

# TENAGA NASIONAL BERHAD

## INVESTOR PRESENTATION





TNB is the largest electricity utility company in Malaysia and a trailblazer in the country's energy transition

Tenaga Nasional Bhd (TNB)



MALAYSIA

Sabah Electricity Sdn Bhd (SESB)  
(83% owned by TNB)  
Dependable Capacity:  
1,237MW



### Our International Presence



### Main Subsidiaries



### Sole Network & Retail Provider in Peninsular Malaysia

Our grid network & retail business are governed by the Incentive Based Regulation (IBR) framework



Transmission length: 25,186 km  
Substations: 472  
System Minutes: 0.09



Distribution Network: 723,134 km  
Substations: 86,468  
SAIDI : 42.25 minutes

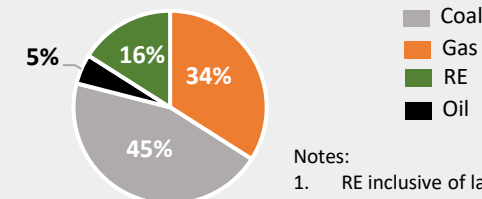


Retail customers: 9.7 mil  
Customer Satisfaction Index (CSI): 8.7

### Holds 60% of Domestic Generation Capacity

Total Installed Capacity: 24,013MW (Sept 2022)

- Domestic: 18,914 MW
- International: 5,099 MW



Notes:

- RE inclusive of large hydro and small RE
- Data is based on gross installed capacity (exclude SESB)



We are also a global player; through our New Energy Division (NED), we strive to future proof our business by expanding our RE footprint and establishing strategic partnerships with leading RE players

## NED'S PORTFOLIO

### 2021 VANTAGE RE

- **Equity stake:** 100%
- **Capacity:**
  - 123.9MW in onshore wind (100% equity)
  - 365.0MW in solar (55% equity)
  - 41.5MW in offshore wind (49% equity)

### 2018 TNB RENEWABLES

- **Equity stake:** 100%
- **Capacity:**
  - 123.0MW Large Scale Solar (LSS) parks (100% equity)
  - 3.2MW in biogas (49% equity)

### 2016 GAMA ENERJİ A.Ş.

- **Equity stake:** 30%
- **Capacity:**
  - 1,134.1MW in gas, hydro and wind.
  - Water conveyance in Jordan

### 2005 SWEC

- **Equity stake:** 6% effective equity stake
- **Capacity:**
  - 1,190.0MW in IWPP
  - Water desalination of 1,039,000 m<sup>3</sup>/day

### 2016 GAR

- **Equity stake:** 30%
- **Capacity:**
  - 2,244.0MW in coal, gas, solar and hydro

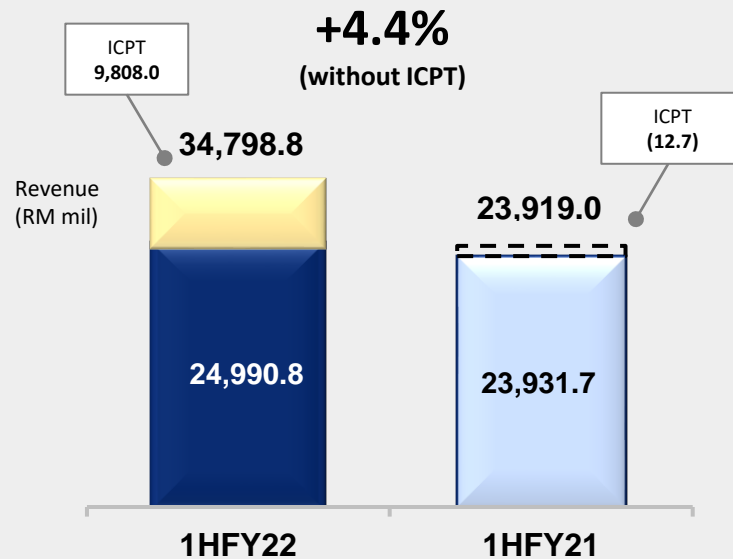




In the first half of the financial year 2022, the Group reported a resilient performance inline with the ongoing economic recovery

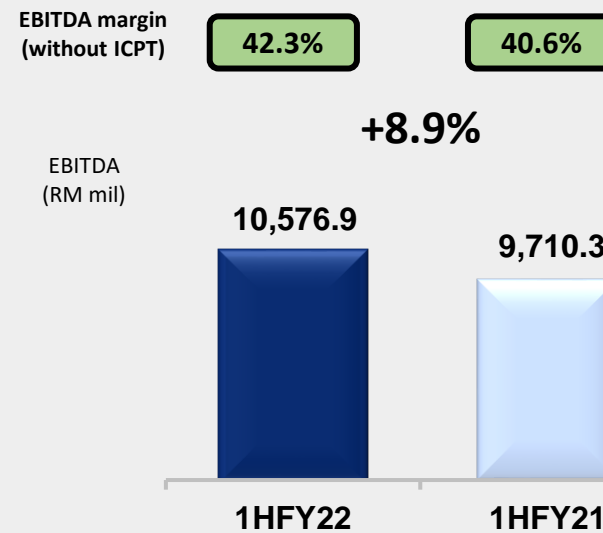
## REVENUE

- Increase in TNB sales of electricity, driven by higher consumption in all sectors, consistent with the overall improvement of Malaysia's GDP of 6.9% year-on-year.
- Peninsula Malaysia electricity demand grew by 5.7% year-on-year.



