

# ANALYST BRIEFING

## 3QFY2024

29 November 2024 | Business Lounge, TNB Platinum



Stable performance in 9MFY2024, driven by the successful strategic initiatives, positions us for continued growth

9MFY2024

**PAT**



Reported

**RM3,821.8 mil**

**PAT (before forex translation)**

**RM2,775.8 mil**

**+13.7%**

(Y-o-Y) (FY2023: RM2,441.7 mil)

Stable financial performance

**Demand Growth**



**7.6%**

(Y-o-Y) Units Sold: 104,175GWh

Growth in economic activities

**GDP**



**5.3%**

(Y-o-Y)

Strong expansion in investment activities

**OUTLOOK**

**Demand Growth**



**5.8% – 6.3%**

(Revised for 2024)

**GDP**



**4.8% – 5.3%**

(Revised for 2024)

Source: Budget 2025 Speech

## TNB's 75-Year Legacy: Adapting to evolving energy landscape and sustainability aspirations



*Prime Minister Anwar emphasised TNB's role in balancing sustainable energy with economic growth, stressing environmental responsibility and innovation in tackling climate challenges.*

### The key takeaways from PM Anwar Ibrahim's speech:

- 1 **Renewable Shift**
  - Reduce coal dependency and accelerate renewable energy transition
- 2 **ASEAN Power Grid (APG) Initiative**
  - TNB's role in realising the APG, positioning Malaysia as a future regional energy hub
- 3 **Green Initiatives**
  - Adoption of the Green Lane Pathway and the Green Building Index reinforces eco-friendly development
- 4 **Research and Innovation**
  - TNB to address energy transition challenges through ongoing research and innovative solutions



As a key player in the ASEAN Power Grid,  
TNB is advancing energy security and leading the region's energy transition

Regional Business Opportunities

- 1 Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP)**

  - Signed agreement with Singapore's Keppel Electric Pte. Ltd. to supply up to 100MW of electricity using existing interconnections.
  - Electricity export began in September 2024 under willing seller willing buyer arrangement (delivered ~7.5GWh to date).
  
- 2 Cross Border Electricity Sales Renewable Energy (CBES RE) Scheme via ENEGEM**

  - TNB will sign agreement for 50MW with winning bidder in December 2024 under CBES RE scheme Pilot Phase 1.



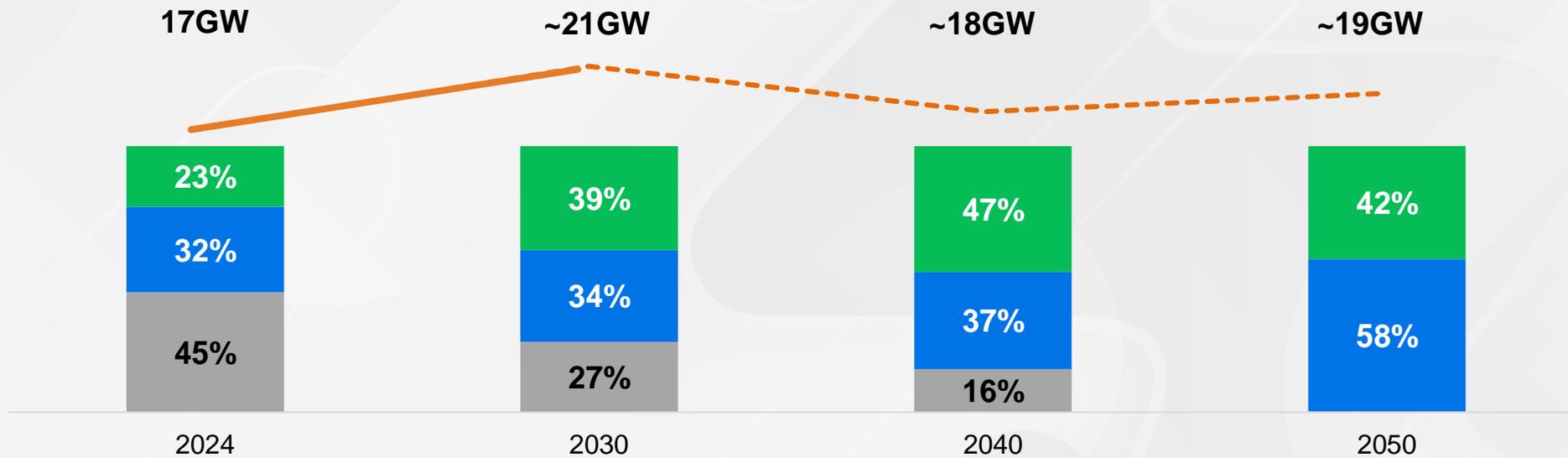
**New Revenue Stream**  
from wheeling and transactions services  
FY2025: ~RM60 mil

ASEAN Power Grid (APG)



## Strengthen operational performance whilst expanding renewable capacity growth towards Net Zero aspiration

### Generation Capacity Mix Projection by 2050



GenCo EAF  
9MFY2024

**80.0%**

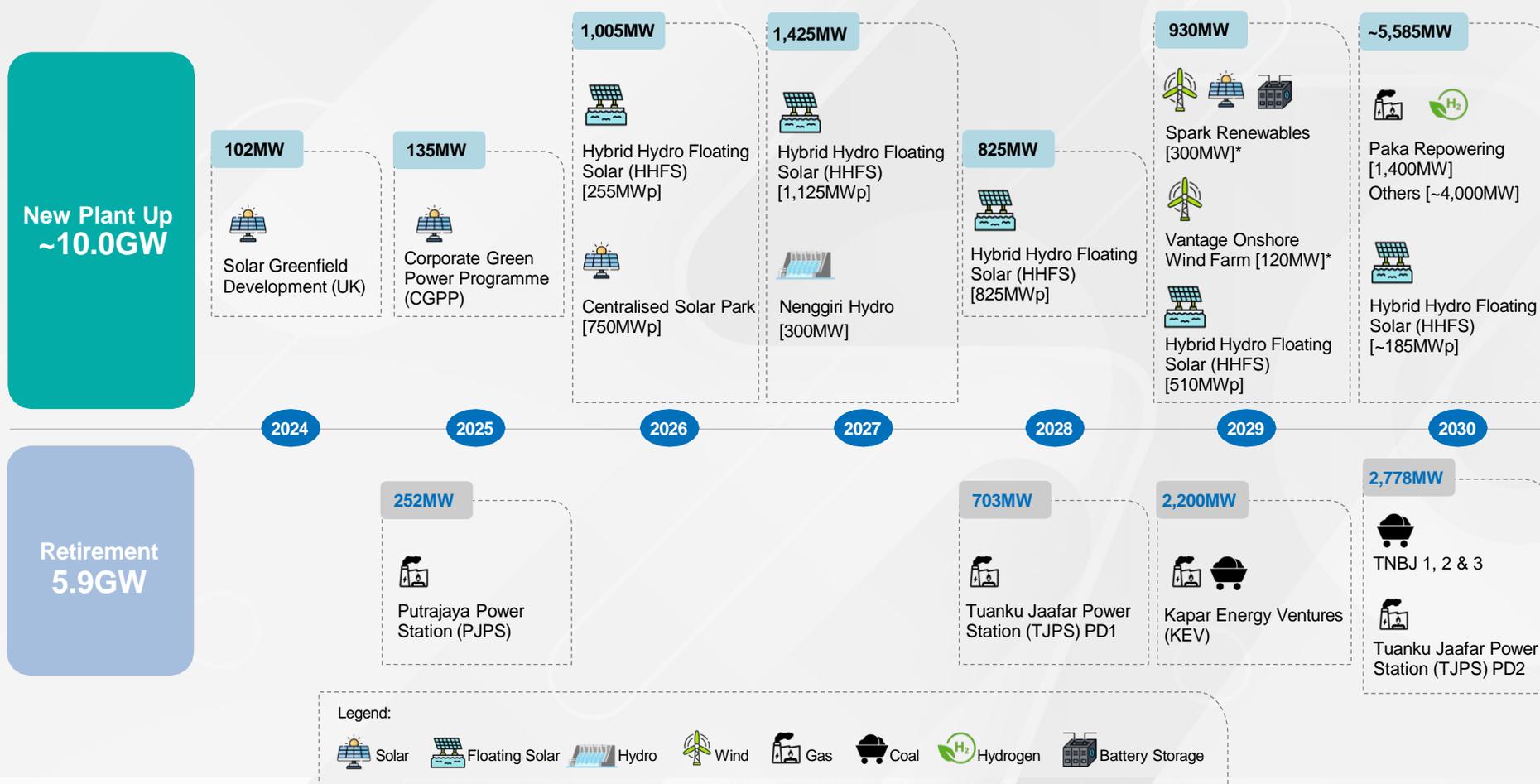
2024 Target: 78.6%

■ Coal ■ Gas & New Tech ■ RE — Total Capacity (GW)

Transforming TNB into a greener entity for sustainable future growth

## We are making steady progress with a strong pipeline of renewable energy capacity expansion as we transform into a greener entity

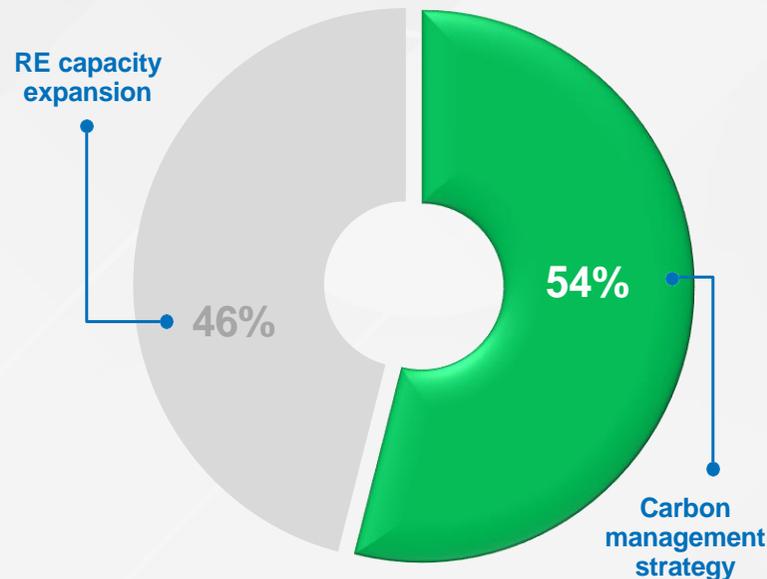
### Pipeline projects up to 2030



Note: Solar capacity is quoted in MWp  
 \*Indicative capacity and COD

## TNB targets 5% annual reduction in carbon emission intensity (Scope 1) starting 2024, through RE capacity expansion and carbon management strategy

### Carbon emission intensity reduction



### Three (3) initiatives under carbon management strategy



#### Reduce carbon emission

- i. Enhancement of power plant efficiency;
- ii. Leveraging Advanced Technology;
- iii. Transitioning Energy Sources; and
- iv. Innovative Co-Firing Solutions.



