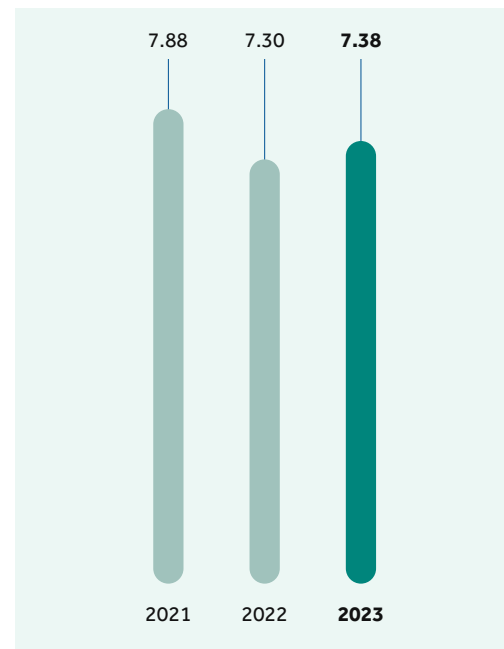
MM3: CLIMATE CHANGE AND EMISSIONS

In 2023, we achieved an emissions avoidance of 7.38 million tCO₂e due to our emissions avoidance initiatives and investment in technology.

Avoided Emission Breakdown in FY2023 (million tCO₂e)



Avoided Emissions (million tCO₂e)



No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Energy Consumption							
1	Total energy consumption*	C4 (a)	GJ	840,944	863,463	404,523,322	Started in FY2023 as baseline
	Energy consumption intensity	-	GJ/MWh	-	-	5.39	Energy intensity maintained at <6
GHG Emissions							
2	Scope 1 GHG Emissions	C11 (a)	mil tCO ₂ e	39.77	38.58	38.92	38.62 mil tCO ₂ e - 1% reduction from base year 2020
3	Scope 2 GHG Emissions	C11 (b)	mil tCO ₂ e	0.28	0.32	0.39	0.218 mil tCO ₂ e - 1% reduction from base year 2020.
4	Scope 3 Category 6: Business Travel	C11 (c)	tCO ₂ e	-	-	36,853.49	Started in FY2023 as baseline.
5	Scope 3 Category 7: Employee Commuting	C11 (c)	tCO ₂ e	-	-	63,027.75	Started in FY2023 as baseline.
6	Scope 1 Emission Intensity	-	tCO ₂ e/MWh	0.5435	0.5507	0.5465	5% reduction compared to baseline of FY2020.

* Past years' data has been reported according to the amount of energy consumption at TNB buildings (MWh). FY2023 data has been reported to align with GRI 302-1: Energy consumption within the organisation, which utilised the formula:

Total energy consumption within the organisation = (Non-renewable fuel + Renewable fuel + Electricity purchased for consumption + Hydro & Solar power generation) - Electricity sold

Energy Intensity = Total Energy Consumption (GJ)/Electricity Sold (MWh).

MM4

RELIABLE ENERGY AND FAIR TARIFF

Our commitment to stakeholders extends beyond merely providing a secure and reliable electricity supply; it encompasses addressing their expectations regarding affordability and sustainability.

In addressing the future of the electricity industry within Malaysia, TNB is strategically navigating the evolving regulatory and policy landscape to ensure the best outcomes for its business, stakeholders, and the broader community. It is here that we recognise the symbiotic relationship between government support, TNB's proactive measures and the collective move towards a sustainable energy transition.

In 2023, we continued to see the Malaysian government's steadfast support for the Incentive Based Regulation (IBR) framework, which has been governing our electricity sector since 2014. The BR framework has enabled enhancements in our network infrastructure, including the improved agility, flexibility and regional interconnectivity of our grid.

We fulfil the requirements of the IBR framework, ensuring that tariffs are established in a fair and transparent manner to address local economic growth and socioeconomic challenges.



MANAGEMENT APPROACH



► Ensuring Reliable Supply

In 2023, we maintained world-class grid performance, achieving System Minutes (Transmission) of 0.48 minutes and System Average Interruption Duration Index (SAIDI) (Distribution) of 46.10 minutes. This success stems from implementing the ISO 55001 Asset Management System, ensuring optimal asset performance throughout their life cycle through systematic and structured approaches, including risk-based preventive maintenance supported by data analytics. An investment of approximately RM6.0 billion in 2023 strengthened the grid, ensuring reliable energy supply.

On the Generation side, the strategic initiatives included shifting from fossil fuels to renewable energy and enhancing energy security by reducing our dependence on imported coal. Collaborating closely with the Ministry of Energy Transition and Water Transformation and the Energy Commission, we developed the Peninsular Malaysia Generation Development Plan. Through the Planning and Implementation Committee for Electricity Supply and Tariff (JPPPET), we established an optimised generation fuel mix for Peninsular Malaysia, ensuring secure, affordable and sustainable electricity supply. The Generation Development Plan prioritises an optimal fuel mix to enhance power security by diversifying fuel and resources. TNB's diverse generation fuel mix mitigates dependency risks on single fuel sources, enhancing energy supply reliability.

Business Resiliency

Our Business Continuity Management (BCM) protocols facilitate rapid and well-coordinated responses to crises, ensuring there are no disruptions in our operations. Annual BCM exercises, involving both internal business units and external partners such as Agensi Bencana Negara Malaysia (NADMA) and Majlis Keselamatan Negara (MKN), evaluate the efficiency of our crisis management strategies.

In 2023, targeted BCM plans were conducted to ensure seamless electricity provision during state elections and the Langkawi International Maritime and Aerospace Exhibition (LIMA). Furthermore, our BCM protocols undergo rigorous testing to safeguard public welfare and our infrastructure, thereby expediting the restoration of electricity services.

Anticipating adverse weather conditions that could potentially impact our operations, we take comprehensive proactive measures to protect our critical assets, ensure the safety of our employees, and minimise disruptions to service for our valued customers. In anticipation of potential impact due to climate-related exposures to our assets, preparedness efforts are intensified at our operation sites.



MM4: RELIABLE ENERGY AND FAIR TARIFF

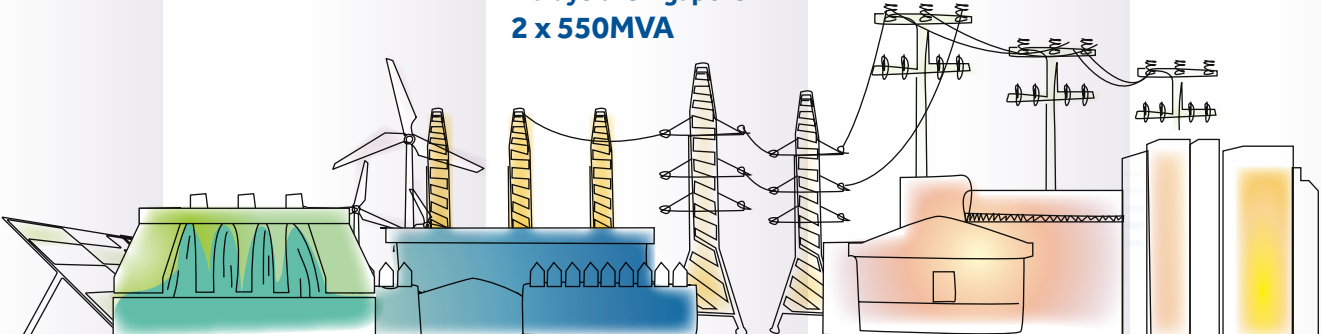
For example, our flood mitigation efforts include managing water levels at our hydroelectric dam facilities to mitigate potential downstream floods, and constructing retaining walls at entrances to main intake substations to fortify them against flooding. Additionally, we ensure mobile and portable generators are on standby at identified flood-prone locations and ready for deployment when required. TNB employees also undergo flood response training and drills ahead of the monsoon season to be prepared to handle emergencies effectively.

Fair and Transparent Tariff Determination

The electricity tariff structure, under the authority of the Energy Commission, is based on the framework provided by the IBR framework. This framework ensures that TNB is incentivised to improve its efficiency and that our tariffs remain transparent to our customers. At the same time, the Imbalance Cost Pass Through (ICPT) mechanism allows TNB to hedge against uncontrollable fuel costs.

The mechanism and components of the electricity value chain are presented in the following table:

Fuel	Generation	Grid	Distribution Network	Retail
Peninsular Malaysia generation mix: Coal 57% Gas 36.7% Hydro 4.6% Solar 1.5% Others 0.2%	TNB market share in Peninsular Malaysia (Installed capacity): 54% The remaining are Independent Power Producers (IPPs)	Length of domestic transmission network: 26,093km Substations: 485 units Interconnection Malaysia-Thailand: 380MW Malaysia-Singapore: 2 x 550MVA	Length of domestic distribution network: 761,546km Substations: 87,947 units	Total no. of customers in Peninsular Malaysia: 10,161,957 customers Units sold: 122,698.8GWh Rooftop solar: 340.7MWp



We have been actively executing the strategies and initiatives outlined for the Regulatory Period 3 (RP3), from 2022 to 2024. We are committed to safeguard this regime through the next RP by introducing additional key strategies to delivery a good customer experience while facilitating a responsible energy transition.

Incentive Based Regulation (IBR)

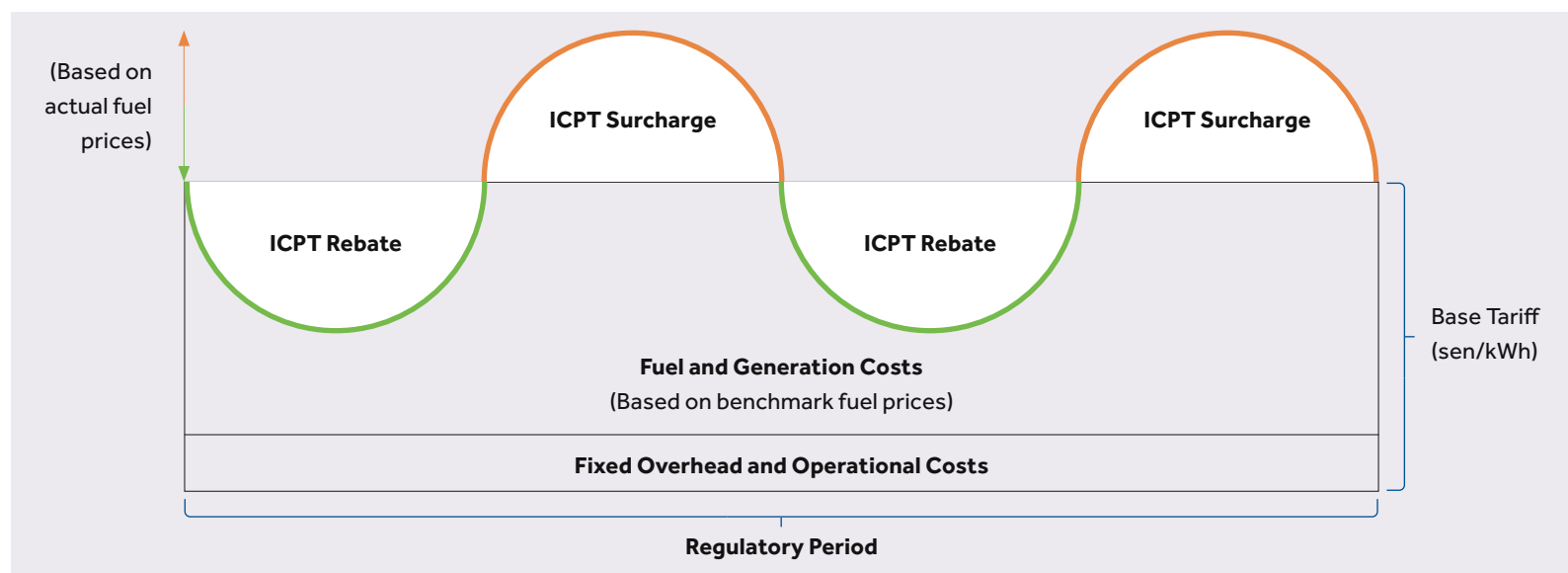
The IBR framework and mechanism enable sufficient investment into electrical infrastructure, transforming customer experience and providing equitable tariffs and a fair return to shareholders as well as strong socioeconomic contribution for nation building. We employ IBR performance indicators to monitor our regulated business performance, reporting regularly to the Energy Commission to ensure effective implementation and compliance with the IBR framework and ICPT mechanism.

The ICPT serves as a vital tool for adjusting electricity tariffs in response to fuel and generation cost fluctuations. In 2023, the government reaffirmed its commitment to the ICPT by approving substantial subsidies of RM10.4 billion for January to June and an additional RM5.2 billion for July to December. This enabled TNB to recover approximately RM16 billion in total, ensuring stability in both TNB and the nation's electricity supply industry. In 2023, we successfully implemented ICPT, sending appropriate price signals, implementing targeted surcharges and reducing government subsidies.

MM4: RELIABLE ENERGY AND FAIR TARIFF

As we move closer to the Regulatory Period 4 (RP4) 2025-2027, TNB's overarching goal is to continue supporting our customers' energy needs and responsibly facilitating Malaysia's energy transition. Our proposal is anchored on the Malaysian Electricity Supply Industry (MESI) outcomes which revolve around these key strategies:

- 1 Contributing to the government's sustainability agenda by promoting environmentally responsible practices
- 2 Continuously improving the IBR framework and guidelines to ensure the long-term sustainability of the industry
- 3 Aligning with the government's efforts to implement tariff reform in tandem with the changing energy landscape while safeguarding customer interests



Bolstering Regulatory Engagement

We consistently engage with regulatory stakeholders to continuously enhance the governance and institutional framework of the electricity sector, ensuring alignment and harmony between the energy trilemma's environmental sustainability, energy security and energy equity objectives. We have been engaging in governmental studies and contributing to policy formulation, including initiatives such as the National Energy Transition Roadmap (NETR) and Future Proofing the Malaysian Electricity Supply Industry. The efficacy of our engagement efforts is reflected in the Regulatory Relationship Strength Index (RRSI) scores, which gauges the level of trust that stakeholders place in TNB.

Regulatory Relationship Strength Index (RRSI)

The RRSI, an annual TNB survey, measures stakeholder trust and covers the following core objectives:

- To gauge the strength of relationships, satisfaction, current sentiments and expectations of key regulators, government ministries and their agencies, and employees directly interacting with TNB.
- To identify and address any deficiencies issues, and gaps in regulatory engagements.

TNB achieved its highest RRSI score in 2023, with an overall trust score of 92%, showing a consistent increase since 2020. These results indicate a strong performance in building and sustaining trust, with a focus on continuous improvement and strategic insights at various organisational levels.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
1	SAIDI	-	Minutes	45.25	45.06	46.10	< 50.0
2	System Minutes	-	Minutes	0.09	0.17	0.48	< 2.0
3	Regulatory Relationship Strength Index (RRSI)	-	%	87%	85%	92%	> 92%

MM5

SAFETY, HEALTH AND WELL-BEING

We are steadfast in our commitment to implementing robust occupational safety and health systems, along with the adoption of best practices, to safeguard lives within our workforce. We believe in providing a workplace where our employees feel cared for and supported, ensuring their safety and security while contributing to our shared goals.

Through stringent safety standards, we aim to mitigate the risks associated with work-related injuries and illnesses, fostering an environment conducive to the long-term health and safety of all individuals associated with TNB. By continuously refining our safety culture, we strive to instil a collective ethos that prioritises the well-being of our people above all else.

Our goal is to achieve zero accidents by fostering a strong health and safety culture. To realise this vision, we advocate for and uphold rigorous safety standards, with the aim of eliminating workplace fatality and maintaining a Lost-Time Injury Frequency Rate (LTIFR) below 1.0.



MANAGEMENT APPROACH



► Health, Safety and Environmental Management System (HSEMS)

We remain guided by the TNB Occupational Safety and Health (OSH) Policy, which underscores our unwavering commitment to adhering to relevant legislation and regulations. This includes complying with all the relevant laws and regulations, namely the Occupational Safety and Health Act 1994, Electricity Supply Act 1990, Factories and Machinery Act 1967, Fire Services Act 1988, as well as the Energy Commission licensing conditions.

In the context of safety and health, the HSEMS provides a framework for TNB Group to ensure the health and safety of employees, contractors and the public are managed holistically and systematically. It covers a continual improvement process from the Plan, Do, Check and Action (PDCA) cycle, from stating the regulations, policies, procedures, processes, action plans and all strategic activities to manage hazards and minimise risks at the workplaces.

► Tenaga Safety Culture

Activity	2022	2023
No. of Health Safety and Environment audits by the HSE Department	8	16

The Tenaga Safety Culture aims to instil safety as an integral aspect of our people's everyday working culture. Grounded in our four (4) core behaviours of "Assess", "Comply", "Intervene" and "Actively Caring", the programme endeavours to nurture these fundamental behaviours within our diverse workforce, transcending beyond compliance activities. To achieve this, we have adopted a comprehensive approach, implementing a wide range of initiatives.

We conduct our TNB Safety Culture Assessment once every two (2) years to promote leadership involvement and foster a sense of health, safety and environmental (HSE) ownership. The assessment of TNB's safety culture was conducted using the "Hearts and Minds Safety Culture Toolkit" methodology developed by the Energy Institute in the United Kingdom. In 2023, our score improved to 4.16 from 4.02 in 2021.



MM5: SAFETY, HEALTH AND WELL-BEING

Nampak, Dengar, Rasa, Selamat (NDRS)

To further inculcate a safety culture in the workplace, we continue implementing the NDRS programme, which advocates OSH awareness and practices. Under the programme, employees are encouraged to be sensitive to their surroundings, evaluate potential health and safety risks, comply with HSE requirements and be proactive in mitigating health and safety risks.

The NDRS framework is anchored on three (3) core elements, namely Engineering, Education and Enforcement, and is supported by a consequence management process that rewards positive behaviour, encourages good practices and addresses non-compliance appropriately. Among the initiatives carried out under the programme included 193 webinars on NDRS, which were attended by 10,631 participants in 2023. In addition, HSE Culture Change Agents are appointed to inculcate the HSE culture, monitor and evaluate the aspects of safety at the workplace and encourage HSE practices as well as the implementation of HSE initiatives.

To recognise and motivate outstanding HSE performance, we give out the NDRS Awards every year to individuals and operations that demonstrated best HSE practices. In 2023, 11 business operations and 45 individuals received the NDRS Awards.

Retail Accident Reduction Programme

At the operational level, we bring the essence of safety culture to life through initiatives like Safety Buddy among the meter readers. This concept embodies collective responsibility among employees, where they actively safeguard each other's well-being, aiming for zero accidents and nurturing a cohesive work environment. Buddies are carefully chosen by the Management Team, ensuring they meet specific criteria to effectively fulfil their safety-oriented roles.

Moreover, our commitment to safety culture extends to our own safety pledge programme like *Ikrar Keselamatan Keluarga*. The pledge emphasises our commitment to safety regulations, the practice of the Safety Buddy system and unwavering care for one another's safety. These grassroots efforts, complemented by our broader NDRS programme, create a robust safety framework that permeates every aspect of our workplace culture, ensuring a safer and healthier environment at TNB for all.

Driving Safety Culture Across Our Value Chain

To drive a strong safety culture within our operations and across our value chain, we implement strategic initiatives for both internal and external stakeholders such as contractors and Government-Linked Companies (GLCs), given our extensive network and supply chains.

1 GLC OSH Summit

Held on 9 May 2023, the event allowed the 25 participating GLCs with 200 attendees to exchange ideas, experiences and best practices related to OSH, elevating the awareness and knowledge on safety standards among GLCs. The first time held in the country, this summit was initiated by TNB in collaboration with Department of Safety and Health (DOSH) Malaysia as our commitment to create a safe and healthy working environment.

2 Contractors Symposium

A collaboration between TNB and regulatory bodies, the Contractors Symposium was held in four (4) different zones to enable TNB contractors better understand the latest OSH-related laws and regulations. It actively supports the government's drive to fortify safety compliance among contractors and small to medium-sized industries in Malaysia, particularly those affiliated with government companies.

3 NIOSH Tenaga Safety Leader Passport (NTSLP)

Launched on 7 March 2023 by the Minister of Human Resources, the NTSLP is specifically developed for TNB contractor management groups, including supervisors, engineers, managers and project directors to enhance their HSE competencies. One of NTSLP's primary goals is to achieve zero accidents among TNB contractors and ensure a safe working environment through clear delineation of responsibilities for team leaders/supervisors. During the event, 15 strategic partners were recognised for their efforts in enhancing occupational safety and health at the industry level.



MM5: SAFETY, HEALTH AND WELL-BEING

Health and Safety Risk Assessments

At TNB, we meticulously identify all work-related hazards, assess their associated risks and establish relevant controls to eliminate hazards and mitigate risks through our Hazard Identification, Risk Assessment, and Risk Control (HIRARC) Procedure. Our HIRARC framework is developed based on guidelines from DOSH and forms the foundation of our safety protocols. HIRARC procedures must be carried out prior to the commencement of any project. We conduct regular training sessions on HIRARC for both employees and employer representatives to ensure comprehensive understanding and implementation of the framework across our operations.

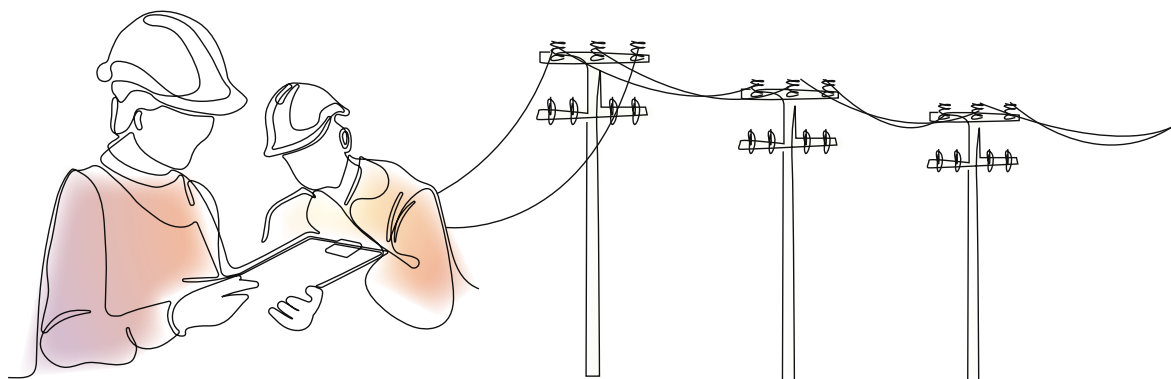
Beyond managing hazardous activities, we ensure industrial hygiene and occupational health assessments are carried out by competent individuals registered with DOSH. These assessment findings are integrated into our HSEMS audit, inspection, and enforcement activities. Any gaps identified during these processes are diligently addressed and monitored through our Non-Conformance Report (NCR) online system, ensuring continuous improvement in our safety standards.

In addition to conducting HIRARC assessments, we also undertake the following to evaluate specific risk exposures:

No	Risk Assessment	Description
1	Environmental Impact Assessment (EIA)	The assessment includes a study to identify, predict, evaluate and communicate information about the impact (both beneficial and adverse) on the environment of a proposed development activity and the mitigating measures to protect the environment.
2	Fire Risk Assessment (FRA)	A systematic evaluation of a building or area to identify potential fire hazards, assess the risk of those hazards causing a fire, and determine the measures needed to minimise or eliminate those risks.
3	Chemical Health Risk Assessment (CHRA)	The assessment involves identification of chemical hazards arising from the use, handling, storage or transportation of chemicals in the workplace and recommends controls to reduce exposure and minimise harm to workers. It is part of the compliance with the Occupational Safety and Health (Use and Standard of Exposure to Chemical Hazardous to Health) Regulations 2000.
4	Noise Risk Assessment (NRA)	The assessment involves identification of noise-related risks in the workplace to prevent hearing loss, ensuring a safe work environment, and compliance with legal obligations. It is part of the compliance with the Occupational Safety and Health (Noise Exposure) Regulations 2019.
5	Ergonomic Risk Assessment (ERA)	Assessment involves evaluation on workplace activities to identify and reduce the risk of muscle injury or discomfort caused by ergonomic risk factors, which includes exposure to repetitive motion, awkward posture, static posture, forceful movements, vibration and contact stress. It is part of the Guidelines on Ergonomics Risk Assessment at Workplace 2017.

► **TNB Stop Work Policy and *Intervensi Stop Work (ISW)* guidelines**

In 2023, we further strengthened our OSH practices by fully enforcing and implementing the TNB Stop Work Policy and *Intervensi Stop Work (ISW)* guidelines. Both the policy and the guidelines empower our employees and contractors to perform stop work intervention should they identify any unsafe conditions or unsafe acts within the work environment.

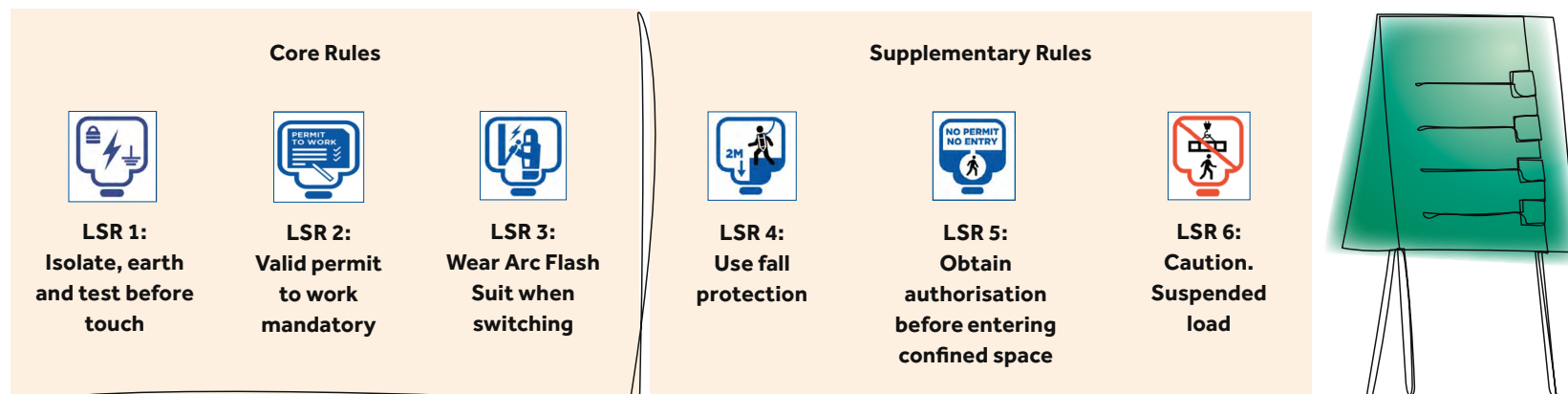


MM5: SAFETY, HEALTH AND WELL-BEING

Life Saving Rules (LSR)

To prevent serious accidents that could lead to fatalities of employees and contractors, we have put in place six (6) Life Saving Rules.

Adherence to the LSRs is also incorporated in the contract terms for vendors and contractors. In 2023, the LSR consequence management process was enhanced to include Human Factor Analysis (HFA) consideration.

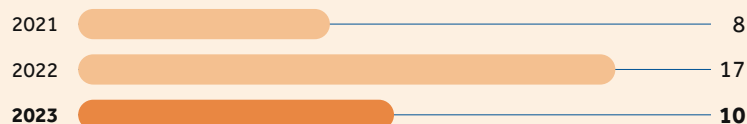


Recognising the paramount importance of our LSR, TNB has taken a significant step by integrating consequence management into our contract terms for contractors. To ensure transparency and understanding of this new process, we conducted a briefing session with TNB vendors, contractors and TNB Business Entities.

Occupational Health

Occupational Health (OH) remains our priority, as we continue to focus on Noise, Ergonomic and Chemical Management by actively participating in the DOSH's Systematic OH Enhancement Level Programme. This programme helps to drive occupational health compliance in our business operations and improves occupational health among our employees. In 2023, the number of instances of occupational diseases was reduced to 10 confirmed cases.

No. of Occupational Diseases



Noise Exposure Management Programme

In 2023, there were nine (9) reported cases of Occupational Noise-Related Hearing Disorders (ONRHD). To address this concern and enhance noise compliance within TNB, the HSE Department introduced the Noise Exposure Management Programme. We conducted a noise compliance audit at power plants in TNB Power Generation Sdn Bhd to ensure compliance, identify lagging indicators and offer guidance for continual improvements.

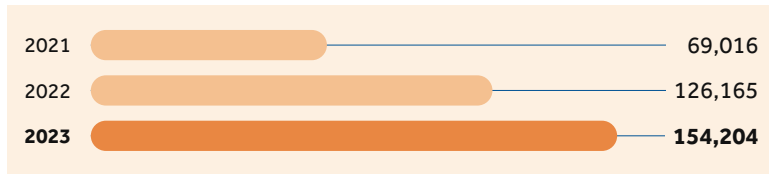
TNB has now improved the Specification of Noise Risk Assessment and Audiometry Test to serve as guidance for efficient implementation of the Hearing Conservation Programme (HCP) within the TNB Group. To maintain a standardised quality of Audiometry Reports, TNB is continually conducting technical assessments among audiometric testing centres. Additionally, TNB Genco has developed a comprehensive and customised HCP module designed specifically for power plant employees. This includes train-the-trainer programmes for all HSE representatives at all power plants to ensure skill transferability.

MM5: SAFETY, HEALTH AND WELL-BEING

► Health and Safety Training

We are committed to building employee capability in health and safety practices and culture, ensuring that safety remains paramount in all our endeavours and is ingrained in every aspect of our TNB operations. Our health and safety-related training hours has been consistently increasing for the past three years, underscoring our dedication to equipping our workforce with the essential health and safety skills and knowledge. In 2023, we completed a total of 154,204 hours of health and safety-related training for 14,014 employees, a significant increase compared to 69,016 hours in 2021.

Health and Safety Training Hours



HSEMS Auditor Training

To uphold the highest standards of HSE across our operations, we provide training to HSEMS auditors, who conduct HSE Corporate Audits in selected business entities. In 2023, 93 employees, including employees from subsidiaries, received the HSEMS auditor training in three (3) separate sessions.

Safe Driving Technique Programme

The Safe Driving Technique programme is compulsory for all TNB's 2,859 drivers. The Fleet Management Department has consistently updated its safety procedures, outlined in the Road Traffic Safety Policy, to comply with statutory requirements set by DOSH.

Motorcycle Safety Training

The ILSAS motorcycle safety training focuses primarily on Meter Readers with an objective to achieve zero motorcycle accidents. In 2023, the Retail Division held a defensive motorcycle riding training for the fifth consecutive year, attended by 754 participants. At the conclusion of the course, participants were able to explain motorcycle components and functions, ride according to correct techniques, address minor motorcycle damages, understand accident types and causes and ride skilfully and safely.

Dog Handling Training

Since 2022, the Retail Division has recorded a notable increase in accident cases involving dog attacks, particularly among Meter Readers who face risks during their job duties. To address this issue, the Retail Division management implemented dog handling training using the ILSAS module in 2022 to prevent and reduce such cases from occurring, and injuries inflicted on both our employees and dogs. In 2023, 1,326 of the total 2,069 Meter Readers attended the safety training, which included skills in dealing with dogs.