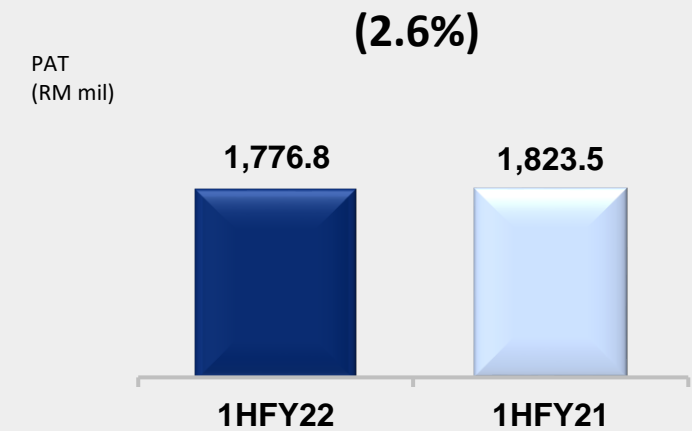
## EBITDA

- Includes higher Group electricity revenue and lower Allowance for Doubtful Debts (ADD 1HFY22: RM75.4 mil, 1HFY21: RM464.3 mil)
- **EBITDA margin (without ICPT) has improved to 42.3% from 40.6% as compared to the same period last year reflecting improvement in our performance.**



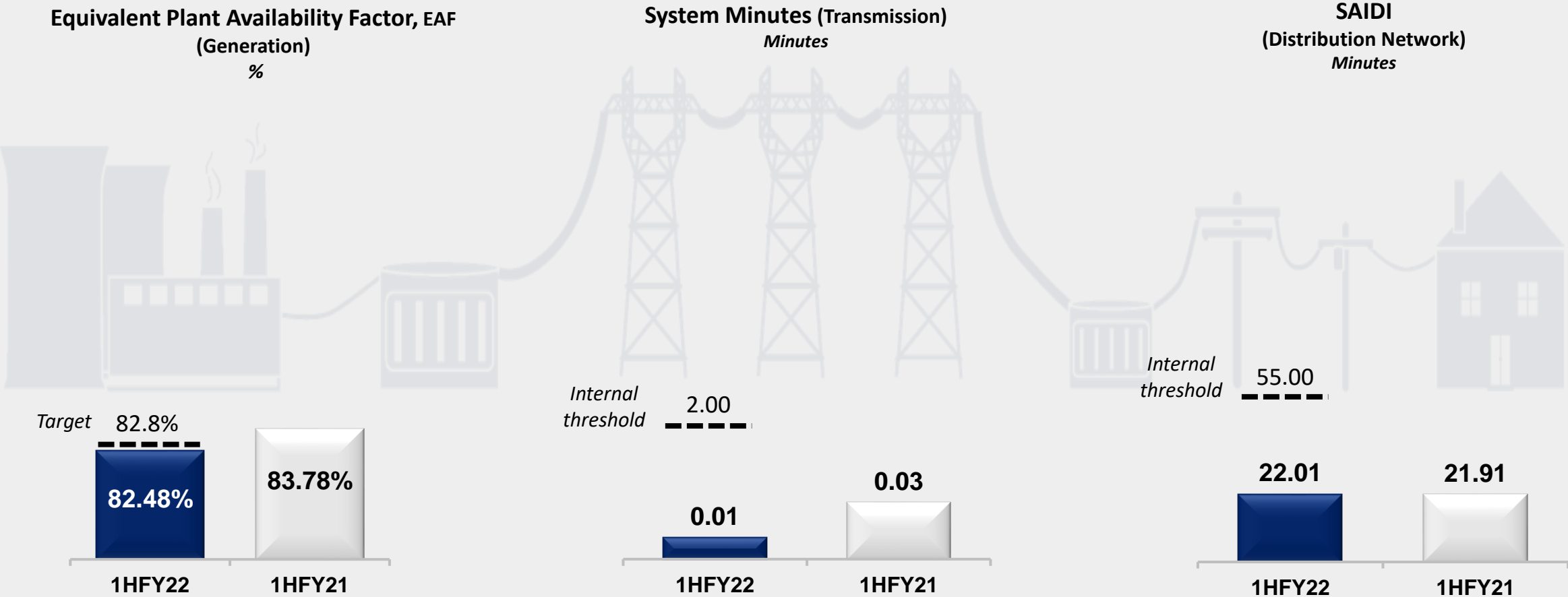
## PROFIT AFTER TAX

- Includes MFRS16 impact from the commissioning of Edra Melaka power plant.
- PAT without MFRS16:
  - ❑ 1HFY22: RM2,250.9 mil
  - ❑ 1HFY21: RM2,109.9 mil





