

ANALYST BRIEFING
4QFY2023
1 March 2024





Energy Sources

TNB transitioning into green entity with a strong ~7,700MW development pipeline

TNB pledge for no more coal plants. We will replace retiring coal plants with green pipeline projects

	Projects	2023 Key Achievements	Outlook 2024
GenCo	Sungai Perak Hydro Life Extension Programme 651MW COD: 2026	Completed feasibility study and assessment	<ul style="list-style-type: none"> Finalisation of new PPA Commencement of preliminary and main works
	Nenggiri Hydro Project 300MW COD: 2Q2027	Achieved 29% project progress	Achieve 56% project progress
	Hybrid Hydro-Floating Solar PV (HHFS) ~2,500MW by 2040 <small>Phase 1 230MW, COD: 2025 Phase 2 470MW, COD: 2028 Phase 3 800MW, COD: 2035 Phase 4 924MW, COD: 2040</small>	Finalised technical evaluation for Chenderoh Phase 1 (30MW)	Finalisation of potential offtake mechanisms, completion of feasibility studies and ESIA ¹
	Electricity Export to Singapore 100MW COD: 2Q2024	Completed negotiation with Single Buyer on System Access Agreement	Finalisation of relevant agreements and licensing by 2QFY2024
	Paka Repowering 1,400MW COD: 2030	Completed feasibility study	Finalisation of relevant agreements with the regulator
	New Combined Cycle Power Plant (Kapar) 2,100MW COD: 2031	Commencement of feasibility study	Receive Letter of Notification from regulator
	Co-firing of Hydrogen & Ammonia	Hydrogen: Appointment of consultant for feasibility study Ammonia: Kick-off Front End Engineering Design (FEED) study	Hydrogen: Completion of feasibility study Ammonia: Completion of FEED study & regulatory review
NED	COD & Acquisition/ Divestment	<ul style="list-style-type: none"> COD of TNB Bukit Selambau Solar 2, 21 Dec'23 (50MW) Acquisition of operational solar asset in Ireland (276MW) Divestment of GMR India 	
	Solar Greenfield Development (UK) 102MW COD: 2024	Discharged remaining plan conditions	Achieve COD by 3QFY2024
	Corporate Green Power Programme (CGPP) 90MW COD: 2025	Finalised key agreements	Construction work to start in 2QFY2024
	Large-Scale Solar Parks 5 x 100MW COD: 2026	Completed preliminary financial modelling	Achieve financial close

Data as of December 2023

¹ Environmental Social Impact Assessment



Energy Sources

Grid of the Future is key to unlock Malaysia's Energy Transition ambition and ensuring sustainability and vitality of our core business; while interconnection continues to see encouraging bilateral developments

<p>RP3 Approved ET Capex (RM8.20 bil)</p>	<p>Supporting the Energy Transition (ET) and RAB growth</p> <p>100% FY2023 ET CAPEX utilisation</p> <p>RM2.76 bil FY2024 ET CAPEX: RM3.33 bil</p>
<p>Key Projects</p>	<p>Smart Meter Installation progress (RP3):</p> <p>Installed 873,740 units FY2023 Target: 600,000 units Total Installed to date: 1,712,570 units FY2024 Target: 600,000 units</p> <p>Volt-Var Optimisation (VVO) progress:</p> <p>Achieved 120 MVar FY2023 Target: 120 MVar FY2024 Target: 160 MVar</p>

Regional Interconnections	
<p>PT PLN and ASEAN Centre for Energy (ACE)</p>	<p>Feasibility study for Cross-Border Electricity Interconnection between Sumatra, Indonesia, and Peninsular Malaysia.</p> <p>Progress: Feasibility study commenced in 1QFY2024 and currently in the final stages of agreement with the consultant appointed for this study.</p>
<p>SP Power Assets (SPPA)</p>	<p>Assess the Technical Feasibility of a Second Power Interconnection Linking Peninsular Malaysia and Singapore.</p> <p>Progress: The process of procuring a consultant for this study is underway, with the study expected to commence in 2QFY2024.</p>
<p>Laos PDR- Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP)</p>	<p>Enables Laos to export up to 100MW of renewable hydropower to Singapore using existing Thailand and Malaysia interconnections for 2 years period from 22 June 2022 to 22 June 2024.</p> <p>Progress: TNB is currently working with EC & PETRA¹ to engage Laos, Thailand and Singapore to determine the way forward for LTMS beyond its expiry on 22 June 2024.</p>

Data as of December 2023

¹ Minister of Energy Transition and Water Transformation



Timely completion of 9 data centre projects; committed to support the growing demand

2023 Key Achievements

Green Lane Pathway was introduced:

- To **streamline** the **on-boarding process**,
- **Expedite approvals**, and
- **Facilitate a smooth setup** of data centre operations.

Enabled us to deliver:

9 Completed Projects
~635MW Total energy demand



~RM350 mil
Annual sales

2 Projects completed ahead of time



GDS Data Centre Plot 1, Nusajaya Tech Park was **commissioned at 132kV** supply in **September 2023** with total maximum demand of **85.5MW** (3 months ahead of time).



SIPP YTL Data Centre Park, Kulai, Johor was **commissioned at 275kV** supply in **October 2023** with total maximum demand of **300MW** (2 months ahead of time).

Electricity Supply Agreements (ESA)

9 Projects

~2,300MW
Potential energy demand



2024 Outlook

New Data Centre Projects Expected to be completed

9 Projects
~700MW
Total energy demand

New ESA

10 Projects
~2,000MW
Potential energy demand

By 2035

Potential Maximum Demand
>5,000MW

Data as of December 2023

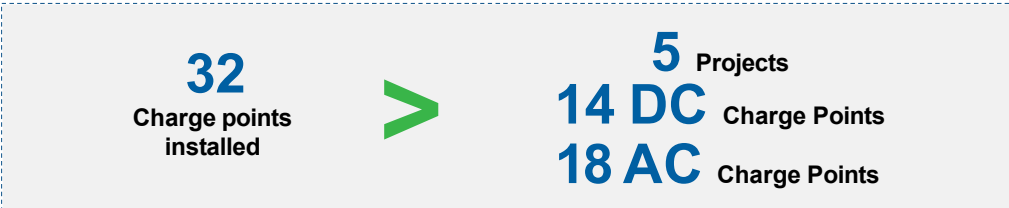


Energy Usage

Electric Vehicle (EV)

TNB aims to proliferate the number of BEVs by installing EV charge points at strategic locations across Peninsular Malaysia

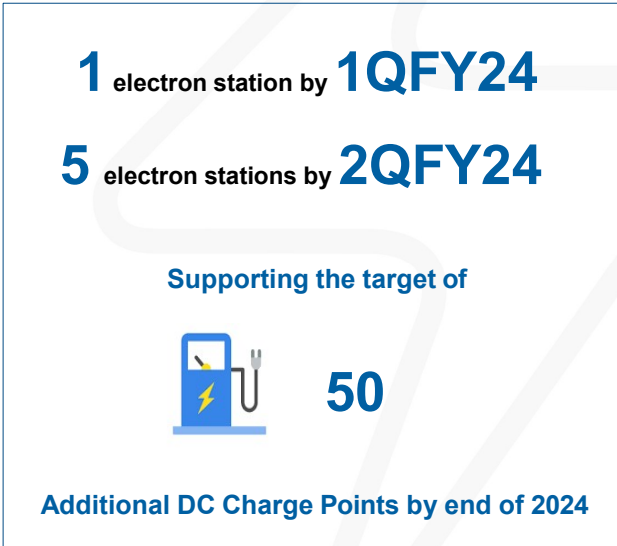
2023 Key Achievements



Commissioned 3 TNB Electron Stations



2024 Outlook



Data as of December 2023



Energy Usage

GSPARX

GSPARX provides the 'extra' push on renewable energy penetration while growing TNB's revenue source

2023 Key Achievements

	<p>Universiti Malaysia Pahang</p> <ul style="list-style-type: none"> Completed installation of solar panels to generate 3.5MWp of solar capacity (inclusive of rooftop and floating solar) at UMP Pekan, Pahang.
	<p>LRG Rubber Sdn Bhd</p> <ul style="list-style-type: none"> LRG Rubber Sdn Bhd has awarded GSPARX to install 5.3MWp rooftop solar PV at their factories in Kuala Krai, Kelantan and Bentong, Pahang. This project is under Outright Purchase arrangement and to be completed by 4QFY2024.
	<p>Resonac Material Johor Sdn Bhd</p> <ul style="list-style-type: none"> GSPARX secured Outright Purchase project from Resonac Material (Johor) with the rooftop solar total capacity of 3.1MWp. Target to be delivered by 3QFY2024.
	<p>KPJ Healthcare Berhad</p> <ul style="list-style-type: none"> Signed SARE for 1.2MWp solar capacity across 5 hospitals (Phase 1) in November 2023. The project has kicked off and is currently in execution mode. Phase 2 of the project will be executed in 3QFY2024.
	<p>AEON Big Sdn Bhd</p> <ul style="list-style-type: none"> Signed SARE for installation of rooftop solar photovoltaic (PV) systems at all AEON Malls and AEON Big outlets nationwide. GSPARX is expected to install and maintain a 77MWp PV system at the AEON ecosystem for 25 years.

Data as of December 2023

Collaboration with Sime Darby Property



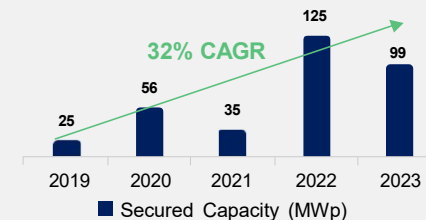
4.5MW
Solar capacity across 450 homes in City of Elmina (NETR)

Progress:

- Conducted a site visit to review technical proposals, including rooftop solar installation, Community Energy Storage System (CESS), and Voltage Regulating Distribution Transformer (VRDT).
- Exploring solar rooftop leasing arrangements.

2024 Outlook:

- Installation of solar system after EC approval has been obtained.



