



75

MESYUARAT AGUNG TAHUNAN

TENAGA NASIONAL BERHAD KE-34

21 MEI 2024

POWERING GROWTH
CATALYSING GREEN



**Sharing prosperity through dividend;
66.6% out of dividend payout was distributed to GLICs**



In 2023, TNB demonstrated thought leadership through the success of Energy Transition Conference, advancing the journey towards a responsible energy transition

TNB's Inaugural Energy Transition Conference



"TNB is leading discussions with ASEAN utilities and governments for resource-sharing and flexibility solutions at scale. The move will accelerate the energy transition pace in a responsible manner while balancing the elements of the energy trilemma"

- Prime Minister Datuk Seri Anwar Ibrahim

4 Key Themes



Renewable Energy



Decarbonisation

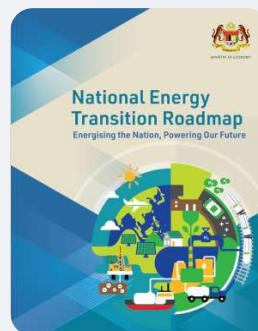


Digitalisation



Energy Transition Enablers

National Energy Transition Roadmap (NETR)



Aims to shift Malaysia from a traditional fossil fuel-based economy to a high-value green economy

PART 1
Identified **10 flagship catalyst projects** based on 6 energy transition levers

PART 2
Introduced **Responsible Transition (RT) targets**


TNB's NETR Flagship Projects

Champion **3 flagship projects** that promises tremendous growth opportunities

1

500MW

Centralised Large-Scale Solar (LSS) Parks

2

2,500MW

Hybrid Hydro-Floating Solar PV (HHFS) at TNB hydro dam reservoirs

3


Co-firing of Hydrogen & Ammonia

3,000MW of RE capacity + New Fuel Types

Looking ahead into 2024, we will continue to drive our strategic initiatives to pursue business growth while fulfilling our Net Zero commitments

Deliver Clean Generation

Energy Sources

- **Nenggiri Hydro Project (COD: 2027)**
Achieve 56% of project progress
- **Sungai Perak Life Extension Program**
Finalise Power Purchase Agreement (PPA) and contract awards for EPCC¹
- **Hybrid Hydro-Floating Solar PV (HHFS)**
Finalise potential offtake mechanisms, completion of feasibility studies and ESIA²
- **Remaco**
Maintenance service for Shuaiba Plant in Kuwait starting from 1QFY2024
- **Co-firing of Hydrogen & Ammonia**
 - ✓ Hydrogen: Completion of feasibility study
 - ✓ Ammonia: Completion of Front End Engineering Design (FEED) study and regulatory review

- **Solar Greenfield Development (UK)**
Ongoing development (102MWp) with expected COD by 3QFY2024
- **Corporate Green Power Programme (CGPP)**
Signed agreement with 7 companies (135MWp) and construction work to start by 2QFY2024
- **Spark Renewables (Australia)**
 - ✓ 4.2GW to be developed to Ready to Built (RTB) status
 - ✓ Pursue 1.9GW development pipeline
- **Large-Scale Solar Parks (5x100MW)**
Finalise sites and financial close

Develop Energy Transition Network

Energy Vector

- **Spurring growth of Variable Renewable Energy (VRE)** through improved grid flexibility and regional interconnections
- **Advancing electrification for transportation and industrial customers** through enhanced grid capacity and connectivity
- **Reducing Grid's own carbon footprint** and preserving forestry and the natural environment



Data Centres

9 New Projects
To be completed

~700MW
Total energy demand

10 New ESA Projects

~2000MW
Potential energy demand

Dynamic Energy Solutions

Energy Usage

Electric Vehicle (EV)



66

Additional DC Charge Points



GSPARX

Additional secured capacity

160MWp

2024 Group Capital Expenditure

RM13.8 bil

¹ Engineering, procurement, construction and commissioning.

² Environmental Social Impact Assessment.