Supporting our financial performance is a solid technical operation, maintaining world-class standards despite the challenging operating environment

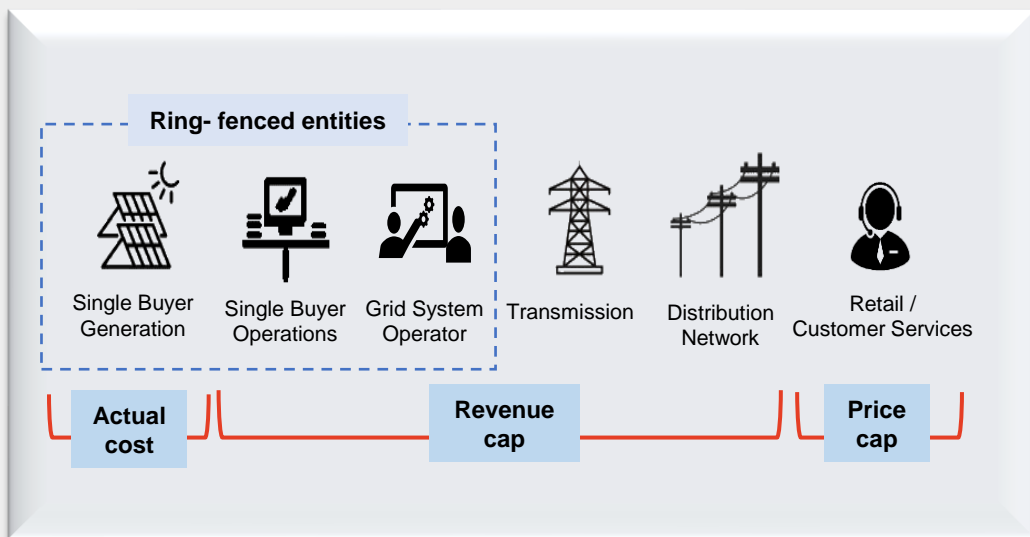


\*EAF includes planned and unplanned outages



Our regulated business is governed by the Incentive-Based Regulation (IBR) framework which provides stable returns to the Group while promises a more efficient energy sector

### Regulated Entities under Incentive Based Regulation (IBR)



#### The IBR mechanism provides:

- Clear and transparent regulatory framework
- Consistent and stable returns
- Shield against uncontrollable swings
- Incentives for operational efficiencies

- Regulated business made up more than 70% of the overall Group earnings.
- **Revenue cap:** Allowed annual revenue based on approved demand growth. Any excess/shortfall is adjusted through revenue adjustment mechanism.
- **Price cap:** Any excess/shortfall of revenue made due to higher/lower average selling price compared to base tariff is adjusted through revenue adjustment mechanism.



...through series of negotiations with the stakeholders, we have managed to secure favourable parameters; higher CAPEX and a fair WACC for the next 3 years

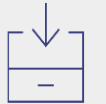
### RP3 determination (2022 -2024)