Rapid growth since inception (2019):

2,006
Projects secured
340MWp
Capacity

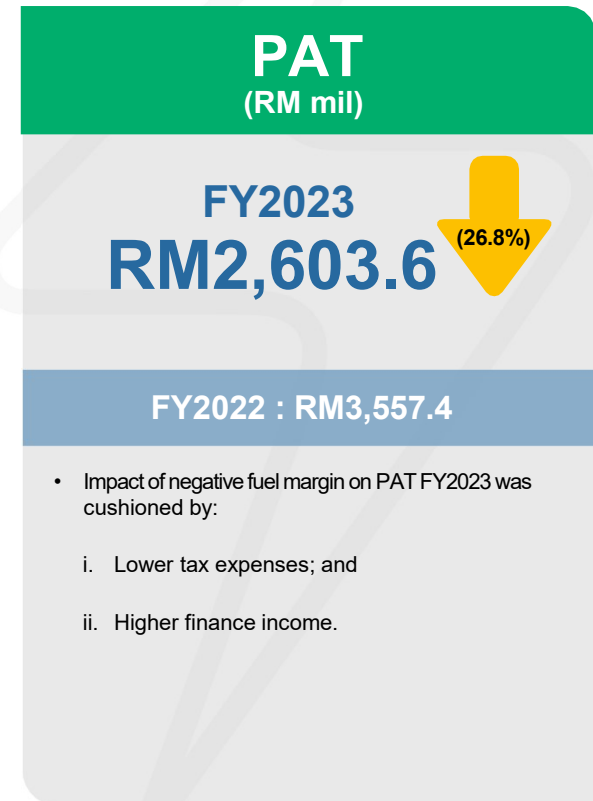
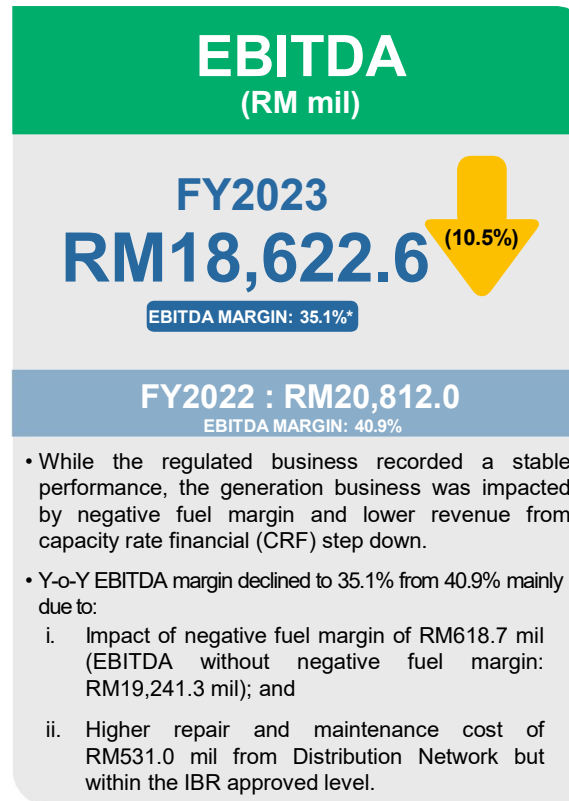
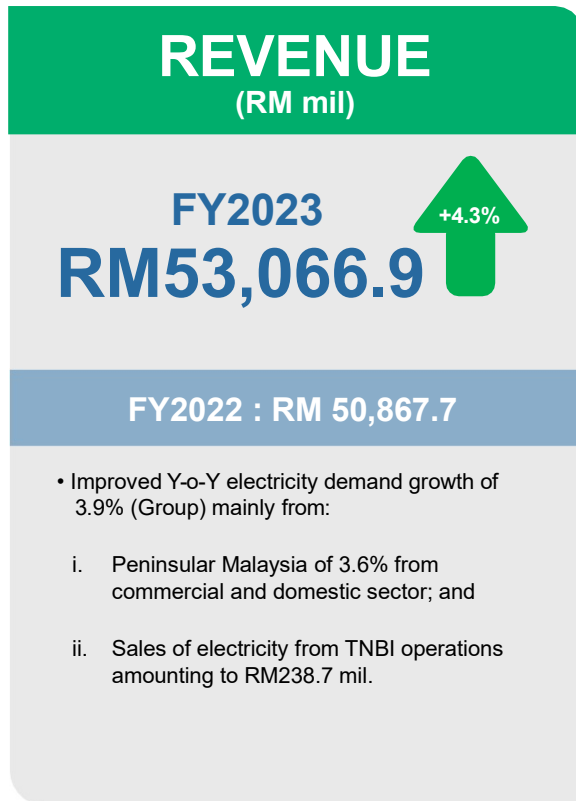


2024 Outlook



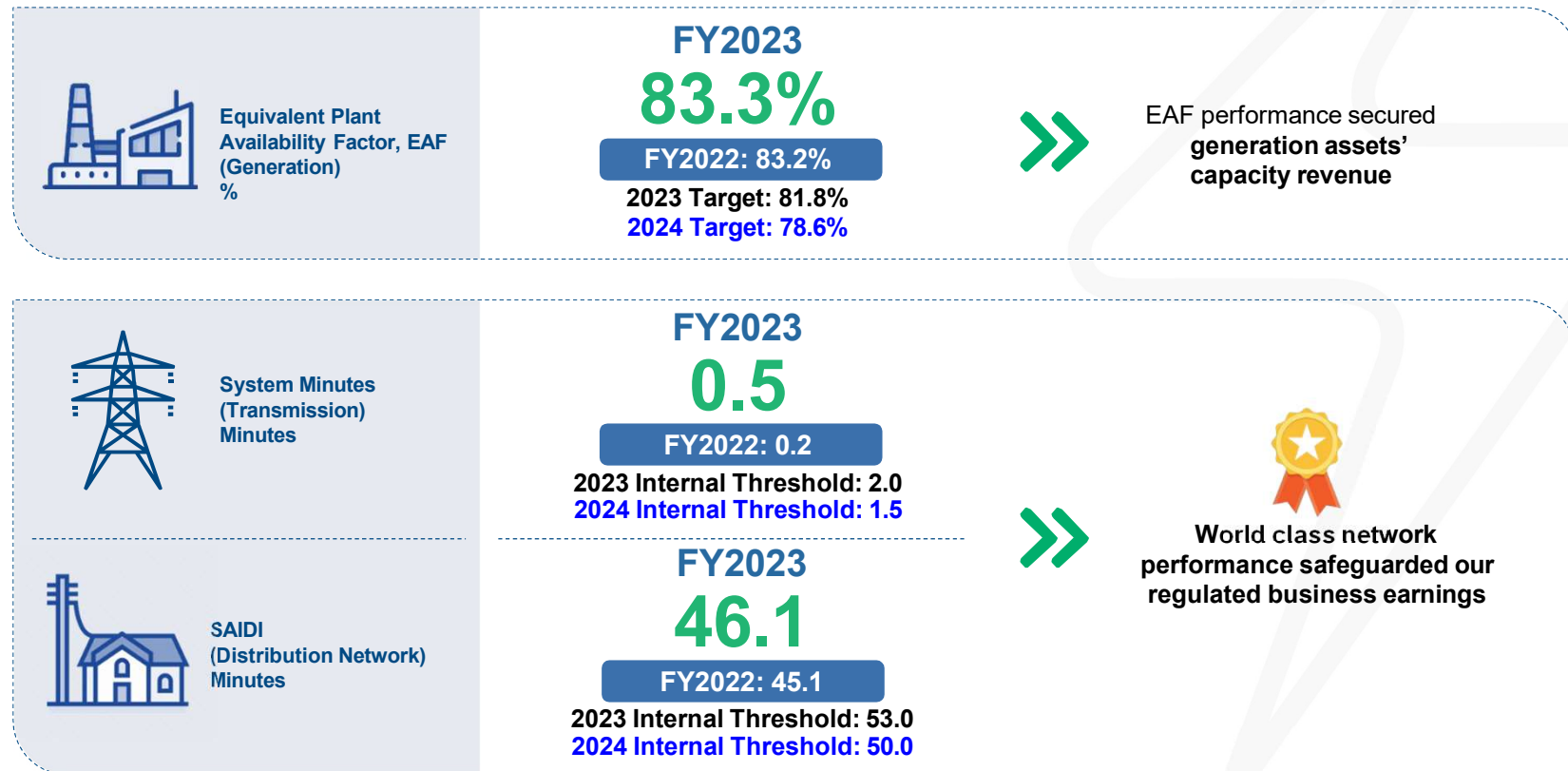
up to **160MWp**
Additional secured capacity

Amid a steady recovery in demand, our FY2023 PAT was impacted by generation underperformance and negative fuel margin



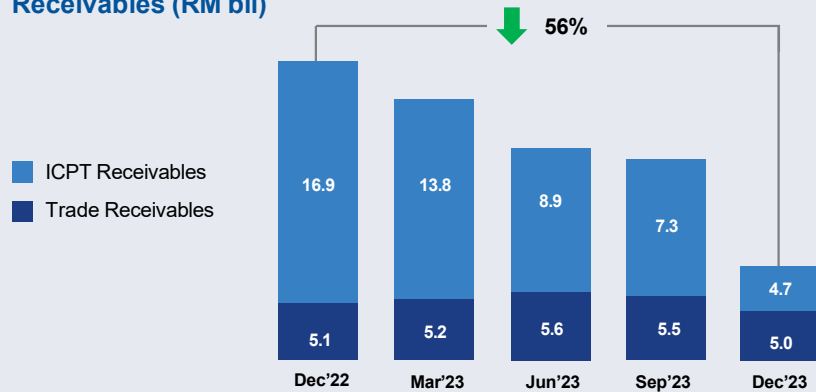
*EBITDA margin (excl. fuel margin): 36.3% (FY2022 38.7%)

Group earnings supported by strong and world-class network performance



Lower receivables contributed by stabilised fuel prices and improvement in collection, strengthening our cash flow position

Receivables (RM bil)



- **Coal price has moderated** from 351.53 USD/MT* in December 2022 to 127.75 USD/MT* in December 2023.
- **2024 Outlook:** Easing fuel prices and improvement in collection will:
 - ✓ strengthen working capital management; and
 - ✓ provide a healthier cash flow position.

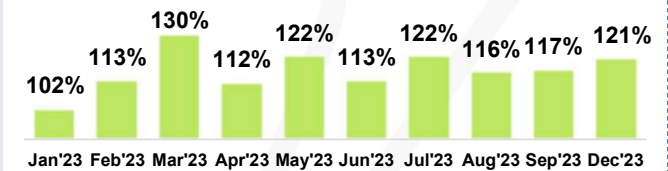
* Source: globalCOAL Newcastle index

1 ICPT Cost Recovery for 2HFY2023 RM4.7 bil

- TNB will recover from the Government RM4.7 bil of ICPT cost for July to December 2023.
- To date, TNB has **received RM3.13 bil of ICPT cost recovery** (claim for July - October).

2 Improvement in Collection

- Improvement in collection, recording strong collection trend (collection rate >100%).



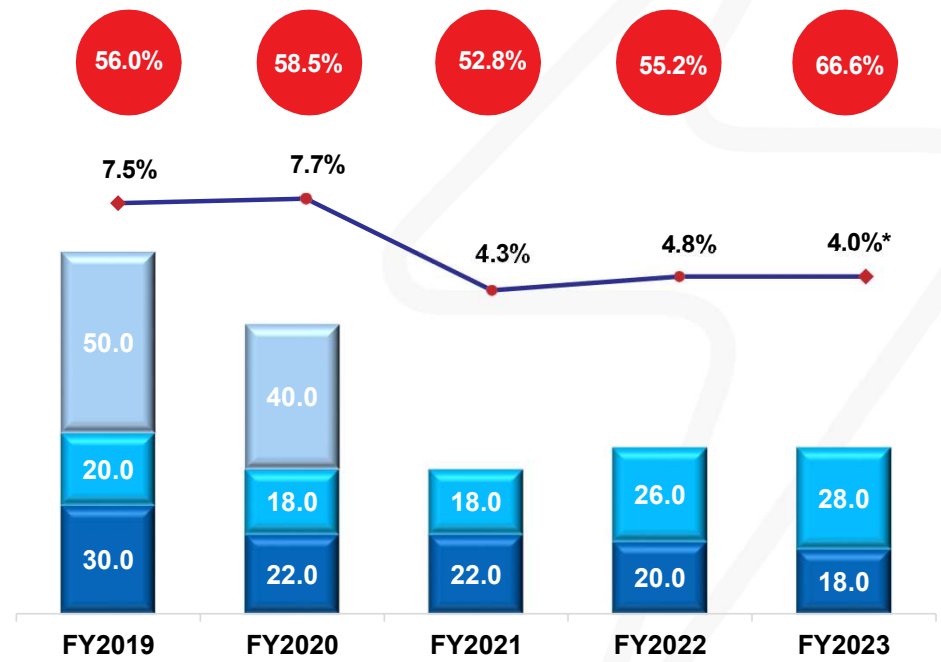
3 ICPT Outlook for 2HFY2024 ~RM6.5 bil

- While coal price is projected to stabilise in 1HFY2024, lower coal consumption is expected due to Manjung 4 downtime (higher LNG consumption is projected to meet demand).
- ICPT mechanism is intact & TNB remains neutral.