#### Capture carbon emission

- i. Carbon Capture - Development of bio-carbon capture (e.g., microalgae) or chemical carbon capture system to absorb and capture CO<sub>2</sub> efficiently
- ii. Carbon Utilisation - Development of CO<sub>2</sub> utilisation system through biological and hydrogenation pathways



#### Offset carbon emission

- i. Invest in nature-based carbon offset initiatives like reforestation to tackle hard-to-abate emissions

# QUARTERLY UPDATES

## We continue to seek growth opportunities while forging ahead with growing our RE portfolio

### Projects

#### GenCo



Sungai Perak Hydro Life Extension Programme	649MW	COD: 1 <sup>st</sup> unit 2026 (8MW)
Nenggiri Hydro Project	300MW	COD: 2Q2027
Hybrid Hydro-Floating Solar PV (HHFS) - Updated	~2,900MWp by 2040	1 <sup>st</sup> COD: 2026 (255MWp) Chenderoh : 105MWp Kenyir : 150MWp
Paka Repowering	1,400MW	COD: 2029
New Combined Cycle Power Plant (Kapar)	2,100MW	COD: 2031
Co-firing of Hydrogen & Ammonia		

#### NED



Solar Greenfield Development (UK)	102MWp	COD: 4Q2024
Corporate Green Power Programme (CGPP)	135MWp	COD: 2025
Centralised Solar Park (CSP)	5 x 150MWp	COD: 2026

### 9MFY2024 Key Highlights

#### Nenggiri Hydro Project

Achieved **36%** project progress



**Completed** Diversion Tunnel No. 2

Project progress is on track to achieve COD by end of December 2024

Project progress is on track to achieve Financial Close

Finalisation of land lease agreements (2 sites)

## We are on track to fully utilise CAPEX by the end of RP3, with key projects making strong progress

### 9MFY2024 Key Achievements

**2024 CAPEX**



**Regulated CAPEX**

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**84%**  
utilisation equivalent to  
**RM6.0 bil**

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**Energy Transition (ET) CAPEX**

**71%**  
utilisation out of  
RM3.2 bil

**Key Projects**



**Smart Meter Installation progress:**



**133%**  
Installed **802,501 units**

FY2024 Target: **600,000 units**  
Cumulative Installed to date: **4,351,990 units**

**Distribution Automation Penetration progress:**



**95%**  
**2,671 substation**

FY2024 Target: **2,812 units**  
Cumulative to date: **30,971 substations**

**Volt-Var Optimisation (VVO) progress:**

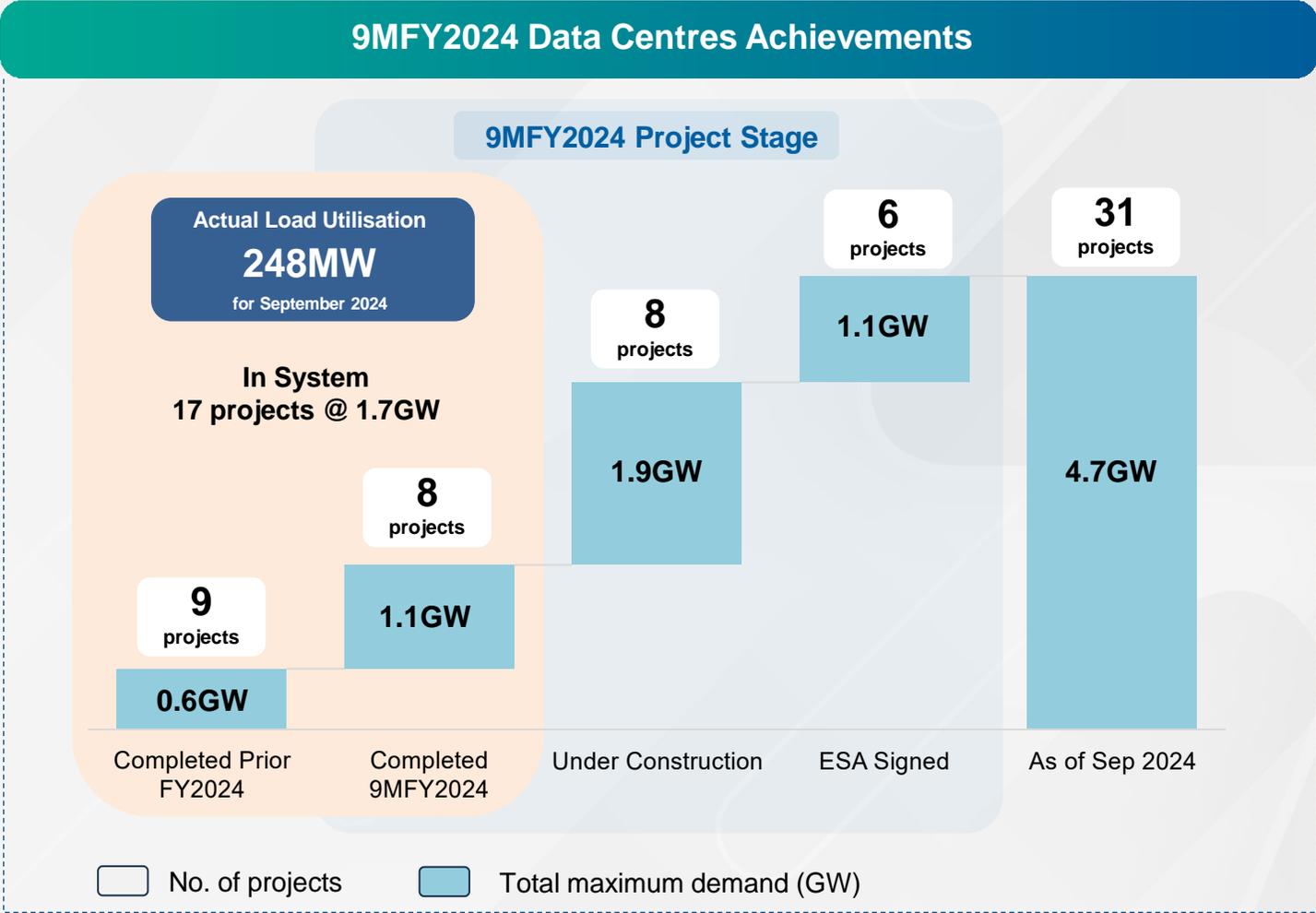


**58%**  
Achieved **80.6MVAr**

FY2024 Target: **140MVAr**  
Cumulative Achieved to date: **832.5MVAr**

 Target 88% by November 2024

## TNB continues to deliver power at scale and speed, reflecting its strong commitment and support for data centre growth



### Key Highlights

**July 2024:** Signing of ESA between TNB and Princeton Digital Group (PDG) during PDG JH1 Grand Launching in Sedenak, Johor- received positive feedback and compliments from Chief Minister of Johor, MITI Minister and PDG on TNB's commitment in facilitating DC investments in Malaysia.

**August 2024:** Vantage Data Centre KUL2 Campus Groundbreaking Ceremony showcased TNB's commitment in providing electricity supply within the stipulated timeline for DC investor.

# GSPARX transforms consumers to prosumers through rooftop solar installations, elevating Malaysia's green energy progress

## 3QFY2024 Key Achievements

**16.9MWp**



### Pejabat Daerah Kuala Nerus

- To install 430kWp rooftop solar PV at their premise in Kuala Nerus, Terengganu.
- Target to be delivered by 2QFY2025.



### Majlis Agama Islam Wilayah Persekututan (MAIWP)

- To install 531kWp rooftop solar PV at selected MAIWP-owned buildings across Kuala Lumpur.
- Target to be delivered by 2QFY2025.



### Pejabat Setiausaha Kerajaan Negeri Pulau Pinang

- To install 227kWp rooftop solar PV at their premise in Pulau Pinang.
- Target to be delivered by 2QFY2025.



### Majlis Amanah Rakyat (MARA)

- To install 13,125kWp rooftop solar PV at MARA-owned building all over Semenanjung Malaysia.
- Target to be delivered by 4QFY2025.

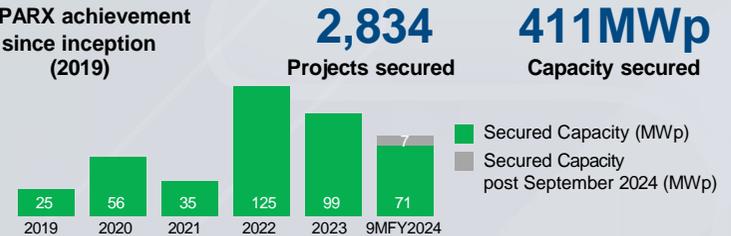


### Seri Pajam Development Sdn Bhd

- To install 2,560kWp rooftop solar PV at their new development of semi-detached factories in Senawang, Negeri Sembilan.
- Target to be delivered by 2QFY2026.

## Secured Capacity

GSPARX achievement since inception (2019)



**2,834**  
Projects secured

**411MWp**  
Capacity secured

### 9MFY2024 Status



**71MWp**  
Secured Capacity



**160MWp**  
2024 Target

### NEM 3.0 NOVA Extension

**87%**  
Quota Approved

**1,100MW<sup>1</sup>**  
Total Quota Allocation (2021- June 2025)

## Partnership with Sime Darby Property



**4.4MW**  
(14 SDP sites\*)

### Progress

10 sites consist of Sime Darby Sales Galleries, Clubhouses and Malls: At ~50% completion.



**960kWp**  
10 sites

\*4 sites to be completed in 2025

## TNB plays a key role in advancing Malaysia's EV market by installing EV chargers and supplying electricity infrastructure to Charge Point Operators (CPOs)

### EV Ecosystem

#### Green Lane Supply Connections



#### YTD Electricity Sales (CPO)



#### EV Charge Points

**3,275** units  
*Data as at Oct 2024<sup>2</sup>*

#### EV Cars on the road

**~33,000** units  
*Data as at Sep 2024*

#### 2030 EV Potential

**500,000** units

### Key Highlights

#### TNB Charge Points



- In 3QFY2024, 4 Charge Points were energised along the East Coast Major Trunk Roads in partnership with Petron.



- 6 additional Charge Points have been installed and are set to be energised by mid December.

<sup>1</sup> Committed including construction and supply application stage

<sup>2</sup> PLAN Malaysia - Malaysia Electric Vehicle charge Network

## Higher PAT in 9MFY2024 was driven by stable overall performance



### REVENUE

▲ 7.5%

**RM42,358.8 mil**

9MFY2023: RM39,414.9 mil



### EBITDA

▲ 0.4%

**RM14,398.9 mil**

**EBITDA MARGIN\*: 36.2%**

9MFY2023: RM14,342.8 mil

EBITDA MARGIN\*: 37.5%



### PAT

Reported **RM3,821.8 mil**

▲ 13.7%

**RM2,775.8 mil**  
PAT (before forex translation)

9MFY2023: RM2,441.7 mil

#### 9MFY2024 overall performance was driven by:

- i. Stable revenue from regulated business and higher revenue contribution from TNBI operations and subsidiaries;
- ii. **Stable performance from regulated business;**
- iii. **Improved overall GenCo performance** (despite Manjung 4 major outage), attributed to:
  - Lower negative fuel margin of RM92.0 mil (9MFY2023: RM767.9 mil); and
  - Higher availability factor achieved through 'asset turnaround' programme, recording lower capacity payment loss.
- iv. **Forex translation gain of RM1,046.0 mil;** and
- v. Lower finance cost of RM3,019.4 mil due to repayment of loans.

Electricity demand growth of 7.6% (TNB 7.3%) driven by increased economic activities

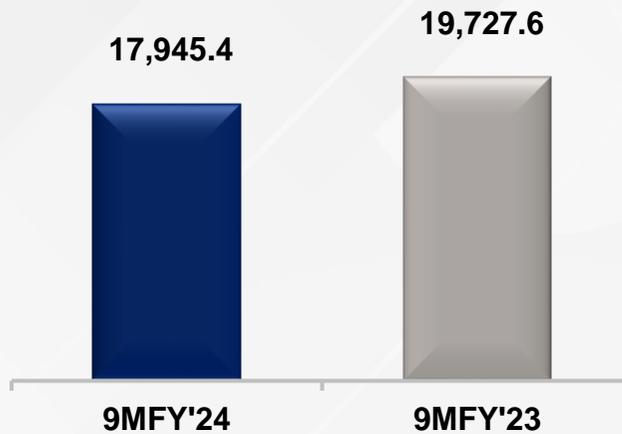
## Domestic generation business performance

### Y-o-Y: Overall improved performance by power plants despite M4 outage

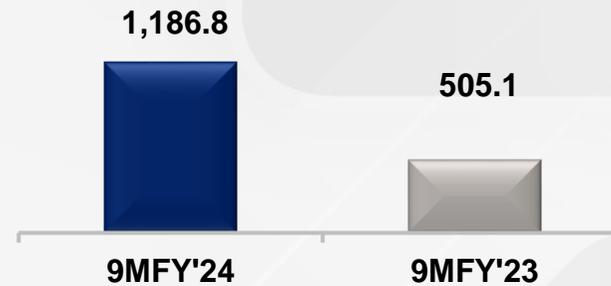
#### GenCo at Group

RM mil

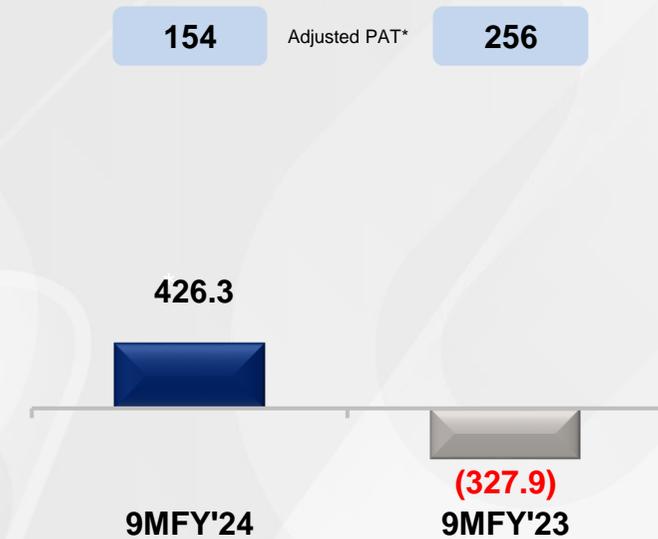
#### REVENUE



#### EBIT



#### PROFIT AFTER TAX (PAT)



\*PAT adjusted for:

- i. Negative fuel margin 9MFY'24: RM92.0 mil and 9MFY'23: RM767.9 mil;
- ii. Availability Target Penalty of RM287.8 mil on Manjung 4 (M4) outage, eliminated at Group (inter-company); and
- iii. SPG one-off claim of RM163.0 mil.