**Base Tariff,**  
sen/kWh

**39.95**

RP2: 39.45



**WACC, %**

**7.3**

RP2: 7.3



**CAPEX, RM bn**

**20.555**

RP2: 18.8



**RAB, RM bn**

**70.8**

estimated closing  
2024 RAB



**OPEX, RM bn**

**17.96**

RP2: 18.2



**Gas, RM/mmBTU**

**26**

RP2: 27.20



**Coal, USD/MT**

**79**

RP2: 75.00

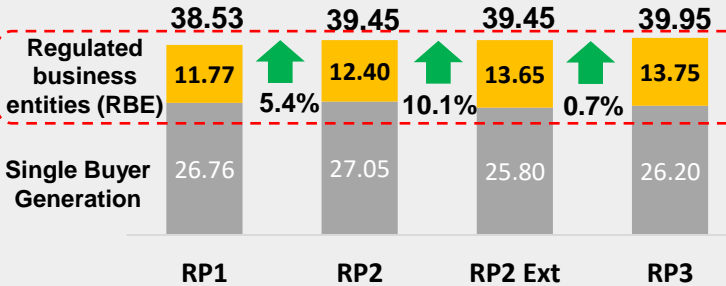


**FOREX, MYR/USD**

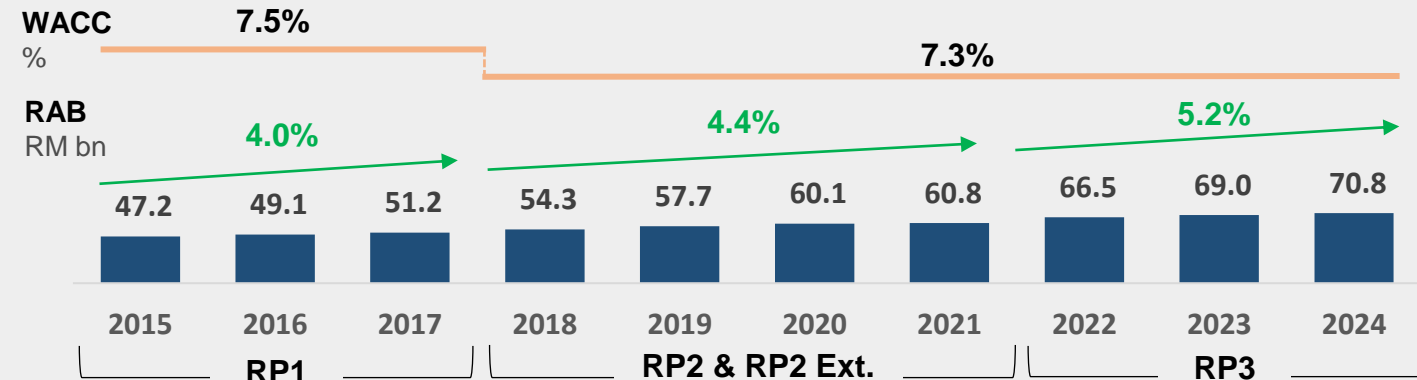
**4.123**

RP2: 4.212

**Base Tariff**  
sen/kWh



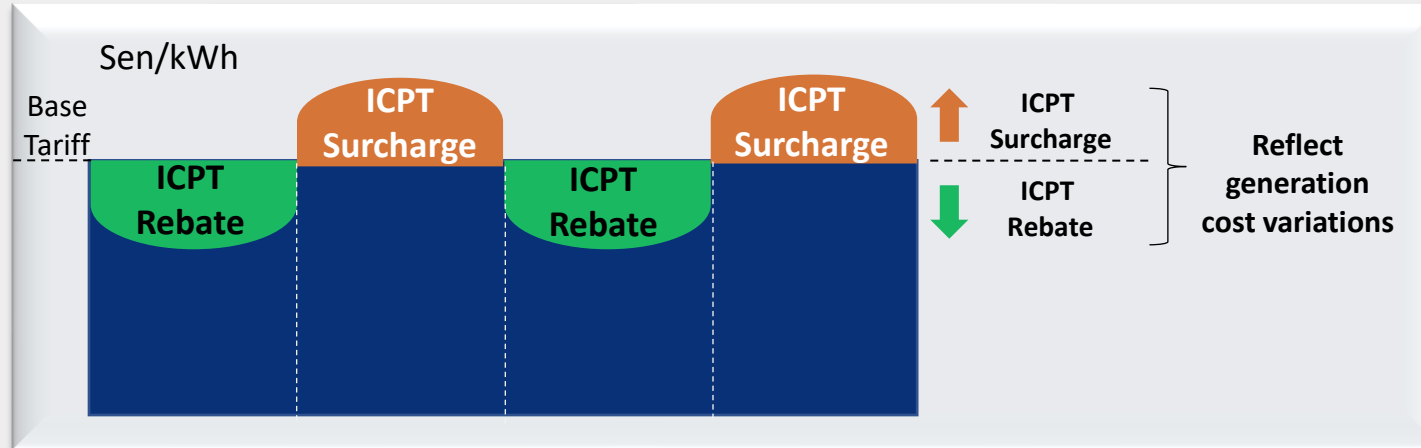
- WACC and return on regulated asset base (RoRAB) maintained at 7.3% since RP2
- Higher approved CAPEX guaranteed continuous growth in Regulated Asset Base (RAB) and earnings





ICPT mechanism allows TNB to remain neutral to fuel price vagaries as it allows us to pass through any variations in generation costs in the form of rebate or surcharge