Stability in regulated business performance enables us to reward shareholders while upholding our policy

DIVIDEND POLICY




We will continue to honour our dividend policy of 30% to 60% dividend payout ratio, based on the reported Consolidated Net Profit Attributable to Shareholders After Minority Interest, excluding Extraordinary, Non-Recurring items






■ Interim dividend per share (sen)
 ■ Final dividend per share (sen)
 ■ Special dividend per share (sen)
 ● Dividend Payout ratio (%) (based on Adjusted Group PATAMI and excluding special dividend)
 ◆ Dividend Yield

* Dividend yield as of 21 Feb 2024

Year 2024 stands as a significant year, as we work towards pursuing our Energy Transition Plan to achieve Net Zero 2050 aspirations

 <p>Electricity Demand</p>	<p>Demand growth is projected to be between 2.5%-3.0%</p>
 <p>Group CAPEX Forecast</p>	<p>Total Group CAPEX : RM13.0 bil Regulated capex* : ~RM7.7 bil Non-regulated capex** : ~RM5.3 bil</p> <p><small>* ET Related capex of RM3.33 bil (includes system improvement CAPEX) ** Major projects, subsidiaries and corporate</small></p>
 <p>Capital Management</p>	<ul style="list-style-type: none">• Proactive working capital management in current high fuel prices environment• Active capital allocation and funding for growth

 <p>Regulatory Period 4</p>
<p>Theme: Delivering our customers' energy needs and facilitating Malaysia's Energy Transition</p> <p>Tariff Reform: Towards cost reflectivity to ensure that the tariff is fair and equitable for the sustainability of the ecosystem</p>
 <p>Delivering Value to our Shareholders</p>
<p>The stability of our regulated business will support us in delivering value to our shareholders through sustainable dividends</p>
 <p>Sustainable Growth</p>
<p>Ensuring business growth as we progress towards supporting the NETR and becoming a leading provider of sustainable energy solutions</p>

Appendix

FY2023

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

Year-on-Year (Y-o-Y) analysis

RM mil		FY2023	FY2022	Variance	
				RM mil	%
Revenue	1	53,066.9	50,867.7	2,199.2	4.3
Imbalance Cost Pass Through (ICPT)		10,598.2	22,315.3	(11,717.1)	(52.5)
Operating expenses (without depreciation)	2	(46,105.4)	(53,209.6)	7,104.2	(13.4)
Net reversal/(loss) on impairment of financial instruments	3	114.7	(101.4)	216.1	>(100.0)
Other operating income		948.2	940.0	8.2	0.9
EBITDA		18,622.6	20,812.0	(2,189.4)	(10.5)
EBITDA Margin (%)		35.1%	40.9%	-	(5.8)
Depreciation		(11,265.7)	(11,402.5)	136.8	(1.2)
EBIT		7,356.9	9,409.5	(2,052.6)	(21.8)
Foreign exchange:					
- Transaction gain		81.1	26.0	55.1	>100.0
- Translation (loss)		(290.6)	(249.5)	(41.1)	16.5
Share of results of joint ventures		18.1	21.0	(2.9)	(13.8)
Share of results of associates		44.3	76.6	(32.3)	(42.2)
Profit before finance cost		7,209.8	9,283.6	(2,073.8)	(22.3)
Fair value changes of financial instrument		(49.4)	130.7	(180.1)	>(100.0)
Finance income	4	544.3	277.7	266.6	96.0
Finance cost		(4,331.1)	(4,343.4)	12.3	(0.3)
Profit from ordinary activities before taxation		3,373.6	5,348.6	(1,975.0)	(36.9)
Taxation and Zakat:					
- Company and subsidiaries	5	(611.1)	(1,469.0)	857.9	(58.4)
- Deferred taxation		(158.9)	(322.2)	163.3	(50.7)
Profit for the period		2,603.6	3,557.4	(953.8)	(26.8)
Attributable to:					
- Owners of the Company		2,770.3	3,463.3	(693.0)	(20.0)
- Non-controlling interests		(166.7)	94.1	(260.8)	>(100.0)
Profit for the period		2,603.6	3,557.4	(953.8)	(26.8)

Y-o-Y analysis:

- 1 Higher Group revenue driven by sales demand growth of 3.9% and additional revenue from TNBI operations.
- 2 Reduction in operating expenses was mainly due to lower generation cost.
- 3 Includes reversal of impairment of Allowance for Doubtful Debts (ADD) of RM134.9 mil (FY2022 ADD of RM126.9 mil).
- 4 Higher finance income mainly from interest income from fixed deposit.
- 5 Lower tax expense in FY2023 due to higher capital allowance (CA) claim and one-off Prosperity Tax impact in FY2022.

Quarter vs previous quarter (4QFY23 vs 3QFY23) analysis

RM mil	4QFY23	3QFY23	Variance	
			RM mil	%
Revenue	13,652.0	13,466.1	185.9	1.4
Imbalance Cost Pass Through (ICPT)	2,106.6	1,999.1	107.5	5.4
Operating expenses (without depreciation)	(11,964.0)	(10,905.1)	(1,058.9)	9.7
Net reversal on impairment of financial instruments	146.8	20.4	126.4	>100.0
Other operating income	338.4	214.2	124.2	58.0
EBITDA	4,279.8	4,794.7	(514.9)	(10.7)
EBITDA Margin (%)	31.3%	35.6%		(4.3)
Depreciation	(2,897.3)	(2,771.1)	(126.2)	4.6
EBIT	1,382.5	2,023.6	(641.1)	(31.7)
Foreign exchange:				
- Transaction gain / (loss)	79.1	(58.3)	137.4	>(100.0)
- Translation gain	71.9	62.9	9.0	14.3
Share of results of joint ventures	8.7	3.9	4.8	>100.0
Share of results of associates	18.0	10.5	7.5	71.4
Profit before finance cost	1,560.2	2,042.6	(482.4)	(23.6)
Fair value changes of financial instrument	(63.9)	(32.4)	(31.5)	97.2
Finance income	132.6	155.2	(22.6)	(14.6)
Finance cost	(955.0)	(1,109.9)	154.9	(14.0)
Profit from ordinary activities before taxation	673.9	1,055.5	(381.6)	(36.2)
Taxation and Zakat:				
- Company and subsidiaries	20.5	(204.9)	225.4	>(100.0)
- Deferred taxation	(170.0)	26.8	(196.8)	>(100.0)
Profit for the period	524.4	877.4	(353.0)	(40.2)
Attributable to:				
- Owners of the Company	583.9	856.2	(272.3)	(31.8)
- Non-controlling interests	(59.5)	21.2	(80.7)	>(100.0)
Profit for the period	524.4	877.4	(353.0)	(40.2)

Q-vs-PrevQ analysis:

- 1 Higher revenue mainly due to higher Group sales of electricity.
- 2 Higher operating expenses mainly due to increase in coal price and TNB general expenses.
- 3 Lower tax expense due to higher capital allowance and reinvestment allowance claims.
- 4 Deferred tax movement resulted from overprovision of FY2022 and accrued revenue.

Y-o-Y normalised EBITDA and PAT for FY2023

EBITDA Components	FY2023 RM mil	FY2022 RM mil
Reported EBITDA	18,622.6	20,812.0
MFRS16 impact	1 (4,219.7)	(4,440.1)
Normalised EBITDA	2 14,402.9	16,371.9

PAT Components	FY2023 RM mil	FY2022 RM mil
Reported PAT	2,603.6	3,557.4
Forex Translation loss	290.6	249.5
MFRS16 impact	1 673.6	920.3
Normalised PAT	2 3,567.8	4,727.2

1 MFRS16 impact:

	FY2023 (RM mil)	FY2022 (RM mil)	Variance (RM mil)
Capacity Payment	4,219.7	4,440.1	(220.4)
Depreciation	(3,461.5)	(3,875.9)	414.4
Finance Cost	(1,636.5)	(1,756.4)	119.9
Deferred Tax	204.7	271.9	(67.2)
Net Impact	(673.6)	(920.3)	246.7

2 Lower normalised EBITDA and PAT mainly due to negative fuel margin of RM618.7 mil in FY2023 (positive fuel margin of RM1,107.8 mil in FY2022).

Higher Y-o-Y sales of electricity for the Group mainly derived from stronger domestic economic growth and TNBI operations

	4QFY23		3QFY23		Variance (4QFY23 vs 3QFY23)		FY2023		FY2022		Variance (FY2023 vs FY2022)		
	GWh		GWh		GWh	%	GWh		GWh		GWh	%	
UNITS SOLD													
Sales of Electricity (GWh)													
- TNB	31,491.4		31,448.1		1	43.3	0.1	123,206.0		118,881.6	1	4,324.4	3.6
- SESB	1,626.6		1,641.3			(14.7)	(0.9)	6,169.8		5,734.8		435.0	7.6
- EGAT (Export)	0.1		0.3			(0.2)	(66.7)	0.5		0.5		-	-
- TNBI*	171.3		182.1		2	(10.8)	(5.9)	694.0		617.3	2	76.7	12.4
Total Units Sold (GWh)	33,289.4		33,271.8			17.6	0.1	130,070.3		125,234.2		4,836.1	3.9
REVENUE	RM mil	Sen/ kWh	RM mil	Sen/ kWh	(RM mil)	%	RM mil	Sen/ kWh	RM mil	Sen/ kWh	(RM mil)	%	
Sales of Electricity (RM)													
- TNB	12,570.3	40.50	12,646.5	40.15	(76.2)	(0.6)	49,278.7	40.15	47,428.1	40.17	1,850.6	3.9	
- SESB	545.2	34.31	541.7	33.02	3.5	0.6	2,095.4	34.17	1,962.3	34.43	133.1	6.8	
- Accrued Revenue	49.9		(0.2)	(0.01)	50.1	>(100.0)	232.8		16.9		215.9	>100.0	
- EGAT (Export)	0.1	-	0.2	66.67	(0.1)	(50.0)	0.4	-	0.6	-	(0.2)	(33.3)	
- TNBI	185.7	108.41	227.0	124.66	(41.3)	(18.2)	776.4	111.87	537.7	87.11	238.7	44.4	
Sales of Electricity	13,351.2	40.11	13,415.2	40.32	(64.0)	(0.5)	52,383.7	40.27	49,945.6	39.88	2,438.1	4.9	
Other Regulatory Adjustment	(255.6)		(417.2)		161.6	(38.7)	(1,243.9)		(778.1)		3	(465.8)	59.9
Relief Package from Government	-		-		-	-	-		0.6		(0.6)	(100.0)	
SESB Tariff Support Subsidy	76.7		74.9		1.8	2.4	287.4		268.4		19.0	7.1	
Fuel Subsidy - SESB	74.5		77.0		(2.5)	(3.2)	286.0		265.8		20.2	7.6	
Total Sales of Electricity	13,246.8		13,149.9		96.9	0.7	51,713.2		49,702.3		2,010.9	4.0	
Goods & Services	294.7		214.0		80.7	37.7	916.5		734.0		4	182.5	24.9
Construction contracts	35.9		31.3		4.6	14.7	151.1		155.1		(4.0)	(2.6)	
Customers' Contribution	74.6		70.9		3.7	5.2	286.1		276.3		9.8	3.5	
Total Revenue	13,652.0		13,466.1		185.9	1.4	53,066.9		50,867.7		2,199.2	4.3	

1 4QFY23 vs 3QFY23: Higher units sold and sales of electricity from industrial and commercial sectors.