Group earnings supported by; i. Improved generation performance  
ii. World-class network performance

Equivalent Plant  
Availability Factor, EAF  
(Generation)  
%



9MFY2024  
**80.0%**  
2024 Target: 78.6%



Stable overall performance by  
power plants

System Minutes  
(Transmission)  
Minutes

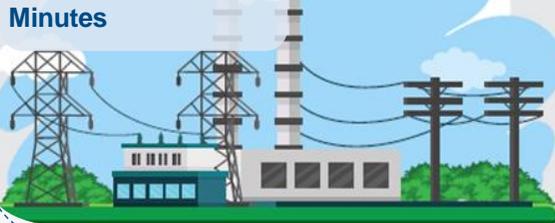


9MFY2024  
**0.0001**  
2024 Internal Threshold: 1.5



World class network  
performance safeguarded our  
regulated business earnings

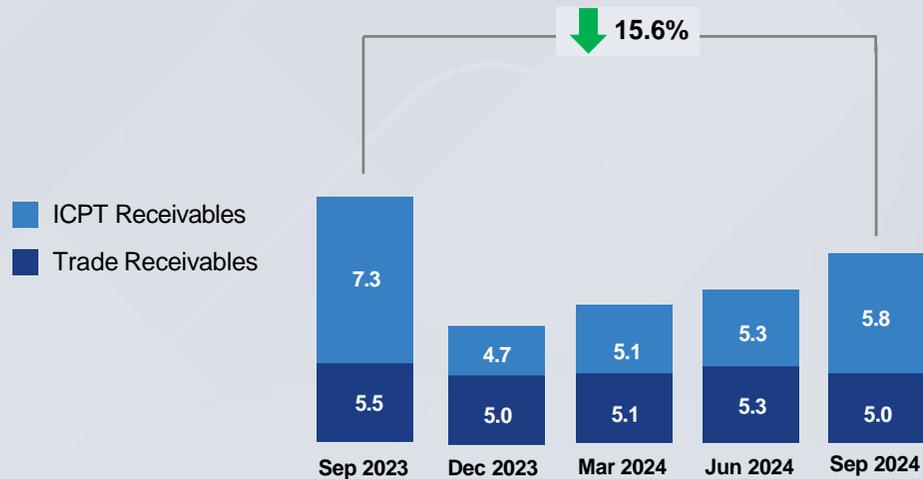
SAIDI  
(Distribution Network)  
Minutes



9MFY2024  
**35.72**  
2024 Internal Threshold: 48.0

## Y-o-Y: Lower receivables driven by lower ICPT and improved collections, strengthening our cash flow position and credit rating

Receivables (RM bil)



- **Coal price has stabilised** at 121.40 USD/MT\* in September 2024 (138.62 USD/MT\* in September 2023).
- **Outlook:** Stabilising fuel prices and strong collection trend will:
  - ✓ strengthen working capital management; and
  - ✓ provide a healthier cash flow position.

1

### Strong Collection Trend

Strong collection trend with collection rate >100% since March 2022



2

### MOODY'S RATINGS

Reaffirmed Tenaga Nasional Berhad's (TNB) corporate credit rating at **A3** with a **stable outlook** (November 2024)

3

### Transition Finance Framework

- Guidelines on **funding sustainable projects**
- TNB views sustainable finance as an enabler towards achieving its Net Zero Emission by 2050 aspiration



**TNB'S TRANSITION FINANCE FRAMEWORK**

## We continue to pursue sustainable business growth as we commit to a greener future



**Electricity Demand**

Demand growth is projected to be between **5.8% - 6.3%**

Projected GDP between 4.8% - 5.3%



**Group CAPEX Forecast**

Total Group CAPEX : **~ RM11 bil**

Regulated capex\* : **~ RM7.1 bil**

\* ET Related capex of RM3.2 bil (includes system improvement CAPEX)



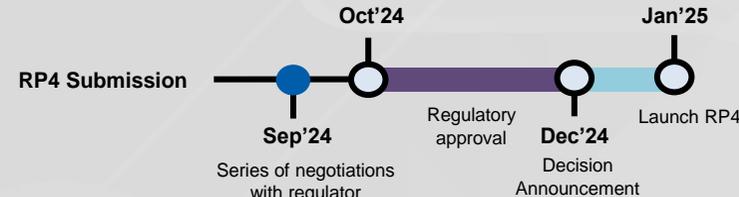
**Capital Management**

- Proactive working capital management in current elevated fuel prices environment
- Active capital allocation and funding for growth



**Regulatory Period 4**

RP4 proposal assessment is in the advanced stage



Timeline: RP4 Submission (Sep'24) - Series of negotiations with regulator - Regulatory approval (Oct'24) - Decision Announcement (Dec'24) - Launch RP4 (Jan'25)



**Delivering Value to our Shareholders**

Stable performance enable us to continue rewarding and delivering value to our shareholders



**Sustainable Growth**

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

# Appendix

## 9MFY2024

- *Details on Financial Results*
- *Generation Business Performance*
- *International Business Performance*
- *Shareholdings*

# Y-o-Y analysis

RM mil		9MFY'24	9MFY'23	Variance	
				RM mil	%
Revenue	1	42,358.8	39,414.9	2,943.9	7.5
Imbalance Cost Pass Through (ICPT)*	2	7,371.6	8,491.6	(1,120.0)	(13.2)
Operating expenses (without depreciation)	3	(36,040.4)	(34,141.4)	(1,899.0)	5.6
Net reversal/(loss) on impairment of financial instruments		17.8	(32.1)	49.9	>100.0
Other operating income		691.1	609.8	81.3	13.3
<b>EBITDA</b>		<b>14,398.9</b>	<b>14,342.8</b>	<b>56.1</b>	<b>0.4</b>
EBITDA Margin (%)*		36.2%	37.5%	-	(1.3)
Depreciation		(8,520.5)	(8,368.4)	(152.1)	1.8
<b>EBIT</b>		<b>5,878.4</b>	<b>5,974.4</b>	<b>(96.0)</b>	<b>(1.6)</b>
<b>Foreign exchange:</b>					
- Transaction		25.9	2.0	23.9	>100.0
- Translation	4	1,046.0	(362.5)	1,408.5	>100.0
Share of results of joint ventures		14.3	9.4	4.9	52.1
Share of results of associates	5	286.5	26.3	260.2	>100.0
<b>Profit before finance cost</b>		<b>7,251.1</b>	<b>5,649.6</b>	<b>1,601.5</b>	<b>28.3</b>
Fair value changes of financial instruments		(5.0)	14.5	(19.5)	>(100.0)
Finance income		445.4	411.7	33.7	8.2
Finance cost	6	(3,019.4)	(3,376.1)	356.7	(10.6)
<b>Profit from ordinary activities before taxation and zakat</b>		<b>4,672.1</b>	<b>2,699.7</b>	<b>1,972.4</b>	<b>73.1</b>
<b>Taxation and Zakat:</b>					
- Company and subsidiaries		(846.6)	(631.6)	(215.0)	34.0
- Deferred taxation		(3.7)	11.1	(14.8)	>(100.0)
<b>Profit for the period (PAT)</b>		<b>3,821.8</b>	<b>2,079.2</b>	<b>1,742.6</b>	<b>83.8</b>
<b>Attributable to:</b>					
- Owners of the Company		3,744.1	2,186.4	1,557.7	71.2
- Non-controlling interests		77.7	(107.2)	184.9	>100.0
		<b>3,821.8</b>	<b>2,079.2</b>	<b>1,742.6</b>	<b>83.8</b>

Y-o-Y analysis:

1 Higher Group revenue recorded from sales demand growth of 7.6% and additional revenue mainly from TNBI operations.

2 Reduction in ICPT due to decrease in coal price.

3 Refer Operating Expenses slide.

4 Forex translation gain due to strengthening of MYR.

5 Higher mainly due to change in accounting and tax treatment under hyper-inflationary experienced by our associate in Turkey, of RM225.1 mil. This has a corresponding impairment of the same amount, hence neutral impact to earnings.

6 Lower finance cost due to repayment of loans and interest capitalisation.

# Q-o-Q analysis

RM mil	3QFY'24	2QFY'24	Variance	
			RM mil	%
Revenue	14,351.6	14,366.8	(15.2)	(0.1)
Imbalance Cost Pass Through (ICPT)	2,196.4	2,822.2	(625.8)	(22.2)
Operating expenses (without depreciation)	(12,295.8)	(12,442.2)	146.4	(1.2)
Net reversal on impairment of financial instruments	62.8	14.4	48.4	>100.0
Other operating income	179.4	338.3	(158.9)	(47.0)
<b>EBITDA</b>	<b>4,494.4</b>	<b>5,099.5</b>	<b>(605.1)</b>	<b>(11.9)</b>
Depreciation	(2,882.0)	(2,858.3)	(23.7)	0.8
<b>EBIT</b>	<b>1,612.4</b>	<b>2,241.2</b>	<b>(628.8)</b>	<b>(28.1)</b>
<b>Foreign exchange:</b>				
- Transaction	7.6	(7.1)	14.7	>100.0
- Translation	1,112.5	130.2	982.3	>100.0
Share of results of joint ventures	7.3	2.1	5.2	>100.0
Share of results of associates	28.1	243.7	(215.6)	(88.5)
<b>Profit before finance cost</b>	<b>2,767.9</b>	<b>2,610.1</b>	<b>157.8</b>	<b>6.0</b>
Fair value changes of financial instruments	(44.1)	11.5	(55.6)	>(100.0)
Finance income	130.1	159.1	(29.0)	(18.2)
Finance cost	(978.5)	(1,013.8)	35.3	(3.5)
<b>Profit from ordinary activities before taxation and zakat</b>	<b>1,875.4</b>	<b>1,766.9</b>	<b>108.5</b>	<b>6.1</b>
<b>Taxation and Zakat:</b>				
- Company and subsidiaries	(267.9)	(320.0)	52.1	(16.3)
- Deferred taxation	24.0	65.5	(41.5)	(63.4)
<b>Profit for the period (PAT)</b>	<b>1,631.5</b>	<b>1,512.4</b>	<b>119.1</b>	<b>7.9</b>
<b>Attributable to:</b>				
- Owners of the Company	1,584.3	1,444.1	140.2	9.7
- Non-controlling interests	47.2	68.3	(21.1)	(30.9)
	<b>1,631.5</b>	<b>1,512.4</b>	<b>119.1</b>	<b>7.9</b>

Q-o-Q analysis:

1 Lower ICPT due to lower coal price.

2 SPG one-of-claim of RM163.0 mil.

3 Higher forex translation gain due to strengthening of MYR.

# Y-o-Y normalised EBITDA and PAT for 9MFY'24

EBITDA Components	9MFY'24 RM mil	9MFY'23 RM mil
Reported EBITDA	14,398.9	14,342.8
MFRS16 impact	<sup>1</sup> (2,891.0)	(3,174.7)
Normalised EBITDA	11,507.9	11,168.1