### Imbalance Cost Pass-Through (ICPT) Mechanism



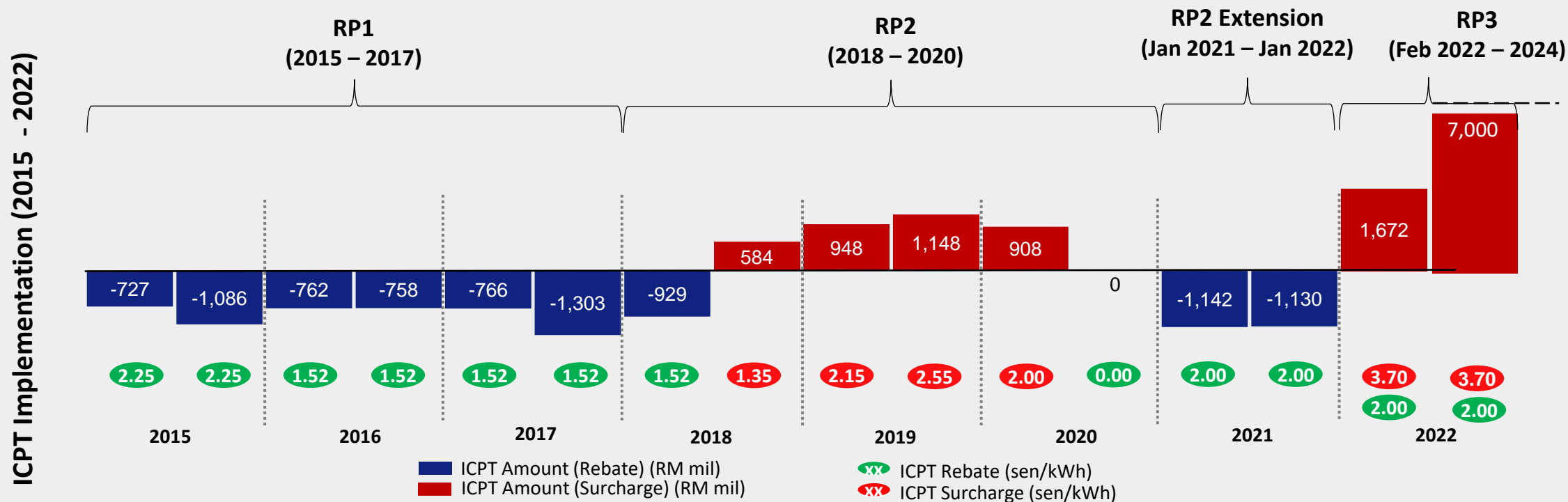
- ICPT is **6-monthly pass-through mechanism** of variations in uncontrollable fuel costs and other generation specific costs (imbalance cost) incurred by utility for the preceding 6-month period.
- A **surcharge** is incurred whenever the fuel and other generation cost are higher than the forecasted generation cost for the assessed period, while a **rebate** occurs when there are savings in fuel and other generation cost compared to the forecasted generation cost for the reviewed period.
- The base prices for fuel (mainly coal and gas) are being reviewed together with the other parameters (e.g. base tariff, WACC etc.) every 3 years during the regulatory period revision exercise with the Energy Commission.

- The imbalance cost incurred in the current 6 months period will be included in the next 6 months ICPT recovery calculation which will be tabled to Energy Commission (EC) for discussion. The ICPT announcement will be made by the government on a semi-annual basis.
- In upholding the ICPT mechanism, we will explore all options for the cost recovery in our proposals to the Government.
- The **final decision on the form of recovery will be decided by the Government.**





To date, the Government has successfully managed the impact of fuel prices volatility for the past 16 ICPT cycles since 2015



The Government has full prerogative on the quantum of pass-through and targeted group of customers to be protected from the ICPT implementation. There is also the KWIE fund/Government fund to support the implementation.

As the global energy crisis heightened, the Government is taking this matter seriously. As the nation's primary electricity provider, TNB is working closely with the Government to ensure the welfare of the vulnerable are protected while also safeguarding the continuation of the IBR framework during these unprecedented times.

Note: For ICPT implementation in 2022, only Non-Domestic customers were applied the surcharge of 3.70 sen/kWh. Domestic customers carried-on receiving rebates of 2.00 sen/kWh for ICPT.



In spite of the current high fuel cost environment, we continue to be prudent and proactive in our capital management as we continue on our CAPEX plans. The government has provided an additional support in the form of government guarantee; ensuring no disruption to the nation's electricity supply.

### Prudent & Proactive Working Capital Management



ICPT Cost Recovery  
**RM5.8 bil**  
over  
July to December 2022

*To date, received RM3.9 billion  
(claims for July to October 2022)*

Government  
Guarantee



**RM6 bil**

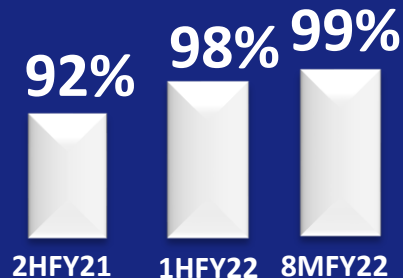
neutral to gearing

*Currently, we are working on detailing  
the government guarantee facility.*



Average  
Collection Rate

**104%**  
for August 2022



Group CAPEX in 2022  
**RM11.8bil**

- ✓ Regulated CAPEX of **RM7.2bil**
- ✓ Subsidiaries and Corporate of **RM4.6bil**

Forecasted CAPEX for 2022 is focused on several key objectives, including:

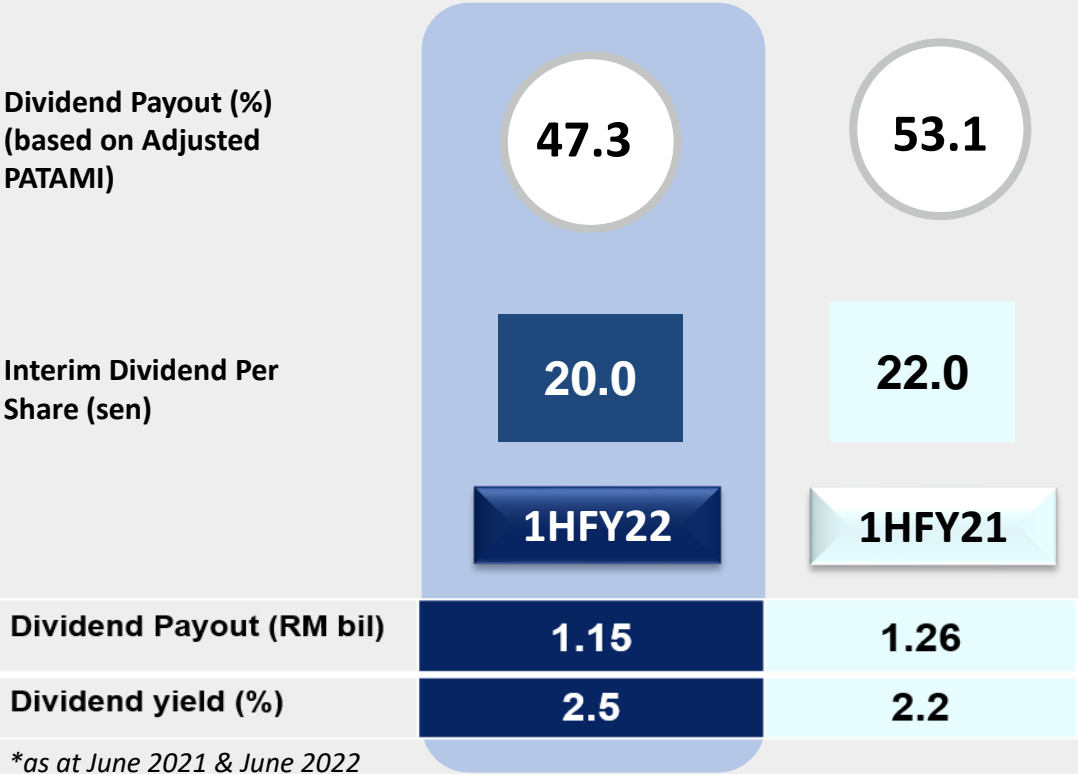
- maintaining a safe and resilient network and system;
- meeting the growing and changing needs of customers, and
- supporting our energy transition plans.



Our dividends declared has been robust; afforded by resilient financial performance and prudent capital management

Dividend Policy

Dividend payout ratio of 30% to 60% based on the adjusted PATAMI



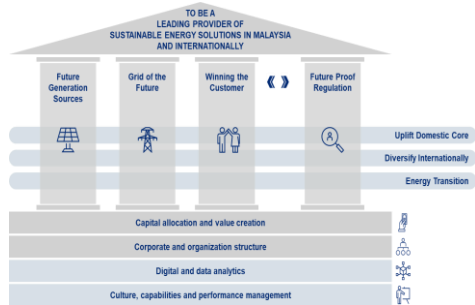
\*as at June 2021 & June 2022

Dividends declared have been robust relative to KLCI performance

	Interim	Total dividend for the year		
	2022	2021	2020	2019
KLCI Performance (%)	↓ 7.9	↓ 3.7	↑ 2.4	↓ 6.0
Dividend declared (sen/share)	20.0	40.0	40.0	50.0

Source: Bloomberg, Internal analysis

To future proof our business; Energy Transition Plan 2050 was launched in August 2021 outlining our bold aspiration to achieve net zero emissions and be coal free by 2050



### Our Target for 2025

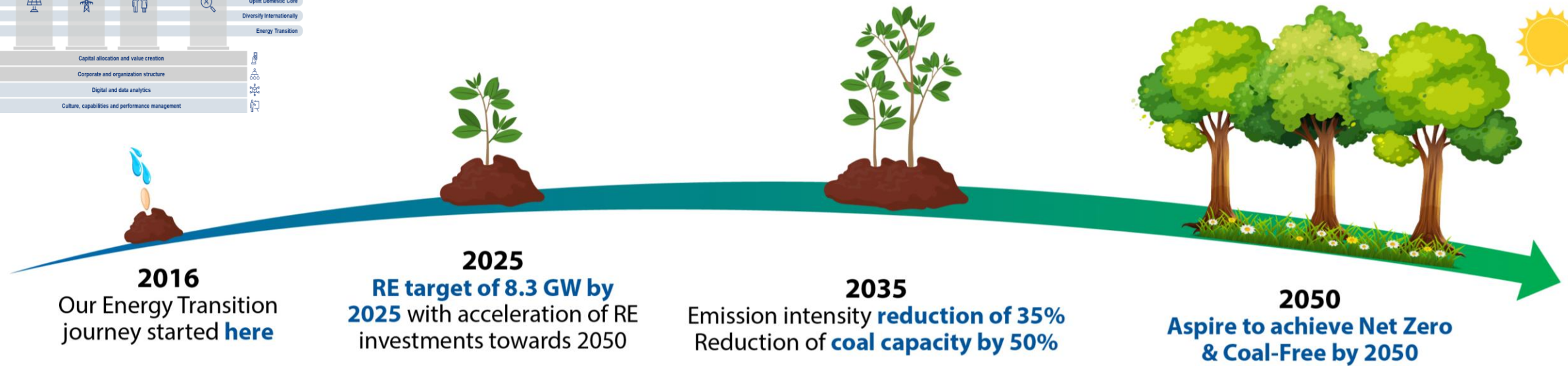
- Build scale in renewable generation
- Improve thermal plant efficiency