Office Ergonomics Training

As thousands of our employees use computers daily, HSE has developed an e-learning module on Office Ergonomics within the TNB Learning Management System (LMS). This module aims to educate all TNB office workers on improving their posture and technique while using computers at their workstations, thereby promoting good physical health among TNB staff. Currently, TNB is in the process of developing an e-learning module on Ergonomics Manual Handling, targeting technical staff. This module will offer guidance on proper manual handling techniques. The anticipated implementation of this e-learning initiative is scheduled for 2025.

► Digitalisation as an Enabler

In line with our efforts to green our office practices, we continue with our digitalisation efforts of our HSE practices by progressively rolling out modules in phases for the full implementation of our e-HSE Online System. Our TNB Safety Information System (TSIS) enables us to capture reports of incidents and near misses, which are then investigated for corrective and prevention measures to prevent recurrence.

MM5: SAFETY, HEALTH AND WELL-BEING

In 2023, we introduced new modules in the eHSE online system, comprising Legal Compliance, Inspection Module and We Care (*Kami Kisah*). Additionally, we further enhanced the following two key features:

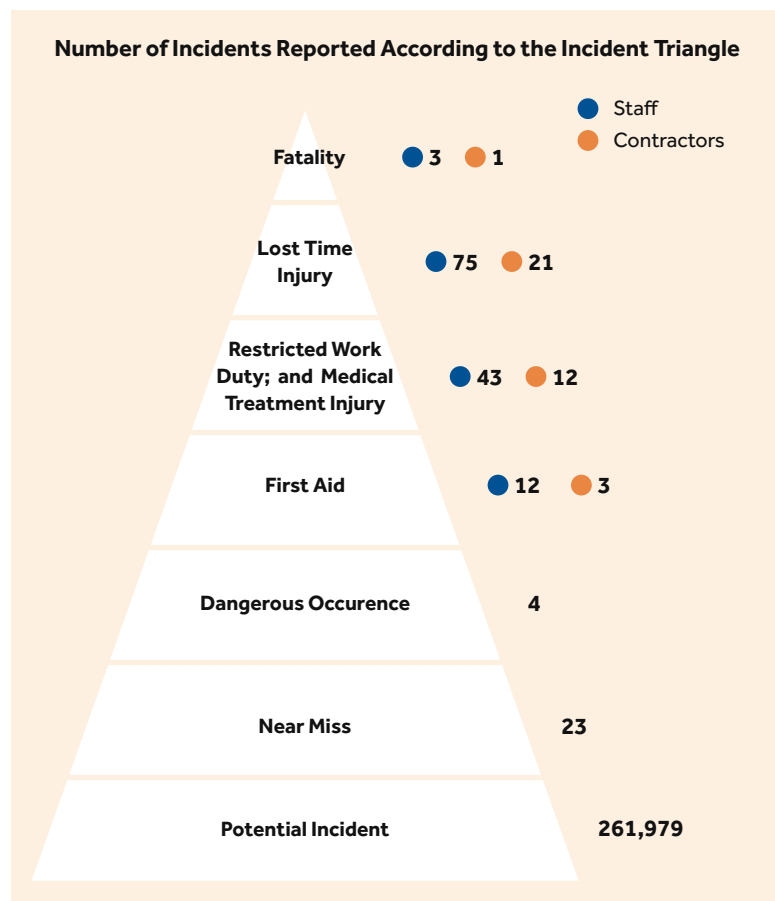
- **HSE Wallet Mobile App**

This feature allows employees to make timely reports on any potential incidents and hazards, stop work intervention occurrences and demonstrate good safety and health practices. This enables us to proactively address and prevent accidents by implementing timely interventions and establishing preventive measures against potential incidents, encompassing both Unsafe Acts and Unsafe Conditions.

- **Potential Incidents (P.I 2.0)**

This online potential incident reporting system was upgraded in 2023 to streamline the generation of more precise analyses and improve reporting guides and data collection to empower smarter decision-making. The P.I 2.0 initiative was expanded to TNB subsidiaries, encompassing both online and physical domains.

Leveraging the above digitalisation efforts, we are able to identify and assess potential incidents for proactive mitigations.



Supporting Employees' Health and Wellness

TNB encourages its employees to embrace an active lifestyle that promotes good health, fosters work-life balance and enhances overall well-being. The "Vibrant Living – Healthier. Together" initiative in TNB focuses on six (6) key areas: healthy diet, no smoking/vaping, leading an active lifestyle, weight management, undergoing yearly basic health screening and prioritising mental well-being.

Various wellness initiatives are conducted for our employees, such as:

Basic Health Screenings

Conducted for all employees nationwide to monitor their health status, these screenings provide employees with baseline measurements of vital health statistics such as blood glucose levels, blood pressure and Body Mass Index (BMI). Where necessary, TNB's Wellness Team offers basic counselling and advice to employees on lifestyle modifications to improve their overall health. Intervention plans, such as the M-Quit (a programme to help employees quit smoking) and Biggest Loser challenge (a six-month programme focused on weight management and fitness), are also available.



Mobile Fitness App

All employees are encouraged to track their daily steps as part of TNB's initiative to promote fitness. Walking is one of the safest and easiest forms of exercise, hence we encourage all employees to achieve as many steps as possible in a day. We have accumulated a total of 57.7 billion steps from 2019 to 30 April 2024.

MM5: SAFETY, HEALTH AND WELL-BEING

TNB HealthCare App

The app provides easy access for all staff to monitor and track their well-being. Through the app, staff can request for guarantee letter (GL) and track the application status, access the list of panel clinics and hospitals via the panel locator, view medical and wellness statements including health screening results and calculate their BMI.



Anugerah Piala Presiden

An annual TNB-wide awards ceremony to recognise high-performing divisions/departments/subsidiaries and top steppers in various categories for consistently achieving a high number of steps throughout the year.



Weekly 'Wellness Wednesday' Webinar Programmes

Held throughout the year in collaboration with panel hospitals on health and wellness-related topics, these webinars are meant for all employees and retirees. They aim to increase awareness on common health issues and encourage healthier habits among up to 1,000 attendees per session. In our effort to promote a healthy lifestyle, we focus on holistic well-being, with particular emphasis on mental health and wellness. As such, our webinars also include mental health topics such as 'Mental Fitness' and 'Knowing Your Emotions', among others.



MM5: SAFETY, HEALTH AND WELL-BEING

In recognition of our commitment and initiatives to enhance our employees' well-being, TNB has won Gold in the Activ@Work Challenge PERKESO Award for four (4) consecutive years, from 2020 to 2023. This award was presented by the Social Security Organisation (PERKESO).



In addition, our office buildings in Bangsar and Dua Sentral in Kuala Lumpur and Janamanjung in Perak are equipped with three (3) *Klinik* TNB, one in each building to provide medical care to employees, retirees and their dependents. In 2023, we launched the Medication Delivery Service to provide a secure, reliable and cost-effective supply of long-term chronic medications through *Klinik* TNB. During the year, a total of 18,922 medication packages were distributed across Peninsular Malaysia. Further to that, we have engaged 1,276 panel hospitals and clinics to allow easy access to essential medical treatment and healthcare.

► Health and Safety Performance

In 2023, we recorded four (4) non-electrical accident fatalities, involving three (3) employees and one (1) contractor due to motor vehicle accidents and hornet stings. In response to these events, we took proactive steps to mitigate risks and enhance our safety measures.

Accident	Mitigations
Fatal motor vehicle accidents at roadside works involving TNB or TNB Contractors	<ol style="list-style-type: none"> 1. Studied the use of hard barricades such as water or concrete barricades in work areas identified as high risk such as winding, hilly road conditions and high traffic routes. 2. Reviewed the use of safety cones and safety signs placed on the opposite route with the approval from local authorities or JKR. 3. Studied the methods and routes of cable resistance including the joint pits to reduce the risk of workers being hit by moving vehicles. 4. Reviewed and evaluated the appropriateness of working time on the shoulder of the road based on the traffic flow.
Fatal accident caused by a biological hazard (hornet stings)	<ol style="list-style-type: none"> 1. Improved the existing HIRADC by creating a specific HIRADC for activities related to poisonous animals/ insects and identifying the nearest Emergency Room (Hospital). 2. Published and engaged with all staff on Video <i>Tebuan</i> & Emergency Response. 3. Updated the SQA checklist by including the requirement to identify the location of emergency treatment services before starting work on site.

Every incident receives our utmost attention, with thorough investigations and detailed analysis to guide corrective and preventive interventions at operational, management and board levels. Each fatality is reported to the BSRC and thoroughly reviewed to prevent future occurrences. The BSRC will provide direction on HSE goals, overseeing the management of health and safety risks and ensuring the implementation of appropriate mitigation strategies.

MM5: SAFETY, HEALTH AND WELL-BEING

When a fatality occurs, the Management immediately enforces Stand Downs across the Group to alert all employees and contractors to prevent recurrence of a similar nature. Immediate precautionary measures are also shared via our internal Incident Alert bulletins while valuable lessons learnt are communicated through Iktibar Insiden bulletins.

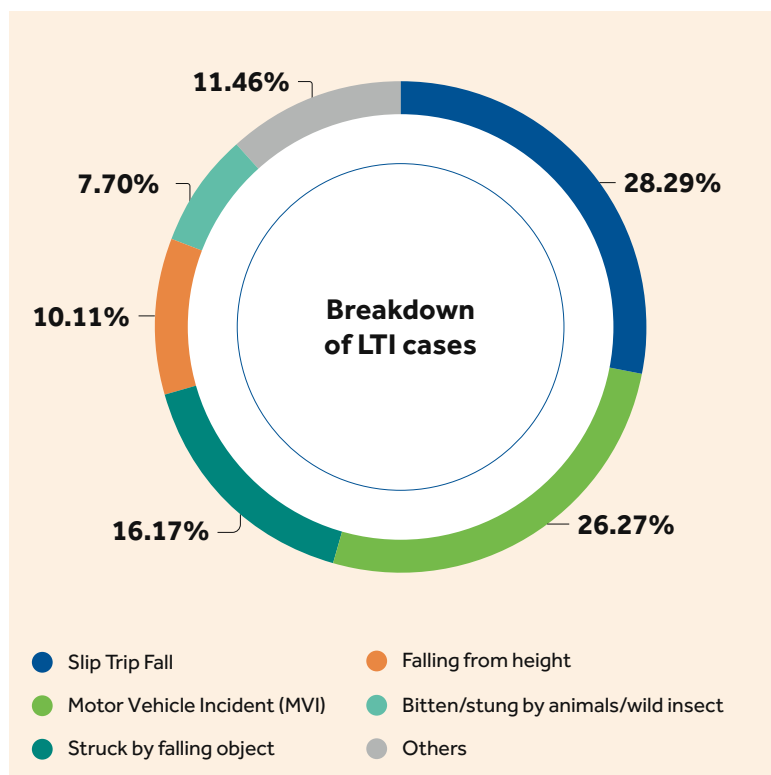
Despite the challenges, our Lost Time Injury Frequency Rate (LTIFR) reduced significantly by 28% in 2023 (LTIFR = 0.74) against 2021 (LTIFR = 1.03), reflecting a consistent improvement trend since 2018. This reduction indicates less time lost due to work-related injuries, underscoring our ongoing commitment to fostering a safe and secure work environment for all.

LTIFR Trend from 2021 to 2023



Note:

Total man-hours exclude paid vacations, paid sick leave and state public holidays.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Health and Safety							
1	Number of work-related fatalities	C5(a)	Number	8	2	4	Zero fatalities
	Employees			2	0	3	
	Contractors			6	2	1	
2	Lost time incident rate*	C5(b)	Per million man-hours	1.03	0.82	0.74	< 1.0
3	Number of employees trained on health and safety standards**	C5(c)	Number	5,943	18,986	14,014	20% increase in 2024 from 2023

* Revised methodology for LTIR calculation to align with the GRI 403-9 definition.

** FY2023 data has been reported based on Health and Safety training categories. Past years' data has been reported for Health, Safety and Environment training categories.

MM6

ENVIRONMENTAL MANAGEMENT

At TNB, our commitment to responsible environmental management is evident through effective actions and ongoing initiatives, especially in the areas of emissions, biodiversity, waste management and water management. The Board and Management have set a clear tone regarding environmental management for the preservation and conservation of natural resources, which is reflected in the TNB Environmental Policy. Our businesses are certified with ISO 14001:2015 - Environmental Management Systems (EMS). We remain guided by the TNB Health, Safety and Environmental Management System (HSEMS), which sets out environmental risk identification and control requirements.



MANAGEMENT APPROACH



► **TNB Environmental Policy**

In 2023, we revised and improved the Environmental Policy from being more than just meeting compliance to moving towards our sustainability goals. The enhanced policy addresses gaps identified through environmental best practices, with improvements that emphasise the reduction of GHG and toxic emissions from our business operations. These enhancements also highlight optimising the utilisation of natural resources through effective conservation and preservation of water and biodiversity management. Additionally, the policy includes the protection of the environmental ecosystem through effective circular economy and proactive prevention of waste and pollution. The enhanced policy places strong emphasis on strict adherence to all environmental legislation, regulations and obligations governing operations, with the goal of preventing any adverse environmental incidents.

The four (4) principles outlined in the Environmental Policy are:

1

Reduce emission as guided by the TNB Energy Transition plan

2

Adopt climate change mitigation and adaptation measures to safeguard the environment

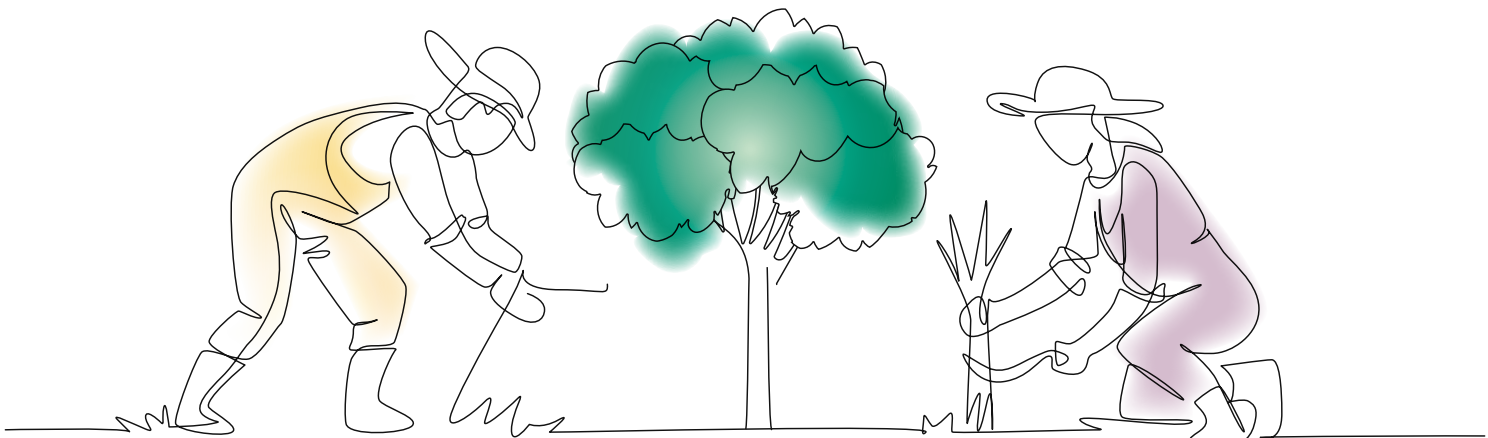
3

Optimise the utilisation of natural resources through effective conservation and preservation of water and biodiversity management

4

Protect the environmental ecosystem through the implementation of a circular economy and proactive prevention of waste and pollution

The policy also emphasises the importance of environmental awareness to inculcate best practices among employees, contractors and suppliers. The policy also highlights our commitment to transparent and timely reporting on environmental performance for accountability and clarity in sustainability efforts.



MM6: ENVIRONMENTAL MANAGEMENT

► Environmental Management System

Our Environmental Management System (EMS) is aligned with ISO 14001, an international standard for environmental management systems. It guides TNB to operate in a manner that protects the environment while ensuring all activities comply with environmental legal requirements, addressing hazardous waste, effluents, GHG and toxic emissions.

The EMS is embedded into our Health, Safety and Environment Management System (HSEMS) to ensure that environmental concerns arising from TNB Group's operations are prioritised. In the context of the environment, the HSEMS ensures the protection and sustainability of the environment, strategically and systematically. It covers a continual improvement process through the Plan, Do, Check and Action (PDCA) cycle, including the establishment of regulations, policies, procedures, processes, action plans and all strategic activities to manage hazards and minimise risks at the workplaces.

Regular internal audits play a vital role in ensuring the effectiveness of the HSEMS. These audits assist in identifying areas for improvement, ensuring compliance with regulations and standards and verifying the correct implementation of policies and procedures. With regular audits, we can consistently evaluate and improve our management practices and overall HSEMS performance.

Activity	2022	2023
No. of Self-Visual Reporting (SVR) by business entities	736	948
No. of audits inclusive of scheduled waste management	5	4

Following these audits, Non-Conformance Reports (NCR) are issued to the business entities concerned. Swift corrective measures were promptly implemented, leading to the successful closure of all NCRs. Our commitment to rectification underscores our dedication to maintaining the highest standards of operational excellence.

Environmental Best Management Practices at the Grid Division

We operationalise good practices in environmental management across various divisions and operations. One of the divisions that has demonstrated this is the Grid Division, which has published its own Grid Green Code Conduct 2021-2050. This conduct outlines the division's commitment to supporting TNB's environmental stewardship through initiatives in three (3) key areas, namely GHG Reduction, Forestation Control and Pollutant Management. The initiatives, which are being rolled out in phases, address the migration to sustainable processes and green substation building design, mitigation of negative environmental impacts and preservation of natural resources.

In 2023, the Grid Division collaborated with the Department of Environment (DOE) and TNBR to publish the Environmental Best Management Practices for the Grid Development's Project Site Handbook. The main objective of this handbook is to serve as a guidance to all staff involved in TNB Grid Development projects, including contractors and all relevant parties, on the best management practices for environmental management during the construction stage at project sites. The handbook outlines the assessments of environmental aspects and impacts, along with associated mitigation measures and best practices, to reduce the project's environmental impact.



MM6: ENVIRONMENTAL MANAGEMENT

Management of Toxic Emissions

Combustion of fossil fuels produces emissions such as carbon dioxide (CO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and particulate matter (PM) that have lasting impacts on people and the environment. We strive to mitigate these impacts by monitoring these emissions and complying with the Environmental Quality (Clean Air) Regulations 2014 (CAR). We also submit our annual declaration of toxic emissions to the DOE. Any occurrence of deviation is reported within 24 hours, along with rectification measures.



To further enhance our efficiency, we utilise cutting-edge technologies and methods to enhance the fuel mix and maintain the effectiveness of emissions control facilities including:

- Reducing SO₂ emissions by implementing Flue Gas Desulphurisation (FGD) at TNB Janamanjung and Jimah East Power (JEP).
- Removing harmful PM through the implementation of Electrostatic Precipitator (ESP) at TNB Janamanjung and JEP.
- Curtailing NO₂ emissions via the implementation of low NO_x burners at TNB gas plants.

Commitment to Clean Air at Power Plants

As we strive to reduce carbon emissions at our power plants through operational efficiency, we ensure all TNB power plants comply with the CAR. Our efforts include employing advanced technologies and practices, optimising fuel mixtures and maintaining effective emissions control facilities.

Emissions Control Measures

To achieve air emissions compliance, TNB employs a range of advanced technologies and practices by optimising the fuel mix and maintaining the effectiveness of emissions control facilities, such as:

Flue Gas Desulphurisation (FGD)

Implemented at TNB Janamanjung and JEP, reducing SO₂ emissions significantly.

Electrostatic Precipitator (ESP)

Utilised at TNB Janamanjung and JEP for the removal of harmful particulate matter.

Low NO_x Burners

Employed in gas plants to curtail NO₂ emissions.

Ongoing Initiatives for Emissions Reduction

Continual efforts drive us to explore innovative solutions:

EFB-Pellet Trial Burn

Conducted at Jimah East Power (JEP) U20, yielding remarkable emissions reductions, marking a significant milestone in Malaysia's biomass-fired supercritical boilers.

Biomass Integration Program

Implemented at Kapar Energy Ventures (KEV) in collaboration with IHI Power System Malaysia. The initiatives aims to phase in biomass use, showcasing encouraging results and a commitment to reduce emissions further.

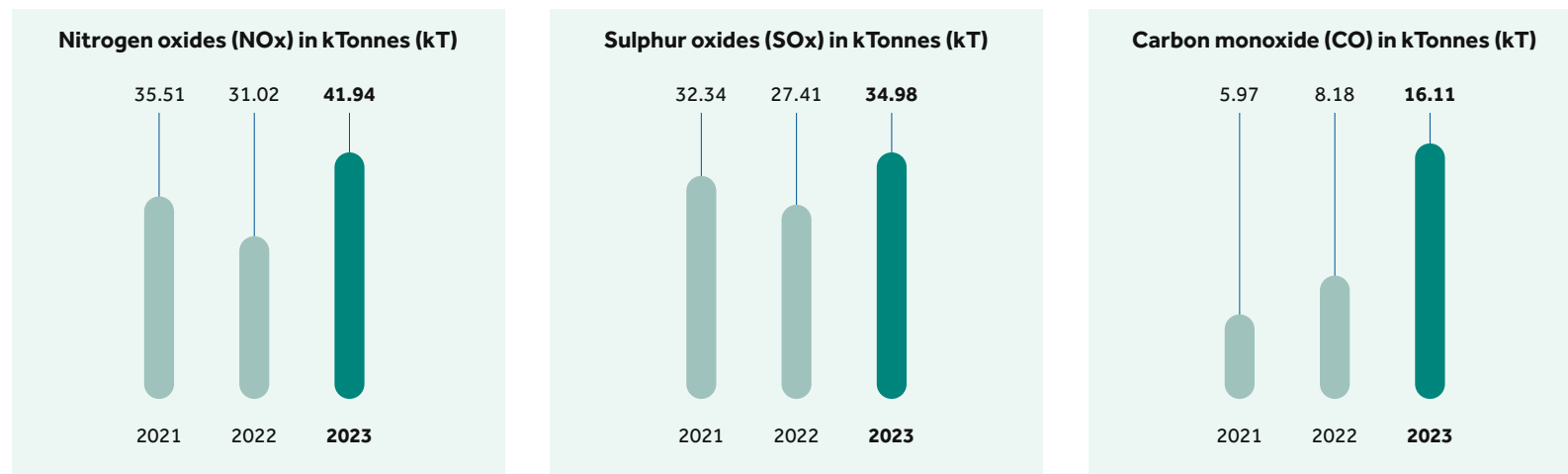
Coal Blending Initiatives

Ongoing at JEP and under consideration at KEV, focusing on utilising coal with lower ash content to reduce emissions.

MM6: ENVIRONMENTAL MANAGEMENT

We are committed to improving the air emissions of operational areas by continuously monitoring and reducing key atmospheric pollutants associated with thermal production, namely sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM).

Our NOx, SOx and CO disclosures are as follows:



Note:
TNB power plants in Peninsular Malaysia. For FY2023 emission reading from Jimah East Power (JEP) is included.

Water Management

At TNB, we recognise that water is a finite resource, and our commitment to water efficiency is not just a responsibility but also a testament of our dedication to sustainable practices and resource conservation. As part of our effort to manage water utilisation and mitigate wastage, we strive to optimise water consumption by leveraging digitalisation to efficiently track and monitor water data. In 2023, we rolled out the TNB Water Management & Inventory System (WAMI) to enhance data collection, enabling us to monitor and evaluate our water withdrawal and consumption practices accurately. This will facilitate the process of establishing a baseline for our water withdrawal and consumption, serving as a basis for understanding our water consumption patterns and developing an informed water optimisation strategy. The comprehensive data and analysis will prepare us to set granular targets for optimising water consumption throughout our operations.

In 2023, a campaign called “Drip by Drip, Watt by Watt” was launched by the TNB Global Business Solutions (TGBS) Division with the aim of promoting energy efficiency and water conservation across 109 TNB-owned offices. Several initiatives, including awareness sessions on water conservation and water-saving competitions among TNB buildings, have resulted in a reduction of electricity and water usage. We are committed to lowering our office building water consumption by 2% at the end of 2024.

Efficient Water Management in TNB Power Generation Operations

Most of our water consumption comes from power generation operations, whereby 80% of its water consumption is used to generate steam and cool power plants. All our generating power assets are built and operated in accordance with global World Bank Environmental and Social Standards.

Closed-loop Water Usage for Steam Generation

Water consumption is integral to our steam generation process, which forms a closed-loop system designed to minimise the use of municipal water sources. Effective water management is crucial to ensure optimal boiler performance, overall power plant efficiency and safety. This includes controlling the quality of the water entering the system, as any inadequacy or impurity may compromise efficiency and pose significant safety hazards within our operations.

Our closed-loop steam generation consumes minimal water sourced from municipal supplies, constituting about 1.87% to 3.08%, which is within the average power plant water consumption range of 1% to 5%. The efficient water usage is a result of effective water treatment, blowdown minimisation and leak prevention. This dedicated initiative to minimise water usage is fundamental to our commitment to conserve water resources and promote sustainable practices within our operations. It enables us to contribute to resource efficiency while advancing our sustainability goals.

MM6: ENVIRONMENTAL MANAGEMENT

Other controls implemented for water reduction in power generation include:

- **Tuning our boiler combustion for our coal-fired boilers and gas turbines to conserve water**
- **Upgrading high-pressure valve materials to ensure zero leaks and passing conditions due to continuous operations**
- **Employing both online and offline methods to check our condensers, as a preventive measure against tube leak incidents**
- **Conducting pre-emptive thermography and thermal scanning before planned outages to correctly identify and replace leaking valves**
- **Enhancing the feed water heaters and economiser temperatures by decreasing the spray water cooling upstream of the condenser neck**

Water Usage for Power Plant Cooling System

Water serves a dual purpose in our plant operations, as it is needed for both steam generation and the cooling systems. The cooling process at our thermal power plant is facilitated through the open circuit Main Cooling Water system. It operates efficiently by drawing water from nearby seas or rivers and discharging it back into the sea or river at regulated operating temperatures. This ensures zero net water consumption while adhering to global water conservation standards set forth by the Electric Power Research Institute.

Responsible Effluent Management

We remain guided by our EMS to ensure compliance with the Environmental Quality (Industrial Effluent) Regulations 2009, particularly Standard A and Standard B. All our plants comply with Standard B, except for the Sultan Ibrahim Power Plant (SPG), which adheres to the more stringent Standard A limit, as required by the DOE.

To ensure compliance, water is treated at our Wastewater Treatment Plant (WWTP) to meet environmental standards and mitigate harm to the ecosystem. Our WWTP uses sedimentation, filtration and chemical processes to reduce pollutants. This includes measuring key parameters such as pH, temperature, oil and grease, total suspended solids and specific contaminants like heavy metals from the WWTP's discharge point.

► Rainwater Harvesting

As part of our water conservation efforts, we have embraced rainwater harvesting at TNB buildings for landscape irrigation and gardening, which contributes to sustainable water usage and translates into significant municipal water savings. This initiative is currently implemented at TNB Headquarters in Bangsar, TNB Sepang Solar (TSS) and TNB Bukit Selambau Solar (TBSS).

The rainwater harvesting system of these buildings at TNB Headquarters has a holding capacity of 510,000 litres.

TNB Platinum

- Two (2) rainwater harvesting tanks positioned at the On-Site Detention Tank accumulate rainwater from the entire site of four towers of TNB's Platinum Office, Pelitawanis, Childcare Centre and the Leo Moggie Convention Centre. The total capacity of these tanks is 300,000 litres, with 150,000 litres of holding capacity for each tank.
- The collected rainwater is used for landscape irrigation within the site. The usage is monitored through a digital sub-metre linked to the Integrated Building System (IBM).
- Total rainwater harvested as of 31 December 2023: 5,703,020 litres

TNB Balai Islam

- One rainwater harvesting tank positioned near the Balai Islam premises accumulates rainwater from the roof.
- The tank, with a total capacity of 184,000 litres, is equipped with 23 pipes strategically installed around the premises.
- Total rainwater harvested as of 31 December 2023: 413,577 litres

MM6: ENVIRONMENTAL MANAGEMENT

Office of Property Services Department

- Three rainwater harvesting tanks positioned near the PSD office premises accumulate rainwater from the roof.
- These tanks, with a total capacity of 26,000 litres, are equipped with five pipes strategically installed around the premises and the water has been used for landscape irrigation within the building parameters.
- Total rainwater harvested as of 31 December 2023: 33,986 litres.



Rainwater Harvesting at TNB's Large Scale Solar (LSS)

At LSS operations, rainwater harvesting aims to reduce reliance on municipal water sources and lower operational costs. It reduces ground surface run-off, thereby decreasing the likelihood of erosion. Additionally, the stored water serves as a source for module cleaning and/or cooling, providing essential support for operational maintenance. It also acts as a protective and preventive measure against fire incidents and the spread of fire within the facility. Furthermore, the stored water can be utilised as a source for an integrated agriculture-PV application, promoting sustainable practices within the system.

In pursuit of water conservation and to reduce reliance on municipal water sources, the rainwater harvesting system at TSS and TBSS currently holds capacities of 24,000 litres and 1,000 litres, respectively. The outcome of the rainwater harvesting system at TBSS meets one of the Equator Principles required by financiers.

Waste Management

TNB has been actively practising proper waste management and our commitment is demonstrated through our TNB Environmental Policy. Our operations generate both hazardous and non-hazardous waste, with each category requiring distinctive management and disposal strategies. Our robust EMS enables us to effectively manage waste, as we strive to continuously elevate our waste management process by conducting site inspections and internal audits.

Hazardous Waste

Our commitment to hazardous waste management is demonstrated through our Scheduled Waste Roadmap 2018-2030, which aims to strengthen our hazardous waste management approach in phases, involving all employees and key stakeholders. The roadmap consists of short-to-long-term targets, which are reviewed periodically. To ensure compliance, we have implemented robust Scheduled Waste Disposal Management Guidelines, issued by the HSE Department in 2021, to ensure that all scheduled waste is disposed of according to the Environment Quality Act 1974 governed by the Department of Environment (DOE).