PAT Components	9MFY'24 RM mil	9MFY'23 RM mil
Reported PAT	3,821.8	2,079.2
Forex Translation	(1,046.0)	362.5
MFRS16 impact	<sup>1</sup> 499.8	529.4
Normalised PAT	3,275.6	2,971.1

<sup>1</sup> MFRS16 impact:

	9MFY'24 RM mil	9MFY'23 RM mil	Variance RM mil
Capacity Payment	2,891.0	3,174.7	(283.7)
Depreciation	(2,391.9)	(2,617.7)	225.8
Finance Cost	(1,142.8)	(1,236.5)	93.7
Deferred Tax	143.9	150.1	(6.2)
Net Impact	<b>(499.8)</b>	<b>(529.4)</b>	<b>29.6</b>

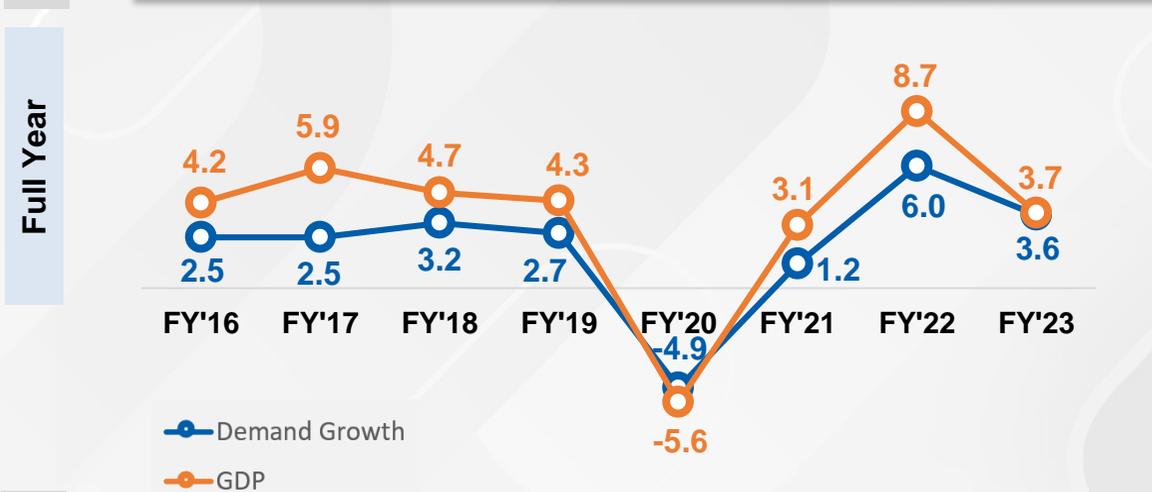
# Higher Group revenue driven by overall healthy demand growth

UNITS SOLD	3QFY'24		2QFY'24		Variance (3QFY'24 vs 2QFY'24)		9MFY'24		9MFY'23		Variance (9MFY'24 vs 9MFY'23)	
	GWh		GWh		GWh	%	GWh		GWh		GWh	%
<b>Sales of Electricity (GWh)</b>												
- TNB	33,358.5		33,120.5		238.0	0.7	98,378.4		91,714.6		6,663.8	7.3
- SESB	1,697.0		1,707.6		(10.6)	(0.6)	4,984.7		4,543.2		441.5	9.7
- EGAT (Export)	0.3		0.2		0.1	50.0	0.9		0.4		0.5	>100.0
- TNBI*	274.6		307.6		(33.0)	(10.7)	811.1		522.7		288.4	55.2
<b>Total Units Sold (GWh)</b>	<b>35,330.4</b>		<b>35,135.9</b>		<b>194.5</b>	<b>0.6</b>	<b>104,175.1</b>		<b>96,780.9</b>		<b>7,394.2</b>	<b>7.6</b>
REVENUE	RM mil	sen/kWh	RM mil	sen/kWh	RM mil	%	RM mil	sen/kWh	RM mil	sen/kWh	RM mil	%
<b>Sales of Electricity (RM)</b>												
- TNB	13,438.2	40.37	13,587.1	40.65	(148.9)	(1.1)	39,673.5	40.45	36,708.4	40.21	2,965.1	8.1
- SESB	570.2	34.37	595.9	34.87	(25.7)	(4.3)	1,715.3	34.55	1,550.2	34.32	165.1	10.7
- Accrued Revenue	41.9	-	(122.5)	-	164.4	>100.0	124.4	-	182.9	-	(58.5)	(32.0)
- EGAT (Export)	0.2	66.67	0.1	50.00	0.1	100.0	0.6	66.67	0.3	75.00	0.3	100.0
- TNBI	230.7	84.01	273.0	88.75	(42.3)	(15.5)	706.1	87.05	590.7	113.01	115.4	19.5
<b>Sales of Electricity</b>	<b>14,281.2</b>	<b>40.42</b>	<b>14,333.6</b>	<b>40.79</b>	<b>(52.4)</b>	<b>(0.4)</b>	<b>42,219.9</b>	<b>40.53</b>	<b>39,032.5</b>	<b>40.33</b>	<b>3,187.4</b>	<b>8.2</b>
Other Regulatory Adjustment	(666.3)		(739.2)		72.9	9.9	(1,873.9)		(988.3)		(885.6)	(89.6)
Tariff Support Subsidy	79.0		79.3		(0.3)	(0.4)	232.3		210.7		21.6	10.3
Fuel Subsidy - SESB	103.8		79.6		24.2	30.4	256.6		211.5		45.1	21.3
<b>Total Sales of Electricity</b>	<b>13,797.7</b>		<b>13,753.3</b>		<b>44.4</b>	<b>0.3</b>	<b>40,834.9</b>		<b>38,466.4</b>		<b>2,368.5</b>	<b>6.2</b>
Goods & Services	447.9		513.9		(66.0)	(12.8)	1,211.5		621.8		589.7	94.8
Construction contracts	31.0		27.3		3.7	13.6	92.8		115.2		(22.4)	(19.4)
Customers' contribution	75.0		72.3		2.7	3.7	219.6		211.5		8.1	3.8
<b>Total Revenue</b>	<b>14,351.6</b>		<b>14,366.8</b>		<b>(15.2)</b>	<b>(0.1)</b>	<b>42,358.8</b>		<b>39,414.9</b>		<b>2,943.9</b>	<b>7.5</b>

- 1 Higher revenue recorded from higher demand growth across all business units.
- 2 Refer Other Regulatory Adjustment slide.
- 3 Higher revenue recorded by subsidiaries.

# Y-o-Y electricity demand grew in tandem with GDP

## GDP & TNB Demand Growth



## TNB (Peninsular) Yearly Peak Demand

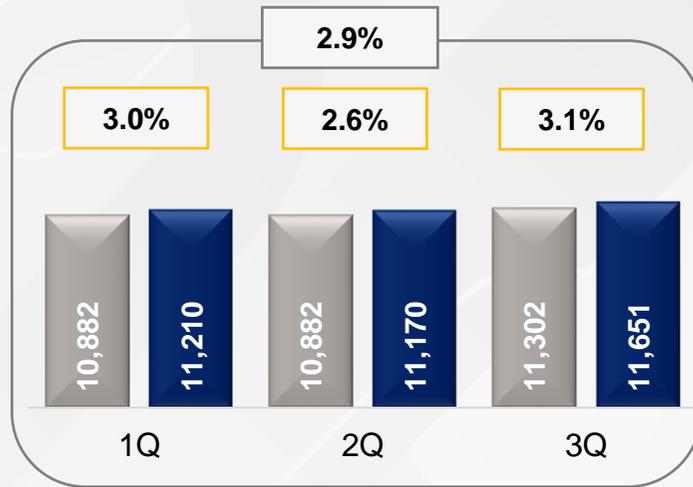


## Year-on-Year



# Increased demand across all sectors mainly contributed by commercial and domestic

## Industrial



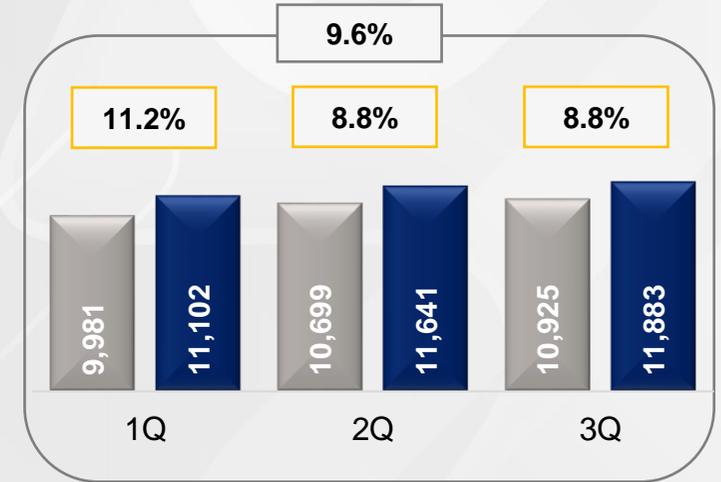
9MFY'24 main contributors for the increase in industrial & commercial sectors:

- Industrial**
- Utility electrical, consumer products and iron & steel
- Commercial**
- Retails, data centres and business services

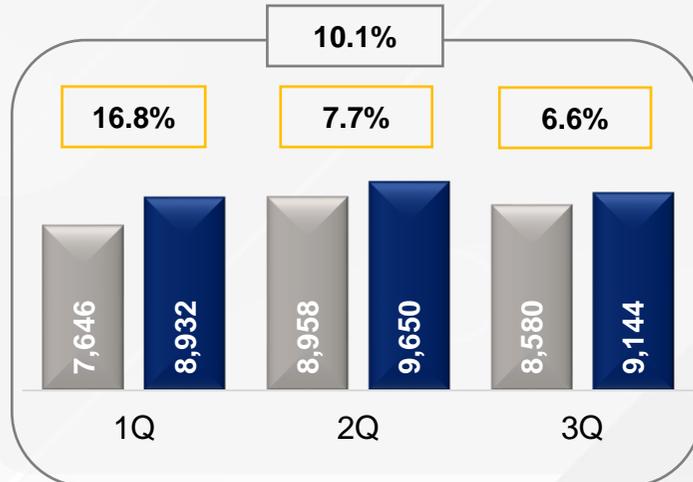
Unit Sales (GWh) Growth

FY2023   
  Y-o-Y  
 FY2024   
  Q-o-Q

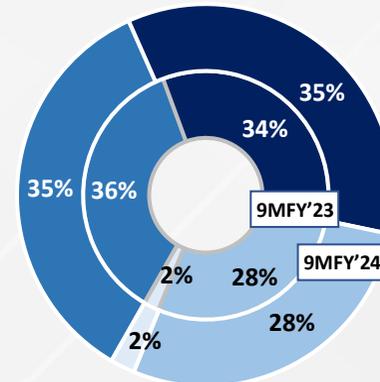
## Commercial



## Domestic



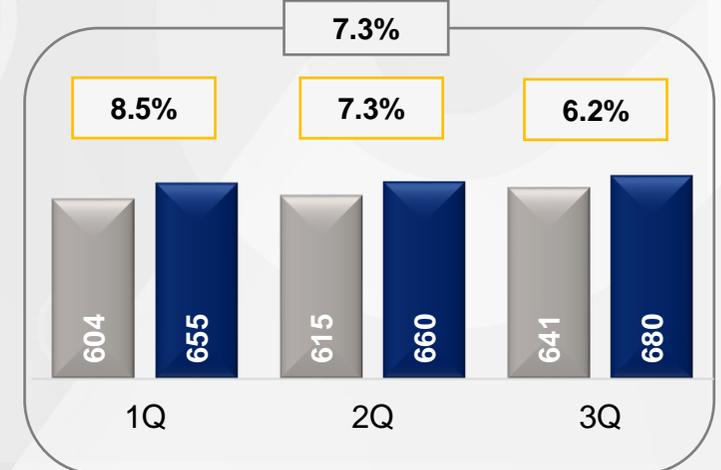
## Sector Mix (%) 9MFY'24 vs 9MFY'23



Industrial  
 Commercial  
 Domestic  
 Others

## Others\*

\*includes Agriculture, Mining & Public Lighting



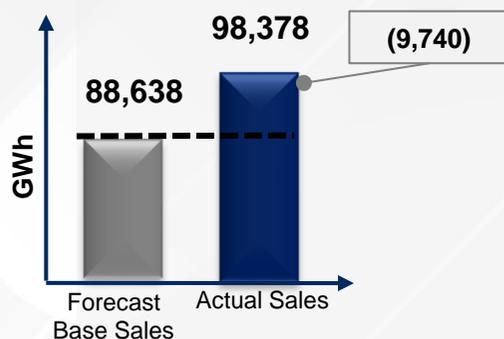
# As at 9MFY'24, other regulatory adjustment of RM1,873.9 mil to be returned