### Our Commitment to 2035

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

### Our Aspiration to 2050

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

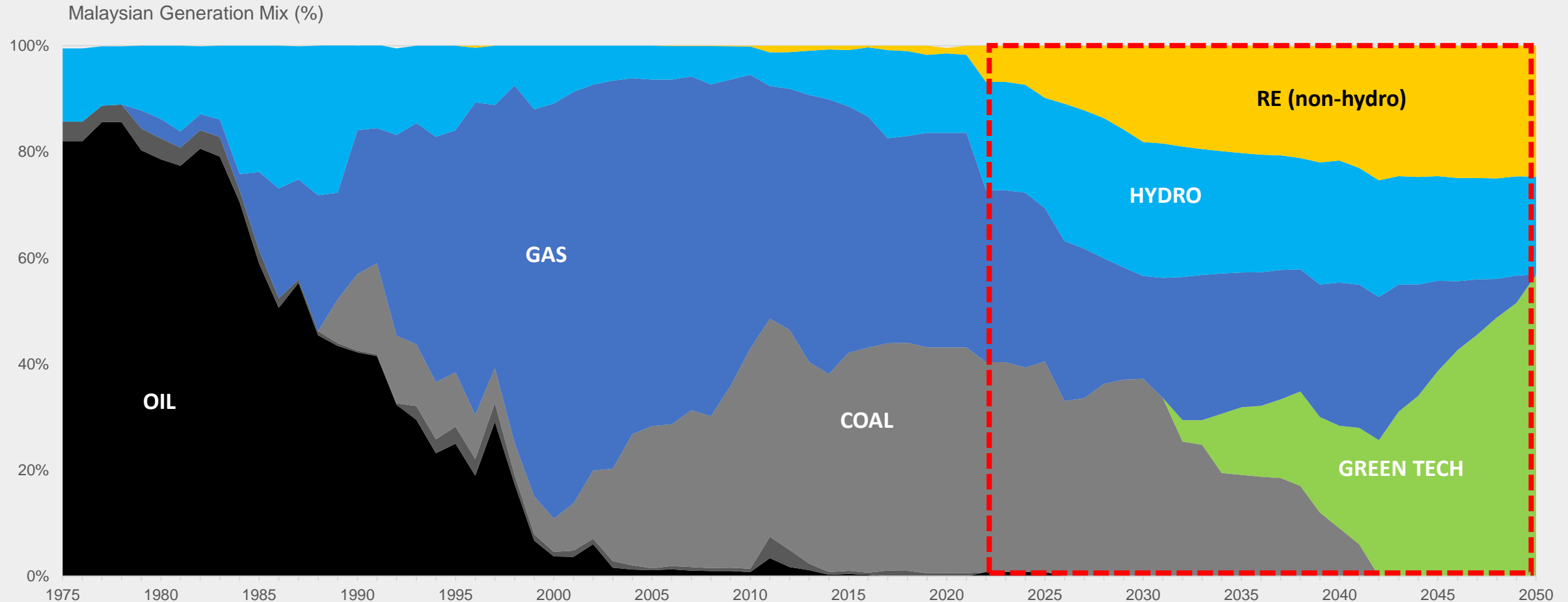


TNB's sustainability journey is anchored on "Reimagining TNB" with ESG considerations at the core, ensuring the future proofing of TNB's business:

**balancing the Energy Transition with financial sustainability and protection of shareholder value**



The nation's current generation mix reflects the diversification required for security of supply, and will continue to shift as we take a responsible approach towards energy transition



- Historically, Malaysia's generation mix was dominated by the use of oil as we transitioned into gas and then coal
- Moving forward, RE will grow significantly as costs rapidly decline**
- Green Tech (Green Hydrogen, Gas + CCUS) will be a key lever in decarbonisation**



**TNB's fast-track sustainability agenda will see major shifts across the value chain in meeting our ESG commitment while ensuring business growth**