MM6: ENVIRONMENTAL MANAGEMENT

TNB Scheduled Waste Roadmap 2018-2030

Strengthening Hazardous Waste Management



2018

- Development of SW Guidelines
- Competencies building via CePSWaM

2020

- Internal audit and inspection of SW management in TNB
- SW baseline data reporting

2022

- Establishment of the E-Waste management circular
- Strategic engagement with DOE on E-Waste programmes

2024

- SW Thematic Area: Fly ash
- Launching of the SW Management System (SWAM)

2026

- Increase E-Waste collection rate by 15% from 2025
- TNB SW Roadmap Performance Review

2028

- TNB as an E-Waste collection centre
- Continuous CePSWAM capabilities training

2030

- TNB SW Roadmap Performance Review
- Increase TNB SW Recycle Rate to 50%
- Zero NCL on SW

PHASE 1

PHASE 2

PHASE 3



Competencies and Capabilities Building on Scheduled Waste Management



Intensify the compliance of scheduled waste management through SMART enforcement and self-regulation approach



Communication, Education and Employee Awareness (CEEA) on scheduled waste management



Strengthening the 4R principle (Reuse, Reduce, Recycle & Recover) and Safe Disposal Method for Scheduled Waste



2019

- Establishment of SW Guidelines

2021

- Establishment of TNB PCB Eradication Plan
- Establish Self Visual Report in Scheduled Waste Management

2023

- Development of E-Waste inventory reporting system (E-WI)
- SW Thematic Area: Clinical waste management at TNB clinics/ dispensaries
- Setting up SW War Room
- Benchmarking visits to other companies for SW management

2025

- Increase TNB SW Recycle Rate to 30%
- Increase E-Waste collection rate by 10% from 2024
- TNB PCB Free

2027

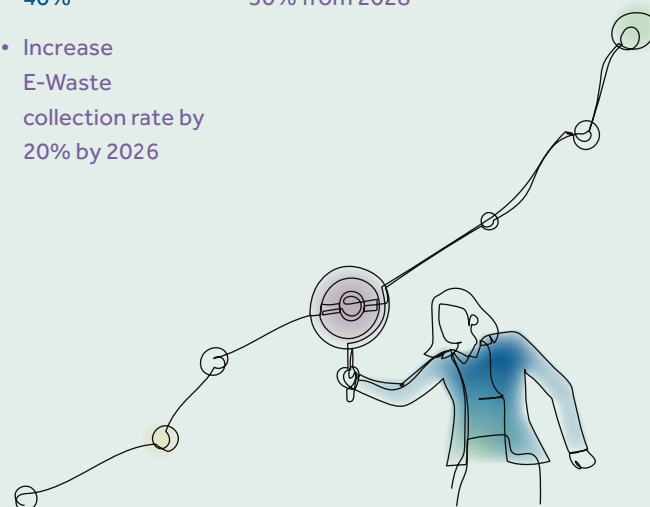
- TNB SW Roadmap Performance Review
- Increase TNB SW Recycle Rate to 40%
- Increase E-Waste collection rate by 20% by 2026

2029

- Increase TNB SW Recycle Rate to 45%
- Increase E-Waste collection rate by 30% from 2028

Abbreviations:

SW: Scheduled Waste
CePSWaM: Certified Environmental Professional in Scheduled Waste Management
PCB: Polychlorinated biphenyl
E-Waste: Electrical and electronic waste
NCL: Notice, Compound, Lawsuit
DOE: Department of Environment



MM6: ENVIRONMENTAL MANAGEMENT

We record, track and report hazardous waste, including e-waste generated from TNB plants and operation sites in the Electronic Scheduled Waste Information System (E-SWIS), while e-waste from TNB offices is tracked and monitored using the E-Waste Inventory System (EWI), in compliance with the EQA 1974. With a holistic data collection system in place, we ensure transparent and effective environmental reporting for waste management. Furthermore, in 2023, we have classified our hazardous waste as “diverted from disposal” and “directed to disposal” to enhance tracking and monitoring of waste generated from our operations.

To ensure proper disposal of e-waste, waste materials are collected by a licenced vendor, in compliance with the Environmental Quality (Scheduled Waste) Regulations 2005.

Our Efforts Towards a Circular Economy

We are evaluating the treatment methods for specific scheduled waste through engagement and verification with licenced waste collectors. To illustrate our progress, the table below summarises the waste generated from our operations, and its treatment methods based on our initial engagement with the licenced waste collectors. These treatment methods are validated by data collected by the licenced waste collectors.

No.	SW Code	SW Description	Method of Treatment
1.	SW 104	Dust, slag, dross or ash containing arsenic, mercury, lead, cadmium, chromium, nickel, copper, vanadium, beryllium, antimony, tellurium, thallium or selenium excluding slag from iron and steel factory (fly ash)	Reuse
2.	SW 110	Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes and other activated glass polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl	60% Recycle/Recovery 30% Normal Waste 10% E-Waste
3.	SW 305	Spent lubricating oil	Recycle
4.	SW 306	Spent hydraulic oil	Recycle
5.	SW 421	Paper insulation from used lead cable	Recovery
6.	SW 422	A mixture of scheduled and non-scheduled wastes (transformer)	Recovery & Recycle
7.	SW 102	Waste of lead acid batteries in whole or crushed form	Cementation/Recycle
8.	SW 103	Waste of batteries containing cadmium and nickel or mercury or lithium	Cementation/Recycle
9.	SW 109	Waste containing mercury or its compounds	Physical/Chemical Treatment
10.	SW 307	Spent mineral oil-water emulsion	Incineration
11.	SW 311	Waste oil or oily sludge	Incineration
12.	SW 408	Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes	Landfill
13.	SW 409	Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes	Incineration
14.	SW 410	Rags, plastics, papers or filters contaminated with scheduled wastes	Incineration
15.	SW 417	Waste of inks, paints, pigments, lacquer, dye or varnish	Incineration
16.	SW 429	Chemicals that are discarded or off-specification (used polybutene / grease)	Incineration

We continue to collaborate with licenced and experienced waste management vendors to further enhance our hazardous waste management efforts.

MM6: ENVIRONMENTAL MANAGEMENT

Responsible for End-of-Life Management of Solar Panels

In line with our Energy Transition journey and the expansion of our solar capacity, we are committed to managing the end-of-life stages of solar panels to promote responsible waste management. We recognise the importance of responsible end-of-life management for solar panels within a circular economy framework. We are committed to ensuring that all photovoltaic (PV) panels are responsibly recycled, fully complying with DOE regulations, as we integrate the principles of circular economy into our strategies. Adhering to strict regulatory guidelines and employing the 3Rs principle (Reuse, Repurpose, Recycle) allows us to minimise negative environmental impact during the operation and decommissioning of the LSS plant. Furthermore, we consistently explore avenues for panel reusability and recycling, aligning with the nation's climate ambition of achieving 70% renewable energy by 2050.



Our approach to solar panel end-of-life management complies with the Environmental Quality (Scheduled Waste) Regulations 2005, entrusting disposal to licenced vendors authorised by the DOE.

A Streamlined Process for Responsible Disposal by Licenced Vendors

1 Storage of Damaged Solar Panels

Damaged solar panels are stored at the warehouse of licenced vendors for further disposal. Approximately 300 solar panels have undergone disposal exercises with licenced vendors.

2 Segregation of Solar Panel Components

Damaged panels are dismantled from their structures and separated. The glass is broken down, and the metal frames are compressed into bundles.

3 Recycling and Disposal Process

Following segregation, the glass is disposed of at a designated industrial landfill, while the compressed metal is sold to a third-party for recycling.

4 Residential, Commercial and Industrial Solar Panels

For solar panels installed for residential, commercial, industrial and government clients, we prioritise recycling them for reuse at other TNB sites if suitable for re-installation, as the panels are still under warranty and in good condition.

In addition, TNB through TNB Research, has developed the Pilot Recycling System for PVs, which uses thermal treatment for material separation, supported by an optimised heat recovery design.

TNB's Competent Personnel in Hazardous Waste Management

To strengthen our hazardous waste management, we leverage a team of 88 Certified Environmental Professionals in Scheduled Waste Management (CePSWaM) personnel. Accredited by the Director General of the DOE, these professionals possess the expertise to supervise both pollution control systems and scheduled waste management. Among their roles and responsibilities are providing advisory services, planning, and implementing effective scheduled waste management practices, including notifying the relevant authorities and managing hazardous waste disposal. CePSWaM personnel are also responsible for managing the E-SWIS system, which is reported to the DOE as per regulatory requirements.

Hazardous Waste Awareness Programme

In 2023, a symposium was held for TNB's CePSWaM personnel to increase awareness of the purpose and significance of scheduled waste management at TNB. The event was conducted in compliance with the Environmental Quality Act 1974 and its regulations, covered legal compliance and waste management methodologies. It also introduced participants to the Schedule Waste Self Visual Report (SVR) and underscored TNB's commitment to raising awareness of scheduled waste management. This initiative reflects TNB's dedication to the TNB Sustainability Pathway 2050 within the ESG framework and aligns with SDG 12, ensuring Responsible Consumption and Production.

In addition to CePSWaM, several awareness activities were conducted for employees and the public:

- TNB's HSE Department collaborated with the DOE to produce e-waste awareness videos to create awareness on e-waste management among employees and the public. These videos are available on TNB's internal portal, Livewire.
- Periodic internal bulletins, such as Tenaga Green, are circulated to share information on environmental incidents and efforts towards conservation and preservation of the environment.
- An E-Waste Day was organised at TNB headquarters to raise awareness and provide employees with the opportunity to exchange e-waste for cash.

Addressing Hazardous Waste Non-Compliance

Ensuring regulatory compliance is vital for maintaining our licence to operate and mitigating legal and reputational risks. We strive to consistently improve our compliance practices by engaging regularly with authorities and staying abreast with the latest developments in regulatory requirements. Lessons learned from incidents of non-compliance also serve as guidance for us to enhance compliance practices.

MM6: ENVIRONMENTAL MANAGEMENT

	2021	2022	2023
Number of compounds received	11	5	10
Amount (RM)	19,000	20,000	20,000

In 2023, we were fined for non-compliance with the Environmental Quality (Scheduled Waste) Regulations 2005. We ensured that all fines were fully paid and have engaged with the DOE to prevent future recurrence. Operationally, we take deliberate action to ensure corrective and preventive mitigations towards full compliance.

Non-Hazardous Waste



Our non-hazardous waste management complies with regulations set by the Jabatan Pengurusan Sisa Pepejal Negara (JPSPN) and the Solid Waste and Public Cleansing Management Act 2007 (Act 672). We are taking a phased approach towards improving our non-hazardous waste management. In 2023, we introduced the Tenaga Solid Waste Inventory (TESWI) to streamline data collection and monitoring of solid waste generation, promoting waste separation and recycling practices.

We have rolled out the 3R – Reduce, Reuse and Recycle – initiatives to inculcate ESG behaviour in our employees.

Reduce

- Digitalisation of documents and systems
- Providing glass jugs instead of plastic bottles in meeting rooms
- Reducing single use plastic

Reuse

- Implementing an ongoing “Bring Your Own Container” campaign

Recycle

- Providing 3R bins across TNB premises

Biodiversity Management

We implement preventive and rehabilitative measures to reduce our impact on local biodiversity, including minimising our operations in areas of high biodiversity value. Compliance with regulatory requirements, including the Environmental Quality Act 1974 and the Wildlife Conservation Act 2010 (amendment 2022), is of utmost importance to TNB’s business operations. We uphold the principle of avoiding development within or adjacent to any gazetted Protected Area in line with our commitment to the Environmental Quality Act 1974.

We conduct environmental screening and Environmental Impact Assessment (EIA) studies prior to project development to avoid, minimise and remedy any potential impacts from our activities on biodiversity.

Notably, we recognise that the construction of a hydroelectric power plant significantly impacts biodiversity. Activities during the different stages of construction are as follows:

Construction Stage	Impoundment Stage	Operation Stage
Site preparation (vegetation clearing, building access roads, building temporary facilities)	Reservoir filling	Water flow regulation and hydropower generation
Excavation works, preparation of foundation, facilities and dam construction	Water level monitoring and flow regulation	Sedimentation and soil erosion

MM6: ENVIRONMENTAL MANAGEMENT

In TNB, we assess the potential impact at each stage of the project relating to water quality, hydrology, land use, flora, fauna and fresh water ecology as follows:

Construction Stage					
Water quality	Hydrology	Land use	Flora	Fauna	Freshwater ecology
Siltation towards downstream river	Surface erosion and sedimentation	Change in land use	Loss of native vegetation	Illegal hunting	Sedimentation load in the river system
Increase in water turbidity	-	Change in landscape	Loss of commercially and ecologically important species	Human-wildlife conflict	Oil and grease contamination
-	-	Habitat fragmentation	Loss of carbon sequestration	Habitat loss	-
-	-	Habitat alteration	-	Displacement of wildlife	-
-	-	-	-	Loss of direction	-
-	-	-	-	Population fragmentation	-

Impoundment Stage						Operation and Maintenance Stage	
Water quality	Hydrology	Land use	Flora	Fauna	Freshwater ecology	Flora	Fauna
Biodegradation due to decomposition of biomass materials	Alteration of natural water flow	Change in land use	Change in species composition	Illegal hunting	Alteration of river regime	Creation of new riparian habitat	Reduction in the habitat availability
Modification of physical, chemical and biological characteristics of water	Disruption of aquatic habitat and river ecosystem	Change in landscape	Potential spread of invasive species	Human-wildlife conflict	Extinction of local aquatic life	-	Illegal hunting
-	-	Habitat fragmentation	Loss of riparian vegetation	Displacement of wildlife	Loss of spawning grounds	-	Human-wildlife conflict
-	-	Habitat alteration	-	Loss of direction	-	-	Population fragmentation

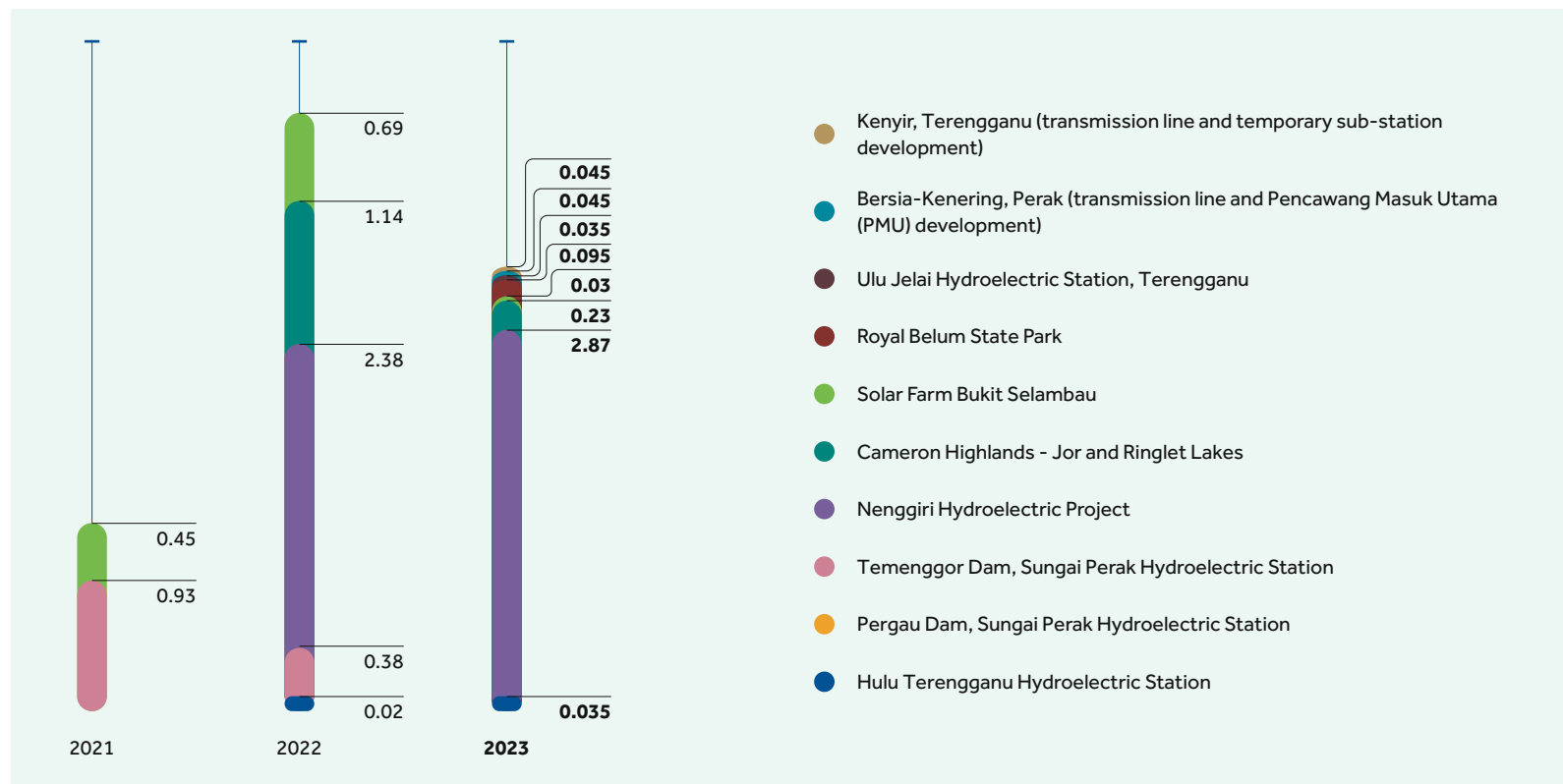
We recognise that in our operations, there are areas in which the habitats of certain flora and fauna species are protected under local or international regulations. Therefore, we have identified endangered and threatened species based on the International Union for Conservation of Nature (IUCN) Red List at identified sites where we operate with the aim to protect the surrounding ecosystems.

	No. of species
Critically endangered (CR)	3
Endangered (EN)	18
Vulnerable (VU)	30
Near Threatened (NT)	39
Least Concern (LC)	501
Data Deficient (DD)	7
Not Evaluated (NE)	249



The findings of these studies guide us in implementing initiatives to preserve natural habitats and safeguard the variety of species that contribute to ecosystem stability. In 2023, RM3.386 million was spent on biodiversity projects and the following are highlights of biodiversity management projects undertaken.

MM6: ENVIRONMENTAL MANAGEMENT


Total Spending on Biodiversity Studies (RM million)



Hydroelectric Sites

Project Description	Initiative
Implementation of Wildlife Management Plan at Nenggiri Hydroelectric Project (HEP)	<p>Wildlife Monitoring</p> <p>Regular surveys and data collection are carried out to understand the presence, distribution and population dynamics of various wildlife species within the project area and its surroundings. By monitoring wildlife, TNB identifies species of concern, their habitat requirements and potential threats, enabling informed decision-making for conservation efforts.</p> <div>   </div>

MM6: ENVIRONMENTAL MANAGEMENT

Project Description	Initiative
	<p>Wildlife Corridor</p> <p>To mitigate disruptions to the natural movement patterns and grazing areas, wildlife corridors and designating grazing zones are being established. These corridors facilitate safe animal movement of different habitats, ensuring genetic exchange and population dispersal. Additionally, artificial salt licks at strategic locations away from project areas are established to redirect the animals for their overall well-being and to minimise human-wildlife conflicts.</p>
	<p>Human-Wildlife Conflict Management</p> <p>In partnership with PERHILITAN and other relevant agencies, strategies are implemented to reduce and manage potential human-wildlife conflicts through deterrent measures and protocols for safe wildlife handling and relocation when necessary. Specific wildlife awareness campaigns are conducted to educate the public about the unique wildlife species found in the project area and their ecological significance.</p>
	<p>Wildlife Rescue</p> <p>We implement safe and humane wildlife rescue operations for displaced or injured animals. It is important to us that these operations are carried out by trained personnel, using appropriate equipment and designated facilities to ensure the well-being of rescued animals before their release into suitable habitats.</p>
	<p>Fish Rescue</p> <p>To mitigate and minimise the impact of the diversion of rivers and streams on aquatic habitats, we conduct fish rescue operations together with the Fishery Research Institute and local fishermen communities. These operations include surveys, capturing and temporarily housing the fish, identifying suitable relocation sites, releasing the fish and monitoring their survival and growth. The goal is to preserve aquatic biodiversity and sustain fish populations in affected water bodies.</p> <div>  </div> <div>  </div>

MM6: ENVIRONMENTAL MANAGEMENT

Project Description	Initiative
Fish Sanctuary (Akekchep) Taman Negeri Royal Belum in Belum Lama and Sungai Tiang areas	We established the Kelah Fish Sanctuary called <i>Akekchep</i> , which means “don’t (<i>Akek</i>) catch (<i>Chep</i>)” in the Jahai Orang Asli language. The sanctuary aims to conserve the local fish population while generating new sources of income for rural communities. It is now operated independently by the indigenous community association, Koperasi Orang Asli Kg Sg Tiang (KOAST), which was established through this project.
Rehabilitate sediment deposit areas at Hydro Lake Sultan Abu Bakar, Cameron Highlands	We collaborated with the Pahang State Forestry Department to rehabilitate and restore habitats. Our goal is to restore dredging disposal sites at Jor and Ringlet Lakes by identifying and maintaining suitable tree species, implementing soil treatments, and conducting routine practices to enhance tree growth. Additionally, we carry out community engagements and education programmes to raise awareness and stimulate active participation among local communities and stakeholders in preserving the Sultan Abu Bakar Dam and minimising sediment issues, including promoting good farming practices.
Annual ecology monitoring and assessment of aquatic life population at Hulu Terengganu and Ulu Jelai Hydroelectric Stations, Terengganu	To assess aquatic life populations, we conduct annual ecological monitoring and assessments at hydroelectric stations. These assessments allow us to monitor environmental performance and detect ecological changes. The findings are reported annually to the DOE, providing valuable insights on impact on aquatic ecosystems resulting from the hydroelectric power plant operations.

Grid Infrastructure

Project Description	Initiative
Environmental Impact Assessment (EIA) study for transmission line and substation development at Bersia-Kenering, Perak, and Kenyir, Terengganu	TNB continues to carry out baseline assessments prior to project developments to understand existing environmental conditions and assess impact predictions due to project development, implementing mitigation measures based on identified impacts.
Deforestation control at TNB transmission lines	We implemented the Tree Hyperspectral Identification System (THySIS) with AI and drone technology to ensure proposed transmission line routes and avoid habitats of sensitive and endangered species as per the Malaysian Forestry Department’s guidelines. Additionally, to preserve the Tampik River in Janda Baik, TNB utilised helicopters to transport equipment and materials for the construction of ten (10) transmission towers, significantly minimising environmental damage and preserving 25 acres of forest land.

MM6: ENVIRONMENTAL MANAGEMENT

Large Scale Solar – Bukit Selambau and Sepang

Project Description	Initiative
Pilot study on the management and mitigation of human-macaque conflicts	The pilot study aims to identify strategies for managing human-macaque interactions harmoniously through behavioural ecology analysis. This effort is focused on ensuring the safety of the macaques when they encroach into the plant area. Proposed mitigations include the introduction of a buffer zone around the plant perimeter and the installation of a deterrent electric fence, as approved by Energy Commission. The research project also managed to establish a guide entitled "Conflict Management Plan for the Long-tailed Macaque Population at TNB's Solar Farm" towards useful reference for current and future LSS development and operation.
Bird identification at LSS Sepang Solar	In collaboration with <i>Persatuan Rekreasi dan Bimbingan Alam Semulajadi Selangor</i> (Sarang), our subsidiary, TNB Renewables Sdn Bhd (TRe), initiated a bird identification project at LSS Sepang Solar. A total of 28 bird species were identified, including 25 resident species and three migratory species. Among the local species are the White Throated Kingfisher, Crested Serpent Eagle, Blue Tailed Bee Eater and Red Wattled Lapwing, while migratory species include the Pheasant Tailed Jacana, Lesser Whistling Duck and Long Tailed Shrike. The identification of bird species aims to assess the impact of avian species towards plant performances, e.g., shading or solar panel soiling due to bird droppings. In collaboration with Jabatan Perhilitan, early mitigation towards preserving the ecosystem and sustaining plant performance can include designated feeding area for the avian species.

Biodiversity Collaborations

We actively participate in biodiversity dialogues with relevant parties including:

- Sharing of insights on the development of guidelines and action plans for the National Elephant Conservation Action Plan, participation in technical committee meetings on Central Forest Spine (in the state of Selangor) and *Seladang* conservation workshops.
- Contributing as a member of the Malaysia Platform for Business and Biodiversity, which aims to translate the National Policy on Biological Diversity into collaborative initiatives and report on the progress of private sector initiatives in biodiversity management implementation.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Water and Waste Management							
1	Total volume of water used*	C9(a)	megalitres	8,431	10,531	10,096	2% reduction in water used in buildings
2	**Total waste generated, and a breakdown of the following:	C10(a)	metric tonnes	47,829	74,150	929,123	30% recycling rate of hazardous waste by 2025
	(i) total waste diverted from disposal	C10(a)(i)	metric tonnes	-	-	440,595	
	(ii) total waste directed to disposal	C10(a)(ii)	metric tonnes	-	-	488,528	

* FY2023 data was revised using a new methodology aligning with GRI 303-5 using the following formula:

$\text{Water consumption} = \text{Total water withdrawal} - \text{Total water discharge}$

- For water consumption indicators, seawater used in power plant cooling systems is excluded, as it is returned in full to the nature receptors without substantial changes in quality apart from a slight increase in temperature, subject to authorisation and continuous controls to guarantee the absence of measurable impacts on exposed ecosystems.
- Total water withdrawal is the sum of the various water resources obtained by direct measurement (flowmeters) or by estimating the output of the water withdrawal pumps. In TNB, most of the water withdrawn is used in cooling processes, especially in power generation. The rest of the water withdrawn corresponds to other auxiliary services of the generation plants and consumption at offices.
- Total water discharge data is obtained from the power plant's water treatment facilities prior to discharge in full to natural receptors.

** Hazardous waste only. The revised methodology used for FY2023 data includes fly ash from coal power plants and e-waste from offices. The target declared is aligned with the DOE target under *Pelan Strategik Jabatan Alam Sekitar, Malaysia (Teras 1: Penguatkuasaan Pintar)*. The recycling rate refers to the total waste diverted from landfills.

MM7

CUSTOMER EXPERIENCE AND SATISFACTION

We take great pride and privilege in serving our diverse customers with quality products and services, continuously seeking ways to enhance their experience. In recent years, we have also focused on empowering our customers with smarter and more sustainable solutions. We are committed to providing reliable, affordable, and long-term services and solutions by engaging effectively with our customers while maintaining their trust in the quality of our offerings.

Our annual Customer Satisfaction Index (CSI) serves as the primary tool for measuring customer happiness with our service delivery and solutions. The CSI evaluates various aspects including TNB's electricity supply reliability, energy efficiency, and the customer service experience. In 2023, we achieved a high CSI score of 88%, consistently maintaining a score above 85% for three consecutive years.



MANAGEMENT APPROACH

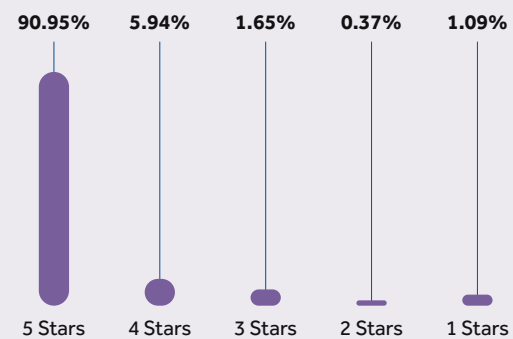


Strengthening Customer Experience

We operate through four (4) main communication channels: Click, Call, Come Over, and Go Over, with our Click channel experiencing continual growth. Currently, the myTNB platform has 6.7 million subscribers, representing over 66% of our customer base. We also continue to offer face-to-face appointments at our Kedai Tenaga for customers who prefer in-person interactions.



myTNB App feedback

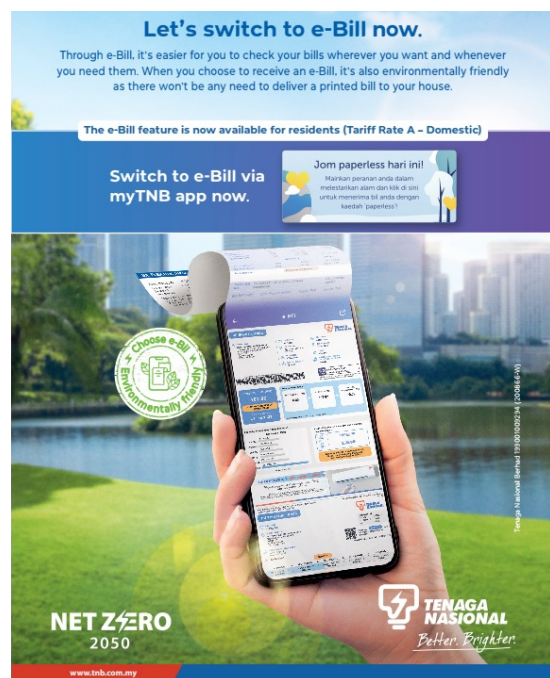


Digitalising Customer Services

Aligned with our commitment to digital transformation, we consistently enhance the services on our digital platforms to address evolving customer needs, including:

1. Introducing digital billing for customers who prefer electronic bills (e-bills) over traditional paper ones, enhancing our commitment to sustainability. By the close of 2023, over 1.02 million customers had switched to digital billing, saving 738 trees, approximately equivalent to 2.4 acres, and avoiding approximately 47,380kg CO₂e.
2. Enhancing the user-friendly design of our digital bills, simplifying how customers access and understand information about their energy usage and associated costs.
3. Enabling users with smart meters to set consumption thresholds and receive alerts via myTNB Energy Budget, thereby promoting more efficient use of electricity. By the end of 2023, approximately 287,625 customers had adopted this feature. As a result, these customers have collectively reduced their electricity consumption by 86,935MWh, which is equivalent to about 60,856 tonnes of CO₂ emissions avoidance.

MM7: CUSTOMER EXPERIENCE AND SATISFACTION



myTNBiz

myTNBiz serves as our digital hub for business customers, offering features like bill viewing and bulk online payments. Particularly tailored for our commercial and industrial customers, this platform is steadily gaining momentum, boasting over 195,632 connected customer accounts.

Social Media Platforms Experience

Throughout the year, TNB's social media platforms experienced remarkable growth in followership, witnessing a 15% surge and reaching a remarkable audience of over 205.2 million across various platforms. This achievement underscores TNB's prowess in engaging with our customers digitally, providing solutions and energy efficiency insights. Notably, our content, including energy-saving tips, broke into the top 10 most popular social media posts of the year for the first time, highlighting our ability to resonate with our audience.

Safeguarding Customer Privacy

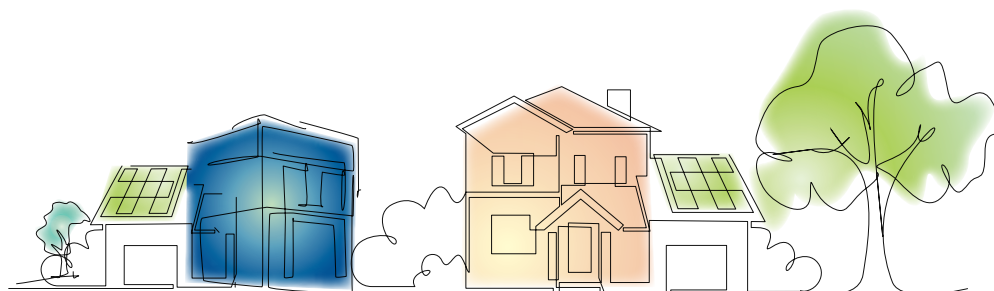
We stand resolute in our dedication to safeguarding the privacy and security of our customers' data. Our cybersecurity approach is embodied in the TNB Cyber Security Operation Model (CSOM), designed to comply with laws such as the Personal Data Protection Act (PDPA) and adhere to industry benchmarks like the Payment Card Industry Data Security Standard (PCIDSS).