Components of Other Regulatory Adjustment	1QFY'24 RM mil	2QFY'24 RM mil	3QFY'24 RM mil	9MFY'24 RM mil	9MFY'23 RM mil
Revenue Adjustment for Revenue Cap & Price Cap	(412.4)	(684.1)	(621.0)	<sup>1</sup> (1,717.5)	(803.8)
Refund Related to Regulated Business	(66.7)	(52.2)	(85.4)	(204.3)	(202.6)
Recovery of 2021 ADD (Commercial and Industrial)	-	-	37.9	37.9	-
Regulatory Adjustment for SESB*	10.7	(2.9)	2.2	10.0	18.1
<b>TOTAL</b>	<b>(468.4)</b>	<b>(739.2)</b>	<b>(666.3)</b>	<b>(1,873.9)</b>	<b>(988.3)</b>

\*SESB has implemented IBR framework starting 1 January 2022

## Revenue Cap

9MFY'24 Variation in Sales (in GWh)



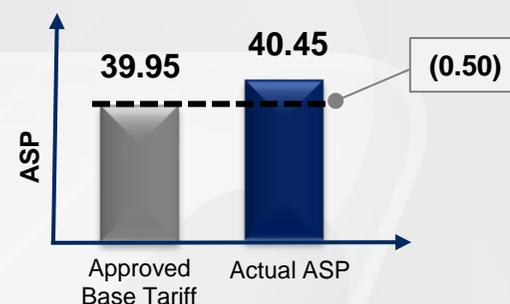
- The allowed annual revenue for revenue cap entities is based on 118.1TWh full year demand growth. Any excess/shortfall is adjusted through revenue adjustment mechanism.
- For 9MFY'24, higher actual sales has led to amount to be returned via revenue adjustment mechanism.

Business Entities	Allowed Tariff (sen/kWh)	Variation in Sales (GWh)	Adjustment RM mil
Revenue Cap Entities	12.60	(9,740)	(1,225.5)

Numbers manually computed will not match due to decimal variance

## Price Cap

9MFY'24 Variation in ASP (sen/kWh)



- Any excess/shortfall of revenue earned due to higher/lower Average Selling Price (ASP) compared to Base Tariff is adjusted through revenue adjustment mechanism.
- For 9MFY'24, the ASP recorded was higher than the Base Tariff, thus the amount is to be returned via revenue adjustment mechanism.

Business Entities	Actual Sales (GWh)	Variation in ASP (sen/kWh)	Adjustment RM mil
Price Cap Entity	98,378	(0.50)	(492.0)

# Higher Y-o-Y operating expenses

	3QFY'24	2QFY'24	Variance (3QFY'24 vs 2QFY'24)		9MFY'24	9MFY'23	Variance (9MFY'24 vs 9MFY'23)	
	RM mil	RM mil	RM mil	%	RM mil	RM mil	RM mil	%
<b>Non-TNB IPPs Costs</b>	<b>4,612.0</b>	<b>4,694.8</b>	<b>(82.8)</b>	<b>(1.8)</b>	<b>13,540.2</b>	<b>11,506.3</b>	<b>2,033.9</b>	<b>17.7</b>
Capacity Payment	(67.8)	36.7	(104.5)	>(100.0)	10.2	(60.5)	70.7	>100.0
Energy Payment	4,679.8	4,658.1	21.7	0.5	13,530.0	11,566.8	1,963.2	17.0
<b>TNB Fuel Costs</b>	<b>4,273.6</b>	<b>4,552.9</b>	<b>(279.3)</b>	<b>(6.1)</b>	<b>13,161.4</b>	<b>14,900.0</b>	<b>(1,738.6)</b>	<b>(11.7)</b>
Fuel Costs	4,561.4	4,514.5	46.9	1.0	13,427.3	15,497.7	(2,070.4)	(13.4)
Fuel Price Adjustment	(287.8)	38.4	(326.2)	>(100.0)	(265.9)	(597.7)	331.8	55.5
<b>Total OPEX - Fuel and Power Purchase</b>	<b>8,885.6</b>	<b>9,247.7</b>	<b>1</b> (362.1)	<b>(3.9)</b>	<b>26,701.6</b>	<b>26,406.3</b>	<b>2</b> 295.3	<b>1.1</b>
<b>Staff Costs</b>	<b>911.5</b>	<b>966.5</b>	<b>(55.0)</b>	<b>(5.7)</b>	<b>2,830.0</b>	<b>2,855.6</b>	<b>(25.6)</b>	<b>(0.9)</b>
<b>Repair &amp; Maintenance</b>	<b>837.7</b>	<b>801.0</b>	<b>36.7</b>	<b>4.6</b>	<b>2,330.9</b>	<b>2,156.3</b>	<b>174.6</b>	<b>8.1</b>
<b>TNB General Expenses</b>	<b>518.7</b>	<b>434.2</b>	<b>84.5</b>	<b>19.5</b>	<b>1,382.0</b>	<b>1,214.4</b>	<b>167.6</b>	<b>13.8</b>
<b>Subs. General Expenses</b>	<b>1,142.3</b>	<b>992.8</b>	<b>3</b> 149.5	<b>15.1</b>	<b>2,795.9</b>	<b>1,508.8</b>	<b>3</b> 1,287.1	<b>85.3</b>
<b>Total OPEX - Non Fuel (without Depreciation)</b>	<b>3,410.2</b>	<b>3,194.5</b>	<b>215.7</b>	<b>6.8</b>	<b>9,338.8</b>	<b>7,735.1</b>	<b>1,603.7</b>	<b>20.7</b>
<b>Total Operating Expenses (without Depreciation)</b>	<b>12,295.8</b>	<b>12,442.2</b>	<b>(146.4)</b>	<b>(1.2)</b>	<b>36,040.4</b>	<b>34,141.4</b>	<b>1,899.0</b>	<b>5.6</b>
<b>Depreciation &amp; Amortisation</b>	<b>2,882.0</b>	<b>2,858.3</b>	<b>23.7</b>	<b>0.8</b>	<b>8,520.5</b>	<b>8,368.4</b>	<b>152.1</b>	<b>1.8</b>
<b>Total Operating Expenses</b>	<b>15,177.8</b>	<b>15,300.5</b>	<b>(122.7)</b>	<b>(0.8)</b>	<b>44,560.9</b>	<b>42,509.8</b>	<b>2,051.1</b>	<b>4.8</b>

**1** 3QFY'24 vs 2QFY'24: Lower fuel and power purchase costs due to lower coal and gas prices (refer Fuel Costs slide).

**2** 9MFY'24 vs 9MFY'23: Higher fuel and power purchase costs due to higher units generated.

**3** Higher subsidiaries general expenses:  
i. Higher cost of sales to support higher revenue recorded; and  
ii. Impairment of associates (refer Y-o-Y Analysis Note 5).

# Lower overall fuel costs due to lower coal price in 9MFY'24

**Table A – TNB & IPP Fuel Costs for Peninsular**

Fuel Type	9MFY'24		9MFY'23		Variance	
	RM mil		RM mil		RM mil	%
Coal	13,248.4		15,762.4		(2,514.0)	(15.9)
Gas	9,187.8		7,941.9		1,245.9	15.7
Distillate	126.7		214.3		(87.6)	(40.9)
Oil	25.9		29.9		(4.0)	(13.4)
<b>Total</b>	<b>22,588.8</b>		<b>23,948.5</b>		<b>(1,359.7)</b>	<b>(5.7)</b>

\*Comprises TNB Fuel Costs & fuel payments to IPPs (part of Energy Payment), exclude solar.

**Table B – TNB & IPP Units Generated for Peninsular**

Fuel Type	9MFY'24		9MFY'23		Variance	
	GWh	Gen. Mix (%)	GWh	Gen. Mix (%)	GWh	%
Coal	59,811.7	56.1	57,371.1	57.6	2,440.6	4.3
Gas	39,930.0	37.4	36,006.4	36.1	3,923.6	10.9
Distillate	85.1	0.1	175.7	0.2	(90.6)	(51.6)
Hydro	4,592.1	4.3	4,493.8	4.5	98.3	2.2
Solar	2,276.8	2.1	1,618.8	1.6	658.0	40.6
<b>Total</b>	<b>106,695.7</b>	<b>100.0</b>	<b>99,665.8</b>	<b>100.0</b>	<b>7,029.9</b>	<b>7.1</b>

**Table C – Fuel Costs Related Data**

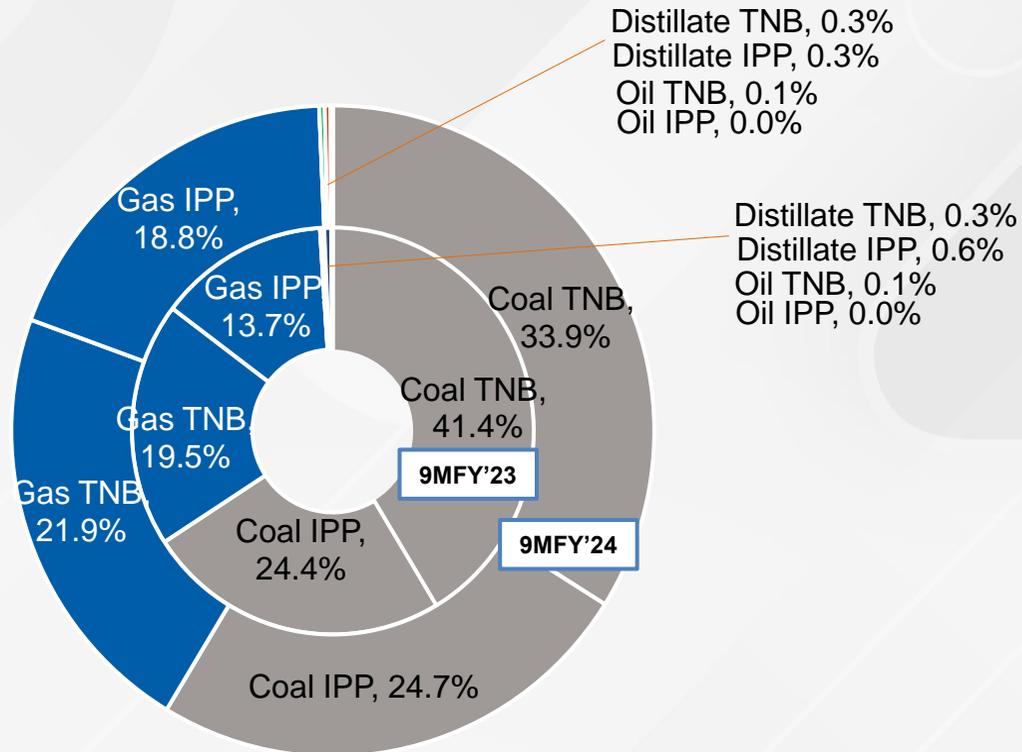
Fuel statistics	9MFY'24	9MFY'23
Average Coal Price Delivered (USD/MT)(CIF)	112.5	139.9
Average Coal Price Delivered (RM/MT)(CIF)	521.8	630.7
Coal Consumption (mil MT)	25.7	25.2
	1QFY'24	1QFY'23
Gas Reference Market Price (RM/mmbtu)	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 44.7	Tier 2 : 62.1
	2QFY'24	2QFY'23
	Tier 1 : 35.0	Tier 1 : 30.0
	Tier 2 : 47.4	Tier 2 : 51.7
	3QFY'24	3QFY'23
	Tier 1 : 35.0	Tier 1 : 30.0
	Tier 2 : 45.7	Tier 2 : 44.9
Daily Average Piped Gas Volume (mmscfd)	982	859