FY2023 vs FY2022: Higher units sold and sales of electricity from commercial and domestic sectors.

2 4QFY23 vs 3QFY23: Lower units sold and sales of electricity due to lower irradiance (solar).

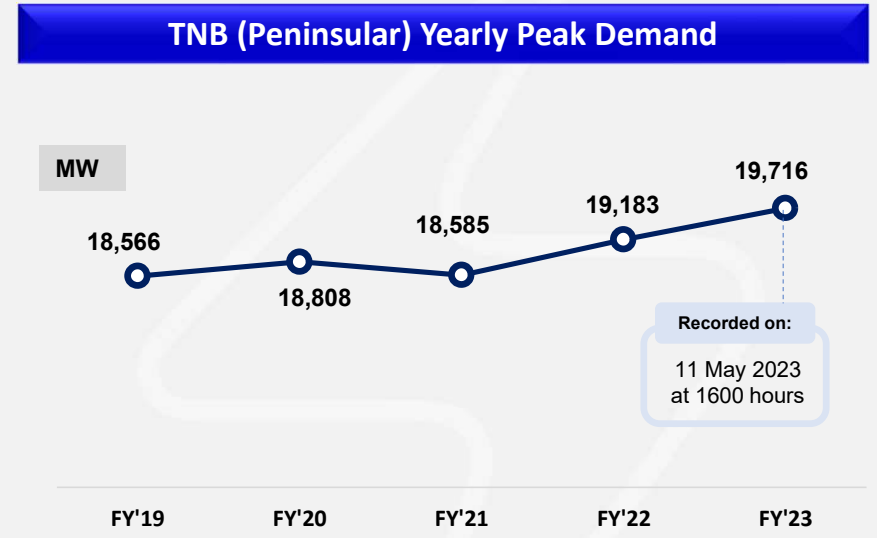
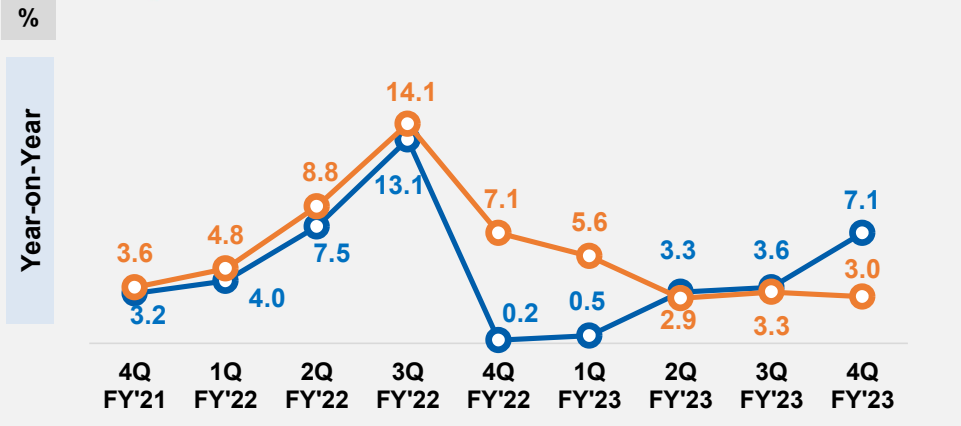
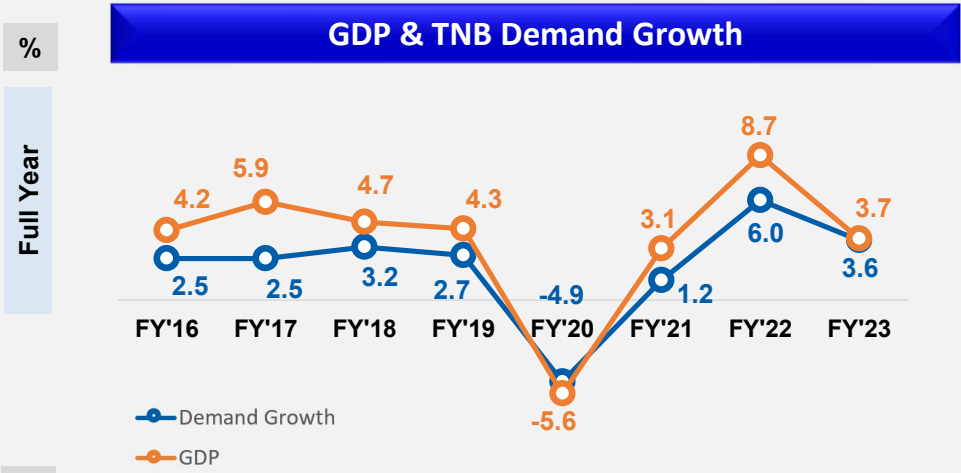
FY2023 vs FY2022: Higher units sold and sales of electricity from new acquisitions.

3 Refer Other Regulatory Adjustment slide.

4 Higher revenue recorded by subsidiaries.

*Refer page 23 for details on TNBI

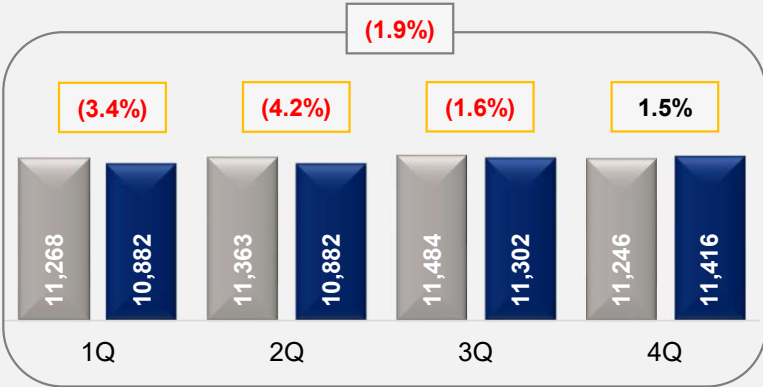
Y-o-Y electricity demand grew in tandem with GDP



Source : Economic and Financial Developments in Malaysia in the Fourth Quarter of 2023, BNM

Improved Y-o-Y electricity demand mainly contributed by commercial and domestic sectors

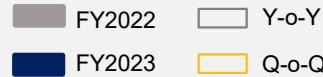
Industrial



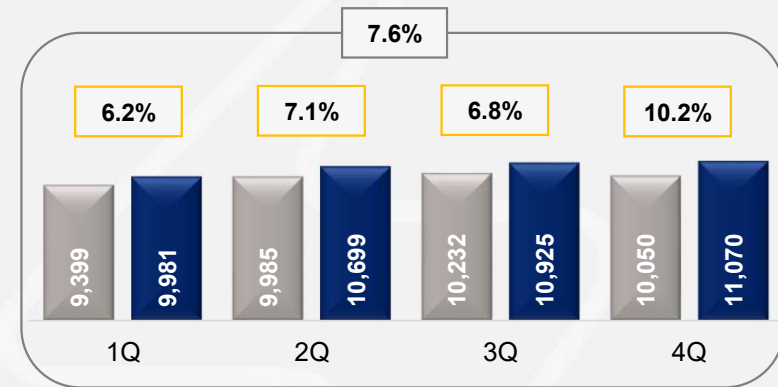
FY2023 main contributors for the increase in commercial sector:

- Retails, business services and accommodation services

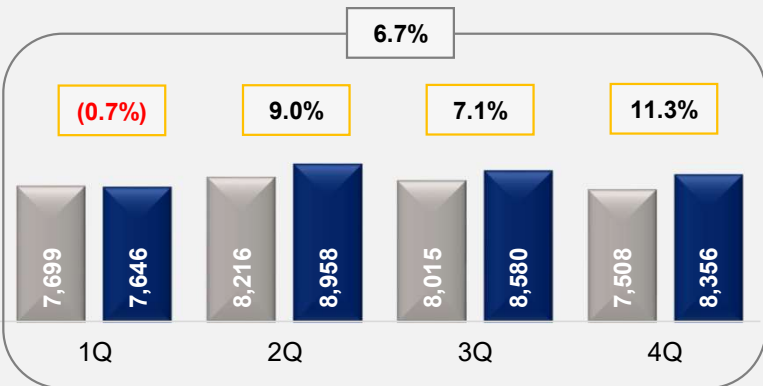
Unit Sales (GWh) Growth



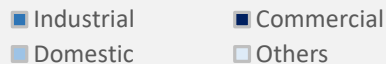
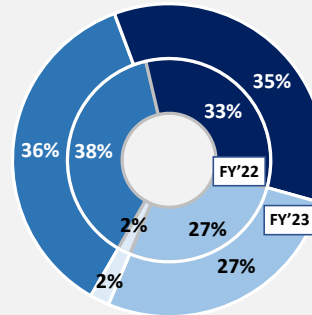
Commercial



Domestic

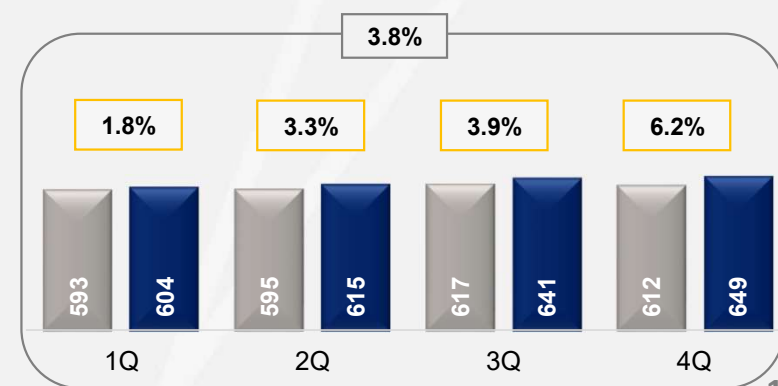


Sector Mix (%) FY'23 vs FY'22



Others*

*includes Agriculture, Mining & Public Lighting



As at FY2023, other regulatory adjustment of RM1,243.9 mil to be returned

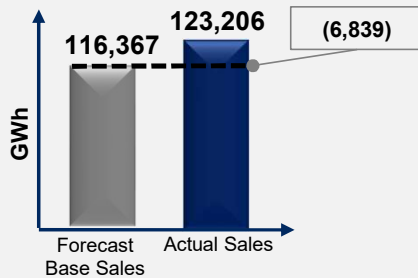
Components of Other Regulatory Adjustment

	1QFY23 RM mil	2QFY23 RM mil	3QFY23 RM mil	4QFY23 RM mil	FY2023 RM mil	FY2022 RM mil
Revenue Adjustment for Revenue Cap & Price Cap	(1.4)	(418.1)	(384.3)	(334.8)	1 (1,138.6)	(517.1)
Refund Related to Regulated Business	(71.1)	(67.8)	(63.7)	(87.8)	(290.4)	(273.4)
Recovery of 2022 Pahang State Charges	-	-	-	83.0	83.0	-
Recovery of 2021 ADD	-	-	-	73.8	73.8	-
Regulatory Adjustment for SESB*	(3.2)	(9.5)	30.8	10.3	28.4	12.4
TOTAL	(75.8)	(495.4)	(417.2)	(255.5)	(1,243.9)	(778.1)

*SESB has implemented IBR framework starting 1 January 2022

Revenue Cap

FY2023 Variation in Sales (in GWh)

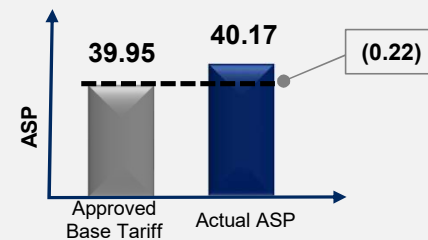


- The allowed annual revenue for revenue cap entities is based on 116.4TWh demand growth. Any excess/shortfall is adjusted through revenue adjustment mechanism.
- For FY2023, higher actual sales has led to amount to be returned via revenue adjustment mechanism.