Refer to Cybersecurity Management on pages 102-103.

Facilitating Customers' Energy Transition (ET) Journey Through Dynamic Energy Solutions

We recognise the important role that customers have in Malaysia's ET journey. As such, we strive to provide various opportunities for customers to make informed decisions regarding renewable energy (RE) and energy efficiency as outlined below:



Feed-in Tariff (FiT)

Under the FiT programme, customers export RE generated to the national grid at a fixed price. In 2023, 9,475 new FiT projects were launched, contributing a total installed capacity of **585.97MW**.

Net Energy Metering (NEM)

In the NEM programme, customers can export surplus energy from their solar PV systems back to the national grid. Currently, there are approximately 24,664 NEM participants, collectively contributing a total installed capacity of **970.5MW**.

Green Electricity Tariff (GET)

The GET is a government-led initiative that allows customers to acquire their electricity sources from renewable energy indirectly to reduce their carbon footprint. In 2023, 2,808 customers have subscribed to GET with a total annual consumption of **4,224GWh**.

Rooftop Solar PV (GSPARX)

GSPARX allows customers to install solar PV systems without any upfront costs, enabling them to achieve savings through self-consumption. In 2023, GSPARX secured around **442** new contracts for both SARE and Outright Purchase schemes.

Supply Agreement for Renewable Energy (SARE)

SARE is a tripartite agreement between the asset owner as the Solar PV System investor and owner, TNB as the billing and collection agent, and the customer. This arrangement permits customers to enjoy a seamless billing experience and the benefits of having Solar PV System with zero CAPEX.



MM7: CUSTOMER EXPERIENCE AND SATISFACTION

Enhancing Customer Satisfaction

In 2023, we achieved a Customer Satisfaction Index (CSI) score of 88% and an overall Customer Experience Index (CEI) score of 95%. The CEI data provides insights into customer satisfaction and their experiences across both digital and physical service platforms. We observed an increase in customer engagement on our digital platforms such as the myTNB app, rising from 90.8% in 2022 to 91.7% in 2023. We remain committed towards addressing and resolving enquiries and complaints received from customers. In 2023, we resolved 99.9% of enquiries and 99.97% of customer complaints.

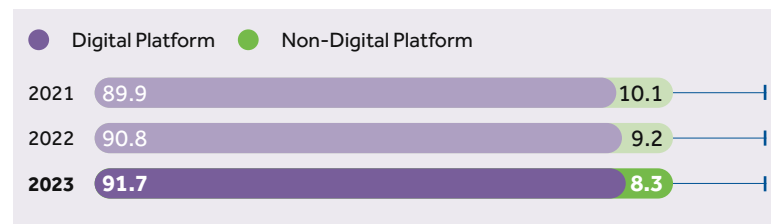
Customers have access to multiple channels for their feedback, including the TNB Careline's official Facebook page and the one-stop call management centre (15454). We are dedicated to addressing all customer enquiries and complaints and achieved a 99.98% resolution rate in 2023, meeting the Minimum Service Level (MSL) set by the Energy Commission.

Furthermore, our Sabah-based subsidiary, Sabah Electricity Sdn Bhd (SESB), serving 690,000 customers in 2023, has attained a Customer Satisfaction Index (CSI) rating of 81%. SESB has demonstrated notable and significant enhancements in services such as meter reading, billing and payment processing, and remains dedicated to advancing the MySESB digital platform. Committed to meeting customer demands, SESB actively embraces technological innovations to provide a seamless digital customer experience journey.

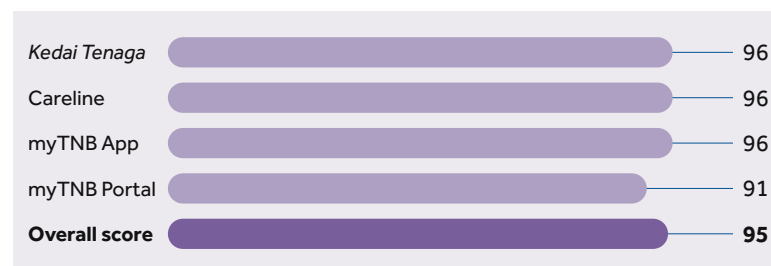
CSI (%)



Customer Interaction Channels (Digital/Non-Digital) (%)



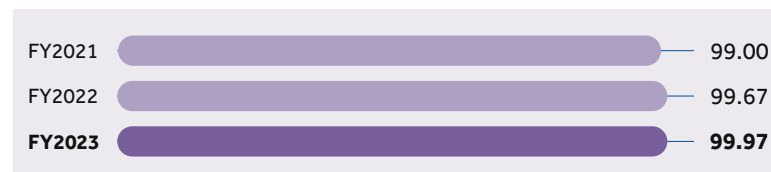
CEI (%)



Number of Customers Subscribed to myTNB



Percentage of complaints resolved (%)



Percentage of enquiries resolved (%)



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Customer Experience and Satisfaction							
1	Number of substantiated complaints concerning breaches of customer privacy and losses of customer data	C8(a)	number	-	-	0	Zero complaints
2	Subscription to myTNB app	-	number	5.6mil	6.3mil	6.7mil	70% of total TNB customers in 2024
3	Rooftop solar	-	MWp	22	45	105	120-150MWp installation in 2024
4	CSI	-	%	87%	87%	88%	85-88%

MM8

COMMUNITY DEVELOPMENT AND HUMAN RIGHTS

We are committed to building the nation through reliable and affordable electricity, and contributions that engage and develop the community. We aim to drive progress and make a positive impact in our communities through various corporate responsibility programmes, allocating 1% of our Profit After Tax to these initiatives. Aligned with our motto "Better World. Brighter Lives.", we focus on brightening lives in Malaysia and beyond.

As a key driver of Malaysia's Energy Transition, we are dedicated to a just and inclusive transition, ensuring no one is left behind.



MANAGEMENT APPROACH



In 2023, TNB invested over RM99 million towards community programmes, strategically allocated across four (4) key focus areas, namely Social, Education, Sports and Environment. This dedicated funding highlights our commitment to positively impacting communities and meeting their specific needs.



SOCIAL

Home For the Needy

Through our Home For the Needy programme, we have supported 40 families, primarily from B40 and hardcore poor communities, including single parents, senior citizens and differently-abled individuals. In 2023, we continued to refurbish and build new homes for underprivileged families amounting to RM0.2 million through this initiative.



MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS

Rural Electrification Programme

In partnership with the Ministry of Rural and Regional Development, TNB is dedicated to electrifying rural areas, including villages and settlements of Indigenous People, outside the operational areas of local authorities. This effort is part of the Rural Electrification Programme (*Bekalan Elektrik Luar Bandar - BELB*), aiming to integrate these remote locations into our grid network wherever possible.

In 2023, we completed two significant projects under the BELB initiative, enhancing connectivity to remote villages and expanding our power infrastructure to underserved areas.

Projects	Number of Villages	State
BELB Pos Gob*	13	Kelantan
BELB Pos Hendrop Fasa 1	15	Kelantan

* Completed feasibility study

These projects advance our commitment to ensuring every citizen has access to essential electricity services, and we are excited to continue this work in the coming years.

LED Relamping

TNB is committed to increasing community security and convenience through street lighting as part of our social responsibility. In addition, we are upgrading these lights to LED for better visibility and energy efficiency. Our LED relamping initiative involves replacing High Pressure Sodium Vapour (HPSV) lamps with LEDs for street lighting under the IBR Regulatory Period. This transition not only enhances street lighting performance but also reduces operational costs. In 2023, we successfully replaced 602,200 HPSV streetlights with LEDs, including *Lampu Jalan Kampung (LJK)*, approved by the Energy Commission.

Village Street Lighting (LJK) Programme

Since 2002, the *Program Lampu Jalan Kampung*, initiated by the government in cooperation with TNB, aims to improve road security and stimulate local economies by brightening rural streets. This programme is fully funded by the government, while TNB handles the installation, operation, and maintenance of the LJK. In 2023, a total of 1,643 units of village streetlights were successfully installed with a total cost of RM401,000.

TNB will continue to install 14,210 LJK units (12,300 units in Peninsular Malaysia and 1,910 in Sabah), expected to be completed by November 2024 through the "*Program Pemasangan Lampu Jalan Kampung (LJK) Semenanjung Malaysia dan Sabah*" commissioned by the Ministry of Rural and Regional Development (KKDW).

Engaging Indigenous People

TNB actively supports the Orang Asli communities near our operation sites by enhancing their well-being and socioeconomic conditions. We have established a scholarship fund for underprivileged Orang Asli children, offering them the chance to achieve their educational and career aspirations, which contributes to long-term improvements in the living standards of recipients and their families.

Furthermore, as part of our commitment to creating sustainable communities, TNB provides scholarships to Orang Asli children. This scholarship programme offers monetary assistance to help Indigenous students from the B40 group pursue tertiary education, reflecting our dedication to enhancing the lives of the Orang Asli residing near our operational centres. TNB employs responsible engagement strategies through the following main channels:

- Engaging with both directly and indirectly affected Orang Asli and Malay communities
- Conducting various focus group discussions
- Implementing social and economic resilience programmes, with the community showing commendable cooperation and participation

In 2023, engagement and contribution activities included:

- Briefing the *Jawatankuasa Pembangunan dan Keselamatan Kampung Orang Asli (JPKKOA)* on the compensation package, which includes compensation for loss of trees and structures
- Engagement with community representatives, non-governmental organisations, the Human Rights Commission of Malaysia (SUHAKAM) and government agencies on the draft of the Formal Stakeholder Acceptance Document

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Engaging Indigenous People

- Social Resilience Programme on Youth Empowerment, (*Bimbing Anak Komuniti Temiar- BAKTe*), with Sekolah Menengah Sains Gua Musang, Sekolah Kebangsaan Pos Pulat and Sekolah Kebangsaan Pos Tohoi
- Small restoration of houses at Pos Pulat
- Pilot chilli farming programme at Pos Pulat
- Construction of a temporary jetty at Pos Pulat for land fishermen
- Donation of freezer chests for the use of land fishermen
- Implementation of Phase 4 of the Small House Repair Programme
- Distribution of clothes and *Ramadan* food packs
- Gotong-royong activities and *Hari Raya Aidilfitri* celebration
- Football match
- Donation of laptops and printers to JPPKOA



Engagement with Orang Asli Communities at Nenggiri HEP

At the Nenggiri Hydro Project site, we implemented a resettlement programme for approximately 300 affected Orang Asli households. This programme includes income restoration and upliftment through the provision of land for rubber and fruit plantations, along with training for upskilling and reskilling to boost productivity and employability. Each family received a house of approximately 800 square feet. The community will also be provided with essential infrastructure and amenities such as a healthcare centre, clean water supply, and schools.

The Nenggiri Hydroelectric Project also focuses on addressing local concerns and benefits, such as flood mitigation, improved irrigation systems, enhanced clean water supply, and increased access to amenities, jobs, and entrepreneurial opportunities. This project aligns with the government's green power generation goals and involves continuous engagement with stakeholders to ensure their interests are addressed.

Archaeological and Artifact Excavation in Collaboration with *Jabatan Warisan Negara (JWN)* and *UKM Pakarunding Sdn Bhd (UKMP)*

As part of the Nenggiri's HEP Environmental Impact Assessment (EIA), a Heritage Impact Assessment (HIA) is conducted, which involves archaeological exploration and artifact excavation in accordance with the National Heritage Act 2005 (Act 645). This effort aims to safeguard and restore invaluable national heritage and archaeological findings. Ongoing mitigating measures are in place at the impacted archaeological sites.

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Tabung Warga TNB Prihatin (TWTP)

TWTP was established to enable TNB employees donating for Malaysians impacted by COVID-19 and the Movement Control Order (MCO). It has since been refocused to aid those affected by floods and other natural disasters. In 2023, the TWTP contribution from TNB employees and the company amounted to RM426,194.

Contribution to the Sabahan Community through SESB

Through our subsidiary, SESB, we collaborate with various stakeholders to contribute to the Sabahan community amounting to RM1.1 million in 2023. Some of the highlights are:

Environmental Conservation and Sustainability 1

- Maintenance of solar lighting along the route to Mount Kinabalu with Sabah Parks
- Beach clean-up at Tanjung Lipat, Likas, Kota Kinabalu
- Tree Replanting Programme with *Jabatan Perhutanan Negeri Sabah*

Community Welfare and Development 2

- Donation of health equipment to Klinik Kesihatan Putatan
- Donation to *Pusat Lestari Kota Kinabalu (PLKK)*, in collaboration with *Dewan Bandaraya Kota Kinabalu*
- Energy efficiency and safety activities including awareness talks for the *Persatuan Suri dan Anggota Wanita Perkhidmatan Awam Malaysia (PUSPANITA)* Sabah Branch and *Persatuan Ibu-Ibu Tunggal*
- Construction of new homes for the B40 category in five selected locations in Tuaran, Kinabatangan, Kundasang, Ranau, and Tambunan

Disaster Response 3

- Flood disaster relief through state government agencies including *Ibu Pejabat Polis Daerah (IPD)* Penampang, *Pejabat Daerah Putatan*, and others

Zakat Contribution

TNB is a major contributor to *zakat*, which is directed towards assisting those in need. This commitment has earned us recognition as one of the top 20 employers that have significantly contributed to and served as a role model in this area. In 2023, we paid *zakat* amounting to RM40.4 million across Peninsular Malaysia based on FY2022's aggregate income, in which a portion of the *zakat* returned to us in the form of *wakalah* was distributed through various programmes to ease the burden of targeted recipients.



MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS



EDUCATION

We continue to improve communities' quality of life by providing accessible, high-quality educational opportunities. Our dedication is demonstrated through our efforts to transform the lives of individuals, families, and future generations through education.

Malaysia Energy Literacy Programme (MELP)

Initiated by TNB in December 2020, MELP has evolved into a national-level programme, forming integrated partnerships and stronger collaborations with the Ministry of Energy Transition and Water Transformation (PETRA) and its agencies. MELP aims to educate Malaysians on the significance of energy and their role in managing it effectively, fostering energy-literate consumers.

As energy literacy is vital to accelerate Malaysia's energy transition journey, MELP focuses on enhancing awareness among students, SMEs and energy consumers, aligning with the new Energy Efficiency and Conservation Act (EECA). It plays a central role in cultivating a sustainable, knowledgeable and energy-literate society to achieve Malaysia's energy transition objectives and address the shift towards a low-carbon energy mix.

A notable achievement of MELP is the introduction of Energy Literacy elective modules at universities, in collaboration with UNITEN and Universiti Kebangsaan Malaysia (UKM) professors. These modules provide students with insights into various energy-related topics, including sustainability, energy transition, renewable energy, energy efficiency, consumer literacy and electrical safety, paving the way for a more informed generation of energy professionals.



TNB Reskilling Malaysia Programme (TRM)

This initiative provides job matching opportunities to unemployed members of the public as well as training of necessary skills for their new roles. Introduced in 2020, the programme helps empower and provide reskilling for retrenched and unemployed Malaysians. Individuals who completed the reskilling programme were successfully recruited by TNB vendors, eliminating the need to incur any new hire development and onboarding costs. Apart from securing new skilled employees, the vendors are certified and authorised to serve in the TNB ecosystem, especially in areas pertaining to Smart Meter installation and basic electrical systems.

Throughout the TRM initiative, TNB spent RM2 million, benefitting a total of 661 participants who successfully secured jobs at the end of the programme.

MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS

Graduate and Apprentice Programmes

The Professional Training and Education for Growing Entrepreneurs (PROTÉGÉ) Programme supports the efforts of the Malaysian government and the Ministry of Entrepreneur Development and Cooperatives (MEDAC). This initiative aims to develop graduates through industrial attachments that help them attain relevant competencies, enhancing their marketability and employability, particularly in the electricity industry.

TNB has trained approximately 6,600 trainees with a RM155 million investment from AAIBE (RM78.6 million) and TNB (RM76.5 million). In 2023, MEDAC awarded TNB the *Anugerah Pelaksana* in recognition for TNB's continuous commitment and superior achievements in implementing the PROTÉGÉ programme. PROTÉGÉ Phase 8 (2023-2024) has trained around 500 trainees.

Internship

As a responsible organisation, TNB offers internship opportunities to students from higher learning institutions across Peninsular Malaysia. This provides students with valuable workplace exposure and enhances their employability upon graduation. TNB also tailors placements based on students' preferences and needs. Nearly 33,000 students have completed their internships in TNB since 1990.

Additionally, TNB's Better Brighter Internship Programme (BBIP) is exclusively for UNITEN students. Introduced in 2014, TNB allocates RM450,000 annually for this programme. Each year, 300 to 400 students complete the BBIP and receive a monthly allowance of RM500.

Pintar School Adoption and Program Ceria Ke Sekolah

The Pintar School Adoption Programme supports selected schools with various initiatives, including motivational camps, tuition classes, examination seminars, workshops, and sports training. Continued in 2023, the programme adopted 11 primary schools across Peninsular Malaysia, contributing RM315,000 to benefit 150 students.

Annually, TNB also organises the *Ceria Ke Sekolah* Programme, which equips primary school students from low-income families with essential school supplies, including uniforms, pants, headscarves, school bags, and face masks. In 2023, this programme benefitted 2,500 students, with TNB contributing a total of RM500,000 to support this initiative.

Yayasan Tenaga Nasional (YTN)

Yayasan Tenaga Nasional (YTN) was established with the mission to transform lives through outstanding educational opportunities. Established in 1993, YTN is overseen by a Board of Trustees and an organisational committee dedicated to providing financial support. This support includes scholarships for higher education both locally and internationally, and convertible loans for students at local universities, facilitated by TNB.

YTN effectively attracts potential talents for higher education using various communication channels, including social media promotion on the official YTN Instagram. Applicants are considered for sponsorship based on both their academic and non-academic achievements and must undergo interview sessions. Final sponsorship decisions are subject to endorsement by YTN Management and approval by the Board of Trustees. Sponsored students are regularly monitored for performance and engaged with on a consistent basis.

YTN Scholarship & Convertible Loans

In 2023, YTN awarded scholarships and convertible loans to 3,397 recipients, totalling RM70.1 million in financial aid.

My Brighter Future (MyBF) Programme

The My Brighter Future (MyBF) Programme, established under YTN, focuses on providing educational opportunities for marginalised youth and families within the B40 income bracket. It supports studies in Science, Technology, Engineering, Mathematics (STEM) and Technical and Vocational Education and Training (TVET) at seven selected public universities, polytechnics, and community colleges in Malaysia. The programme covers tuition fees, boarding and living expenses. In 2023, MyBF allocated RM26.9 million to support 2,398 students from the B40 group through *Dermasiswa MyBF*, aiding them in their pursuit of higher education to improve their quality of life and realise their dreams.

Leadership Programmes

YTN also conducts leadership programmes for students. In 2023, the programme included 110 Form 4 students from Kota Kinabalu, Sabah, who are preparing for their SPM examinations in 2024. The programme involved 20 MyBF students from Universiti Malaysia Sabah (UMS) who served as facilitators and mentors, adopting a mentor-mentee approach throughout the programme. This initiative not only enhances leadership skills but also encourages students to contribute to their communities.

MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS



Universiti Tenaga Nasional (UNITEN) – The Energy University

Established in 1997, UNITEN is a testament to TNB's commitment as the organisation's educational arm to providing high-quality education, designed to foster a generation that is competitive, innovative and resilient. UNITEN offers industry-focused courses, ensuring that our graduates are equipped with the skills and knowledge required to meet the evolving energy industry needs, particularly through our specialised Electrical Power Engineering course. This also enhances our graduates' employability and prepares them to make meaningful contributions to the energy industry.

The university improves access to higher education through its two (2) campuses at Putrajaya and Bandar Muadzam Shah, Pahang. It provides various scholarships and financial support based on financial ecosystems involving *Yayasan Canselor UNITEN* (YCU) and *Tabung Amanah Zakat UNITEN* (TAZU). UNITEN also provides financial support to deserving students through scholarships and convertible loans. In 2023, 2,706 students received a total sum of RM10.8 million.

In 2023, particular focus has been given to expanding digital and flexible learning options as an alternative to conventional face-to-face education. As part of this effort, 700 students have engaged with digital platforms such as Massive Open Online Courses (MOOC), Open Learning and TagYard. UNITEN maintains strong relationships and networking with its alumni through its alumni organisations. The Alumni Relations, Career and Industry Linkage Department has been engaging with the TNB ALUMNI since 2020, and this initiative continues to the present.

1

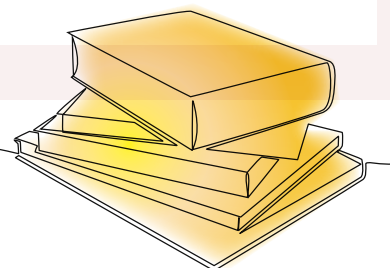
TNB Prime Scholarship

This education fund supports high academic achievers from all income backgrounds for further studies overseas, at UNITEN, and in public universities. In 2023, the fund benefitted 527 students.

2

TNB Shine Sponsorship

This programme offers education loan assistance to students with average academic achievements, regardless of household income, enabling them to study at UNITEN, public universities, and polytechnics across the country. In 2023, the programme supported 472 students.



MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS

Universiti Tenaga Nasional (UNITEN) – The Energy University

2023 Highlights

Employability rate:

96.8%

No. of graduates

1,374

QS World University Rankings:
Sustainability

#711-720

Sponsorships:

RM10.8 million

QS World University Rankings

#761-770

Times Higher Education (THE) World University
Rankings

#601-800

No. of students enrolled

5,927

QS Asia University Rankings

#164

Times Higher Education (THE) Asia University
Rankings

#201-250

TNB Integrated Learning Solutions Sdn Bhd (ILSAS)

ILSAS, TNB's professional training arm, is dedicated to nurturing professionals within the broader power and utility industry and serving as the official training institute for TNB. All technical capability development programmes at ILSAS adhere to Malaysian standards. Additionally, the training modules are accredited by City & Guilds UK for technical programmes and the Institute of Leadership & Management (ILM) UK for leadership and management training modules.

**ILSAS
Performance
Metrics**

Number of trainers:

132

Number of trainees:

47,511

Number of training modules:

2,305

In 2023, ILSAS elevated its training programmes with the aim of strengthening energy transition capabilities, particularly in the formation of the Energy Transition Academy. In addition, we organised other programmes such as leadership-focused ones that provide strategic leadership training, change management workshops, and diversity and inclusion leadership training to effectively navigate the complexities of energy transition.

In November 2023, ILSAS held the ILSAS International Conference on Learning & Development 2023 (ICLAD2023) with the theme "Building Resilience: People's Capability Development in the Face of Change". The conference contributed to the overall organisational culture, emphasising the importance of Environmental, Social and Governance (ESG) adoption for growth at all levels.

i Refer to Employment Culture for more information on TNB Reskilling Malaysia on pages 104-113.

MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS



Unifying the Community and Building a Healthy Nation

TNB's commitment to hockey development is a driving force behind Malaysia's success. Since the 1970s, TNB has been synonymous with the sport, leaving an indelible mark on the growth of hockey in Malaysia, including producing many world-class national players. We foster national hockey development through the TNB Thunderbolts programme, which is aimed at developing and nurturing high-potential youth hockey players, between the ages of 13 and 17, to become future stars in the game. In 2023, our contributions to hockey development amounted to RM5.60 million. TNB employees who were former national hockey players volunteered to coach promising students from selected local schools. Coaching programmes such as the *Pembangunan Klinik Hoki Remaja Negara* and *Kem Bakat Hoki 2023* were conducted with selected schools and clubs in Perak, Perlis and Pulau Pinang, in which around 70 teachers and more than 100 students participated.



MM8: COMMUNITY DEVELOPMENT AND HUMAN RIGHTS



ENVIRONMENT

Conserving the environment and natural resources is crucial for protecting the diversity of flora and fauna and supporting community livelihoods. In 2023, our investment in environmentally focused corporate responsibility programmes totalled RM1.48 million, demonstrating our commitment to promoting eco-friendly practices, conserving biodiversity, and involving communities in environmental stewardship. Our goal is to have a lasting positive effect on the ecosystems and communities we interact with, helping to build a healthier and more sustainable future.

Supporting the Greening Malaysia Programme

We firmly support the Greening Malaysia Campaign that aims to plant 100 million trees by 2025, led by the Ministry of Natural Resources and Environmental Sustainability (NRES). This initiative aligns with our My Brighter Green Programme, which focuses on tree planting activities.

In 2023, TNB was ranked 18th in the registered agency category with a total of 267,104 trees planted, approximately equivalent to 6,700 acres and an annual reduction of approximately 10,680tCO₂e in carbon emissions as verified in the 100 Million Trees database system.

My Brighter Green Programme

Tree planting is a highly effective method of environmental conservation. It is a straightforward yet impactful action that raises awareness and helps reduce the accumulation of greenhouse gases.

In 2023, we advanced our tree-planting efforts through the My Brighter Green Programme, commemorating TNB's 74th anniversary. This initiative involved the entire TNB Group, with a total of 78,100 trees planted (approximately equivalent to 174 acres), and an approximate annual reduction of 3,100 tonnes of CO₂ emissions across 42 designated areas throughout Malaysia in 2023.

TNB also actively engaged in beach clean-up activities at local sites like Pantai Desaru in collaboration with the Department of Environment (DOE), highlighting our commitment to environmental stewardship and community engagement.

In addition, the Grid Division worked with the Malaysian Nature Society (MNS) and the Bentong Forestry Department on a tree-planting programme at Janda Baik in October 2023, covering three acres of forest land. We also collaborated with other key stakeholders including *Sahabat Alam Sungai Tampik* (NGO), Forest Research Institute Malaysia (FRIM), State Forestry Departments, UiTM Shah Alam, and TNB Research, focusing on forest preservation and the protection of endangered tree species.

Mangrove Planting Programme

As part of our reforestation efforts, we continue our mangrove planting programme that began in 2021. In 2023, we successfully planted 2,635 mangrove trees (approximately equivalent to 5.87 acres and an annual reduction of approximately 105.4tCO₂e) at a total cost of RM25,000.

Plantation development for new Orang Asli resettlement area for Nenggiri Hydroelectric Project

Rubber trees were planted with specific purposes such as plantation development as part of a compensation package for the new Orang Asli resettlement area for Nenggiri Hydroelectric Project and site rehabilitation works. In total, 175,890 rubber trees were planted under these initiatives, approximately equal to 6,500 acres and an approximate annual reduction of 7,000 tonnes of CO₂ emissions.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Community/Society*							
1	Total amount invested in the community where the target beneficiaries are external to the listed issuer	C2(a)	RM million	39.57	12.20	99.04	1% from PAT
2	Total number of beneficiaries of the investment in communities	C2(b)	No. of beneficiaries	-	-	6,635	

* Change in scope for FY2023 data, which includes educational support from YTN and UNITEN.

MM9

SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN

We drive sustainability within our supply chain by advocating sustainability practices across the ecosystem, from raw material extraction to end-of-life disposal. Considerations are given to environmental, social and governance impacts to ensure a responsible procurement process. The TNB Procurement & Supply Chain Policy and Procedures govern the execution of best-value procurement, upholding transparent and ethical practices to our vendors and contractors by implementing the TNB Code of Business Ethics and Procurement Code of Conduct.

We support local Malaysian suppliers and understand the importance of our role in strengthening the local value chain ecosystem. We engage with our strategic suppliers and set gradual expectations aligned with our sustainability goals in respecting human rights and reducing carbon emissions and environmental footprint, among others. This will improve transparency in emissions accounting and enable reductions within our Scope 3 emissions. Recognising our small and medium-sized enterprise vendors' struggles, a Bumiputera Manufacturers and Contractors Programme (BMCP) is ongoing to educate and develop vendor capabilities.

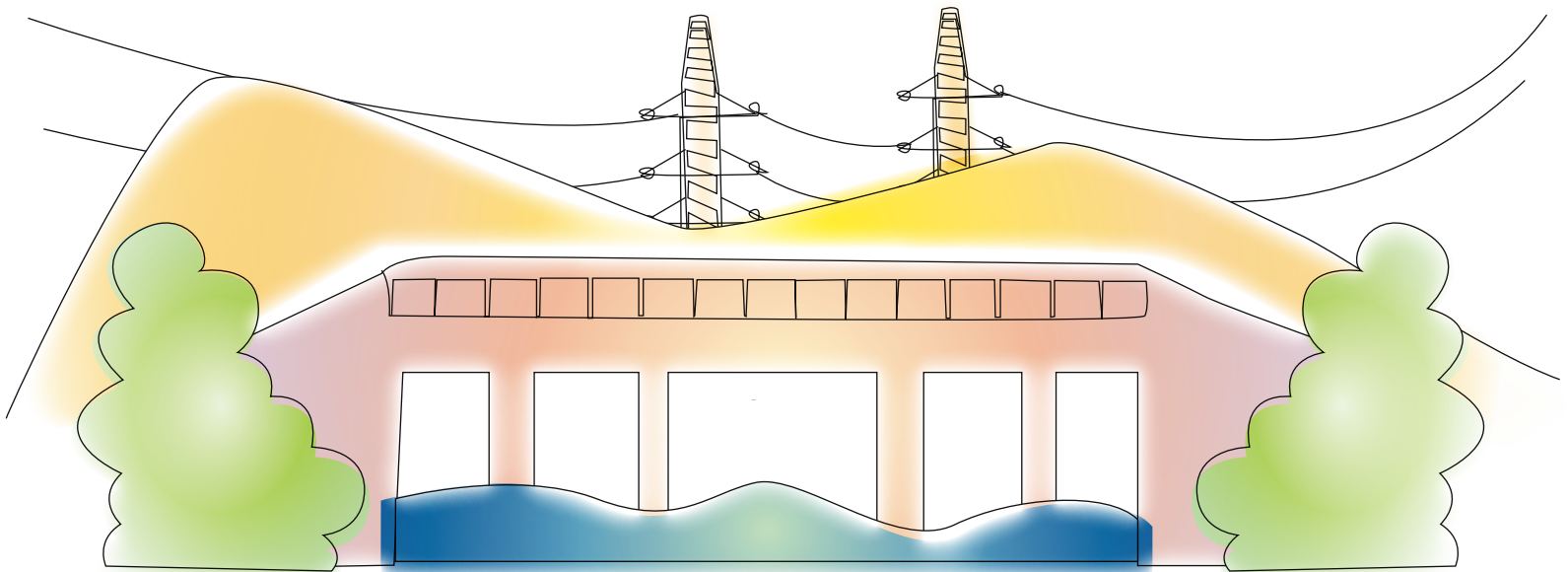
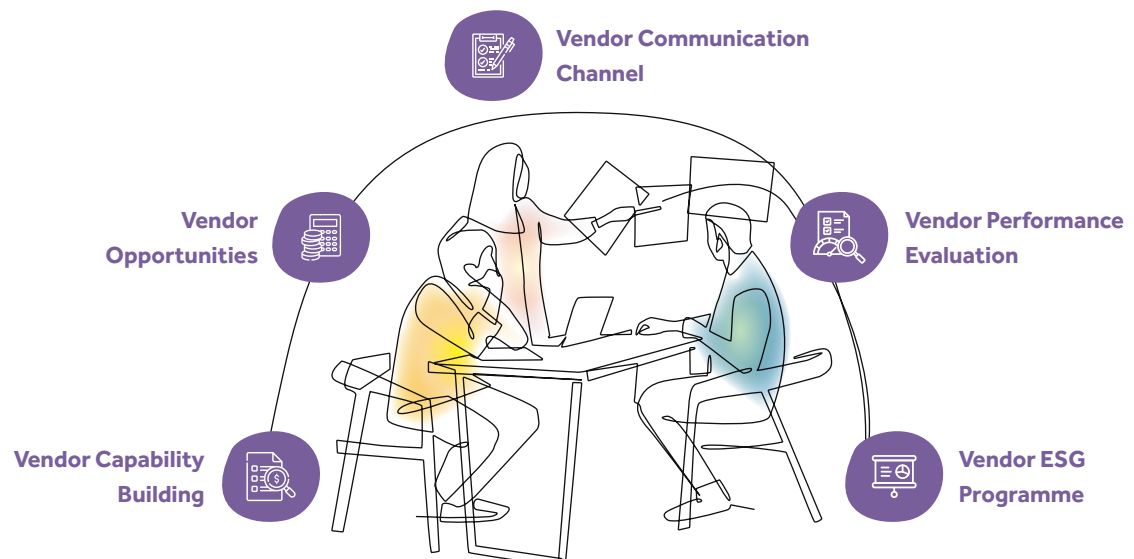


MANAGEMENT APPROACH



Vendor Development Ecosystem

We are committed to local sourcing, which fosters job creation and economic growth for the communities we operate in. Through partnerships with these vendors, we actively support the development of local capabilities and businesses, creating opportunities for a diverse range of businesses to prosper.