**Table D – Average Coal Price Delivered**

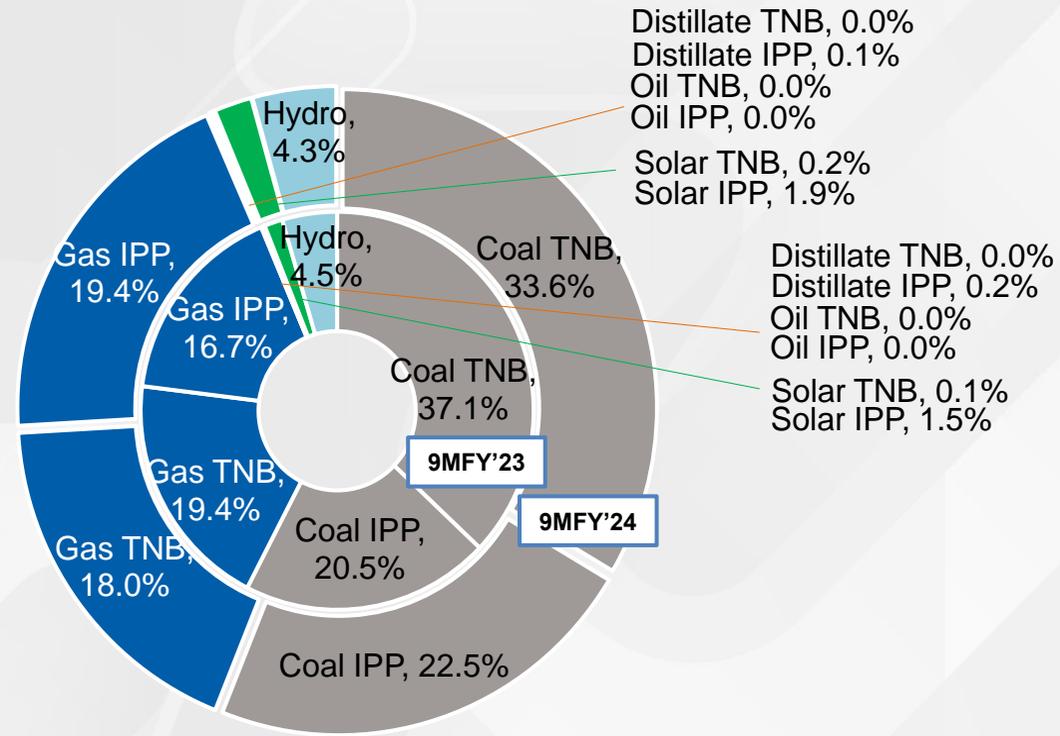
	9MFY'24	9MFY'23	Variance	
	USD/MT	USD/MT	USD/MT	%
FOB	102.8	130.2	(27.4)	(21.0)
Freight	9.3	9.4	(0.1)	(1.1)
Others	0.4	0.3	0.1	33.3
<b>CIF</b>	<b>112.5</b>	<b>139.9</b>	<b>(27.4)</b>	<b>(19.6)</b>

# Fuel Costs & Units Generated (TNB & IPPs – Peninsular) in 9MFY'24

**Fuel Costs**



**Units Generated**



% indicates generation market share

■ Gas ■ Coal ■ Oil & Distillate ■ Hydro ■ Solar

# Lower Q-o-Q fuel costs mainly due to lower coal costs

**Table A – TNB & IPP Fuel Costs for Peninsular**

Fuel Type	3QFY'24		2QFY'24		1QFY'24		Variance 3QFY'24 vs 2QFY'24	
	RM mil		RM mil		RM mil		RM mil	%
Coal	4,441.3		4,605.6		4,201.5		(164.3)	(3.6)
Gas	2,939.3		3,013.5		3,235.0		(74.2)	(2.5)
Distillate	49.0		19.0		58.7		30.0	>100.0
Oil	2.0		10.5		13.4		(8.5)	(81.0)
<b>Total</b>	<b>7,431.6</b>		<b>7,648.6</b>		<b>7,508.6</b>		<b>(217.0)</b>	<b>(2.8)</b>

Note: Comprise TNB Fuel Costs & fuel payments to IPPs (part of Energy Payment), exclude solar.

**Table C – Fuel Costs Related Data**

Fuel statistics	3QFY'24	2QFY'24	1QFY'24
Average Coal Price Delivered (USD/MT)(CIF)	112.0	112.2	113.7
Average Coal Price Delivered (RM/MT)(CIF)	499.6	531.0	536.2
Coal Consumption (mil MT)	9.3	8.7	7.7
	3QFY'24	2QFY'24	1QFY'24
Gas Reference Market Price (RM/mmbtu)	Tier 1 : 35.0	Tier 1 : 35.0	Tier 1 : 30.0
	Tier 2 : 45.7	Tier 2 : 47.4	Tier 2 : 44.7
Daily Average Piped Gas Volume (mmscfd)	951	978	1017

**Table B – TNB & IPP Units Generated for Peninsular**

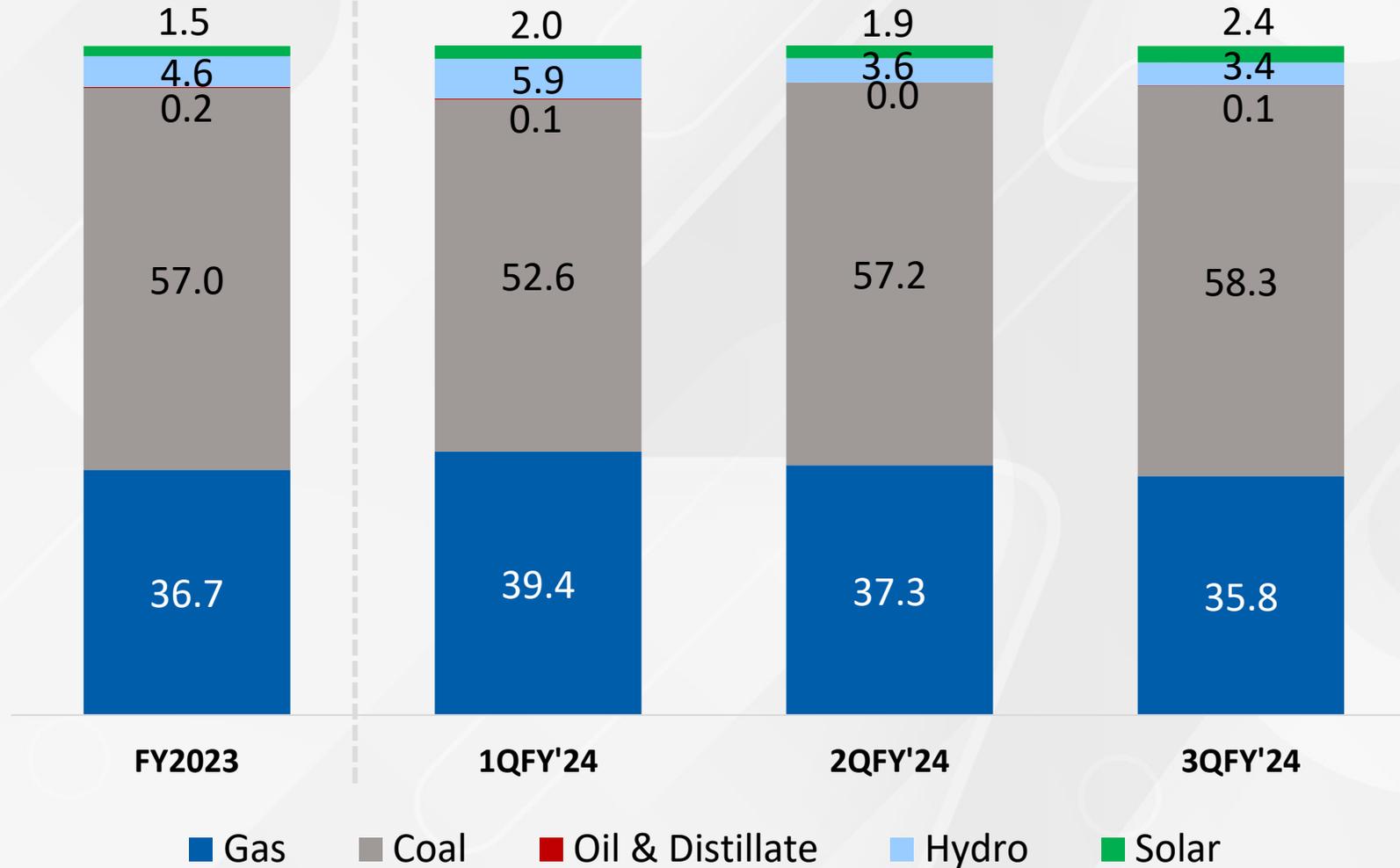
Fuel Type	3QFY'24		2QFY'24		1QFY'24		Variance 3QFY'24 vs 2QFY'24	
	GWh	Gen. Mix (%)	GWh	Gen. Mix (%)	GWh	Gen. Mix (%)	GWh	%
Coal	21,109.4	58.3	20,505.7	57.2	18,196.6	52.6	603.7	2.9
Gas	12,954.0	35.8	13,341.0	37.3	13,635.0	39.4	(387.0)	(2.9)
Distillate	39.4	0.1	-	0.0	45.7	0.1	39.4	>100.0
Hydro	1,246.1	3.4	1,289.6	3.6	2,056.4	5.9	(43.5)	(3.4)
Solar	886.2	2.4	692.2	1.9	698.4	2.0	194.0	28.0
<b>Total</b>	<b>36,235.1</b>	<b>100.0</b>	<b>35,828.5</b>	<b>100.0</b>	<b>34,632.1</b>	<b>100.0</b>	<b>406.6</b>	<b>1.1</b>

**Table D – Average Coal Price Delivered**

	3QFY'24	2QFY'24	1QFY'24	Variance 3QFY'24 vs 2QFY'24	
	USD/MT	USD/MT	USD/MT	USD/MT	%
FOB	102.2	102.0	104.5	0.2	0.2
Freight	9.4	9.7	8.7	(0.3)	(3.1)
Others	0.4	0.5	0.5	(0.1)	(20.0)
<b>CIF</b>	<b>112.0</b>	<b>112.2</b>	<b>113.7</b>	<b>(0.2)</b>	<b>(0.2)</b>

# Q-o-Q: Higher generation from coal in 3QFY'24

## Generation Mix for Industry (%)

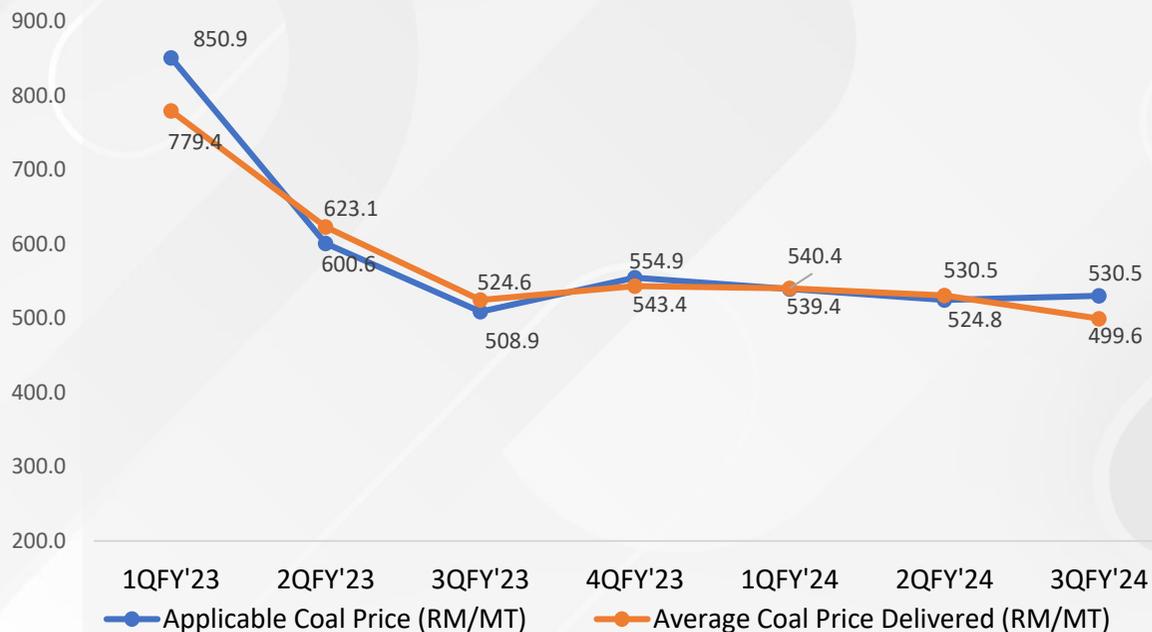


# TNB is neutral to volatility in fuel costs under the ICPT framework

	4QFY'23	1QFY'24	2QFY'24	3QFY'24
	RM mil	RM mil	RM mil	RM mil
Single Buyer Actual Generation Costs: <b>(A)</b>	10,357.3	10,710.6	11,499.8	10,936.5
<i>Actual Sales (GWh)</i>	31,491.4	31,899.4	33,120.6	33,359.0
<i>Single Buyer Tariff (RM/kWh)</i>	0.2620	0.2620	0.2620	0.2620
Actual Gen Cost Recovered <b>(B)</b>	8,250.7	8,357.6	8,677.6	8,740.1
<b>ICPT Surcharge / (Rebate) (C)</b> <b>(C = A – B)</b>	<b>2,106.6</b>	<b>2,353.0</b>	<b>2,822.2</b>	<b>2,196.4</b>