Business Entities	Allowed Tariff (sen/kWh)	Variation in Sales (GWh)	Adjustment (RM mil)
Revenue Cap Entities	12.60	(6,839)	(860.4)

Price Cap

FY2023 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 FY2023, 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	123,206	0.22	(278.2)

Numbers manually computed will not match due to decimal variance

Lower Y-o-Y operating expenses due to lower fuel and power purchase cost

	4QFY23	3QFY23	Variance (4QFY23 vs 3QFY23)		FY2023	FY2022	Variance (FY2023 vs FY2022)	
	(RM mil)	(RM mil)	RM mil	%	(RM mil)	(RM mil)	RM mil	%
Non-TNB IPPs Costs	3,992.1	3,797.0	195.1	5.1	15,498.4	17,999.5	(2,501.1)	(13.9)
Capacity Payment	47.7	30.9	16.8	54.4	(12.8)	(328.5)	315.7	(96.1)
Energy Payment	3,944.4	3,766.1	178.3	4.7	15,511.2	18,328.0	(2,816.8)	(15.4)
TNB Fuel Costs	4,552.3	4,341.8	210.5	4.8	19,452.3	25,084.5	(5,632.2)	(22.5)
Fuel Costs	4,457.0	4,309.2	147.8	3.4	19,954.7	20,315.1	(360.4)	(1.8)
Fuel Price Adjustment	95.3	32.6	62.7	>100.0	(502.4)	4,769.4	(5,271.8)	>(100.0)
Total OPEX - Fuel and Power Purchase	8,544.4	8,138.8	405.6	5.0	34,950.7	43,084.0	(8,133.3)	(18.9)
Staff Costs	1,033.5	914.9	118.6	13.0	3,889.1	3,801.8	87.3	2.3
Repair & Maintenance	874.5	810.8	63.7	7.9	3,030.8	2,499.8	531.0	21.2
TNB General Expenses	735.8	435.4	300.4	69.0	1,950.2	1,873.5	76.7	4.1
Subs. General Expenses	775.8	605.2	170.6	28.2	2,284.6	1,950.5	334.1	17.1
Total OPEX - Non Fuel	3,419.6	2,766.3	653.3	23.6	11,154.7	10,125.6	1,029.1	10.2
Total Operating Expenses (without Depreciation)	11,964.0	10,905.1	1,058.9	9.7	46,105.4	53,209.6	(7,104.2)	(13.4)
Depreciation & Amortisation	2,897.3	2,771.1	126.2	4.6	11,265.7	11,402.5	(136.8)	(1.2)
Total Operating Expenses	14,861.3	13,676.2	1,185.1	8.7	57,371.1	64,612.1	(7,241.0)	(11.2)

1 Lower fuel and power purchase cost due to lower coal price (refer Fuel Cost slide).

2 FY2023 vs FY2022: Higher expenses driven by higher R&M activities.

Lower overall fuel costs due to lower coal price in FY2023

Table A – TNB & IPP Fuel Costs for Peninsular (RM mil)

Fuel Type	FY2023		FY2022		Variance	
	RM mil	%	RM mil	%	RM mil	%
Coal	20,388.3		28,941.8		(8,553.5)	(29.6)
Gas	10,868.1		10,592.2		276.0	2.6
Distillate	268.2		606.2		(338.0)	(55.8)
Oil	29.7		107.8		(78.1)	(72.4)
Total*	31,554.4		40,248.0		(8,693.6)	(21.6)

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

Table B – TNB & IPP Units Generated for Peninsular (GWh)

Fuel Type	FY2023		FY2022		Variance	
	GWh	Gen. Mix	GWh	Gen. Mix	GWh	%
Coal	76,306.2	57.0%	72,917.6	55.9%	3,388.6	4.6
Gas & LNG	49,028.8	36.7%	48,477.3	37.2%	551.5	1.1
Distillate	201.7	0.2%	680.5	0.5%	(478.8)	(70.4)
Oil	32.8	0.0%	2.8	0.0%	30.0	>100
Hydro	6,138.9	4.6%	6,751.2	5.2%	(612.3)	(9.1)
Solar	2,045.5	1.5%	1,559.1	1.2%	486.4	31.2
Total	133,753.9	100.0%	130,388.5	100.0%	3,365.3	2.6

Table C – Fuel Costs Related Data

Fuel statistics	FY2023	FY2022
Average Coal Price Delivered (USD/MT)(CIF)	134.0	212.5
Average Coal Price Delivered (RM/MT)(CIF)	609.7	935.0
Coal Consumption (mil MT)	33.1	31.9
	1QFY23	1QFY22
Gas Reference Market Price (RM/mmbtu)	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 62.1	Tier 2 : 36.9
	2QFY23	2QFY22
	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 51.7	Tier 2 : 38.2
	3QFY23	3QFY22
	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 44.9	Tier 2 : 43.4
	4QFY23	4QFY22
	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 42.7	Tier 2 : 51.2
Daily Average Piped Gas Volume (mmscfd)	878	886

Table D – Average Coal Price Delivered (USD/MT)

	FY2023		FY2022		Variance	
	USD	%	USD	%	USD	%
FOB	124.3		198.7		(74.4)	(37.4)
Freight	9.2		13.3		(4.1)	(30.5)
Others	0.4		0.5		(0.1)	(15.7)
CIF	134.0		212.5		(78.5)	(36.9)

Higher Q-o-Q fuel costs mainly due to higher generation from gas

Table A – TNB & IPP Fuel Costs for Peninsular (RM mil)

Fuel Type	4QFY23	3QFY23	2QFY23	1QFY23	Variance 4QFY23 vs 3QFY23	
					RM mil	%
Coal	4,625.8	4,532.2	5,640.9	5,589.3	93.6	2.1
Gas	2,926.2	2,505.3	2,495.9	2,940.7	420.9	16.8
Distillate	53.9	95.8	81.6	37.0	(41.9)	(43.7)
Oil	(0.2)	18.1	10.2	1.6	(18.3)	>(100.0)
Total*	7,605.8	7,151.4	8,228.6	8,568.6	454.4	6.4

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

Table B – TNB & IPP Units Generated for Peninsular (GWh)

Fuel Type	4QFY23		3QFY23		2QFY23		1QFY23		Variance 4QFY23 vs 3QFY23	
	GWh	Gen. Mix	GWh	Gen. Mix	GWh	Gen. Mix	GWh	Gen. Mix	GWh	%
Coal	18,935.1	55.6%	19,986.0	58.5%	20,470.6	60.1%	16,914.5	53.7%	(1,050.9)	(5.3)
Gas & LNG	13,022.4	38.2%	11,967.4	35.0%	11,597.7	34.0%	12,441.3	39.5%	1,055.0	8.8
Distillate	26.0	0.1%	76.2	0.2%	67.7	0.2%	31.8	0.1%	(50.2)	(65.8)
Oil	-	0.0%	32.6	0.1%	0.1	0.0%	0.1	0.0%	(32.6)	(100.0)
Hydro	1,645.1	4.8%	1,540.6	4.5%	1,361.8	4.0%	1,591.4	5.1%	104.6	6.8
Solar	426.6	1.3%	547.6	1.6%	566.5	1.7%	504.7	1.6%	(121.0)	(22.1)
Total	34,055.3	100.0%	34,150.4	100.0%	34,064.4	100.0%	31,483.8	100.0%	(95.1)	(0.3)

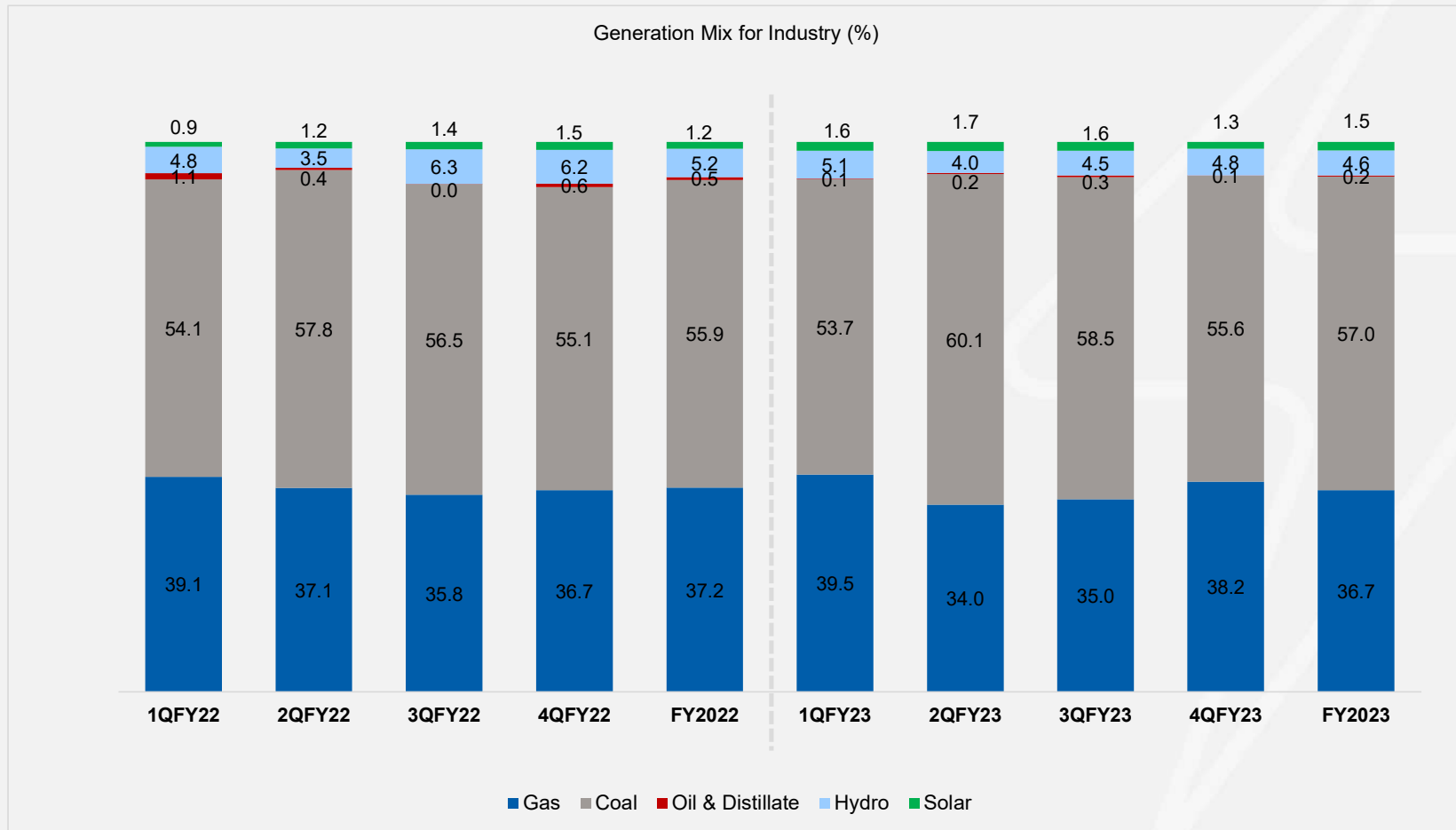
Table C – Fuel Costs Related Data

Fuel statistics	4QFY23	3QFY23	2QFY23	1QFY23
Average Coal Price Delivered (USD/MT)(CIF)	115.8	113.4	137.3	177.5
Average Coal Price Delivered (RM/MT)(CIF)	543.4	524.6	623.2	779.4
Coal Consumption (mil MT)	8.0	8.8	8.9	7.5
Gas Reference Market Price (RM/mmbtu)	4QFY23	3QFY23	2QFY23	1QFY23
	Tier 1 : 30.0	Tier 1 : 30.0	Tier 1 : 30.0	Tier 1 : 30.0
	Tier 2 : 42.7	Tier 2 : 44.9	Tier 2 : 51.7	Tier 2 : 62.1
Daily Average Piped Gas Volume (mmscfd)	934	831	840	907