MM9: SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN



Vendor Capability Building

To enhance the capabilities of our vendors and contractors, we have developed a range of training modules to sharpen their competencies and ensure that they are aligned with TNB's high standards of quality and performance.



3,560 vendors

completed training programmes to enhance their skills and achieve higher levels of excellence

21 training courses

were conducted under structured vendor competency development programmes conducted by ILSAS

One-stop training centre

for technical competencies in substation primary and secondary equipment at KL South Competency Enhancement Centre (KLSEC) and GCEC (TNB Grid Competency Enhancement Centre)

In a strategic effort to support the growth of our contractors, we partnered with SME Bank to introduce the *Program Pembangunan Kapasiti Vendor* (PPKV), fostering competency development through programmes like *Orang Kompeten Suruhanjaya Tenaga* (OKST) and *Kad Kelayakan Teknikal* (KKT). This collaboration aims to promote continuous learning and elevate vendor competency.

For our division-specific efforts, we also engage external vendors in our initiatives through the Kuala Lumpur Competency Enhancement Center (KLCEC) and Grid Competency Enhancement Center (GCEC). These serve as one-stop training centres aimed at continuously enhancing internal technical competencies in substation primary and secondary equipment. Moreover, the facility offers training to external parties, including testers and contractors involved in conducting testing works on substation digital projects.

TNB actively engages with its network of vendors and contractors through training and also ensures that they are aligned with its high standards of performance, integrity and safety. By actively involving vendors and contractors in its integrity and safety training and initiatives, TNB seeks to cultivate a culture of partnership, transparency and accountability, underlining its commitment to responsible growth and occupational health and safety.

Safety

Upholding high standards of occupational safety and health across TNB's operations by implementing:

- **Life Saving Rules (LSR)**
- **Electrical Safety Programme for Civil Works at Distribution Network Substations**
- **NIOSH Tenaga Safety Leader Passport (NTSLP)**
- **Orang Kompeten Suruhanjaya Tenaga (OKST)**

Knowledge & Skills

Providing the necessary knowledge and skills to ensure vendors remain relevant by implementing:

- **Capability building programme via collaborations with SME Bank**
- **Horizontal Directional Drilling**
- **Low Voltage Load Reading**
- **Low Voltage Lifeline Work**
- **High Voltage Overhead Line**
- **Street Lighting System (Installation & Maintenance)**
- **Kad Kelayakan Teknikal (KKT) programme, providing practical and classroom training at ILSAS to improve technical expertise**

Integrity

Strengthening vendors' integrity through the enforcement of integrity measures including **Integrity Pacts and Integrity Pledges**

TNB has integrated Life Saving Rules (LSR) Consequence Management into its contract terms to prioritise safety and well-being across its vendors and contractors' community. This demonstrates TNB's commitment to maintaining high standards of ethical conduct and operational safety.

MM9: SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN



Vendor Opportunities

We ensure that our business matching activities are aligned with our goals in sustainable procurement. To this end, we implement three strategic initiatives:

- Data driven matching – We use data analytics to help us identify suppliers with proven track records in sustainable practices.
- Stakeholder collaboration – We collaborate with industry associations and GLCs to engage suppliers that emphasise sustainability.
- Matchmaking events – We organise this initiative to expand supplier base through events with SME Corp such as Opportunity Day, Business Partnership Retreat and Vendor Day.

Supporting Local and Bumiputera Vendors

Additionally, we empower local businesses as part of our vendor ecosystem through our Bumiputera Manufacturers and Contractors Programme (BMCP). In 2023, we allocated RM1.1 billion towards these Bumiputera contractors, an increase of 11.72% compared to 2022, and RM331 million for Bumiputera manufacturers in alignment with the Bumiputera Spend Share Policy.

726

Bumiputera contractors

26

Bumiputera manufacturers

RM1.1 billion

RM331 million



Vendor Communication Channels

Our engagement with key stakeholders, including the *Persatuan Rakan Niaga Strategik Malaysia (PERNISMA)* and *Persatuan Usahawan Tenaga Malaysia (PUTM)*, took place via:

- Face-to-face engagements – Business Partnership Retreat, Opportunity Day and dialogues, including sessions with TNB's top management
- Social media platforms
- Procurement Cycle Digitalisation (PCD) Rangers – inquiries about the e-tendering system
- *Sistem Maklumbalas Bahan (SMB)* – a two-way communication platform for defects and warranty review. In 2023, 585 tickets have been raised by users.

Vendor Development Programme Activities for 2023

Category	Teh Tarik Session	Engagement	Discussion between	TNB & Vendor	Bengkel	Dialogue session
Strategy Retreat 2023: TNB and Vendor Business Partnership (Session 1)	with TNB's Chief Procurement Officer with PERNISMA	session with <i>Rakan Niaga Strategik Pulau Pinang</i>	TNB's Procurement & Supply Chain Division and PUTM	Business Opportunity Day (Session 2)	<i>Penambahbaikan Program Pengilang dan Kontraktor TNB with PUTM</i>	between President/ CEO of TNB and PERNISMA
7 February 2023	4 July 2023	24 August 2023	4 September 2023	21 September 2023	10 October 2023	11 October 2023
Half-Yearly	Quarterly Meeting	As and when required	Quarterly Meeting	Half-Yearly	As and when required	As and when required

MM9: SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN



Vendor Performance Evaluation

In our commitment to transparency and excellence, we use the Contractor Assessment and Supplier Evaluation (CASE) system to monitor and improve vendor performance. CASE ensures transparent evaluations, with low-rated vendors receiving notifications and collaborative support for improvement. It strengthens relationships, enhances efficiency and aligns vendors with our goals. By using CASE, we ensure vendors contribute to our strategic objectives, fostering a culture of excellence and continuous improvement.



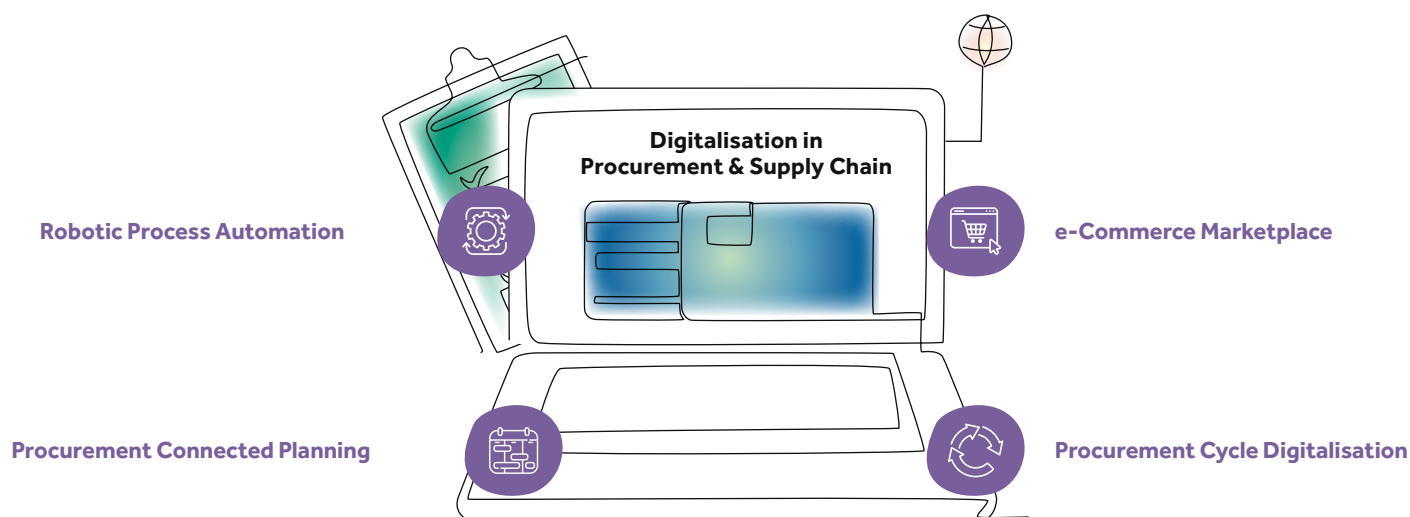
Vendor ESG Programme

As TNB strives for zero carbon emissions, we ensure our vendors align with our vision through active participation in ESG initiatives. These initiatives foster collaboration, enabling us to collectively address sustainability challenges and drive positive environmental and social impacts across our supply chain.

In preparation for enhancing our supplier code of conduct, we conducted a Vendor Readiness Assessment focusing on ESG practices. By the end of 2023, approximately 20% of our active vendors, or 757 vendors, have responded. We are now developing a comprehensive ESG programme to ensure our supply chain aligns with our sustainability goals. This initiative underscores our dedication to responsible growth and fostering a collaborative approach to addressing environmental and social challenges.

► Digitalisation for Sustainable Supply Chain

We recognise the importance of digitalisation in accelerating our progress towards a more efficient and streamlined approach in building a robust supply chain. With digitalisation, we will be able to reduce our reliance on manual systems, saving time in our procurement operations.

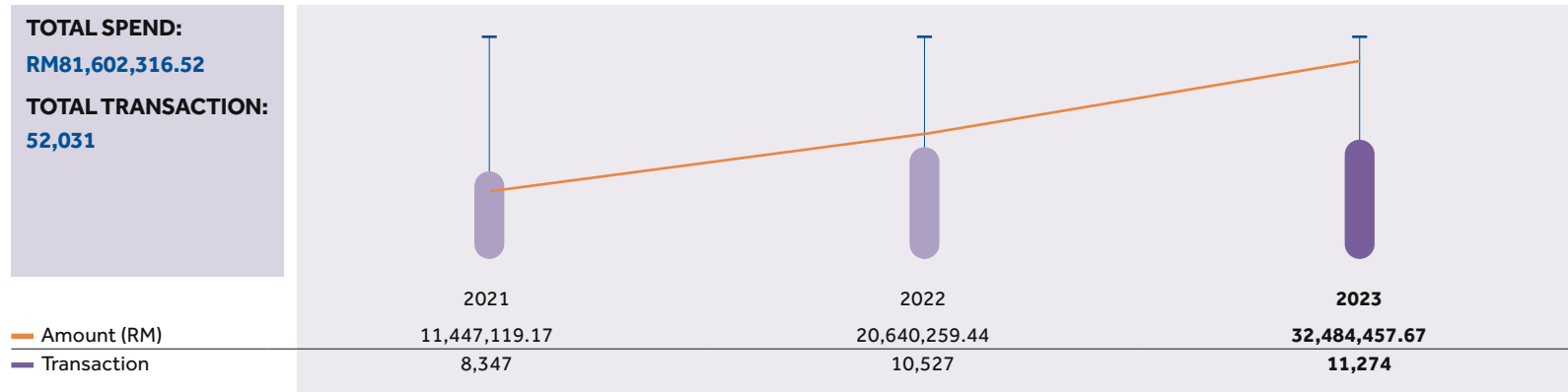


e-Commerce Marketplace

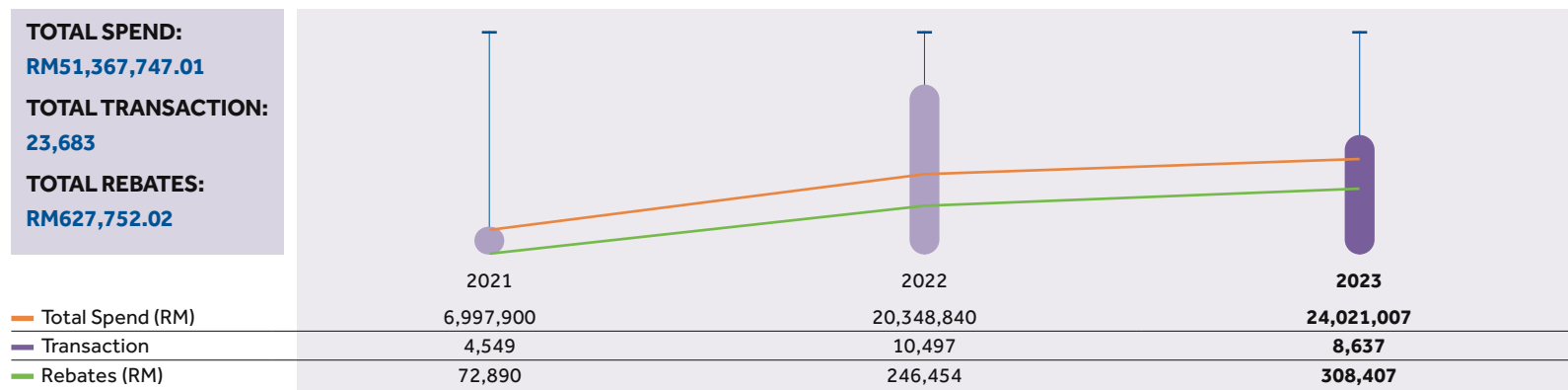
TNB has embraced e-commerce as a strategic move towards modernisation, incorporating platforms like Lapasar, MyB2B and RS Puma since 2019. These platforms have significantly improved sourcing productivity, streamlined workflows and optimised inventory management. As a result, TNB has experienced consistent growth in transaction volumes, reflecting the effectiveness of e-commerce in procurement. It also expands market opportunities for suppliers, including other GLCs. This integration reflects TNB's commitment to efficiency and staying at the forefront of procurement practices.

MM9: SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN

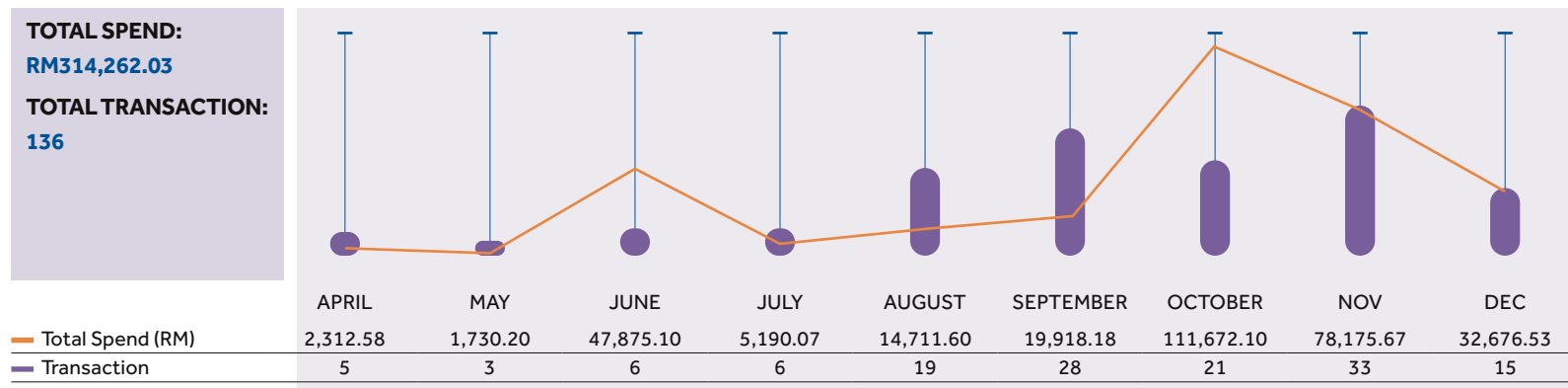
Cumulative Lapasar Spending & Transaction (2018-2023)



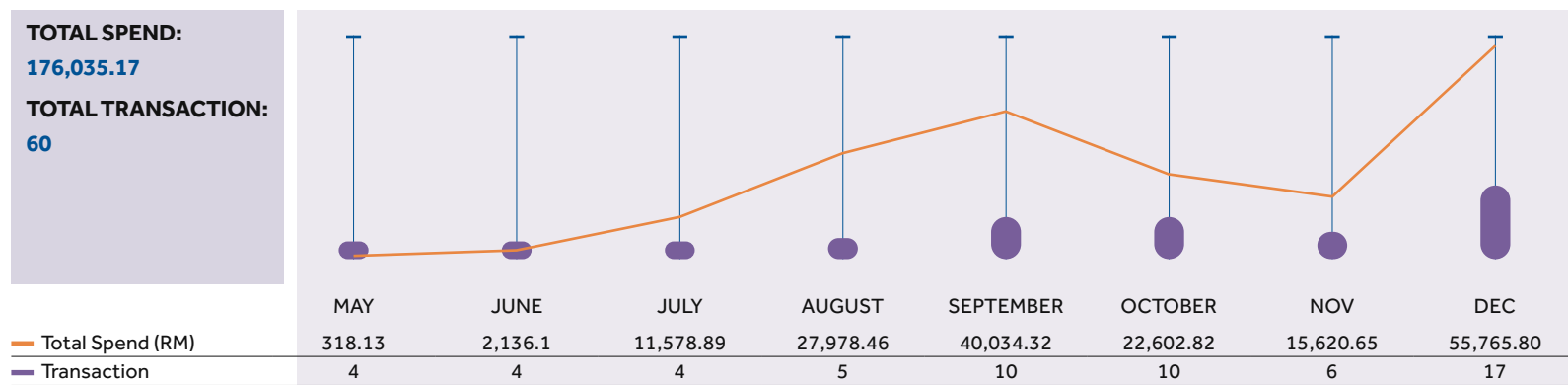
Cumulative Lapasar Spend & Rebate (July 2021–October 2023)



MYB2B Spending & Transaction (2023)



RS Puma Spending & Transaction (2023)



MM9: SUSTAINABLE AND RESPONSIBLE SUPPLY CHAIN



Procurement Connected Planning (PCP)

We are advancing our procurement planning with PCP, a cloud-based platform enabling collaboration between TNB and vendors. Through advanced data analytics and automated data integration, PCP provides real-time analysis and dashboards for Demand Planning, Inventory Management, Supplier Delivery Performance, Contract Monitoring, Vendor Risk Analysis and Spend Analysis, empowering informed decision-making.



Procurement Cycle Digitalisation (PCD)

We have been utilising the PCD platform since 2019 to facilitate end-to-end (E2E) workflow in our procurement and supply chain life cycle. PCD streamlines work processes, reducing procurement lead time by enhancing visibility, traceability and transparency of transactions, while ensuring governance and regulatory compliance. Additionally, the platform can be accessed both through the portal or mobile applications, making it convenient and fast. In 2023, the system handled around 4,900 sourcing requests.



Our six key modules of PCD include:

Sourcing Management

Scrap Management

Material Management

Product Inspection Management

Logistic Management

Customer Interactive Portal

Performance Management PSC Dashboard

In strengthening our commitment to a sustainable supply chain, we are constantly identifying areas for improvement. As an extension to the PCD, we have introduced the PSC Dashboard to further digitalise our procurement systems.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Supply Chain Management							
1	Proportion of spending on local suppliers*	C7(a)					
2	% of spend on local suppliers		%	97.90	95.10	46.45*	>35%**
3	Total spend on local suppliers		RM bil	9.82	10.38	17.18	

* 2023 Data disclosed based on spends under the scope of TNB Group, data from TNB system Purchase Orders, including fuel purchases. All internal spends between TNB Business Entities are excluded.

Previous years' (2021 and 2022) data were disclosed based on spending under TNB company and subsidiaries TPG SB, TNB Retail SB and TNB Renewables SB. All fuel-related purchases were excluded. The data also includes internal spends between TNB Business Entities.

** Target is for TNB Group's spend on local suppliers registered in TNB's procurement system.

The Dashboard automates Service Level Agreement performance, as well as OPEX and CAPEX budget reporting. This increases accuracy, timeliness and transparency of reporting through automated data integration with existing TNB platforms such as the Enterprise Risk Management System (ERMS) and PCD. Additionally, critical analysis can be performed to effectively strategise on initiatives to improve business performance.



Robotic Process Automation (RPA)

We have adopted RPA since 2018 for issuing purchase orders to appointed contractors under the KKB and KPB programmes. This system promotes fair awarding of works and services to these contractors. In 2023, the RPA issued approximately 35,000 purchase orders.

Supply Chain Management

TNB recorded a substantial spending of approximately RM37 billion on procurement, indicating a post-pandemic growth trajectory in the country. Of the total spend:

- 46.45% was awarded to local vendors and suppliers, emphasising our commitment to support local businesses
- About RM25 billion was fuel-related expenditures, mainly on locally sourced fuel gas and internationally sourced coal fuel for power generation
- Non-fuel spending amounted to RM11.6 billion, with approximately 91% sourced from local suppliers

Our dedication to ethical, transparent procurement practices ensures a supply chain ecosystem that upholds the highest standards, contributing to a sustainable business environment.

Recognition

Our vendors' feedback is valuable to us, and we engage with them through an annual vendor satisfaction survey. Gathering feedback and responding to their concerns will enable us to collaborate better with them to produce quality products and services, resulting in a reliable electricity supply to our customers. During the year under review, we scored 85% in our vendor satisfaction survey.

MM10 CYBERSECURITY MANAGEMENT

Digitalisation is rapidly gaining importance for our operations as it assists us in enhancing customer experiences. To this end, we ensure that we safeguard our information technology (IT) and operational technology (OT) systems, protecting customer privacy and stakeholders' data, while enabling us to supply electricity to the nation securely. Our cybersecurity management is built to protect data confidentiality and integrity, in addition to ensuring that our IT and OT systems are prepared to undertake any critical situations. Apart from implementing robust initiatives to safeguard the data privacy of our 10.16 million customers, we also comply with regulatory requirements including the Personal Data Protection Act (PDPA) and industry best practices.



MANAGEMENT APPROACH



► Securing Our Data and Network Infrastructure

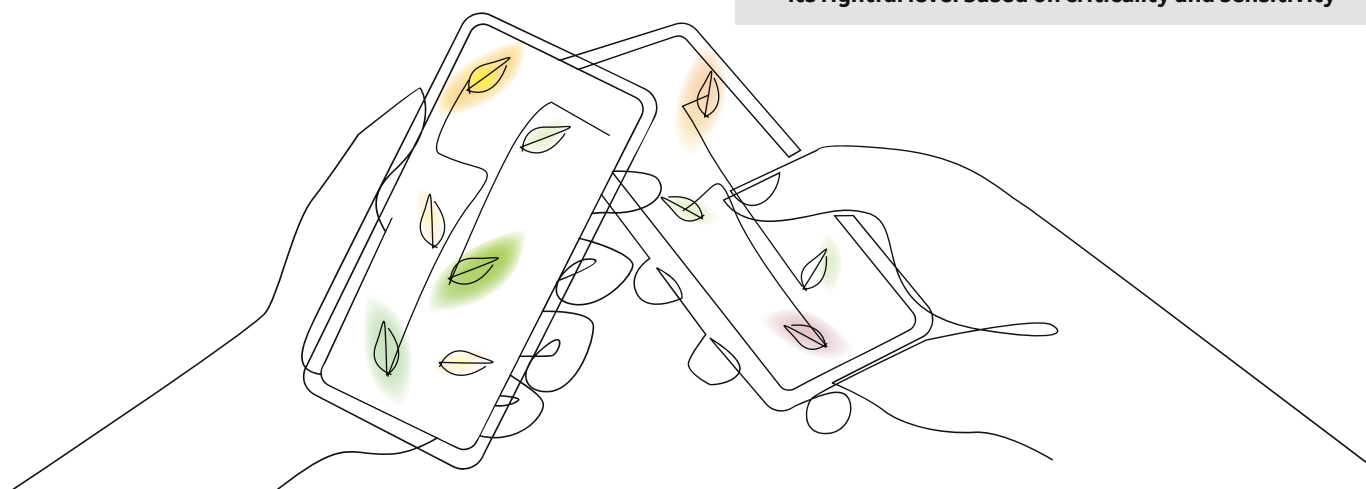
The cybersecurity management of our Information and Communications Technology (ICT) complies with the TNB ICT Security Policy and ICT Code of Practice, ensuring employee awareness of responsibilities in protecting our ICT assets. We monitor cyber threats 24/7 to ensure a reliable electricity supply by protecting the security of national grid, accredited with ISO/IEC 27001:2013 ISMS for our key point installations and data centres. We have also adopted the IEC 62443 best practices to enforce cybersecurity for OT in automation and control systems.

In fortifying our payment card transactions, especially the payment gateways, we are certified in the Payment Card Industry Data Security Standard (PCI-DSS) standards. Cloud services are important in our business as we use them for scalability and accessibility. Our service providers must adhere to related national standards, including the ISO/IEC 27017, ISO/IEC 27018, and Service Organization Control Type 2 (SOC 2). An Enterprise Data Governance (EDG) framework ensures PDPA compliance and secure data handling. Processes for potential data loss include continuous analysis, electronic Know Your Customer and digital signature solutions. In 2023, we launched the PDPA e-learning module for Retail, Small Medium Enterprise, and Residential (SMER) employees.

► Reinforcing Best Practices

Apart from round-the-clock monitoring for cyber threats, we also increase our vigilance by implementing initiatives to ensure that our cybersecurity operating models are prioritised. We have conducted the following in the reviewed year:

- **A cyber drill held on 1 August 2023 was attended by 120 participants from GenCo, Grid, Distribution Network, GSO, Security Services Department, ICT, Risk Management Department, Group Corporate Communications and Single Buyer**
- **Annual assessment of TNB's key point installations for cybersecurity resiliency was conducted by the Jawatankuasa Pemeriksaan Keselamatan Sasaran Penting, led by the Chief Government Security Officer of Malaysia (CGSO)**
- **Enriched our cybersecurity situational awareness and knowledge of threats through up-to-date threat intelligence**
- **Enhanced cybersecurity risk assessment requirements for IT and OT systems**
- **Collaborated with TNB business entities to categorise data to its rightful level based on criticality and sensitivity**



MM10: CYBERSECURITY MANAGEMENT

Digital Asset Policy and Code of Practices Enhancement

Serving and safeguarding the data of 10.14 million customers from unauthorised access and use, we are focused on implementing various cybersecurity measures to protect our customers' data from risks and threats. Among the measures we have taken were:

ICT Security Policy and ICT Code of Practices for ICT assets

While TNB's ICT Security Policy has been in practice for 10 years, we renewed the Policy in 2023, complemented by the ICT Code of Practice and Guidelines for the company. The policy ensures the smooth running of core and non-core business activities with minimal interruptions, protects all ICT assets from damage or misuse, ensures user compliance with policy guidelines, and promotes awareness of cybersecurity measures and legal obligations among all users. This includes maintaining the confidentiality, integrity, availability and authenticity of information, complying with Malaysian laws, and implementing necessary security measures.



Data Privacy Management

At TNB, we place a high priority on data privacy, ensuring that our customers' personal information is managed with the utmost care and in full compliance with relevant regulations, including the Personal Data Protection Act 2010 (PDPA). Central to our commitment to safeguarding their data privacy is our comprehensive Personal Data Protection (PDP) Policy.

Through our dedicated Data Access and Correction Request Forms, our customers can easily make requests to access or rectify their personal data in the event of any inaccuracies. Furthermore, we will only retain our customers' personal data for as long as necessary, aligning with our policy and the terms of agreements. This duration ensures the protection of both our interests and those of our customers, while adhering to legal requirements and relevant policies. Rigorous security measures and procedures are in place to ensure data security, including identity verification protocols for customer interactions, emphasising our focus on protecting their privacy within our own ecosystem.

We understand that in today's interconnected world, data may need to be transferred outside Malaysia, such as to service providers or business partners. TNB maintains stringent standards, ensuring that these entities are contractually obligated to use our customers' personal data solely for the agreed-upon services and to uphold the same level of protection as we do ourselves.

For any enquiries or concerns regarding the administration of personal data related to electricity supply, we encourage our customers to reach out to our dedicated customer care team. Additionally, for matters concerning our PDP Policy or to provide feedback, our designated Data Protection Officer is readily available to assist our customers.

Cybersecurity Training and Awareness

TNB personnel are empowered in their respective roles to foster a culture of cybersecurity awareness via e-learning modules, newsletters and face-to-face and virtual engagements on cybersecurity risks and mitigations.



OUR PERFORMANCE

No	Metric	Bursa Ind.	Unit	2021	2022	2023	Targets
Customer Experience and Satisfaction							
1	Number of substantiated complaints concerning breaches of customer privacy and loss of customer data	C8 (a)	Number	-	-	0	Zero complaints

MM11

EMPLOYMENT CULTURE

At TNB, we believe that every individual has the right to equal opportunities and a supportive work environment. Advocating a culture of respect, understanding and acceptance, we endeavour to provide an inclusive workplace for all employees to thrive and contribute their unique ideas and talents. To achieve this, we have established Reimagining Culture (RC) to define our core values and culture – Integrity, Collaboration, Professionalism, Customer-centricity, Forward Thinking and Mindfulness, which fuel our ongoing business evolution along with the development of a high-performance culture. In embracing Mindfulness, we respect and have compassion towards others and the environment. This includes ensuring the safety and advocating the well-being of our employees and the community.



MANAGEMENT APPROACH



We are committed to promoting equal opportunities and providing a work environment that supports the professional growth of every individual. As such, we continuously instil the culture of respect, understanding and acceptance, as we strive towards developing an inclusive workplace. This is so that all our employees can thrive, bringing their unique perspectives and talents to the forefront.