Note: Numbers manually computed will not match due to decimal variance

## Coal Price Trending



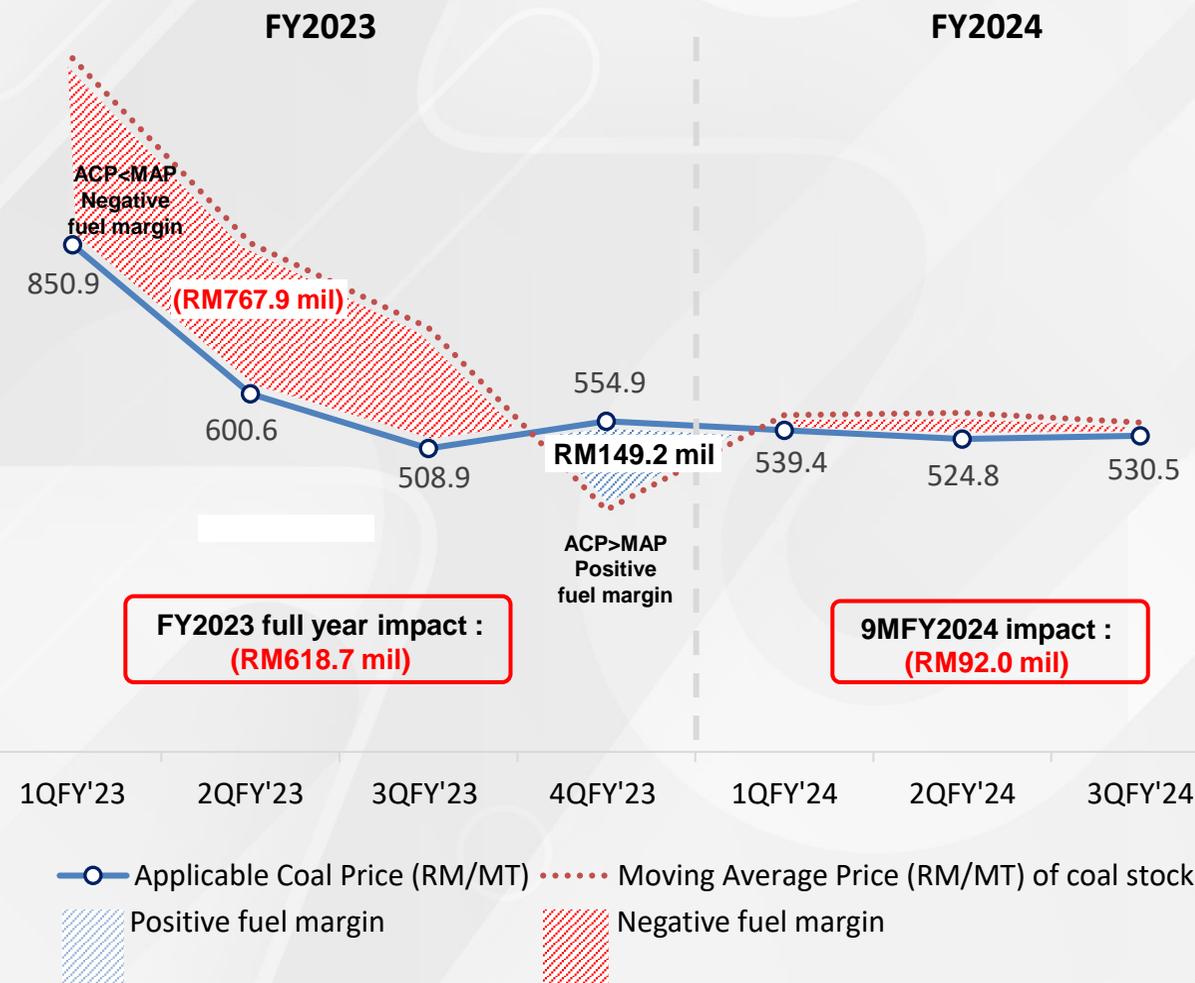
### Coal Price & Applicable Coal Price (ACP) comparison

	1QFY'23	2QFY'23	3QFY'23	4QFY'23	1QFY'24	2QFY'24	3QFY'24
Average Coal Price Delivered (RM/mmbtu) *	35.85	29.43	24.31	24.36	24.81	24.23	22.88
ACP (RM/mmbtu)	38.77	27.52	23.32	25.42	24.73	24.13	24.31

\* Based on internal conversion

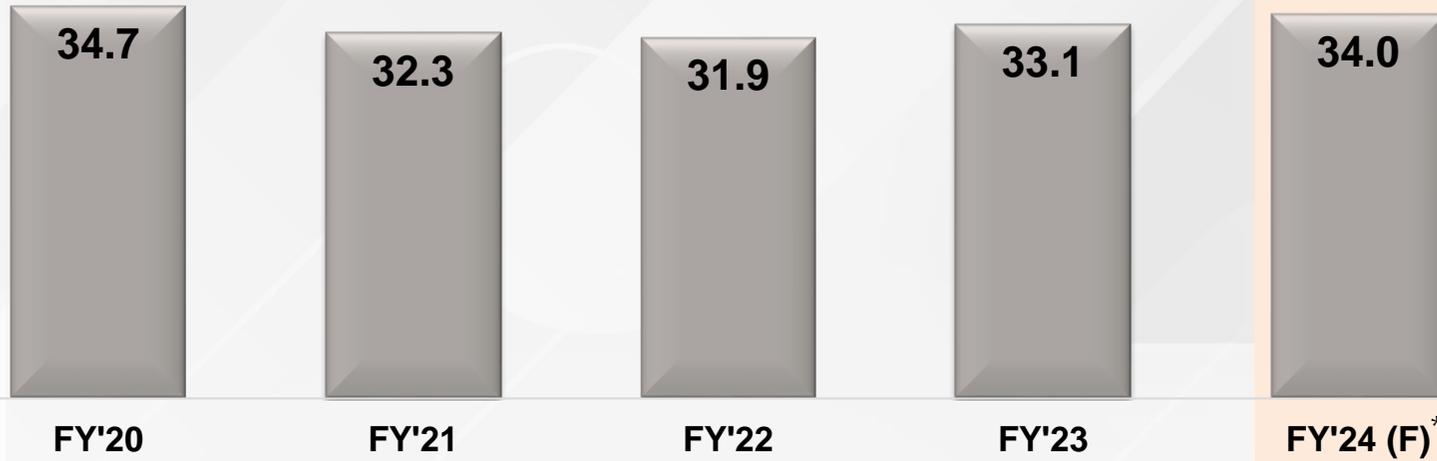
- **Fuel Price Adjustment (FPA)** is the difference between the Applicable Coal Price (ACP) billed to generators and the actual coal price paid to supplier (delivered) by TNBF. The difference is caused by higher or lower coal price or due to currency exchange.
- ACP is set by Energy Commission on a monthly basis starting from August 2022.
- In 3QFY'24, the base ACP (RM24.31/mmbtu) used for billing the generators was higher than the coal price paid to supplier (RM22.88/mmbtu).

## Fuel Margin: Applicable Coal Price (ACP) vs Moving Average Price (MAP)



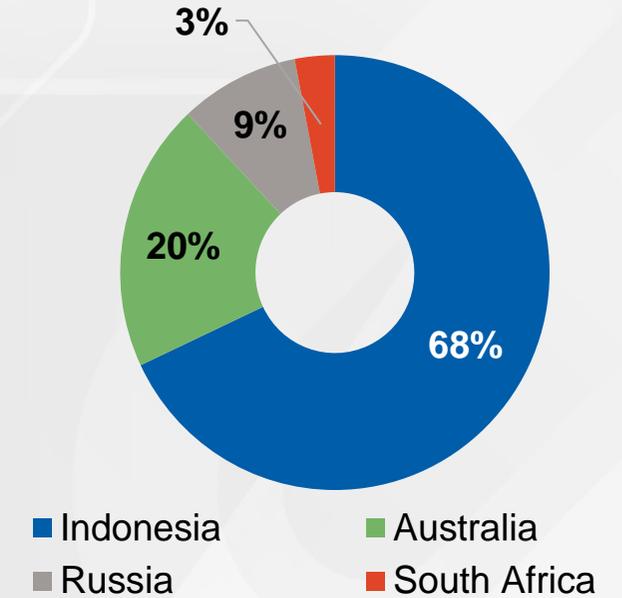
# Industry coal requirement forecast for FY2024

## Coal Consumption (mil MT)



\* Based on tonnage planned for delivery in FY2024

## Source Country Mix



# Group CAPEX

## Regulated CAPEX and Regulated Asset Base (RAB)

RM mil



FY	RP3 REGULATED ENTITIES CAPEX		
	IBR Approved RM mil	Actual YTD RM mil	Utilisation (%)
2024	7,099.1	5,981.2	84.3

Total RAB (RM mil)	
Actual As at 30 Sep 2024	Projected FY2024
67,228.0	67,533.7

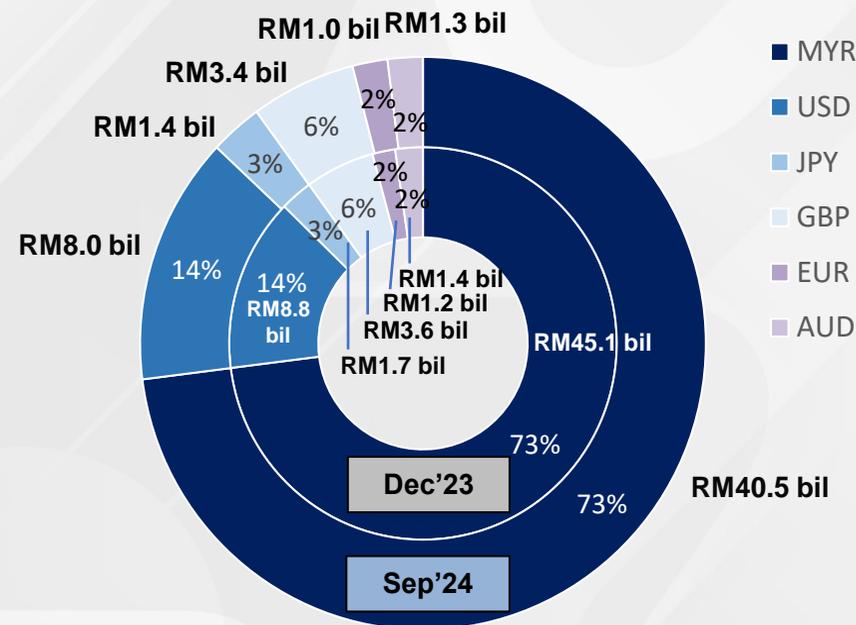
Regulatory net returns: RM3,452.1 mil

Note: Numbers manually computed will not match due to decimal variance

# Gearing improved to 47.5% as at 9MFY'24

	30 Sep'24	31 Dec'23
Total Debt (RM bil)	55.6 	61.8
Net Debt* (RM bil)	37.6	40.8
Gearing (%)	47.5 	50.3
Net Gearing (%)	32.1	33.2