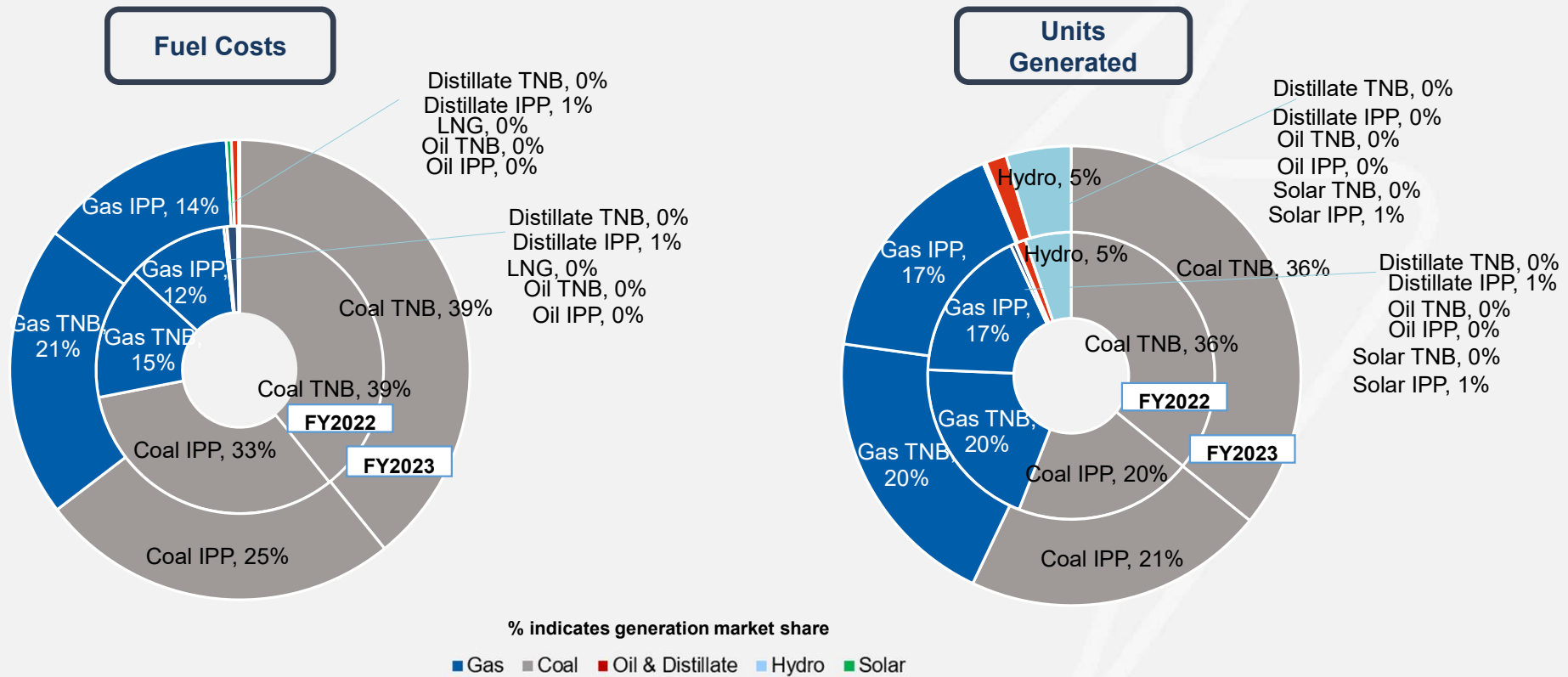
Table D – Average Coal Price Delivered (USD/MT)

	4QFY23	3QFY23	2QFY23	1QFY23	Variance 4QFY23 vs 3QFY23	
					USD	%
FOB	106.1	104.2	127.9	167.1	1.9	1.8
Freight	9.3	8.7	8.9	10.0	0.6	6.3
Others	0.4	0.4	0.5	0.4	(0.0)	(4.8)
CIF	115.8	113.4	137.3	177.5	2.4	2.1

Higher generation from coal in FY2023



Fuel Costs & Units Generated (TNB & IPPs – Peninsular) in FY2023



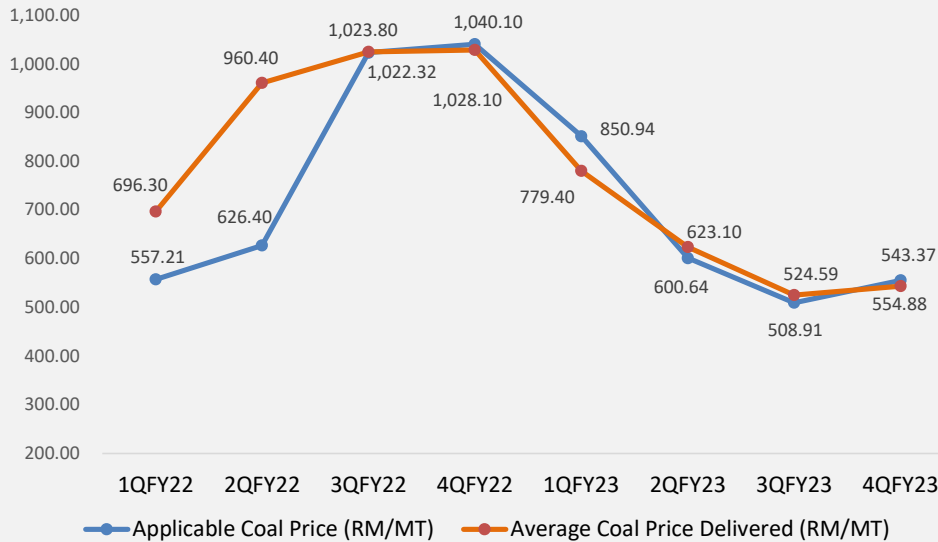
Note: Fuel Costs exclude solar and hydro

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

	1QFY23 (RM mil)	2QFY23 (RM mil)	3QFY23 (RM mil)	4QFY23 (RM mil)	FY2023 (RM mil)
Single Buyer Actual Generation Costs: (A)	11,260.0	11,022.4	10,238.5	10,357.3	42,878.2
<i>Actual Sales (GWh)</i>	29,113.2	31,153.3	31,448.1	31,491.4	123,206.0
<i>Single Buyer Tariff (RM/kWh)</i>	0.2620	0.2620	0.2620	0.2620	0.2620
Actual Gen Cost Recovered (RM mil) (B)	7,627.7	8,162.2	8,239.4	8,250.7	32,280.0
ICPT Surcharge / (Rebate) (C) (C = A – B)	3,632.3	2,860.2	1,999.1	2,106.6	10,598.2

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

Coal Price Trending



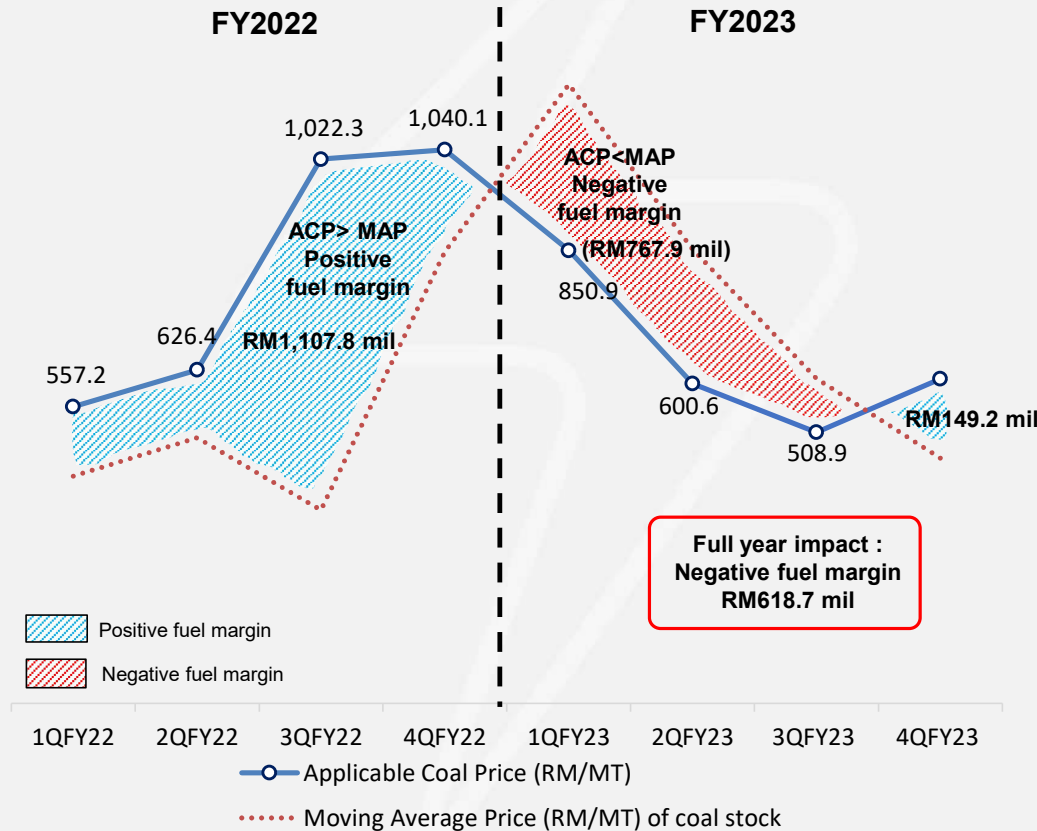
Coal Price & Applicable Coal Price (ACP) comparison

	1QFY22	2QFY22	3QFY22	4QFY22	1QFY23	2QFY23	3QFY23	4QFY23
Average Coal Price Delivered (RM/mmbtu) *	31.88	46.76	48.88	44.96	35.85	29.43	24.31	24.36
ACP (RM/mmbtu)	25.53	28.70	46.84	47.65	38.77	27.52	23.32	25.42