Our IBR RP4 proposal serves as an investment platform to enable the initiatives under NETR that fully support the nation's Net Zero aspiration

IBR Regulatory Period 4 (RP4)

RP4 proposal is designed to support and facilitate NETR long term aspiration



Renewables Energy Zone

~5GW transmission connected solar by 2030

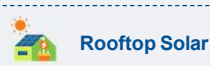
- Integrated RE zone
- Solar park



New Demand and Data Centres

~3GW data centres by 2030

- +7% higher electricity demand



Rooftop Solar

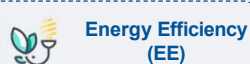
~8GW distribution-connected solar by 2030

- Sime Darby Property (Elmina City)



Flexible Storage Solution

~2.4GW storage as required by Grid System Operator by 2030



Energy Efficiency (EE)

EE savings by 2050 in

~20% for Residential

~23% for Industry and Commercial



Future Mobility

~250k Electric Vehicles (EVs) by 2030



Grid Investments Requirement



1. System security and reliability



2. Facilitate Energy Transition

Key Theme:

Deliver our customers' energy needs and facilitating Malaysia's Energy Transition

RP4 Focus Areas:



Build a flexible and resilient transmission system



Enhance distribution's network visibility



Controllability and energy management



Enhancing customer service to support Malaysia's sustainable energy future

Aims to:



Ensure the security of supply



Facilitate demand growth



Enable Just Energy Transition

Note: Data as per NETR simulation as submitted to Energy Commission (EC) on 1 December 2023.

We are committed to our Energy Transition Plan – The journey towards Net Zero 2050 Aspiration will bring sustainable business growth and enhance value to our shareholders

Achieving these key deliverables is a testament of our commitment in realising our Energy Transition Plan:

Renewable Energy (RE)

- Commissioned TNB Bukit Selambau Solar 2 (275MWp)
- Acquired solar asset in Ireland (276MWp)
- Acquired solar asset in Australia (121MWp)
- Secured Corporate Green Power Programme (CGPP) (135MWp)
- Championing 3 NETR flagship projects (3,000MW)

Energy Transition (ET) Investments

- Smart Grid and Regional Interconnection
- Commissioned 9 data centres projects (635MW)
- Signed ESA for 9 Data Centre Projects with maximum demand (2,300MW)
- Secured rooftop solar projects (340MWp)
- Commissioned 3 TNB Electron Stations

Ranked 1st in Malaysia in
ESG Transparency Reporting
by Global ESG Monitor

Net Zero 2050 Aspiration

Our Target for 2025

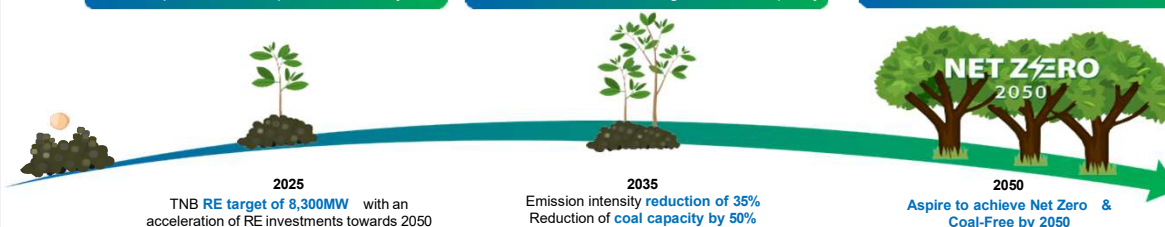
- Build scale in renewable generation
- Improve thermal plant efficiency

Our Commitment to 2035

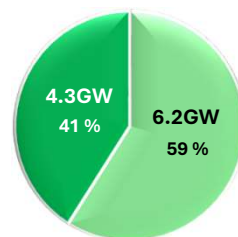
- Significant renewable generation growth
- 50% reduction in coal generation capacity

Our Aspiration to 2050

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



10.5GW Secured RE Capacity up to 2040



■ COD ■ Pipeline

CO₂ Emission Avoidance

~14 mil
tCO₂e p.a.

Ensuring business growth as we progress towards supporting the NETR and becoming a **leading provider of sustainable energy solutions**

Notes: 1. Secured RE capacity as of March 2024
2. Solar capacity is quoted in GWp



A heartfelt recognition goes out to our former Chief Executive Officer (CEO), Dato' Seri Ir. Baharin Din, who has demonstrated exemplary leadership in guiding the Management Team and Warga TNB towards achieving the Company's goals and aspirations in 2023.

To all Warga TNB, a special acknowledgment for their efforts, who have shown remarkable resilience and commitment, allowing us to continue brightening the lives of the rakyat every day.

To our customers, shareholders and community, thank you & we look forward to the continued support and collaboration as we forge ahead with optimism and commitment towards a brighter, greener and more sustainable tomorrow.