## Major Loan Breakdown



**4.85%**

(FY'23: 4.75%)

**Effective Average**

**Cost of Borrowing\*\***



**94:6**

(FY'23: 95:5)

**Fixed : Floating**

*Final Exposure*

Closing FOREX	30 Sep'24	31 Dec'23
USD/RM	4.105	4.593
100YEN/RM	2.890	3.246
GBP/RM	5.498	5.854
AUD/RM	2.847	3.141
EUR/RM	4.584	5.083

\* Net Debt excludes deposits, bank and cash balances and investment in UTF

\*\* Inclusive of interest rate swap

Note:

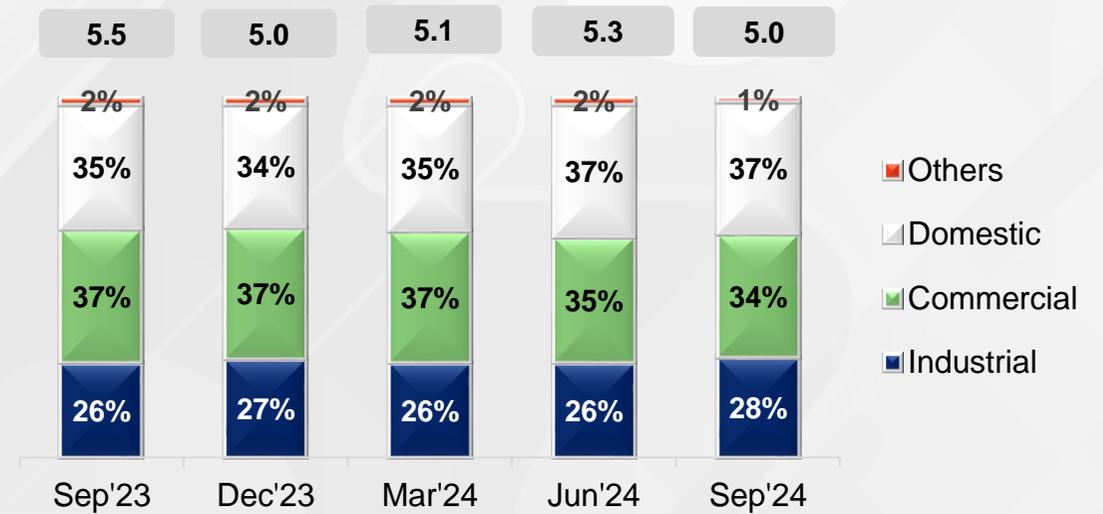
Debt consists of Principal + Accrued Interest

# Trade receivables as at 9MFY'24

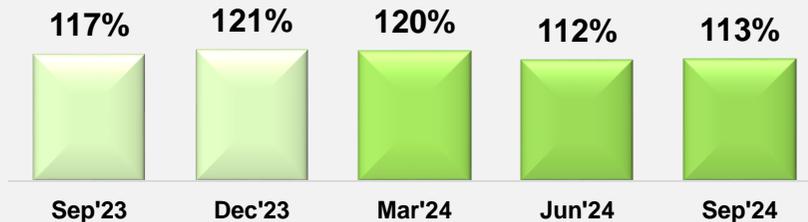
## Trade Debtors Ageing (RM bil)



## Trade Receivables By Sectors (RM bil)



## Strong collection trend

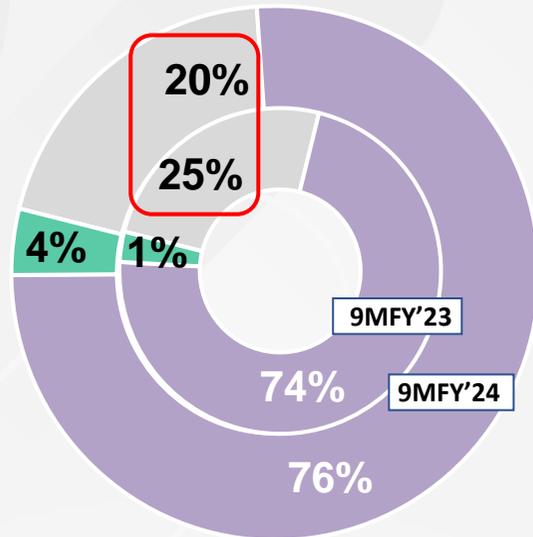


## Cash flow

- We continuously monitor our cash flow position on a daily basis and remain prudent on our working capital management.
- **Moody's: Reaffirmed TNB corporate credit rating at A3 with a stable outlook (Nov'24).**

# Revenue from coal recorded at 20% due to M4 outage

Actual Group Revenue\*



■ RE ■ Coal ■ Others \*\*

\* Total revenue includes ICPT

\*\* Others include revenue from regulated business, subsidiaries and other generation sources

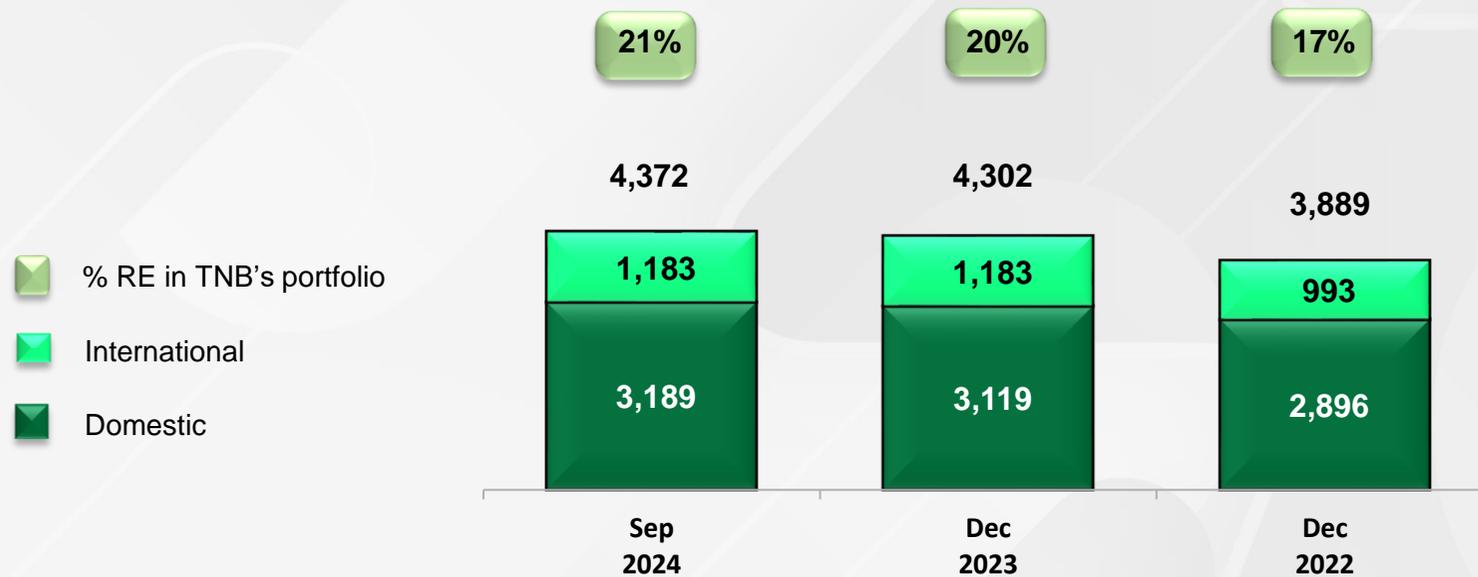


**Long-term aspiration:  
To be coal-free by 2050**

- No new coal plant investment
- Reduction of coal capacity by 50% by 2035 and coal-free by 2050

# Our RE journey is progressing well

## TNB RE Portfolio Renewable capacity (MW)



Note:

- Gross RE Capacity includes large hydro (exclude SESB)
- Solar capacity is quoted in MWp starting from 2023

## TNB International Sdn Bhd (TNBI)

### Vantage RE



### Spark Renewables



### Technology Focus:



Solar farms



Onshore wind



Offshore wind



Battery Energy Storage System (BESS)

TNBI is a TNB wholly owned subsidiary incorporated under the laws of Malaysia.

TNBI is a platform focused on capturing global renewable energy opportunities, diversifying TNB's portfolio and spearheading TNB's Energy Transition initiative, contributing towards supporting key milestones in TNB's Net Zero 2050 journey.

TNBI is anchored by Vantage RE with ~1GW RE portfolio (operational and under construction) and Spark Renewables.

### Financial Performance

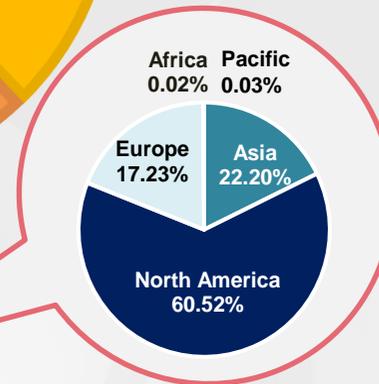
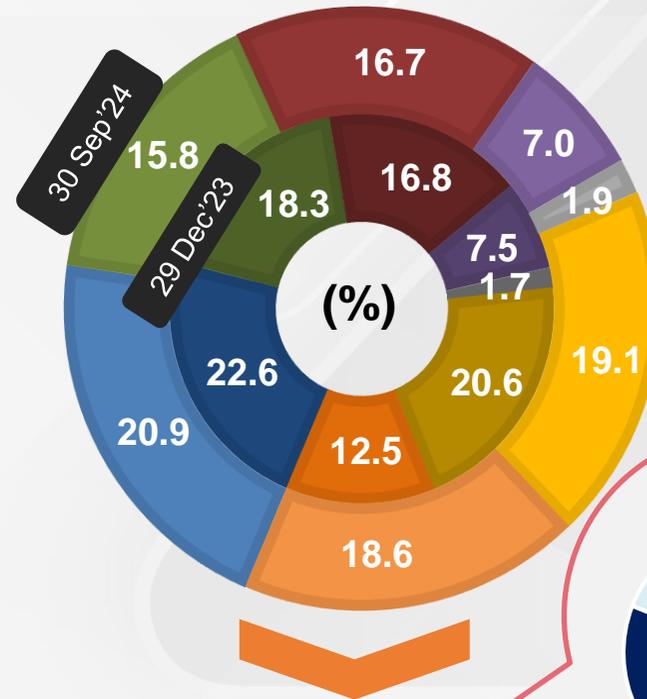
Higher EBITDA Y-o-Y (9MFY'24: RM496.1 mil vs 9MFY'23: RM442.6 mil) due to additional contribution from newly acquired solar portfolio (276MW) in Ireland in December 2023 and higher generation from wind assets due to higher wind speeds.

### Outlook

- TNB is committed to grow its presence in RE market and the current focus is on converting development pipelines into operational assets.
- In addition, TNB's international RE platforms are implementing alternative revenue mechanisms, such as Contract-for-Difference (CfD) scheme, Corporate Power Purchase Agreements (PPAs) and exploring Battery Energy Storage System (BESS) based opportunities.
- This strategy will be supported by leveraging on TNB's extensive experience in developing power projects in both international and domestic markets, along with knowledge and technology transfer within TNB Group.
- There is a steady progress in greenfield projects through implementing key strategies to drive timely completion and secure future growth opportunities.
- TNBI's platform in Australia, Spark Renewables is currently advancing several development pipelines and has recently submitted a bid to secure grid access rights within the South-West Renewable Energy Zone.

# Shareholdings

- Khazanah Nasional Berhad
- Permodalan Nasional Berhad (PNB)
- Employees Provident Fund Board (EPF)
- Kumpulan Wang Persaraan (KWAP)
- Other Government Agencies
- Local Corporation & Retail
- Foreign Shareholding



Foreign Shareholding (%)



Institutional: 18.4%  
Retail: 0.2%

## Disclaimer

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# Thank you

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