* Based on internal conversion

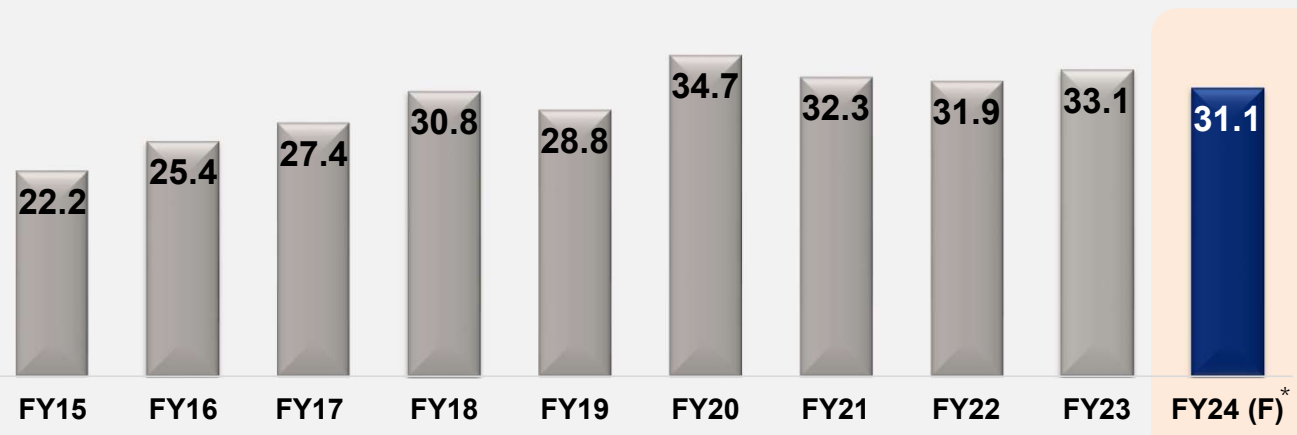
- **Fuel Price Adjustment (FPA)** is the difference between the Applicable Coal Price (ACP) billed to generators and the actual coal price paid to supplier (delivered) by TNBF. The difference is caused by higher or lower coal price or due to currency exchange.
- ACP is set by Energy Commission on a monthly basis starting from August 2022.
- In 4QFY23, the base ACP (RM25.42/mmbtu) used for billing the generators was higher than the coal price paid to supplier (RM24.36/mmbtu).

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



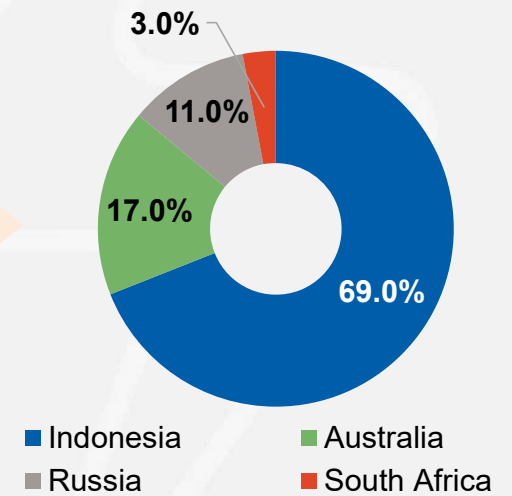
Industry coal requirement forecast for FY2024

Coal Consumption (mil MT)

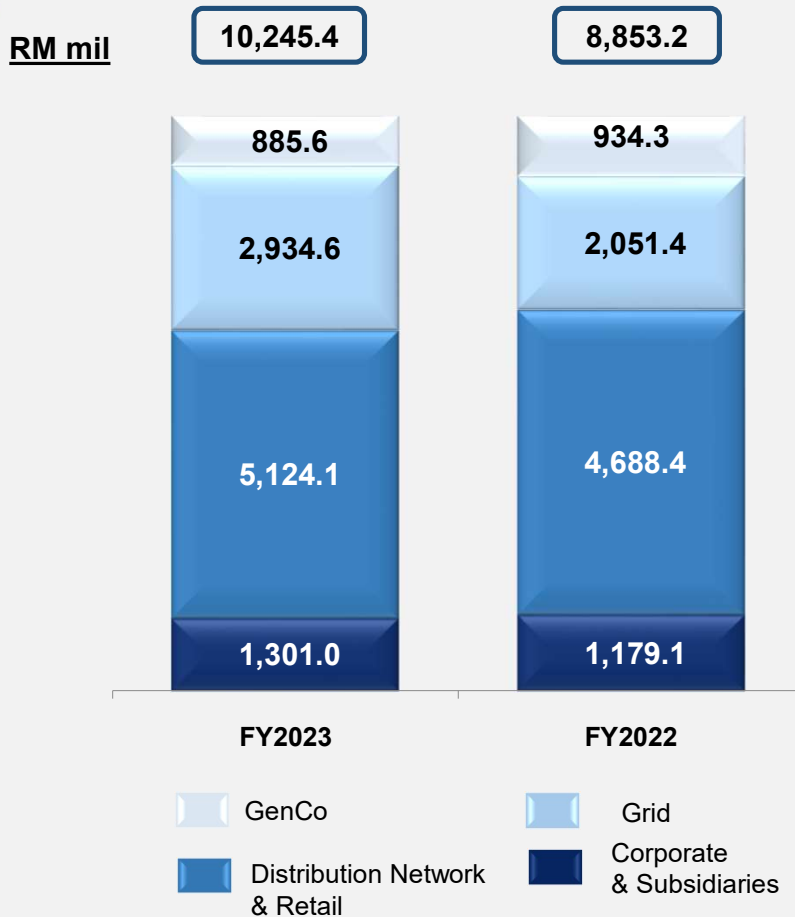


* Based on tonnage planned for delivery in FY2024

Source Country Mix



Group CAPEX



Regulated CAPEX and Regulated Asset Base (RAB)

FY	RP3 REGULATED ENTITIES CAPEX		
	IBR Approved RM mil	Actual YTD RM mil	Utilisation (%)
2023	6,973.1	8,022.2	>100%

Total RAB (RM mil)	
Actual As at 31 Dec 2023	Approved FY2023
64,914.6	64,768.7
Regulatory net returns: RM5,009.1 mil	

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

Gearing improved to 50.3% as at FY2023

	31 Dec 2023	31 Dec 2022
Total Debt (RM bil)	61.8	63.9
Net Debt* (RM bil)	40.8	50.8
Gearing (%)	50.3	51.2
Net Gearing (%)	33.2	40.7



4.75%

(FY'22: 4.63%)

**Effective Average
Cost of Borrowing****



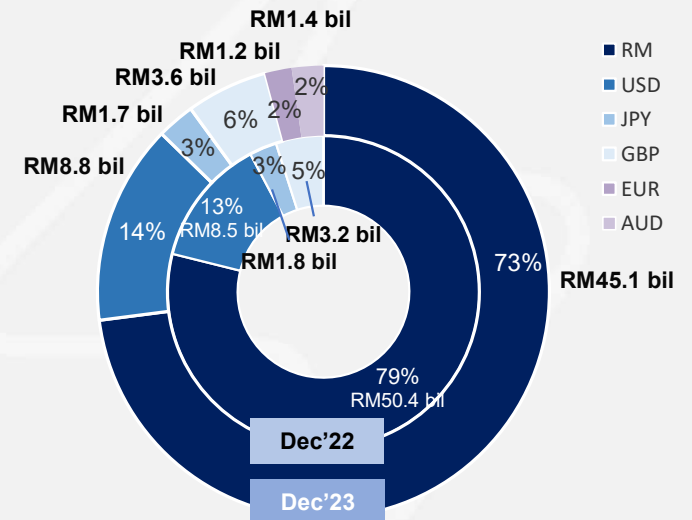
95:5


(FY'22: 99:1)

**Fixed : Floating
Final Exposure**

* Net Debt excludes deposits, bank and cash balances and investment in UTF
** Inclusive of interest rate swap

Loan Breakdown

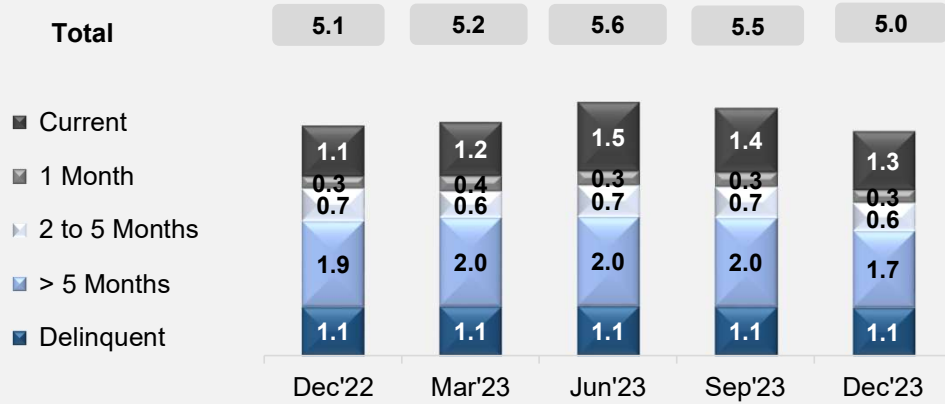


 Closing FOREX	31 Dec 2023	31 Dec 2022
USD/RM	4.593	4.412
100YEN/RM	3.246	3.326
GBP/RM	5.854	5.312
AUD/RM	3.141	-
EUR/RM	5.083	-

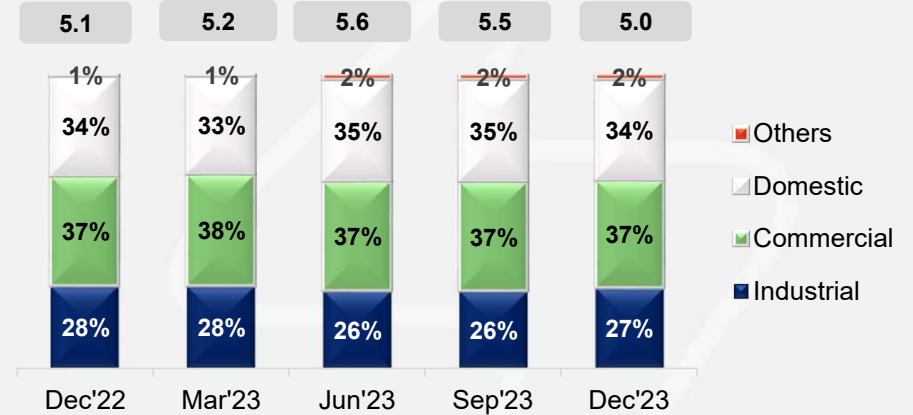
Note:
Debt consists of Principal + Accrued Interest

Trade receivables as at FY2023

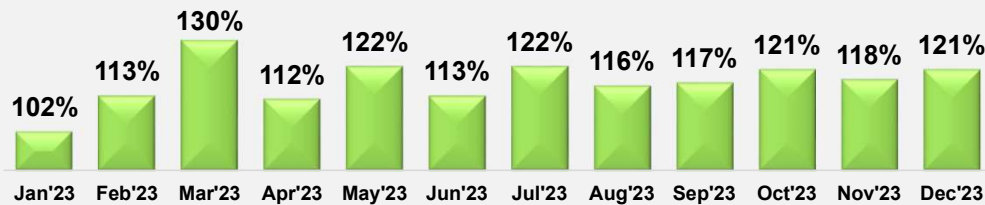
Trade Debtors Ageing (RM bil)