► Labour Rights

Labour rights are integral to TNB's Core Values, which uphold the highest standards of ethics, honesty, integrity, and respect for one another and our business partners. With operations in Malaysia and worldwide, we adhere to local legal requirements where we operate, concerning human rights protection.

We uphold global standards for responsible business by ensuring safe and healthy working conditions, free from bribery and corruption. We promote labour protection and welfare, including minimum wage, leave and compliance with working hours. Additionally, we ensure non-discrimination, foster diversity and inclusion, provide equal opportunity, support freedom of association and collective bargaining, prioritise security, implement grievance procedures and work towards eliminating modern slavery and forced labour, including child labour.

Our business practices aim to respect, protect, and promote human rights, and we provide employees with training programmes designed to increase their awareness of human rights alongside technical skill development. Our mechanisms include dialogue facilitation, fair investigations, and the provision of appropriate remedies when necessary. We also offer a whistleblowing channel for employees to anonymously report human rights violations.

In 2023, a Labour Rights Policy was being drafted taking into consideration both local and global labour standards, including the Malaysian law, International Labour Organization (ILO) standards and the United Nations Global Compact (UNGC) Principles.



MM11: EMPLOYMENT CULTURE

Freedom of Association and Collective Bargaining

We continue to comply with all relevant labour laws, supporting the rights of freedom of association and collective bargaining, as outlined in the Collective Agreement (CA). Our three (3) registered unions and two (2) workers associations safeguard the rights of both executive and non-executive employees.

Throughout 2023, we sustained our efforts to engage in meaningful discussions aimed at addressing employee concerns, enriching our workplace culture and negotiating terms outlined in the Collective Agreement.

Trade Unions & Associations	Employee Group	No. of Engagement Sessions in 2023
M-Club	Senior Management	2
PET & EOA	Executives	40
Non-execs	Non-Executives (Technical)	36
	Non-Executives (Non-Technical)	38

Our Grievance Mechanism

We have established channels for employees to raise their grievances and concerns. Employees can submit their grievances or concerns in writing using the prescribed form according to established procedures. The grievance form is accessible to all employees through our intranet and in the CA booklet.

Additionally, employees can voice grievances through the Whistle Blowing Information System (WBIS) (<https://wbis.tnb.com.my/>), calling the toll-free number 1-800-888-862 or submitting the Whistleblowing Complaint Form to:

Name	Designation	E-Mail Address
Puan Ong Ai Lin	Senior Independent Non-Executive Director	ongailin.integrity@tnb.com.my
Encik P. Kalivann Palanivelu	Chief Integrity Development Officer	kalivann.integrity@tnb.com.my
Puan Hasbah Binti Hasbullah	Senior Manager (Financial Integrity)	hasbahh.integrity@tnb.com.my

Should the grievances and concerns remain unresolved to the employee's satisfaction within seven (7) working days, the matter is brought to the attention of the employee's immediate manager, either in writing or through other means.

We are committed to addressing grievances fairly and promptly, allowing employees to focus their time and energy on their duties and responsibilities. In 2023, there were no substantiated complaints concerning human rights violations.

▶ Workplace Safety and Health

Ensuring the safety of our employees and providing them with a safe working environment continue to be our highest priority, evidenced by the notable enhancement in our HSE performance in 2023. We successfully achieved our target of reducing employee Lost Time Injury Frequency Rate (LTIFR) to below 1.00, recording an LTIFR of 0.74, a marked improvement from 0.82 in 2022.*



* Refer to MM5 Safety, Health and Well-being for more information about our occupational safety and health on pages 59-67.

▶ Diversity and Inclusion

TNB is deeply committed to diversity and inclusivity, recognising their pivotal role in driving innovation, productivity, and sustainable growth. We ensure equal opportunities for all, regardless of age, gender, religion, nationality, abilities or background. Our workforce is a mosaic of diverse talents, strategically aligned with TNB's objectives. We also provide equal career development opportunities based on merit, fostering a supportive and respectful culture. Our inclusive environment encourages employees to thrive and contribute unique perspectives and talents, enhancing innovation and collaboration.

Launched in FY2022, the TNB Diversity Policy underscores our unwavering dedication to fostering a diverse workplace, irrespective of age, gender, race, religion, nationality, background or prior experiences. We aim for a minimum 30% female representation on our Board of Directors and promote diversity in senior management. In 2023, we have extended the target of 30% women representation beyond the Board of Directors and senior management to our executive levels.

MM11: EMPLOYMENT CULTURE

Equal Remuneration

TNB prioritises equal remuneration for both men and women, showcasing our dedication to fostering an inclusive and diverse workplace. We maintain a basic salary and remuneration ratio of 1:1. This commitment to fair compensation irrespective of gender contributes to creating a more equitable society by dismantling systemic gender-based wage gaps.

Diversity and Inclusion Highlights

- **TNB remains a member of the 30% Club, advocating for at least 30% representation of women on all boards and in top management globally**
- **The number of women in senior management roles increased to 26%**
- **The number of women in executive roles increased to 41%**
- **C-suite successors' participation by women increased to 36%**

Succession Management

To ensure long-term business growth, it is imperative for us to have a strong succession of leaders. We have engineered a systematic process for succession management, meticulously designed to identify, select and develop talents, ensuring a seamless operation of critical roles within TNB. As of the end of 2023, we successfully cultivated 31 "ready now" successors out of the 34 identified critical positions. It is worth highlighting that our recent appointments to C-Suite and Senior General Manager roles were drawn from this pool of successors, underscoring our steadfast commitment to nurturing talents within our organisation.



Award

We won the Gold Award in the Best Succession Planning Strategy category at the Employee Experience Awards 2023 Malaysia. This serves as yet another validation of the efficacy of our strategic approach to succession planning, inspiring us to continue fostering excellence in talent development with great pride.

Leadership Development Programmes to Strengthen Succession Management

TNB Leadership Development Framework

The TNB Leadership Development Framework is an agile and future-oriented strategy that supports TNB's current and future business aspirations and strategies to enable a steady stream of successors. The framework was uplifted to include digital leadership skills by seamlessly integrating digital leadership competencies into the existing model.

The framework provides experiential leadership development interventions aimed at cultivating leaders who embody the TNB Identity. These include coaching and mentoring programmes designed to support and nurture an environment where leaders have access to valuable support for enhancing their professional and personal development, driving performance, and contributing to organisational success. In 2023, four (4) Managing Directors attended the external peer coaching, while 30 employees with high potential for a C-Suite position underwent coaching sessions and five (5) successors participated in the executive coaching.

Additionally, our Top Talent Development programme identifies talents for our leadership pipeline. In 2023, a total of 30 participants joined the Premium Leadership Programmes by renowned business schools and 154 talents in the Individual Development Plan, customised to develop specific skillsets.

TNB Leadership Development

Our Leadership Development distinguished itself by crafting immersive leadership and development initiatives, tailored to cater to employees across all tiers across TNB. Throughout 2023, we have witnessed significant employees' involvement as follows:

320

Top management and talents attended webinars and training sessions

154

Individuals equipped with the Individual Development Plan (IDP)

44

Individuals were placed in roles leading to critical positions

37

Talents participated in strategic management breakouts

30

Top management and talents engaged in premium leadership programmes

MM11: EMPLOYMENT CULTURE

► Capability Building

In TNB, we remain steadfast in our dedication to investing in our people, ensuring they acquire the essential skills required for their roles. We prioritise enhancing workforce capabilities through effective talent management strategies, crucial for navigating the evolving energy landscape. By investing in structured Learning and Development interventions and training programmes, we ensure our workforce remains skilled and adaptable to changing market demands.

Our programmes emphasise experiential and practical learning, enabling employees to acquire and refine skills directly relevant to their roles. Through a variety of initiatives, workshops, and skill-building activities, employees continuously enhance their capabilities, preparing them for future challenges and career growth. The learning and development programmes are built upon three (3) fundamental principles that empower our employees to steer their competency development in accordance with the learning journey tailored to their specific roles:

TNB Learning and Development Principles

70%

Challenging Experiences and Assignments

20%

Developmental Relationships

10%

Formal Training and Coursework

The progress of our employees' learning journey is consistently monitored through annual assessment cycles to measure their proficiency levels over time. This process provides both employees and management with opportunities to engage in discussions and pinpoint areas for further improvement in line with supporting the Energy Transition agenda. As evidence of our commitment to this endeavour, we achieved an Organisational Competency Index (OCI) of 87.8% in 2023.

Workforce Capability

Total Investment (RM million)

2021	65.53
2022	161.40
2023	189.58

Average Yearly Formal Training Hours per Employee (Hours)

2021	7
2022	34
2023	47

Professional Certification

The technical competencies of our workforce are instrumental in propelling our business operations forward. Our employees actively seek out relevant professional certifications and specialist qualifications in their respective fields. Moreover, they are encouraged to remain informed about the latest industry standards and technological advancements, nurturing a culture of continuous learning and ensuring that we stay ahead in our rapidly evolving industry.

In accordance with the Electricity Supply Industry Act, guidelines, and requirements, only certified and specialised personnel, termed *Orang Kompeten Suruhanjaya Tenaga* (OKST), have the authority to operate, maintain, and install electrical assets and equipment. As a major utility company, TNB is investing in the development of OKST personnel to handle day-to-day operational activities. In 2023, a total of 429 employees were certified as OKST.

MM11: EMPLOYMENT CULTURE

Professional Certification Programme	2023	
	No. of Employees	Investment (RM)
i. Functional programmes, including: <ul style="list-style-type: none"> Certificate in Risk Management Certified Information Security Manager Certified Environmental Professionals in Sewage Treatment Plant Operation 	Functional: 369 pax	Functional: RM394k
ii. Technical programmes, including: <ul style="list-style-type: none"> Certified Steam Engineers and Boilermen Grid Authorisation Certification Machine Lubricant Analyst (MLA) Level 1 Certified Energy Auditor Training 	Technical: 271 pax	Technical: RM242.5k
iii. Regulatory certification programmes, including: <ul style="list-style-type: none"> Cable Jointer Levels 1, 2 and 3 Heavy Machine Operator Chargeman Category A0 and A1 Chargeman Category B0, B1 and B4 EC competent engineer certification 	429 pax	RM8.2mil

Extended Study Programmes

Our employees are offered opportunities to advance their academic studies through our study sponsorship initiative, which covers both undergraduate and postgraduate programmes. In addition, we provide an in-house Employee Academic Development Programme. From 2021 to 2023, a total of 220 TNB employees actively participated in these programmes, reflecting our commitment to their continuous learning and development. This initiative represents a substantial investment, totalling RM1.2 million.

In 2023, 10 selected employees pursued their PhD, focusing on Energy Transition Research at UNITEN, a collaboration between the Group Human Resources and UNITEN, and co-sponsored by Yayasan Canselor UNITEN (YCU).

TNB Training Arm, ILSAS

TNB Integrated Learning Solutions Sdn Bhd (ILSAS) functions as our training arm that nurtures an inclusive environment that appreciates diverse perspectives and experiences. Our comprehensive range of long-term educational initiatives is tailored specifically for non-executive staff, encompassing programs like *Program Pendidikan Kemahiran Ketukangan* and *Program Pendidikan Pembantu Tadbir*, among others.

Highlighting our commitment to executive development, the impactful programmes such as the TNB Young Executive Programme (YEDP) and the New Executive Transition Programme are, designed to nurture and empower our emerging leaders.

ILSAS also prioritises key training modules such as Energy Technology Training, Smart Meter Training, and Digital Skills Training, ensuring our workforce remains adept in the latest industry advancements.

Furthermore, recognising the significance of a robust supply chain, we extend our programmes to vendors and contractors, reinforcing our dedication to enhancing talent capabilities across our entire value chain.

Recognising the importance of digital competencies, the TNB Corporate Digital Learning Platform Experience (LXP) and LinkedIn Learning are in place and has benefitted approximately 1,000 executives. We remain committed to investing in cutting-edge learning technologies and methodologies, ensuring our employees benefit from innovative and effective learning experiences. We aim to introduce a series of development programmes to develop data scientists, data analysts, and data engineers to meet our business needs.

Energy Transition Upskilling and Reskilling Programmes

For TNB, supporting employees' professional growth within the energy transition is essential to keep pace with industry changes. By investing in learning and development opportunities which are focused on sustainability via upskilling and reskilling programmes, we demonstrate our commitment to both employee success and the broader goal of transitioning to renewable energy sources. Our newly established Energy Transition Academy, in collaboration with Universiti Tenaga Nasional (UNITEN) and National Energy Centre (NEC), caters to TNB employees in sustainability and energy transition.

The ET Academy was officially launched on 1 November 2023 and provides participants with various programmes ranging from technical visits, high-level business discussions and classroom lectures to industry best practices in sustainability and energy transition. The academy is overseen by faculty members from UNITEN along with visiting professors and professionals from esteemed universities and companies. Topics covered include regulatory and governance issues, economic impacts on global and regional communities, benefits of international and corporate collaborations in energy transition and technological advancements in relevant fields. In addition, throughout 2023, ILSAS offered courses focusing on Energy Transition Training to TNB employees.

MM11: EMPLOYMENT CULTURE

Employee Value Proposition Package

We offer competitive employee benefits packages to maintain morale and attract and retain talent. Our comprehensive Employee Value Proposition (EVP) provides a competitive remuneration and benefits package, promoting work-life balance, as well as the mental and physical health of our employees, which includes:

- | | |
|--|--------------------------------------|
| • Career and development opportunities | • Counselling services |
| • Childcare facilities and nurseries | • Sports and recreational facilities |
| • Parental leave | • Religious facilities |
| • Accommodation for employees | |

Flexible Working Arrangements

We recognise the importance of cultivating a conducive workplace environment, particularly as we actively pursue sustainability goals and work towards achieving net zero emissions. We believe that establishing such an environment is integral to our commitment to talent development and skill enhancement.

TNB Way of Working (TWoW)

TNB expanded its company-wide adoption in 2023, enabling employees to embrace a hybrid work model — working both in office and from home or home-based locations. This initiative aimed to foster a supportive working environment tailored to our diverse workforce, acknowledging the varied roles within our organisation.

People App

Our TWOW implementation relied heavily on digitalisation, particularly through the utilisation of the People App.

- The People App won the prestigious Gold Award (First Place) in the Best Hybrid Work Model category at the Employee Experience Awards 2023 Malaysia.
- The People App also played a pivotal role in facilitating reporting on GHG Scope 3 emissions, specifically aiding reporting in Category 6 (Business Travel) and Category 7 (Employee Commuting).

Adaptive Base Working (ABW)

TNB Platinum is designed for Adaptive Base Working (ABW). The office designs support work tasks optimally, rather than drawing a boundary around its users' personal spaces.

Employee Engagement

We consistently conduct engagement programmes with our workforce, where continuous communication and training play a crucial role in driving our people towards success. Our periodic feedback and pulse check surveys, along with input from employees, shape our company policies on recruitment, promotion, and workplace culture, ensuring a high-quality employee experience. We engage with our employees through various events and platforms to gather feedback.

Physical

- **Face-to-face**
Employee gatherings, townhalls, outreach sessions, morning talks and meetings

MM11: EMPLOYMENT CULTURE

Virtual and Media

- **Intranet**
News are channelled via respective intranet subpages to ensure effective and targeted communication
- **Publications**
Various bulletins from Corporate Communication and Divisions, such as the Tenagawan Daily (newsletter), which is emailed to all employees and published on TNB's internal social media group (Facebook)
- **TV TNB**
TV sets strategically located in office lobbies, common areas such as lift lobbies and cafeterias, among others
- **Online Engagement**
Active social media interaction between employees and management representatives in TNB Powerfaces Facebook group

Employee Awards and Recognition

We acknowledged the contributions and service of our people across TNB. Awards presented include:

Majlis Anugerah Perkhidmatan Setia TNB 2023

Awarded **872 employees** for their dedicated service to TNB for 25 years and more.

Majlis Anugerah Kecemerlangan TNB 2023

- Anugerah TNB Performance Leaderboard
- Anugerah Wira Budaya TNB
- Anugerah Penggalak Kelestarian
- Anugerah Juara Liga Nampak, Dengar dan Rasa Selamat (NDRS)
- Anugerah Pemangkin Inovasi
- Anugerah Inovasi



MM11: EMPLOYMENT CULTURE

Employee Engagement Assessment

An annual survey is conducted to provide insights into our strengths and areas for improvement to enhance the overall employee experience, with a focus on our corporate culture. It identifies the effectiveness of programmes and initiatives, as we continue to drive high performance culture. In 2023, the survey recorded a score of 89% in comparison to the previous year of 86.8%.

Year	Type of Engagement Survey	No. of Participants	Participation Rate (%)	Score (%)
2023	Employee Engagement Survey (EES)	31,245	90	89
2022	Culture Barometer	27,366	79	87
2021	EES	20,538	59	85
2020	Employee Pulse Survey	13,594	84	89
2019	Employee Pulse Survey	13,176	76	89
2018	EES	27,469	79	86



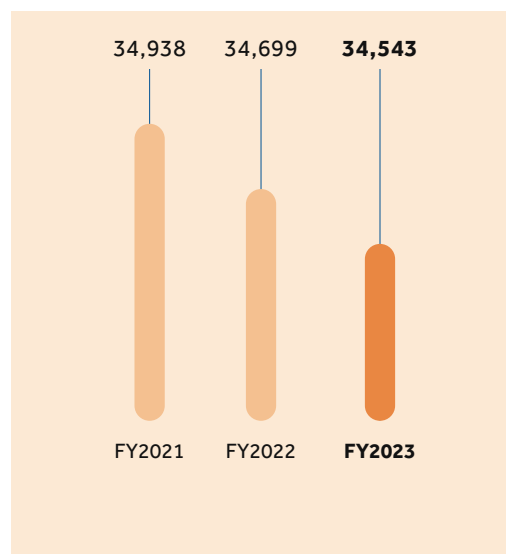
OUR PERFORMANCE

No	Metric	Unit	2021	2022	2023	Target
Labour Practices and Standards						
1	C3(a) Percentage of employees by gender and age group, for each employee category					
	By gender:					
	Senior management					
	Male	%	77	76	74	-
	Female	%	23	24	26	30% female by FY2025
	Executive					
	Male	%	60	60	59	-
	Female	%	40	40	41	30% female by FY2025
	Non-executives					
	Male	%	85	85	85	-
	Female	%	15	15	15	15% female by FY2025
	By age:					
	Senior management					
	< 35	%	0.0	0.0	0.0	-
	35-50	%	0.5	0.6	0.7	-
	> 50	%	0.7	0.6	0.7	-
	Executive					
	< 35	%	9.5	9.2	9.0	-
	35-50	%	13.6	14.3	14.9	-
	> 50	%	2.2	2.2	2.3	-
	Non-executive					
	< 35	%	30.9	27.4	23.5	-
	35-50	%	32.4	36.1	39.6	-
	> 50	%	10.1	9.6	9.4	-

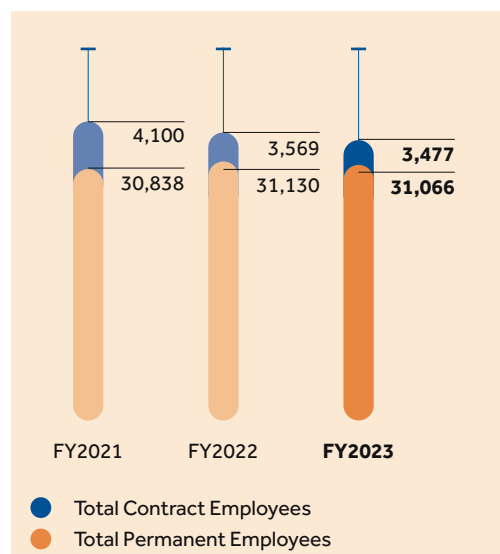
MM11: EMPLOYMENT CULTURE

No	Metric	Unit	2021	2022	2023	Target
2	C3(b) Percentage of directors by gender and age group					
	TNB Company					
	By gender:					
	Male	%	81.8	63.6	45.4	-
	Female	%	18.2	36.4	54.6	30% female
	By age group:					
	< 50	%	9.1	9.1	9.1	-
	50-60	%	54.6	54.6	45.5	-
	> 60	%	36.4	36.4	45.5	-
3	C6(a) Total hours of training by employee category					
	Senior management	hours	11,152	11,642	15,469	Total training hours
	Executive	hours	284,772	313,836	421,416	>1.1 million hours
	Non-executive	hours	413,866	792,874	907,736	
4	C6(b) Percentage of employees that are contractors or temporary staff	%	11.5	10.2	10.1	10% of employees that are contractors or temporary staff
5	C6(c) Total number of employee turnover by employee category	No.	1,314	1,363	1,142	-
	Senior management	No.	n/a	61	44	-
	Executive	No.	n/a	369	342	-
	Non-executive	No.	n/a	933	756	-
6	C6(d) Number of substantiated complaints concerning human rights violations	No.	0	0	0	Zero complaints
7	Employee Engagement Score (EES)/Culture Barometer	%	85	87	89	-
8	Employee engagement					
	Total investment in workforce capability					
	a) Total investment (RM)	RM million	65.53	129.42	189.6	-
	b) Average yearly formal training hours/employee	hours	28	37	47	-
	Employee Engagement Score (EES)/Culture Barometer	%	85	87	89	-

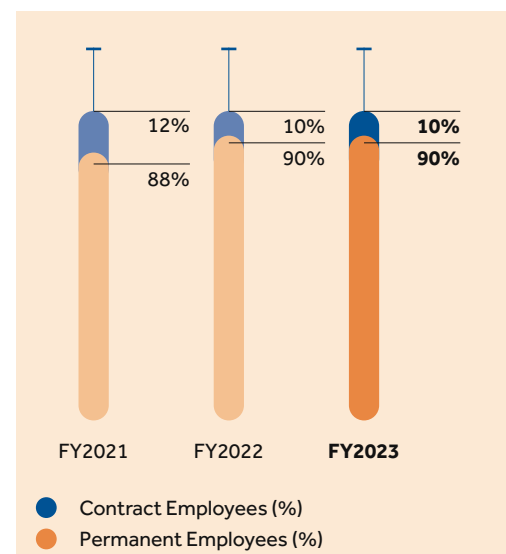
Number of employees



Permanent and contract employees (no.)

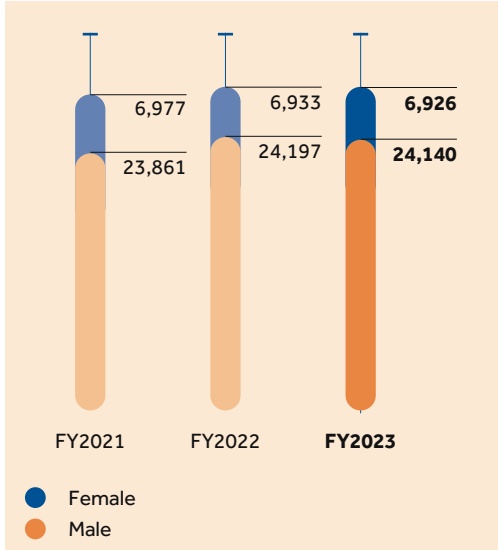


Permanent and contract employees (%)

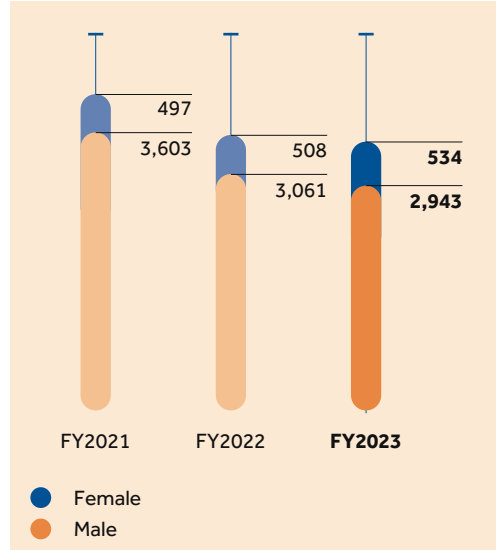


MM11: EMPLOYMENT CULTURE

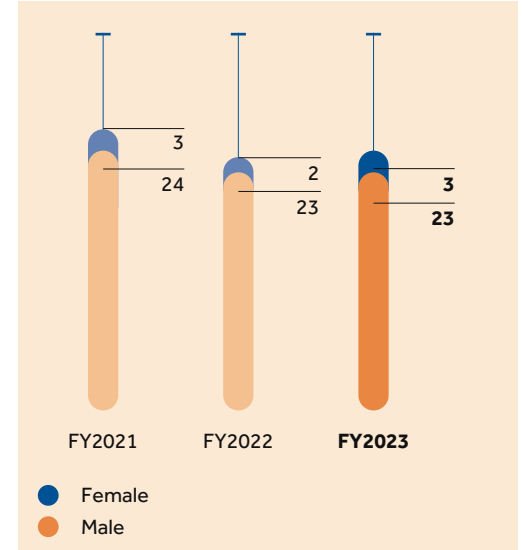
Permanent employees by gender (no.)



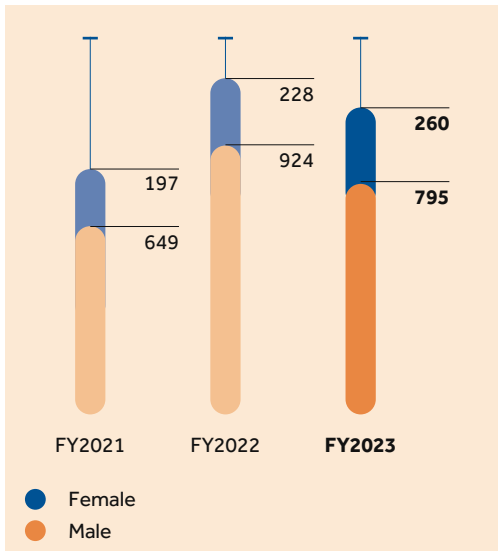
Contract employees by gender (no.)



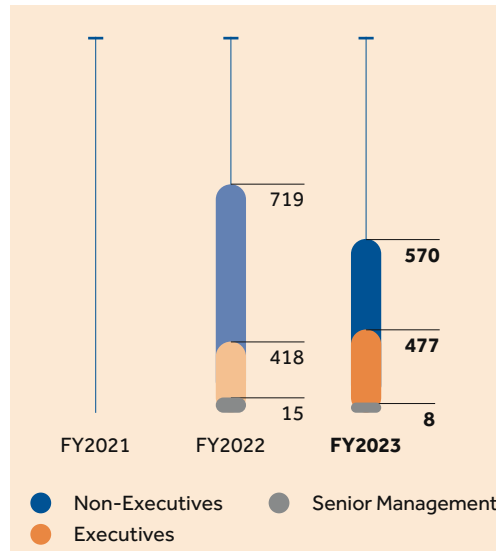
Differently abled employees by gender (no.)



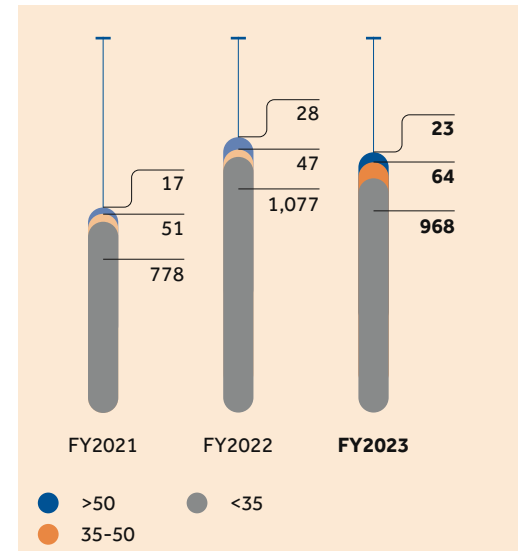
New hires by gender (no.)



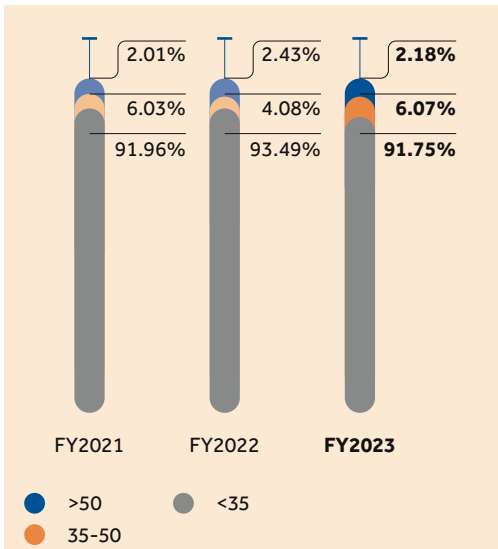
New hires by level (no.)



New hires by age group (no.)



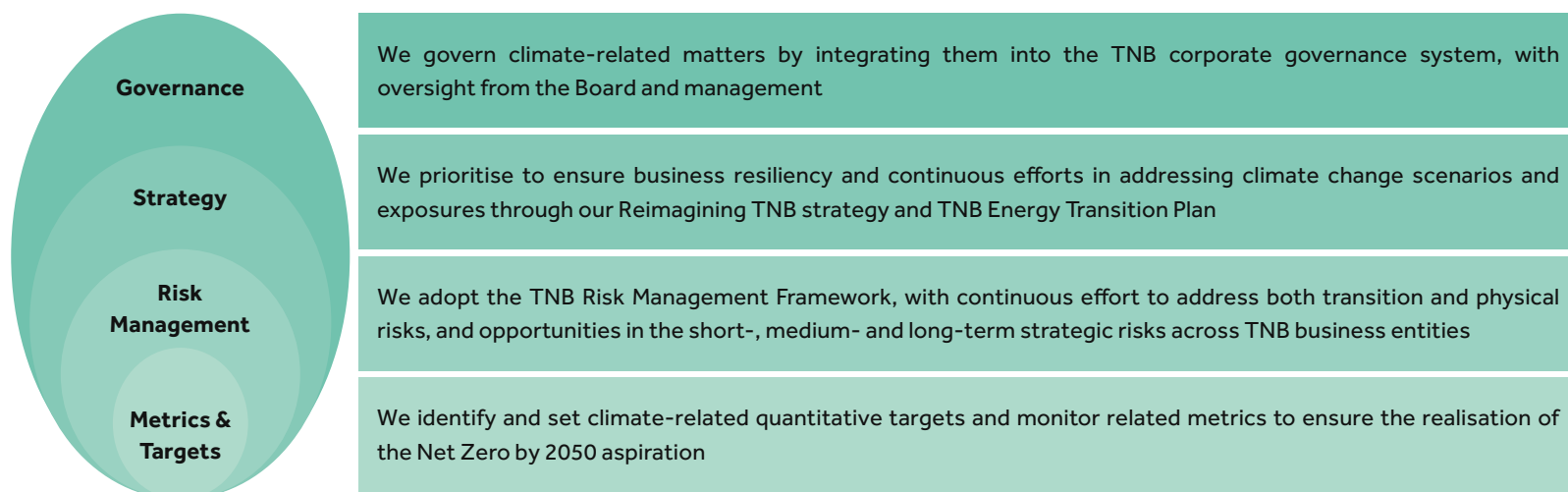
New hires by age group (%)



TASK FORCE ON CLIMATE-RELATED DISCLOSURES

TNB acknowledges our significant role in contributing to climate change, potential risks and opportunities for our infrastructure and business sustainability. Since 2019, we have adopted the Task Force on Climate-related Financial Disclosures (TCFD) framework that serves as a comprehensive approach for assessing and managing climate-related risks and opportunities, ensuring a thorough evaluation of the associated financial implications.