## GenCo

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

### Fast track decarbonisation

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

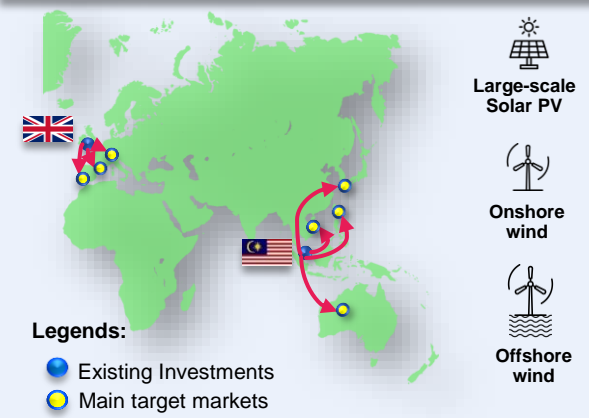
### Explore opportunities in ASEAN



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

## NED

**~USD7 bil equity investment by 2050**






### FOCUS MARKETS



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

## Grid

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

-  Spurring growth of Variable Renewable Energy (VRE) and Distributed Energy Resources (DER)
-  Propelling growth of transportation and industrial customers electrification
-  Reducing carbon footprint and preserving the forestry & natural environment

### Regional Interconnection

To strengthen security of supply and open investment opportunities



**Potential Earnings by 2050: ~RM7 bil**

## EV

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

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

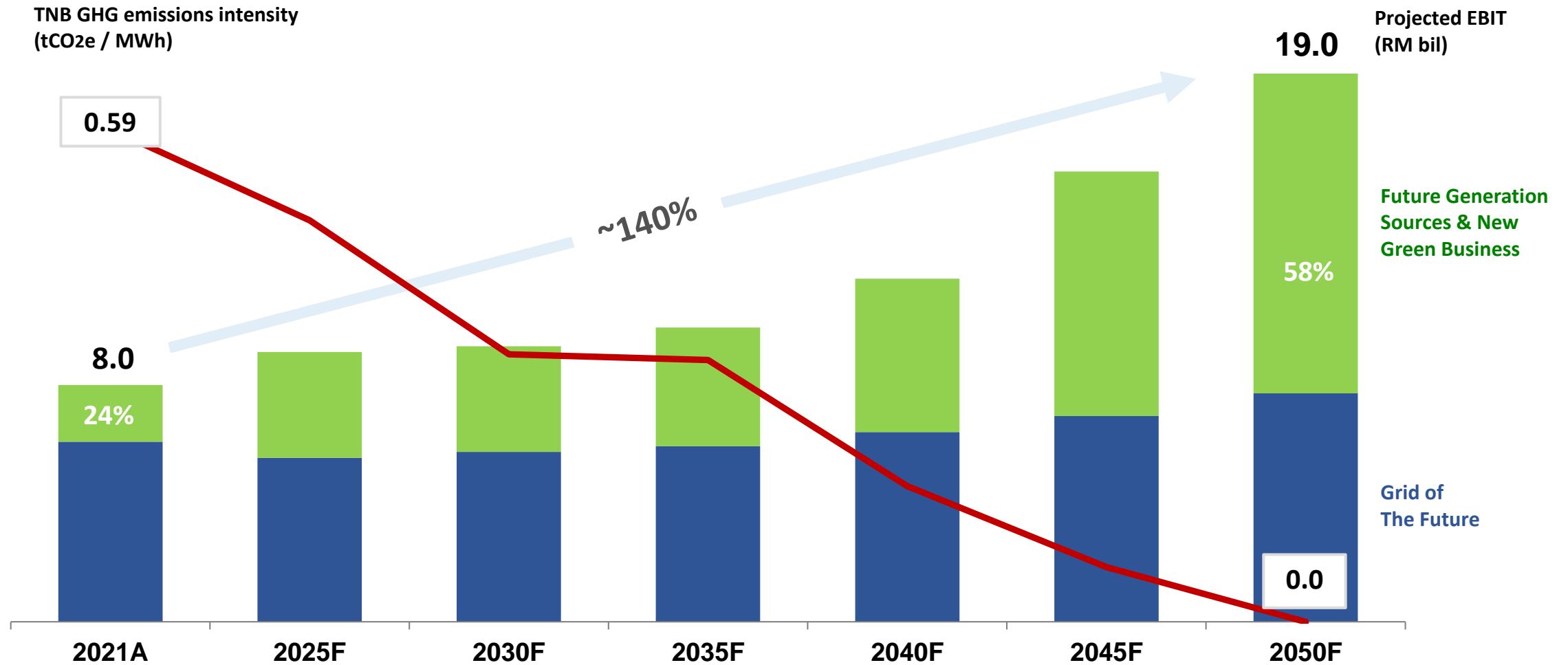
### 2030 EV Market Potential

**18,000** charging points  
**500,000** BEV on the road  
**4,432 k tons** CO<sub>2</sub> emission reduction

**2.318 TWh** annual electricity sales  
**RM 1,258 mil** annual electricity revenue



We will bring our emissions intensity to net zero while growing our EBIT by ~140%





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# THANK YOU

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