Trade Receivables By Sectors (RM bil)



Improvement in collection trend

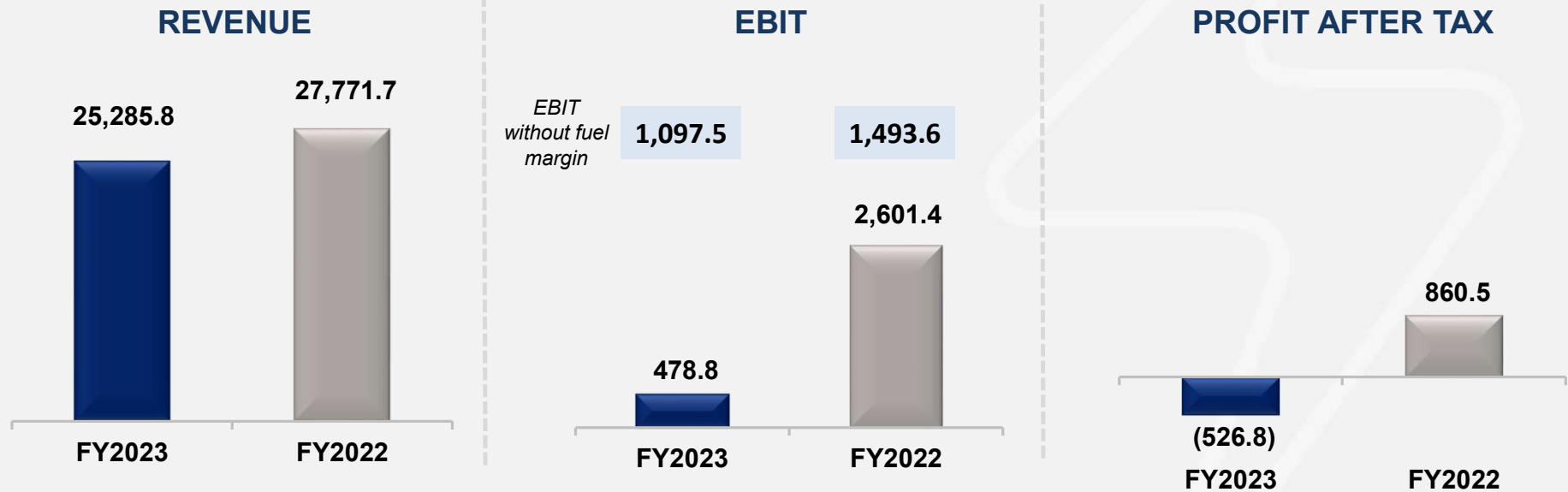


Cash flow

- We continuously monitor our cash flow position on a daily basis and remain prudent on our working capital management.

Domestic generation business performance

RM mil



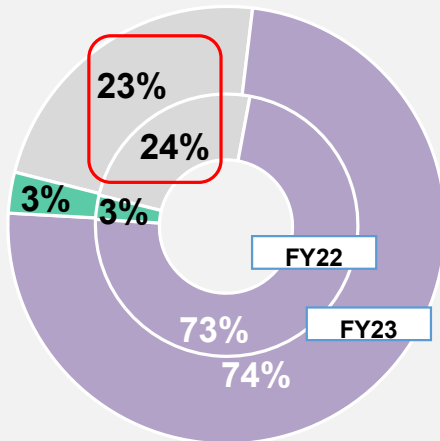
Lower EBIT and PAT mainly due to:

- Impact of negative fuel margin of RM618.7 mil; and
- CRF step down of certain power plants starting from 3QFY22 of RM437.7 mil.

Note: Includes generation related subsidiaries

Revenue from coal stabilised below 25%, in line with longer-term aspiration

Actual Group Revenue*



■ RE ■ Coal ■ Others **

* Total revenue includes ICPT

** Others include revenue from regulated business, subsidiaries and generation from gas

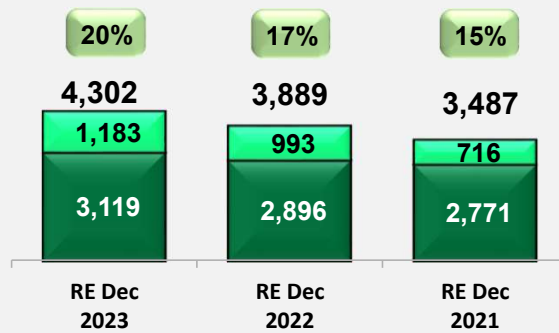


**Long-term aspiration:
To be coal-free by 2050**

- 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 Journey Renewable capacity (MW)

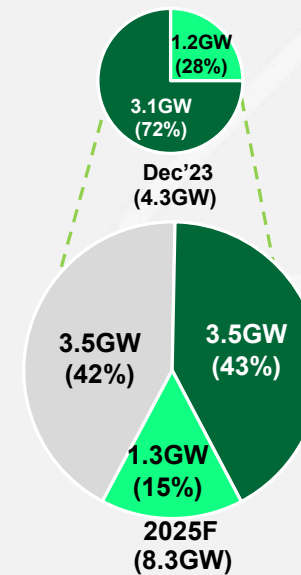


- % RE in TNB's portfolio
- International
- Domestic

Note:

- RE capacity includes large hydro
- Gross RE Capacity
- Solar capacity is quoted in MWp starting from 2QFY23

TNB Group RE Capacity






Achieved
> 50% of target capacity
of 8.3GW by 2025

- Domestic
- International
- Potential Growth

International Investments: Renewable Energy (RE)

TNB International Sdn Bhd (TNBI)

Existing	Acquired in Dec'23	Acquired in Sep'23
United Kingdom	Republic of Ireland	Australia
		
531MW	276MW	121MW

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

TNBI is a platform focused on capturing renewable energy opportunities, attracting a broader range of financiers and partnerships and showing TNB's commitment to ESG.

An agile organisation spearheading TNB's Energy Transition initiative via contribution towards supporting key milestones in TNB's Net Zero 2050 journey.

Technology Focus:



Solar farms



Onshore wind



Offshore wind

International Investments: Renewable Energy (RE)

TNB INTERNATIONAL SDN BHD

Financial Performance

- Full year contribution from newly acquired onshore wind portfolio in the UK (97.3MW) in April 2022.
- Higher tariff via various schemes (ROC, FiT & locked-in PPA prices) in 2023 within Vantage portfolio.

Outlook

- In the UK, we expect additional 102MWp solar plant currently under development to achieve the Commercial Operation Date (“COD”) in 2024. The solar plant, under a 15-year CfD subsidy scheme, is expected to provide consistent long-term returns.
- In December 2023, we have also successfully expanded our footprint to Republic of Ireland, via acquisition of 276MWp operational solar plant.
- For Australia, the investment thesis is focused on market expansion through a strategic platform acquisition which includes operational solar assets of 120.5MWp and significant development pipeline of early-stage projects in solar, wind and BESS.

International Investments: Non-Core Assets



SHUAIBAH

Financial Performance

Lower Y-o-Y EBITDA FY'23 RM647.1 mil (SAR535.1 mil) vs FY'22 RM920.0 mil (SAR784.1 mil) due to lower revenue as a result of reclassification from operating lease to finance lease due to SWEC's project restructuring after the signing of the amended PWPA on 20 June 2022.

Outlook:

Shuaibah remains largely unimpacted by the Russia-Ukraine war as the Power and Water Purchase Agreement (PWPA) has been contracted for 20 years with the Saudi Government as the offtaker. Shuaibah's performance is expected to remain positive with a consistent dividend distribution to shareholders.

Financial Performance

Lower Y-o-Y EBITDA FY'23 RM613.47 mil (TRY 2,826.6 mil) vs FY'22 RM878.03 mil (TRY2,889.5 mil) is mainly contributed by lower captured spark spread in FY'23, low industrial demand, and low hydrology level.

Outlook:

The annual inflation rate in Turkey increased to 64.8% Y-o-Y from 61.98% in November 2023. The Central Bank of Turkey has hiked interest rates 7 times this year to 42.5% (May: 8.5%; June: 15.0%; July: 17.5%; Aug: 25%; Sept 30%; Oct 35%; Nov 40%) to control prices. Further tightening is expected to bring inflation under control. No impact to GEAS' debt portfolio as Lira loan debt at ICAN is a fixed rate loan at 10%. Turkish Lira continues to remain depressed at 29.52 TRY/USD (Nov: 28.85), as the re-elected government continues towards a more conventional economic policy approach with the central bank's decision to tighten monetary policy. Outlook for the short term, the rate hike and tighter monetary policy may increase borrowing costs and reduce credit access for businesses and consumers. Furthermore, Lira are forecasted to depreciates further to TRY/USD 32.64 and inflation to 70% levels in 2024. Outlook for the longer term, the more conventional economic measures aim to stabilise the economy, curb inflation, restore market confidence, and promote sustainable economic growth.

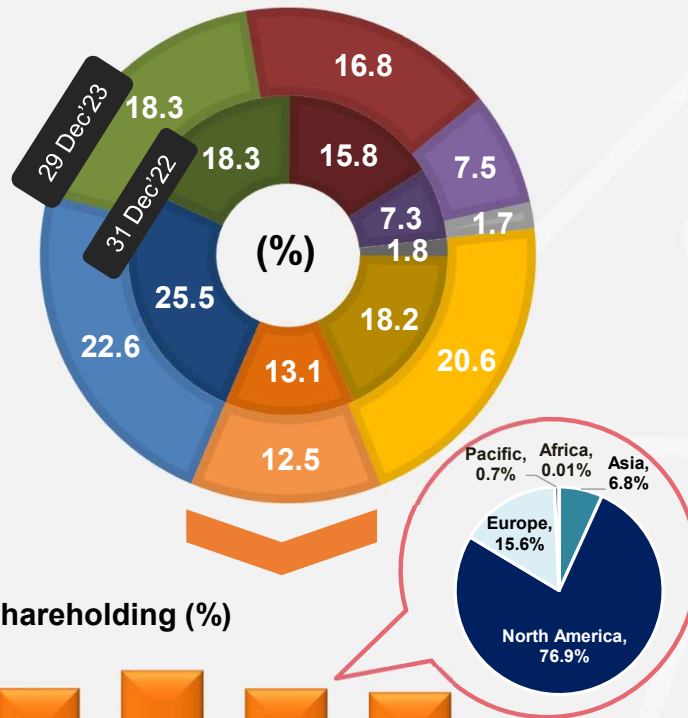


GMR Energy Limited
(GEL)

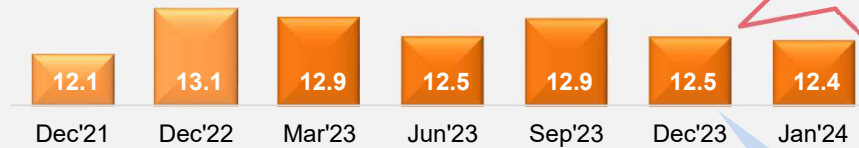
On 17 November 2023, TNB has entered into a Settlement Agreement for the divestment of 29.14% stake in GEL. The transaction was completed on 22 November 2023 and GEL ceased as an associate of TNB.

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: 12.33%
Individual: 0.14%

Source: Share Registrar, Bloomberg and IR Internal Analysis

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Thank you

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