TCFD CORE ELEMENTS IN TNB



GOVERNANCE

The TNB Sustainability Governance Structure governs climate-related matters.

i For more information on sustainability governance, please refer to page 16 of the Sustainability Statement.

STRATEGY

Our priority is to ensure that our business is resilient in addressing climate exposures in our business strategy with continuous assessment to adapt to transition and physical risks and opportunities in the short, medium and long term.

RISK MANAGEMENT

We adopt the TNB Risk Management Framework to assess and mitigate transition and physical risks and opportunities across TNB business entities integrated into day-to-day operations.

i Refer to the IAR 2023 SORMIC report page 184-191.

Climate Resiliency

In reference to the Representative Concentrating Pathways (RCP) scenarios from the Intergovernmental Panel on Climate Change (IPCC) and scenarios proposed by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), the following are the risk exposures to our business:






Scenario	Description	Expected global temperature increase by 2100	Risk exposure to TNB Business	
			Physical	Transition
IPCC's RCP 8.5/4°C (high emissions scenario)	The 'Business as usual' scenario suggests a likely outcome if society does not make concerted efforts to cut greenhouse gas emissions.	>4°C	High	High
IPCC's RCP 6.0/3°C (moderate emissions scenario)	The scenario suggests a future in which greenhouse gas emissions continue to rise at a moderate rate but stabilise in 2070.	2.6°C	Moderate	Moderate
NGFS' Nationally Determined Contributions (NDCs) scenario	The NDC scenario includes all pledged policies, even if not yet implemented, based on the trajectory associated with global NDC commitments to limit the impact of climate change.	2-3°C	Moderate	Moderate

TASK FORCE ON CLIMATE-RELATED DISCLOSURES




Scenario	Description	Expected global temperature increase by 2100	Risk exposure to TNB Business	
			Physical	Transition
NGFS' Net Zero 2050 scenario	An ambitious scenario that limits global warming to 1.5°C through stringent climate policies and innovation, reaching net zero CO ₂ emissions around 2050.	1.5-2°C	Low	Low

Transition Risks and Opportunities

Our transition risk exposures are associated with transitioning to a low-carbon economy and achieving carbon neutrality by 2050, which is the nation's aspiration.


Type	No	Transition Risk	Short/Medium/Long Term*	Potential Impact	Management Approach
Policy & Legal	1	Carbon price Uncertainty about the government implementing carbon pricing as an instrument to capture the external cost of GHG emissions	Medium term	Cost	Implement a decarbonisation strategy as per the TNB Energy Transition Plan Active engagement with regulatory bodies and government agencies on carbon pricing regulations  Refer to MM3 (Climate Change and Emissions) on pages 48-55.
	2	Emissions reporting obligations Increased expectations from regulatory bodies to track and publicly report emissions	Short term	Cost	Digitalise emissions data and indicators Monitor and report emissions metrics and performance for informed decisions Embark on GHG Scope 3 emissions measurement Active engagement with regulatory bodies to keep abreast of emissions reporting requirements  Refer to MM3 (Climate Change and Emissions) on pages 48-55.
	3	Litigation exposure Fines or judgments driven by environmental and climate activism	Short term	Cost	Implement environmental management strategy Active engagement with relevant stakeholders on TNB's environmental and climate management  Refer to MM6 (Environmental Management) on pages 68-82.
Technology	4	Low carbon technology Uncertainty in the deployment of low-emission technology due to high investment and technology maturity	Short term	Capital Investment	Implement a decarbonisation strategy, leveraging digitalisation and technology innovation per the TNB Energy Transition Plan  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.
	5	Talent gaps Talent gaps that require upskilling and reskilling to navigate new and emerging technologies	Short term	Cost	Implement a talent management programme customised to meet energy transition technology requirements  Refer to MM11 (Employment Culture) on pages 104-113.

TASK FORCE ON CLIMATE-RELATED DISCLOSURES




Type	No	Transition Risk	Short/Medium/ Long Term*	Potential Impact	Management Approach
Market	6	Changes in the electricity supply industry Changes in the Malaysian Electricity Supply Industry (MESI) such as policy, regulatory requirements and market demands, in line with the transition to a low-carbon economy	Medium term	Market Share	Active engagement with regulatory bodies to shape an equitable energy market Explore new opportunities in the energy market such as beyond kWh solutions  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.
	7	Shift in customer behaviour Changing customer behaviour and preference for low-carbon options	Short term	Revenue	Active engagement with customers to anticipate and meet expectations leveraging digitalisation Collaborate with regulators and stakeholders to enhance the rakyat's energy literacy  Refer to MM7 (Customer Experience and Satisfaction) on pages 83-85.
	8	Stranded assets and divestments Unanticipated or premature write-down, devaluation and divestment of carbon-intensive assets	Medium term	Asset	Implement a decarbonisation strategy per the TNB Energy Transition Plan, such as repowering generators using green technology and early retirement of coal power plants Committed to no new coal power plants  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.
Reputation	9	Adverse perception of TNB's brand and image Increased stakeholders' expectations and scrutiny of our ESG strategy, management, and performance	Short term	Share Price	Implement TNB Sustainability Strategy and Energy Transition Plan Active engagement with stakeholders to address ESG needs and expectations

* Short term: until 2025 / Medium term: 2025 to 2035 / Long term: 2035-2050.

Transition opportunities in the energy industry abound as we embark towards a low-carbon economy.



Type	No	Transition Opportunity	Short/Medium/ Long Term*	Potential Impact	Management Approach
Resource Efficiency	1	Energy management at supply and demand side Opportunities to reduce resources required to generate electricity and required energy efficiency solutions	Short term	Cost	Optimise asset performance and efficiency through technology and innovation Repowering of power plants using cleaner green technology Collaboration with the Energy Commission (EC) on the Malaysia Energy Literacy Programme  Refer to MM3 (Climate Change and Emissions) on pages 48-55.

TASK FORCE ON CLIMATE-RELATED DISCLOSURES

Type	No	Transition Opportunity	Short/Medium/Long Term*	Potential Impact	Management Approach
Energy Source	2	Renewable energy growth Opportunities to increase RE portfolio locally and internationally	Short term	Revenue	Capture strong RE growth potential in domestic and international markets through subsidiaries, i.e. TNB Renewables, Spark Renewables and Vantage RE Adopt commercial capabilities in foreign markets to drive domestic RE growth  Refer to MM3 (Climate Change and Emissions) on pages 48-55.
Product and services	3	Demand for low-carbon electricity and green energy solutions Opportunities from increased demand for renewable energy, energy storage and electrification	Medium term	Revenue	Implement a decarbonisation strategy that includes green energy solutions across the electricity value chain as per the TNB Energy Transition Plan Implement identified energy transition projects in line with the National Energy Transition Roadmap (NETR) Establishment of GSPARX and TNBX to provide beyond KWh solutions, including solar rooftop with storage solution. Develop and enhance digital platforms such as myTNB apps, an EV charging platform, a digital marketplace, green energy aggregation and a trading platform, to complement ET initiatives Establishment of PMO EV to accelerate the EV adoption rate in Malaysia Strengthen TNB's brand presence in supporting EV proliferation Install EV chargers along highways, major trunk roads, and TNB premises, to encourage connectivity among EV users  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.
Markets	4	Diversification of business activities Opportunities to diversify business activities, leveraging energy transition targets, green and emerging technology, digitalisation and strategic partnerships	Medium term	Revenue	Embark on strategic partnerships for new technology such as hydrogen with PETRONAS, ammonia co-firing with IHI Corporation and CCUS with PETRONAS Develop Green Hydrogen hub producing hydrogen for the industrial and power sectors  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.

* Short term: until 2025 / Medium term: 2025 to 2035 / Long term: 2035-2050.

TASK FORCE ON CLIMATE-RELATED DISCLOSURES





























Type	No	Transition Opportunity	Short/Medium/Long Term*	Potential Impact	Management Approach
Resilience	5	Flexible and reliable grid Opportunities for regulated assets due to the requirement for a flexible and reliable grid with the increase of renewable energy injection to the grid system	Short term	Capital Investment	Enhance grid system efficiency through SMART grid initiatives to facilitate bi-directional power flow from prosumers Pilot project for Virtual Power Plant (VPP) technology for peer-to-peer generation among energy prosumers and demand response control for system stability in the future  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.
	6	ASEAN power grid interconnection Opportunities for grid interconnection projects with ASEAN countries towards a low-carbon economy in the region	Medium term	Revenue	MoU with ASEAN countries including Indonesia, Thailand and Singapore, to undertake collaborations on interconnection projects Feasibility studies for other cross-border electricity interconnection opportunities  Refer to MM2 (Energy Transition and Innovation) on pages 37-47.

* Short term: until 2025 / Medium term: 2025 to 2035 / Long term: 2035-2050.

Physical Risk

We have assessed the physical climate risk exposure to our business operations linked to extreme weather patterns and increased global temperatures. These include event-driven acute risks and longer term chronic shifts in climate patterns.

The recent physical climate risk assessment is based on a climate scenario modelling (IPCC RCP 8.5/4°C) for the three different types of power generators (coal, gas and hydro) and substations selected given their locations within Peninsular Malaysia. The scenario modelling analysed climate-related failure and damage risks at the grid point of the asset sites chosen to identify the spatial distribution of the seven physical climate risks. The summary outcome of the study is as follows:

Physical Risk	Description	Risk Exposure			
		TNBJ	SPG	SJ Kenyir	100 substations
Coastal inundation	Rising sea levels and higher incidence of extreme sea events				
Extreme wind	Changes in wind regimes, sea surface temperature and wind speeds				
Forest fire	Increased incidence of fire weather due to confluence of days with higher temperatures, high wind speeds and drier conditions				
Riverine flooding	Increased frequency and intensity of rainfall changing the frequency and intensity of river flooding				
Soil movement	Changes in rainfall patterns and drought				
Surface water flooding	Increased frequency of extreme rainfall leading to floods				
Heat (dry spells)	Extreme high temperatures, more frequent hot days and longer-lasting heatwaves				

Legend:  Risk exposure is low  Risk exposure is moderate  Risk exposure is significant  Risk exposure is high

TASK FORCE ON CLIMATE-RELATED DISCLOSURES

Based on the physical risk assessment, risks related to flood, heat, dry spells, and coastal inundation present a higher risk exposure to TNB's assets. With the possibility of increased exposure and impact severity, we are committed to improving our adaptation plans:

Physical Risk	Short/Medium/Long Term*	Adaptation Plan
Flood	Short term	<p>An integrated catchment management policy, procedures, and guidelines to regulate power supply among the catchments during floods</p> <p>Flood drills are needed to improve standard operating procedures, better manage critical situations and safely restore the electricity supply</p> <p>Integrated Community-Based Disaster Management (ICBDM) programme</p> <p>Prompt shutdown of affected substations through early warning systems to avoid/prevent damages</p> <p>Installation of protective measures around the substations, such as flood walls, flood gates, flap gates and pumping systems to reduce the water level inside the substation area</p> <p>Raised heights of transmission towers</p>
Heat (dry spells)	Short term	<p>Explore alternative water sources (groundwater, treated saline water, and recycled brackish groundwater and municipal wastewater) as an addition to the existing water sources</p> <p>Increase water storage volumes to ensure ample water supply to thermal power plants</p> <p>Incorporate climate change factors into new site assessments and adopt new design standards considering projected increasing dry spell risks</p>
Soil movement	Medium term	<p>Assessment of soil integrity at high-risk areas following recent landslide incident at SJ Kenyir</p> <p>Slope strengthening mitigations to prevent surface runoffs</p>
Coastal inundation	Medium term	<p>Incorporate climate change factors into new site assessments and adopt new design standards considering projected increasing coastal inundation risks</p> <p>Ensure proper design of cooling water intake from seawater</p>

* Short term: until 2025 / Medium term: 2025 to 2035 / Long term: 2035-2050.

METRICS AND TARGETS

We identify and set climate-related quantitative targets and monitor related metrics to ensure the realisation of the Net Zero by 2050 aspiration.



Refer to MM3 (Climate Change and Emissions) on pages 48-55.

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark		
BUSINESS PERFORMANCE									
GENERATION PORTFOLIO									
G4 - EU1	N/A	Installed capacity broken down by primary energy source							
		Total Installed Capacity	MW	-	-	18,335.11	Based on equity share approach of TNB generation assets domestic and international.		
		Gas	MW	-	-	6,147.77			
		Coal	MW	-	-	7,378.89			
		Hydro	MW	-	-	2,772.47			
		Diesel	MW	-	-	258.96			
		Solar	MW	-	-	1,300.85			
		Biomass	MW	-	-	12.5			
		Biogas	MW	-	-	4.76			
		Wind	MW	-	-	284.25			
		Oil	MW	-	-	142.88			
		Solar Hybrid	MW	-	-	31.77			
G4 - EU2	N/A	Net energy output broken down by primary energy source							
		Total Net Energy Output	GWh	-	-	79,535.45	Based on equity share approach of TNB generation assets domestic and international.		
		Gas	GWh	-	-	26,065.97			
		Coal	GWh	-	-	44,826.58			
		Hydro	GWh	-	-	6,452.92			
		Diesel	GWh	-	-	365.68			
		Solar	GWh	-	-	572.01			
		Biomass	GWh	-	-	13.16			
		Biogas	GWh	-	-	13.8			
		Wind	GWh	-	-	544.43			
		Oil	GWh	-	-	660.52			
		Solar Hybrid	GWh	-	-	20.38			
TRANSMISSION AND DISTRIBUTION LINES									
G4 - EU4	N/A	Length of above and underground tranmission and distribution lines by regulatory regime							
		Transmission	circuit-km	25,185	25,838	26,093	For TNB operations in Peninsular Malaysia.		
		Distribution	circuit-km	723,134	741,764	761,546*			
		Length of above and underground tranmission and distribution lines by regulatory regime							
		Transmission	circuit-km	2,994	3,154	3,175	For SESB operations in Sabah and Labuan.		
		Distribution	circuit-km	26,497	27,871	27,668			
SYSTEM EFFICIENCY									
G4-EU11	N/A	Generation plant performance by regulatory regime							
		Equivalent Availability Factor (EAF)	%	82.89	83.2	83.3	For TNB operations in Peninsular Malaysia.		
			%	75.11	79.45	78.74	For SESB operations in Sabah.		
			%	-	-	96.72	For TNB operations in International footprint.		
		Equivalent Unplanned Outage Factor (EUOF)	%	8.13	7.37	6.58	For TNB operations in Peninsular Malaysia.		
			%	20.05	18.54	20.05	For SESB operations in Sabah.		
			%	-	-	3.08	For TNB operations in International footprint.		
		G4-EU12	N/A	Transmission and distribution network losses					
				Transmission	%	1.60	1.59	1.56	For wholly-owned transmission network in Peninsular Malaysia.
Distribution	%			6.16	5.45	5.42	For wholly-owned distribution network in Peninsular Malaysia.		

* Updated FY2023 data based on time of record

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
BUSINESS PERFORMANCE							
SYSTEM EFFICIENCY							
G4-EU12	N/A	Electricity Transmission System					
		Transmission System Minutes	Minutes	0.086	0.172	0.483	For TNB operations in Peninsular Malaysia.
			Minutes	11.39	14.22	16.83	For SESB operations in Sabah.
		Percentage of System Availability	%	99.79	99.79	99.77	For TNB operations in Peninsular Malaysia.
			%	93.99	94.61	99.99	For SESB operations in Sabah. FY2023 is based on force outages only.
ACCESS							
G4 - EU29	N/A	Average power outage duration					
		System Average Interruption Duration Index (SAIDI)	Minutes/ Customer/ Year	45.25	45.06	46.10	For TNB operations in Peninsular Malaysia.
			Minutes/ Customer/ Year	268.05	286.21	266.37	For SESB operations in Sabah.
FINANCIAL PERFORMANCE							
GRI 201-1	N/A	Value Added					
		Revenue	RM million	48,119.9	50,867.7	53,066.9	N/A
		Imbalance Cost Pass-Through (ICPT) under recovery	RM million	-	22,315.3	10,589.2	
		Operating expenses excluding staff costs, depreciation and amortisation	RM million	(29,878.7)	(49,411.5)	(42,219.6)	
		Net loss on impairment of financial instruments	RM million	(940.2)	(101.4)	114.7	
		Other operating income	RM million	918.1	940.0	948.2	
		Finance income	RM million	221.8	277.7	544.3	
		Finance cost	RM million	(3,793.3)	(4,343.4)	(4,331.1)	
		Fair value of financial instruments	RM million	201.8	130.7	(49.4)	
		Foreign exchange gain/(loss) on borrowings	RM million	(168.5)	(223.5)	(209.5)	
		Share of results of associates and joint ventures	RM million	193.5	97.6	62.4	
		Total value added available for distribution	RM million	19,384.0	20,549.2	18,525.1	
		Value Distributed					
		To employees					N/A
		Employee cost	RM million	3,954.2	3,798.10	3,885.80	
		To government					
		Taxation and zakat	RM million	873.6	1,791.2	770.0	
		To shareholders					
		Dividends	RM million	4,568.4	2,181.3	2,537.5	
		Non-controlling interest	RM million	202.9	94.1	(166.7)	
		To reinvest to the Group					
		Depreciation and amortisation	RM million	10,691.5	11,402.5	11,265.7	
		Retained profit	RM million	(906.6)	1,282.0	232.8	
Total distributed	RM million	19,384.0	20,549.2	18,525.1			

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
SUPPLY CHAIN MANAGEMENT							
N/A	N/A	Number of suppliers and total spent					
		Total number of suppliers	Number	3,807*	3,805*	3,824	Data disclosed for FY2023 is based on spend under TNB Group including fuel purchases. All internal spend between TNB Business Entities are excluded.
		Total spent on procurement	RM billion	10.03	10.91	36.99	
GRI 204-1	N/A	Proportion of spending on local suppliers					
		Total number of local suppliers engaged	Number	3,600*	3,618*	3,632	Data disclosed for FY2023 is based on spend under TNB Group including fuel purchases. All internal spend between TNB Business Entities are excluded.
		Percentage of local suppliers	%	94.56*	95.09*	94.98	
		Total spent on local suppliers engaged	RM billion	9.82	10.38	17.18	
	Bursa C7(a) [Supply chain management]	Percentage spent on local suppliers engaged	%	97.90	95.10	46.45	
GRI 205-2	N/A	Total number and percentage of vendors that the organization's anti-corruption policies and procedures have been communicated					
		Number of Vendors with Signed Integrity Pacts	Number	-	-	1,550	N/A
		Percentage of Vendors with Signed Integrity Pacts	%	-	-	59.3	
		Number of Vendors with Completed Anti-Corruption Training	Number	-	-	267	
		Percentage of Vendors with Completed Anti-Corruption Training	%	-	-	10.2	
GRI 205-3		Confirmed incidents of corruption involving vendors					
		Total number of confirmed incidents when contracts with vendors were terminated or not renewed due to violations related to corruption	Number	-	-	2	N/A
ANTI CORRUPTION							
GRI 205-1	Bursa C1(b) [Anti Corruption]	Operations assessed for risks related to corruption					
		Total number of operations assessed for risks related to corruption	Number	-	-	32	N/A
		Total percentage of operations assessed for risks related to corruption	%	-	-	97	
GRI 205-2	N/A	Total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee level					
		Completed Conflict of Interest (COI)					
		Senior Management	Number	-	-	362	N/A
		Executive	Number	-	-	6,720	
		Non-executive	Number	-	-	20,856	
		Total	Number	-	-	27,938*	
		Total	%	-	-	80.9	
		Completed Integrity Pledge					
		Senior Management	Number	-	-	350	N/A
		Executive	Number	-	-	6,569	
		Non-executive	Number	-	-	20,711	
		Total	Number	-	-	27,630*	
	Total	%	-	-	80.0		
	N/A	Total number of employees that have received training on ethics and anti-corruption by level					
		Senior Management	Number	-	546	348	N/A
		Executive	Number	-	2,686	6,470	
		Non-executive	Number	-	11,006	20,722	
		Total	Number	-	14,238	27,540**	

** Updated FY2023 data based on time of record

* Updated data based on boundaries

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
ANTI CORRUPTION							
GRI 205-2	Bursa C1(a) [Anti Corruption]	Percentage of employees that have received training on anti-corruption by level					
		Senior Management	Percentage	-	1.57	1.0*	Percentage of employees received training on ethics and anti-corruption by level is calculated using total TNB Group employees.
		Executive	Percentage	-	7.74	18.7*	
		Non-executive	Percentage	-	31.72	60.0*	
		Total	Percentage		41.03	79.7*	
GRI 205-3	Bursa C1(c) [Anti Corruption]	Confirmed incidents of corruption and actions taken					
		Total number of confirmed incidents of corruption	Number	5	1	5	N/A
	N/A	Total number of confirmed incidents in which employees were dismissed or disciplined for corruption	Number	-	-	5	
N/A	N/A	Total number of accused employees by level					
		Senior Management	Number	-	-	0	N/A
		Executive	Number	-	-	0	
		Non-executive	Number	-	-	5	
		Anti-Bribery Management System (ABMS) Internal Audit					
		Number of division audited	Number	-	-	21	N/A
		Percentage of division audited	%	-	-	100.00	
		Number of NCR	Number	-	-	7	
NON COMPLIANCE							
GRI 2-27	N/A	Total number of significant instances of non-compliance with laws and regulations for which fines were incurred					
		Environment	Number	-	-	10	N/A
		Safety and occupational health	Number	-	-	41	
		Total	Number	-	-	51	
		Total number of significant instances of non-compliance with laws and regulations for which non-monetary sanctions incurred					
		Environment	Number	2**	5	7	N/A
		Safety and occupational health	Number	-	-	41	
		Total	Number	-	-	48	
		Total monetary value of significant fines					
		Total monetary value of significant fines	RM	19,000	20,000	20,000	Data includes monetary value of significant fines related to environment
CUSTOMERS							
CUSTOMER ACCOUNTS							
G4 - EU3	N/A	Number of residential, industrial, institutional and commercial customer accounts					
		Domestic	Number	-	-	8,910,066	The category of ‘Others’ consists of mining, street lighting, agriculture and RE generators.
		Peninsular Malaysia	Number	7,916,404**	8,113,248**	8,335,284	
		Sabah	Number	-	-	574,782	
		Commercial	Number	-	-	1,796,239	
		Peninsular Malaysia	Number	1,618,284**	1,655,944**	1,688,615	
		Sabah	Number	-	-	107,624	
		Industrial	Number	-	-	36,051	
		Peninsular Malaysia	Number	32,883**	33,615**	34,390	
		Sabah	Number	-	-	1,661	
		Others	Number	-	-	110,445	
		Peninsular Malaysia	Number	95,858**	100,239**	103,668	
		Sabah	Number	-	-	6,777	
		Total	Number	9,663,429	9,903,046	10,852,801	

* Updated FY2023 data based on time of record

** Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
CUSTOMERS							
CUSTOMER EXPERIENCE AND SATISFACTION							
N/A	N/A	Results of surveys measuring customer satisfaction					
		Customer satisfaction index	%	87	87	88	For TNB operations in Peninsular Malaysia.
		Customer experience Index	%	-	-	95	
		Complaints resolved	%	99	99.84**	99.7	
GRI 418-1	N/A	Total number of substantiated complaints received concerning breaches of customer privacy					
		Complaints received from outside parties and substantiated by TNB	Number	0	0	0	N/A
		Complaints received from regulatory bodies	Number	0	0	0	
	Bursa C8(a) [Data privacy and security]	Total number of substantiated complaints	Number	0	0	0	
	N/A	Total number of identified leaks, thefts, or losses of customer data	Number	0	0	0	
N/A	N/A	Energy solution adoption by customers					
		Rooftop solar (GSPARX)					N/A
		Rooftop solar capacity	MWp	22	45	105	
		Total number of customers subscribed	Number	-	-	1,338*	
		Green Electricity Tariff (GET)					
		Number of customers subscribed per year	Number	-	-	2,808*	
		Total annual consumption	GWh	-	-	4,224*	
		Net Energy Metering (NEM)					
		Cumulative customers who are producer	Number	-	-	24,664	
		Total installed capacity	MW	-	-	970.5	
		Number of customers subscribed to myTNB app					
		Number of customers subscribed to myTNB app	Number	5,567,409	6,294,064	6,742,081	N/A
BOARD OF DIRECTORS							
GRI 405-1	Bursa C3(b) [Diversity]	TNB Company Board Directors by Gender					
		Male	Number	9	7	5	Data reflects TNB Company Board Directors as of 31 Dec of the year.
		Female	Number	2	4	6	
		Total	Number	11	11	11	
		Male	Percentage	81.82	63.64	45.45	
		Female	Percentage	18.18	36.36	54.55	
		TNB Company Board Directors by Age					
		< 50	Number	1	1	1	Data reflects TNB Company Board Directors as of 31 Dec of the year.
		50 - 60	Number	6	6	5	
		> 60	Number	4	4	5	
		< 50	Percentage	9.09	9.09	9.09	
		50 - 60	Percentage	54.55	54.55	45.45	
		> 60	Percentage	36.36	36.36	45.45	
GRI 2-9	N/A	TNB Company Board Directors by Tenure					
		Less than 1 year	Number	-	-	5	Data reflects TNB Company Board Directors as of 31 Dec of the year.
		1 year	Number	-	-	1	
		2 years	Number	-	-	1	
		3 years	Number	-	-	0	
		4 years	Number	-	-	1	
		5 years	Number	-	-	2	
		6 years	Number	-	-	1	

* Updated FY2023 data based on time of record

** Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark	
BOARD OF DIRECTORS								
GRI 2-9	N/A	Number of TNB Company Directors by Experience						
		Corporate Planning and Development	Number	-	-	7	Data FY2023 reflects TNB Company Board Directors as of Dec 2023.	
		Economics	Number	-	-	4		
		Engineering	Number	-	-	4		
		Audit	Number	-	-	3		
		Commercial/Marketing	Number	-	-	2		
		Finance	Number	-	-	2		
		Finance and Investment	Number	-	-	2		
		Investment	Number	-	-	2		
		Operations	Number	-	-	2		
		Banking	Number	-	-	1		
		Human Resources	Number	-	-	1		
		Legal	Number	-	-	1		
		Project Management	Number	-	-	1		
		Real Asset and Property	Number	-	-	1		
		Refinery Operations	Number	-	-	1		
		Regulatory	Number	-	-	1		
		Number of TNB Company Directors by Skillset						Data FY2023 reflects TNB Company Board Directors as of Dec 2023.
		Engineering	Number	-	-	4		
		Finance and Accounting	Number	-	-	4		
Legal	Number	-	-	2				
		Others	Number	-	-	1		
WATER								
WATER WITHDRAWAL								
GRI 303-3	N/A	Total water withdrawal from all areas by sources						For TNB operations in Peninsular Malaysia.
		Total water withdrawal from all areas	ML	-	-	3,694,205		
		Sources - Surface water						
		Freshwater	ML	-	-	3,230		
		Other water	ML	-	-	-		
		Sources - Seawater						
		Freshwater	ML	-	-	-		
		Other water	ML	-	-	3,679,348		
		Sources - Third-party water						
		Freshwater	ML	-	-	11,627		
		Other water	ML	-	-	-		
WATER DISCHARGE								
GRI 303-4	N/A	Total water discharge to all areas						For TNB operations in Peninsular Malaysia.
		Total water discharge to all areas	ML	-	-	3,684,109		
		Total water discharge to all areas by category						
		Category - Freshwater	ML	-	-	4,762	For TNB operations in Peninsular Malaysia.	
		Category - Other water	ML	-	-	3,679,348		
		Total water discharge to all areas by destination						For TNB operations in Peninsular Malaysia.
		Destination - Surface water	ML	-	-	3,230		
		Destination - Seawater	ML	-	-	3,679,348		
		Destination - Third-party water	ML	-	-	1,532		
WATER CONSUMPTION								
GRI 303-5	Bursa C9(a) [Water]	Total water consumption from all areas						FY2023 data is reported using calculation methodology aligned with GRI 303-5.
		Total water consumption from all areas	ML	8,431	10,531	10,096		
N/A	N/A	Water Intensity (Water consumption / Total Electricitv Sold)	ML / GWh	-	-	0.078		

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
GHG EMISSIONS							
GRI 305-1	Bursa C11(a) [Emissions management]	Direct (Scope 1) GHG emissions					GHG emissions methodologies applied were 2006 IPCC Guidelines for National GHG Inventories, GHG Protocol and Clean Development Mechanism (CDM). Consolidation of data was based on equity approach and for TNB operations in Peninsular Malaysia only.
		Total direct GHG emissions	million tCO ₂ e	39.77	38.58	38.92	
	N/A	Fugitive emissions	million tCO ₂ e	-	-	0.08	
		Stationary Combustion	million tCO ₂ e	-	-	38.81	
		Mobile Combustion	million tCO ₂ e	-	-	0.02	
GRI 305-2	Bursa C11(b) [Emissions management]	Energy indirect (Scope 2) GHG emissions					
		Indirect (Scope 2) GHG Emissions	million tCO ₂ e	0.28	0.32	0.39	
GRI 305-3	Bursa C11(c) [Emissions management]	Other indirect (Scope 3) GHG emissions					
		Business travel	million tCO ₂ e	-	-	0.037	
		Employee commuting	million tCO ₂ e	-	-	0.063	
	N/A	Other indirect (Scope 3) GHG emissions - business travel by transportation type					
		By air travel	tCO ₂ e	-	-	1,319	
		By land travel	tCO ₂ e	-	-	35,942	
		Other indirect (Scope 3) GHG emissions - employee commuting by mode of transport					
		By car	tCO ₂ e	-	-	54,067	
		By motorcycle	tCO ₂ e	-	-	8,030	
		By e-hailing	tCO ₂ e	-	-	491	
By public transport		tCO ₂ e	-	-	440		
GRI 305-4	N/A	GHG emission intensity					
		Scope 1	tCO ₂ e/ MWh	0.5435	0.5507*	0.5465	N/A
GRI 305-5	N/A	Reduction of GHG emissions					N/A
		Total avoided emission	mil tCO ₂ e	7.88*	7.30	7.38	
		Advanced Combined Cycle Technology	tCO ₂ e	-	-	3,550,034	
		Large Hydro Power	tCO ₂ e	-	-	3,098,284	
		Small Renewable Energy	tCO ₂ e	-	-	70,410	
		Large Scale Solar	tCO ₂ e	-	-	81,307	
		New Streetlight Fittings	tCO ₂ e	-	-	1,954	
		Tree Planting	tCO ₂ e	-	-	842	
		Electric Vehicles	tCO ₂ e	-	-	18	
		Clean coal technology	tCO ₂ e	-	-	575,560	
WASTE							
WASTE GENERATED							
GRI 306-3	Bursa C10(a) [Waste Management]	Hazardous waste generated					For TNB operations in Peninsular Malaysia. The revised methodology FY2023 includes fly ash from coal power plants and e-waste from offices.
		Total weight of hazardous waste generated	metric tonnes	47,829	74,150	929,123	
	N/A	Hazardous waste generated by type					
		SW1 : Metal and Metal-Bearing Waste	metric tonnes	-	-	916,955	
		Ash	metric tonnes	-	-	913,064	
		E-waste	metric tonnes	-	-	3,212	
		Others	metric tonnes	-	-	679	
		SW2 : Waste containing principally inorganic constituents	metric tonnes	-	-	24	
		SW3 : Waste containing principally organic constituents	metric tonnes	-	-	4,022	
		SW4 : Waste containing either organic or inorganic constituents	metric tonnes	-	-	8,121	
WASTE DIVERTED FROM DISPOSAL							
GRI 306-4	Bursa C10(a) [Waste Management]	Hazardous waste diverted from disposal					For TNB operations in Peninsular Malaysia.
		Total hazardous waste diverted from disposal	metric tonnes	-	-	440,595	

* Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark	
WASTE								
WASTE DIVERTED FROM DISPOSAL								
GRI 306-4	N/A	Hazardous waste diverted from disposal by type						
		SW1 : Metal and Metal-Bearing Waste	metric tonnes	-	-	428,915	For TNB operations in Peninsular Malaysia.	
		Ash	metric tonnes	-	-	425,703		
		E-waste	metric tonnes	-	-	3,212		
		Others	metric tonnes	-	-	0		
		SW2 : Waste containing principally inorganic constituents	metric tonnes	-	-	2		
		SW3 : Waste containing principally organic constituents	metric tonnes	-	-	3,970		
		SW4 : Waste containing either organic or inorganic constituents	metric tonnes	-	-	7,707		
N/A	N/A	Total hazardous waste recycling rate	%	-	-	47.42		
WASTE DIRECTED TO DISPOSAL								
GRI 306-5	Bursa C10(a) [Waste Management]	Hazardous waste directed to disposal						
		Total weight of hazardous waste directed to disposal	metric tonnes	-	-	488,528	For TNB operations in Peninsular Malaysia.	
	N/A	Hazardous waste directed to disposal by type						
		SW1 : Metal and Metal-Bearing Waste	metric tonnes	-	-	488,039	For TNB operations in Peninsular Malaysia.	
		Ash	metric tonnes	-	-	487,360		
		E-waste	metric tonnes	-	-	0		
		Others	metric tonnes	-	-	679		
		SW2 : Waste containing principally inorganic constituents	metric tonnes	-	-	22		
		SW3 : Waste containing principally organic constituents	metric tonnes	-	-	52		
SW4 : Waste containing either organic or inorganic constituents	metric tonnes	-	-	414				
ENERGY CONSUMPTION								
GRI 302-1	Bursa C4(a) [Energy Management]	Energy consumption within the organisation						
		Total energy consumption within organisation	GJ	840,944.01 MWh	863,462.69 MWh	404,523,322*	FY2023 data is reported using calculation methodology aligned with GRI 302-1. Past years' data reported amount of energy consumption at TNB buildings.	
GRI 302-3		Energy intensity ratio for the organization	GJ/MWh	-	-	5.39	Energy intensity refers to energy consumption per unit of electricity sold.	
GRI 302-1	N/A	Total fuel consumption from non-renewable sources						
		Coal	GJ	451,081,428	444,682,239	452,842,875	For TNB operations in Peninsular Malaysia.	
		Natural gas	GJ	204,196,092	210,857,206	194,067,505		
		Distillate fuel	GJ	1,093,738	2,445,795	1,846,982		
		Residual Fuel Oil / Medium Fuel Oil	GJ	-	2,559,614	1.94		
		Biodiesel (93% Fossil)	GJ	-	-	19,182		
		Total fuel consumption from non-renewable sources	GJ	-	-	648,776,545		
		Total fuel consumption from renewable sources						
		Biomass	GJ	-	-	1,134,665	For TNB operations in Peninsular Malaysia.	
		Biodiesel (7% Renewable)	GJ	-	-	1,444		
Biogas	GJ	-	-	222,874				
Total fuel consumption from renewable sources	GJ	-	-	1,358,983				

* Updated FY2023 data based on time of record

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark	
ENERGY CONSUMPTION								
GRI 302-1	N/A	Hydro and solar power generation						
		Large Scale Solar	GJ	-	-	591,876	For TNB operations in Peninsular Malaysia.	
		Hydro	GJ	-	-	22,073,278		
		Total energy purchased for consumption						
		Electricity purchased for consumption	GJ	-	-	1,659,736	For TNB operations in Peninsular Malaysia.	
		Total energy sold by the organisation						
		Electricity sold by the organisation	GJ	-	-	269,937,097	Refers to electricity sold generated from TNB-owned power plants in Peninsular Malaysia based on equity approach.	
TOXIC EMISSIONS								
GRI 305-7	Bursa S4(a) [Emissions - Air quality/ Pollution]	Significant air emissions						
		Sulphur Oxides (SOx)	ton	32,342.10	27,412.40	34,977.44	For TNB power plants in Peninsular Malaysia. FY2023 emission reading from Jimah East Power (JEP) is included.	
		Particulate matter (PM)	ton	2,568.20	1,880.70	6,539.63		
		Carbon Monoxide (CO)	ton	5,974.08	8,180.10	16,107.26		
		Nitrogen Oxides (NOx)	ton	35,509.17	31,024.14	41,936.32		
LABOUR PRACTICES								
EMPLOYEE DEMOGRAPHIC								
GRI 2-7	N/A	Total size of workforce						
		TNB Group	Number	34,938	34,699	34,543	N/A	
		TNB Company	Number	27,423	26,990	26,607		
		Genco (Subsidiaries)	Number	1,415	1,505	1,256		
		Other Subsidiaries	Number	6,100	6,204	6,680		
		Workforce by geographic area						N/A
		Peninsular Malaysia - East	Number	4,580	4,228	4,144		
		Peninsular Malaysia - North	Number	6,417	6,351	6,274		
		Peninsular Malaysia - South	Number	5,245	5,132	5,059		
		Peninsular Malaysia - Central	Number	15,467	15,647	15,717		
		Malaysia East - Sabah	Number	3,226	3,338	3,346		
		Malaysia East - Sarawak	Number	1	1	1		
		Others	Number	2	2	2		
GRI 2-7, 2-8	Bursa C6(b) [Labour practices and standards]	Workforce by contract type and geographic area						
		Permanent employees						
		Peninsular Malaysia - East	Number	4,140	3,922	3,910	N/A	
		Peninsular Malaysia - North	Number	5,750	5,878	5,829		
		Peninsular Malaysia - South	Number	4,568	4,629	4,602		
		Peninsular Malaysia - Central	Number	13,675	14,024	13,969		
		Malaysia East - Sabah	Number	2,799	2,691	2,755		
		Malaysia East - Sarawak	Number	1	1	1		
		Others	Number	-	-	0		
		Total (Permanent)	Number	30,933	31,145	31,066		
		Contract employees (non-permanent)						
		Peninsular Malaysia - East	Number	440	306	286	N/A	
		Peninsular Malaysia - North	Number	667	473	445		
		Peninsular Malaysia - South	Number	677	503	457		
		Peninsular Malaysia - Central	Number	1,792	1,623	1,696		
		Malaysia East - Sabah	Number	427	647	591		
		Others	Number	2	2	2		
		Total (Contract)	Number	4,005	3,554	3,477		
Total (Contract)	Percentage	11.5	10.2	10.1*				

* Updated FY2023 data based on time of record

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
LABOUR PRACTICES							
EMPLOYEE DEMOGRAPHIC							
GRI 2-7	N/A	Workforce by gender					
		Male	Number	27,220	27,258	27,084	N/A
			Percentage	77.9	78.6	78.41	
		Female	Number	7,718	7,441	7,459	
			Percentage	22.1	21.4	21.6	
		Workforce by contract type and gender					
		Permanent employees					
		Male	Number	23,861	24,197	24,140	N/A
		Female	Number	6,977	6,933	6,926	
		Total (Permanent)	Number	30,838	31,130	31,066	
		Contract employees (non-permanent)					
		Male	Number	3,603	3,061	2,943	N/A
		Female	Number	497	508	534	
		Total (Contract)	Number	4,100	3,569	3,477	
EMPLOYEE DIVERSITY AND EQUAL OPPORTUNITIES							
GRI 405-1	Bursa C3(a) [Diversity]	Workforce by level and gender					
		Senior management					
		Male	Number	333	321	336	N/A
		Female	Number	100	103	120	
		Total	Number	433	424	456	
		Male	Percentage	76.91	75.71	73.68	
		Female	Percentage	23.09	24.29	26.32	
		Executive					
		Male	Number	5,315	5,312	5,362	N/A
		Female	Number	3,515	3,588	3,685	
		Total	Number	8,830	8,900	9,047	
		Male	Percentage	60.19	59.69	59.27	
		Female	Percentage	39.81	40.31	40.73	
		Non-executive					
	Bursa C3(a) [Diversity]	Male	Number	21,816	21,623	21,379	N/A
		Female	Number	3,859	3,752	3,661	
		Total	Number	25,675	25,375	25,040	
		Male	Percentage	84.97	85.21	85.38	
		Female	Percentage	15.03	14.79	14.62	
	N/A	Workforce by age group					
		<35	Number	14,139	12,692	11,238	N/A
			Percentage	40.5	36.6	32.5	
		35 - 50	Number	16,249	17,689	19,065	
			Percentage	46.5	51.0	55.2	
		>50	Number	4,550	4,318	4,240	
			Percentage	13.0	12.4	12.3	
	Bursa C3(a) [Diversity]	Workforce by level and age group					
		Senior management					
		< 35	Number	4	2	0	Percentage of employees by level and age group is calculated using total TNB Group employees.
		35 - 50	Number	185	202	235	
		> 50	Number	244	220	221	
		Total	Number	433	424	456	
		< 35	Percentage	0.0	0.0	0.0	
		35 - 50	Percentage	0.5	0.6	0.7	
		> 50	Percentage	0.7	0.6	0.7	

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
LABOUR PRACTICES							
EMPLOYEE DIVERSITY AND EQUAL OPPORTUNITIES							
GRI 405-1	Bursa C3(a) [Diversity]	Workforce by level and age group					
		Executive					
		< 35	Number	3,329	3,182	3,114	Percentage of employees by level and age group is calculated using total TNB Group employees.
		35 - 50	Number	4,736	4,956	5,150	
		> 50	Number	765	762	783	
		Total	Number	8,830	8,900	9,047	
		< 35	Percentage	9.5	9.2	9.0	
		35 - 50	Percentage	13.6	14.3	14.9	
		> 50	Percentage	2.2	2.2	2.3	
		Non-executive					
		< 35	Number	10,803	9,512	8,128	Percentage of employees by level and age group is calculated using total TNB Group employees.
		35 - 50	Number	11,331	12,521	13,679	
		> 50	Number	3,541	3,342	3,233	
		Total	Number	25,675	25,375	25,040	
		< 35	Percentage	30.9	27.4	23.5	
		35 - 50	Percentage	32.4	36.1	39.6	
		> 50	Percentage	10.1	9.6	9.4	
		Total	Number	34,938	34,699	34,543	
	N/A	Differently abled employees by gender					
		Male	Number	24	23	23	N/A
		Female	Number	3	2	3	
		Total	Number	27	25	26	
NEW EMPLOYEE HIRES AND TURNOVER							
GRI 401-1	N/A	Total new hires					
		Total number of new hires	Number	846	1,152	1,055	N/A
		Number of new hires by gender					
		Male	Number	649	924	795	N/A
		Female	Number	197	228	260	
		Percentage of new hires by gender					
		Male	Percentage	76.71	80.21	75.4	N/A
		Female	Percentage	23.29	19.79	24.6	
		Number of new hires by age group					
		< 35	Number	778	1,077	968	N/A
		35 - 50	Number	51	47	64	
		> 50	Number	17	28	23	
		Percentage of new hires by age group					
		< 35	Percentage	91.96	93.49	91.75	N/A
		35 - 50	Percentage	6.03	4.08	6.07	
		> 50	Percentage	2.01	2.43	2.18	
		Number of new hires by region					
		Peninsular Malaysia - East	Number	59	82	60	N/A
		Peninsular Malaysia - North	Number	69	130	106	
		Peninsular Malaysia - South	Number	119	137	109	
		Peninsular Malaysia - Central	Number	427	539	649	
		Malaysia East - Sabah	Number	172	264	131	
		Others	Number	0	0	0	

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark	
LABOUR PRACTICES								
NEW EMPLOYEE HIRES AND TURNOVER								
GRI 401-1	N/A	Percentage of new hires by region						
		Peninsular Malaysia - East	Percentage	6.97	7.12	5.69	N/A	
		Peninsular Malaysia - North	Percentage	8.16	11.28	10.05		
		Peninsular Malaysia - South	Percentage	14.07	11.89	10.33		
		Peninsular Malaysia - Central	Percentage	50.47	46.79	61.52		
		Malaysia East - Sabah	Percentage	20.33	22.92	12.42		
		Others	Percentage	0.00	0.00	0.00		
N/A	N/A	Number of new hires by level						
		Senior Management	Number	-	15	8	N/A	
		Executives	Number	-	418	477		
		Non-executives	Number	-	719	570		
		Percentage of new hires by level						N/A
		Senior Management	Percentage	-	1.3	0.8		
		Executives	Percentage	-	36.3	45.2		
Non-executives	Percentage	-	62.4	54.0				
GRI 401-1	N/A	Total employee turnover						
		Total number of employee turnover	Number	1,314	1,363	1,142	N/A	
N/A	Bursa C6(c) [Labour practices and standards]	Employee turnover by level						
		Senior Management	Number	-	61	44	N/A	
		Executives	Number	-	369	342		
		Non-executives	Number	-	933	756		
		Employee turnover rate by level						FY2023 data reported using revised calculation methodology. Turnover rate refers to the number of turnover per average number of employees.
		Senior Management	Percentage	-	4.48	10.00		
		Executives	Percentage	-	27.07	3.81		
		Non-executives	Percentage	-	68.45	3.00		
GRI 401-1	N/A	Employees turnover by age group						
		< 35	Number	329	400	292	N/A	
		35 - 50	Number	152	196	168		
		> 50	Number	833	767	682		
		Employee turnover rate by age group						FY2023 data reported using revised calculation methodology. Turnover rate refers to the number of turnover per average number of employees.
		< 35	Percentage	25.04	29.35	2.44		
		35 - 50	Percentage	11.57	14.38	0.91		
		> 50	Percentage	63.39'	56.27	15.94		
		Employee turnover by gender						
		Male	Number	1,078	1,113	894	N/A	
		Female	Number	236	250	248		
		Employee turnover rate by gender						
		Male	Percentage	82.00	81.70	3.29	FY2023 data reported using revised calculation methodology. Turnover rate refers to the number of turnover per average number of employees.	
		Female	Percentage	18.00	18.30	3.33		

* Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
LABOUR PRACTICES							
LABOUR RIGHTS							
GRI 401-3	N/A	Total number of employees that were entitled to parental leave, by gender					Data consolidated for TNB company.
		Maternity	Number	-	-	5,506	
		Paternity	Number	-	-	20,844	
		Maternity	Percentage	-	-	100	
		Paternity	Percentage	-	-	100	
		Total number of employees who took parental leave, by gender					
		Maternity		-	-	408	
		Paternity		-	-	2,040	
		Return to work rates of employees that took parental leave, by gender					
		Maternity	%	-	-	99.74	
		Paternity	%	-	-	100	
		Retention rates of employees that took parental leave, by gender					
		Maternity	%	-	-	99.50	
		Paternity	%	-	-	98.99	
N/A	N/A	Employee Engagement Survey					
		Employee Engagement Score (EES)	Percentage	85.00	86.60	89	N/A
GRI 2-30	N/A	Collective Bargaining					
		Total number of employees under collective bargaining agreements	Number	22,678	23,098	24,142	Data consolidated for TNB company.
		Percentage of employees under collective bargaining agreements out of total workforce	Percentage	83.7	86.5	90.8	
GRI 2-25	N/A	Processes to remediate negative impacts					
		Total number of grievances against labour practices filed in the year	Number	6	7*	5	N/A
		Total number of grievances against labour practices resolved in the year	Number	5	2*	1	
	Bursa C6(d) [Labour Practices and Standard]	Number of substantiated complaints concerning human rights violations	Number	0	0	0	N/A
GRI 410	N/A	Training in human rights policies or procedures					
		Security personnel trained in human rights policies or procedures	Percentage	-	-	45	N/A
CAPABILITY BUILDING							
GRI 404-1	N/A	Training hours					
		Total training hours	Hours	639,040	1,045,393	1,246,868	N/A
		Average training hours per employee	Hours	26*	43*	47	
		Average training hours per trained employee by gender					
		Male	Hours	29	29	48	N/A
		Female	Hours	27	40	46	
	N/A	Average training hours per trained employee by level					
		Senior management	Hours	34	31	39	N/A
		Executive	Hours	43	46	64	
		Non-executive	Hours	23	35	42	
	Bursa C6(a) [Labour practices and standards]	Total hours of training by level					
		Senior management	Hours	11,152	11,642	15,469	N/A
		Executive	Hours	284,772	313,836	421,416	
		Non-executive	Hours	413,866	792,874	907,736	

* Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
LABOUR PRACTICES							
CAPABILITY BUILDING							
N/A	N/A	Average hours of training by learning category					
		Technical	Hours	-	-	43.65	N/A
		Leadership	Hours	-	-	27.24	
		Other	Hours	-	-	26.03	
		HSE	Hours	-	-	15.60	
		ESG / Energy Transition	Hours	-	-	15.26	
		Functional	Hours	-	-	14.39	
		Anti Corruption	Hours	-	-	5.60	
GRI 404-3	N/A	Number of employees receiving regular performance and career development reviews by gender					
		Male	Number	27,220	27,258	21,041	Data consolidated for TNB Company.
		Female	Number	7,718	7,441	5,566	
		Total	Number	34,938	34,699	26,607	
		Percentage of employees receiving regular performance and career development reviews by gender					
		Male	Percentage	77.90	78.60	79.08	Data consolidated for TNB Company.
		Female	Percentage	22.10	21.40	20.92	
		Total	Percentage	100.00	100.00	100.00	
		Number of employees receiving regular performance and career development reviews by level					
		Senior management	Number	-	-	374	Data consolidated for TNB Company.
		Executive	Number	-	-	6,199	
		Non-executive	Number	-	-	20,034	
		Total	Number	-	-	26,607	
		Percentage of employees receiving regular performance and career development reviews by level					
		Senior management	Percentage	-	-	1.4	Data consolidated for TNB Company.
		Executive	Percentage	-	-	23.3	
		Non-executive	Percentage	-	-	75.3	
		Total	Percentage	-	-	100	
N/A	N/A	Total employees attended for certifications					
		Technical Professional	Number	-	-	271	N/A
		Regulatory Professional	Number	-	-	429	
		Functional Professional	Number	-	-	369	
		Number of trainees in apprenticeship program					
		Internship	Number	-	-	1,279	N/A
		Protégé	Number	-	-	656	
		Investment in learning & development					
		Total investment	RM million	65.53	161.39*	189.58	N/A
WORK RELATED INJURY							
GRI 403-9	Bursa C5(a) [Health and Safety]	Number of fatalities as a result of work related injuries					
		Road Accident/Vehicle	Number	-	-	2	N/A
		Bitten/Stung by Animals/Wild Insects/ Venomous	Number	-	-	1	
		Total (Employees)	Number	2	0	3	
		Road Accident/Vehicle	Number	-	-	1	
		Total (Contractors)	Number	6	2	1	
		Total (Employees and Contractor)	Number	8	2	4	

* Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
OCCUPATIONAL HEALTH AND SAFETY							
WORK RELATED INJURY							
GRI 403-9	N/A	Fatality rate as a result of work related injuries					
		Employees	per 1000 workers	-	-	0.09	N/A
		Contractors	per 1000 workers	-	-	0.04	
		Number of recordable work-related injuries					
		Employees	Number	47	41	130	FY2023 data is reported using methodology aligned with GRI 403-9 definition. FY2023 data includes injuries that results to fatal, lost time injuries, restricted work duty,medical treatment injury and first aid.
		Contractors	Number	8	7	36	
		Recordable work-related injuries frequency rate					
		Employees	per million manhours	-	-	1.29	N/A
		Contractors	per million manhours	-	-	0.47	
		N/A	N/A	Total recordable injuries rate (TRIR)			
Employees	per 1000 worker	-		-	3.76	N/A	
Contractor	per 1000 worker	-		-	1.4		
GRI 403-9	Number of hours worked						
		Total (Employees)	Hours	94,692,443	96,203,904	100,963,177	N/A
		Total (Contractors)	Hours	68,250,355	71,240,838	76,514,739	
N/A	N/A	Lost-Time Injuries for employees					
		Road Accident/Vehicle	Number	-	-	20	N/A
		Slip/Fall on the same level	Number	-	-	23	
		Fall of persons from heights/Pole/Ladder/Scaffolds/Machine/Buildings	Number	-	-	10	
		Struck by Falling Objects/Trapped/Knocked/others	Number	-	-	12	
		Struck by Machines/Equipment	Number	-	-	5	
		Bitten/Stung by Animals/Wlld Insects/Venomous	Number	-	-	4	
		Electrocuted/Flashover	Number	-	-	1	
		Lifting	Number	-	-	0	
		Total (Employees)	Number	-	-	75	
		Lost-Time Injuries for contractor					
		Road Accident/Vehicle	Number	-	-	6	N/A
		Slip/Fall on the same level	Number	-	-	5	
		Fall of persons from heights/Pole/Ladder/Scaffolds/Machine/Buildings	Number	-	-	0	
		Struck by Falling Objects/Trapped/Knocked/others	Number	-	-	4	
		Struck by Machines/Equipment	Number	-	-	2	
		Bitten/Stung by Animals/Wlld Insects/Venomous	Number	-	-	3	
		Electrocuted/Flashover	Number	-	-	1	
		Lifting	Number	-	-	0	
		Eye injury	Number	-	-	0	
		Total (Contractors)	Number	-	-	21	

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
OCCUPATIONAL HEALTH AND SAFETY							
WORK RELATED INJURY							
N/A	Bursa C5(b) [Health and Safety]	Lost-Time Injuries Frequency Rate (LTIFR)					
		Employees	per million manhours	1.03	0.82	0.74	N/A
		Contractor	per million manhours	-	-	0.27	
	N/A	Number of Lost days					
		Employees	Number	8,250	1,606	19,648	N/A
		Contractor	Number	-	-	6,743	
		Lost days severity rate					
		Employees	per million manhours	87.12	16.69	194.63	N/A
		Contractor	per million manhours	-	-	88.13	
GRI 403-9	N/A	Number of near misses					
Employees		Number	-	16	24	N/A	
N/A		Near miss frequency rate (NMFR)					
	Employees	per million manhours	-	0.17	0.24	N/A	
WORK RELATED ILL HEALTH							
GRI 403-10	N/A	The number of fatalities as a result of work-related ill health					
		Employees	Number	0	0	0	N/A
		Contractor	Number	-	-	0	
		The number of cases of recordable work-related ill health for employees					
		Hearing impairment caused by noise	Number	-	-	9	N/A
		Invertebral disc disorders	Number	-	-	1	
		Total cases for employees	Number	8	10	10	
WORKERS COVERED BY OHS MANAGEMENT SYSTEM							
GRI 403-8	N/A	Number of employees who are covered by occupational health and safety management system					
		Employees	Number	34,938*	34,699*	34,543	N/A
		Employees	Percentage	100	100	100	
		Number and percentage of contractors who are covered by occupational health and safety management system					
		Contractor	Number	25,413	25,182	27,781	N/A
		Contractor	Percentage	100	100	100	
HEALTH & SAFETY TRAINING							
N/A	N/A	Number of training hours					
		Employees	Hours	103,225	112,671	154,204	N/A
	Bursa C5(c) [Health and Safety]	Employees trained on health & safety standards					
		Number of employees trained on health and safety standards	Number	5,943	18,986	14,014	FY2023 data is reported based on health and safety training categories. Past years' data includes health, safety and environment training.
		Percentage of employees trained on health and safety standards	Percentage	21.67	55.00	40.57	

* Updated past years' data

PERFORMANCE TABLE

GRI	Bursa	Indicator	Units	FY21	FY22	FY23	Scope/Remark
COMMUNITY DEVELOPMENT							
GRI 201-1	Bursa C2(b) [Community/ Society]	Total number of beneficiaries					
		Total number of beneficiaries of the investment in communities	Number	-	-	6,635	N/A
	Bursa C2(a) [Community/ Society]	Total amount invested in the community					
		Total amount invested in the community where the target beneficiaries are external to the listed issuer	RM million	39.57	12.2	99.04	Change in scope FY2023 data, which includes educational support from YTN and UNITEN.
	N/A	Spend on community programs					
		Total CSR Spending	RM million	39.57	12.20	18.13	N/A
		Education (excluding YTN and Uniten)	RM million	11.11	2.27	2.16	
		Environmental	RM million	0.24	0.48	1.46	
		Economic-Social	RM million	22.79	4.27	7.78	
		Sports	RM million	5.43	5.18	6.73	
		Yayasan Tenaga Nasional (YTN)					
		Total spend on YTN & MyBF scholarships and YTN convertible loans	RM million	119.1	101.1	70.1	N/A
		Students awarded YTN & MyBF scholarships and YTN convertible loans	Number	8,271	5,753	3,397	Number of students refer to onload/active students.
		Universiti Tenaga Nasional (UNITEN)					
		Total financial assistance awarded from UNITEN	RM million	6.90	6.42	10.8	N/A
		Number of individuals awarded financial assistance	Number	1,766	1,361	2,706	N/A

BURSA MALAYSIA COMMON SUSTAINABILITY MATTERS AND INDICATORS

Indicator	Measurement Unit	2021	2022	2023
Bursa (Anti-corruption)				
Bursa C1(a) Percentage of employees who have received training on anti-corruption by employee category				
Senior Management	Percentage	0.00	0.00	1.01
Executive	Percentage	0.00	0.00	17.39
Non-executive	Percentage	0.00	0.00	56.09
Bursa C1(b) Percentage of operations assessed for corruption-related risks	Percentage	0.00	0.00	97.00
Bursa C1(c) Confirmed incidents of corruption and action taken	Number	5	1	5
Bursa (Energy management)				
Bursa C4(a) Total energy consumption	Megawatt	840,944.00	863,463.00	442,044,404.00
Bursa (Health and safety)				
Bursa C5(a) Number of work-related fatalities	Number	8	2	4
Bursa C5(b) Lost time incident rate ("LTIR")	Rate	1.03	0.82	0.74
Bursa C5(c) Number of employees trained on health and safety standards	Number	5,943	18,986	14,014
Bursa (Water)				
Bursa C9(a) Total volume of water used	Megalitres	8,431.000000	10,531.000000	10,096.000000
Bursa (Community/Society)				
Bursa C2(a) Total amount invested in the community where the target beneficiaries are external to the listed issuer	MYR	39,570,000.00	12,200,000.00	99,037,559.50
Bursa C2(b) Total number of beneficiaries of the investment in communities	Number	0	0	6,635
Bursa (Supply chain management)				
Bursa C7(a) Proportion of spending on local suppliers	Percentage	97.90	95.10	46.45
Bursa (Data privacy and security)				
Bursa C8(a) Number of substantiated complaints concerning breaches of customer privacy and losses of customer data	Number	0	0	0
Bursa (Diversity)				
Bursa C3(a) Percentage of employees by gender and age group, for each employee category				
Age Group by Employee Category				
Senior Management Under 35	Percentage	0.00	0.00	0.00
Senior Management Between 35-50	Percentage	0.50	0.60	0.70
Senior Management Above 50	Percentage	0.70	0.60	0.70
Executive Under 35	Percentage	9.50	9.20	9.00
Executive Between 35-50	Percentage	13.60	14.30	14.90
Executive Above 50	Percentage	2.20	2.20	2.30
Non-executive Under 35	Percentage	30.90	27.40	23.50
Non-executive Between 35-50	Percentage	32.40	36.10	39.60
Non-executive Above 50	Percentage	10.10	9.60	9.40
Gender Group by Employee Category				
Senior Management Male	Percentage	77.00	76.00	74.00
Senior Management Female	Percentage	23.00	24.00	26.00
Executive Male	Percentage	60.00	60.00	59.00
Executive Female	Percentage	40.00	40.00	41.00
Non-executive Male	Percentage	85.00	85.00	85.00
Non-executive Female	Percentage	15.00	15.00	15.00
Bursa C3(b) Percentage of directors by gender and age group				
Male	Percentage	66.70	45.40	50.00
Female	Percentage	33.30	54.55	50.00
Under 50	Percentage	8.30	9.10	8.30
Between 50-60	Percentage	58.30	54.60	33.30
Above 60	Percentage	33.30	36.40	58.30

BURSA MALAYSIA COMMON SUSTAINABILITY MATTERS AND INDICATORS

Indicator	Measurement Unit	2021	2022	2023
Bursa (Labour practices and standards)				
Bursa C6(a) Total hours of training by employee category				
Senior Management	Hours	11,152	11,642	15,469
Executive	Hours	284,772	313,836	421,416
Non-executive	Hours	413,866	792,874	907,736
Bursa C6(b) Percentage of employees that are contractors or temporary staff	Percentage	11.50	10.20	9.90
Bursa C6(c) Total number of employee turnover by employee category				
Senior Management	Number	0	61	44
Executive	Number	0	369	342
Non-executive	Number	0	933	756
Bursa C6(d) Number of substantiated complaints concerning human rights violations	Number	0	0	0

Internal assurance External assurance No assurance

(*) Restated

GRI CONTENT INDEX

GRI Standards 2021	Disclosure Number	GRI Indicators	Page reference, and reason for omissions, where applicable
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GRI 2	2-2	Entities included in the organization's sustainability reporting	2
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GRI 2	2-4	Restatements of information	Refer to Performance Table section
GRI 2	2-5	External assurance	3
GRI 2	2-6	Activities, value chain, and other business relationships	6, 7
GRI 2	2-7	Employees	128, 129
GRI 2	2-8	Workers who are not employees	128, 129
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GRI 2	2-10	Nomination and selection of the highest governance body	Refer to IAR2023- Chapter 4: Creating Value Through Strong Governance
GRI 2	2-11	Chair of the highest governance body	17
GRI 2	2-12	Role of the highest governance body in overseeing the management of impacts	17
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GRI 2	2-17	Collective knowledge of the highest governance body	Refer to IAR2023- Chapter 4: Creating Value Through Strong Governance
GRI 2	2-18	Evaluation of the performance of the highest governance body	17
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GRI 2	2-20	Process to determine remuneration	Refer to IAR2023- Chapter 4: Creating Value Through Strong Governance
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414	414-1	New suppliers that were screened using social criteria	Omission due to unavailable information
414	414-2	Negative social impacts in the supply chain and actions taken	Omission due to unavailable information
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