

4Q FY2022 Analysts Briefing



28 February 2023



Key Highlights: Delivering strong performance with sustainable dividend to shareholders; effective capital management amidst challenging times

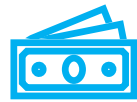
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FY2022 Performance

- a) Strong financial performance
- b) Solid technical operations contributed by generation performance and world-class network standard

2



Delivering Sustainable Dividend

Dividend per share of 46 sen includes:

- Interim : 20 sen
- Final : 26 sen

Dividend yield of 4.8%
(Share price : RM9.65, 22 Feb'23)

3



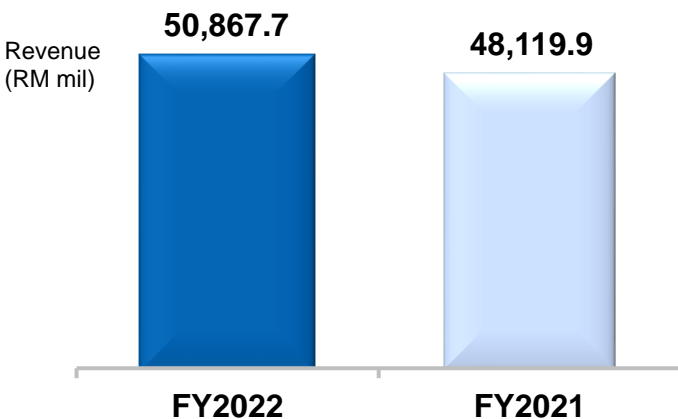
Effective Capital Management

- a) Full ICPT cost recovery : RM 5.8 bil
(Jul – Dec 2022)
- b) Successful ICPT cost recovery arrangement
(1HFY23) : RM 16.2 bil
- c) Improved collection lowers trade receivable risk

Strong FY2022 financial performance (EBITDA) supported by higher Peninsular electricity demand at 6.0% year-on-year

REVENUE

+5.7%



- Improved Y-o-Y electricity demand (+5.2% year-on-year), mainly in industrial and commercial sector.
- Peninsular Malaysia electricity demand grew by 6.0% year-on-year.

EBITDA

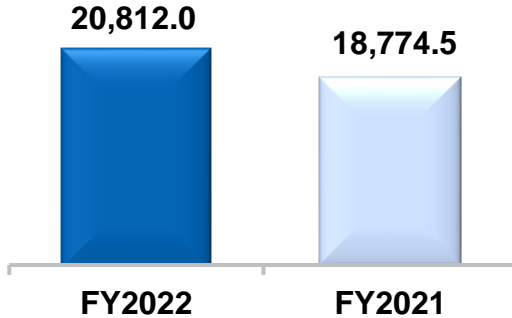
EBITDA margin

40.9%

39.0%

EBITDA (RM mil)

+10.9%

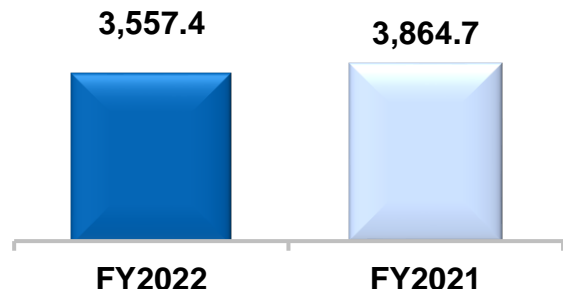


- Driven by higher Group electricity revenue and lower Allowance for Doubtful Debts, contributed by the improvement in collections (ADD FY2022: RM126.9 mil, FY2021: RM714.5 mil).
- EBITDA margin has improved to 40.9% from 39.0% as compared to the same period last year.

PAT

PAT (RM mil)

(8.0%)



- PAT impacted by higher taxes due to deferred tax movement of RM520.7 mil and Prosperity Tax of RM340.8 mil.

Group earnings supported by; (i) Improved generation business
(ii) World-class network performance



Equivalent Plant Availability Factor, EAF
(Generation)
%

Year	Achievement	Target
2021	83.0%	86.1%
2022	83.2%	82.8%

2023 Target: 81.8%



EAF performance secured **generation assets' capacity revenue**



System Minutes
(Transmission)
Minutes

Year	Achievement	Internal threshold
2021	0.1	2.0
2022	0.2	2.0

2023 Internal Threshold: 2.0



World class network performance
safeguarded our
regulated business earnings



SAIDI
(Distribution Network)
Minutes

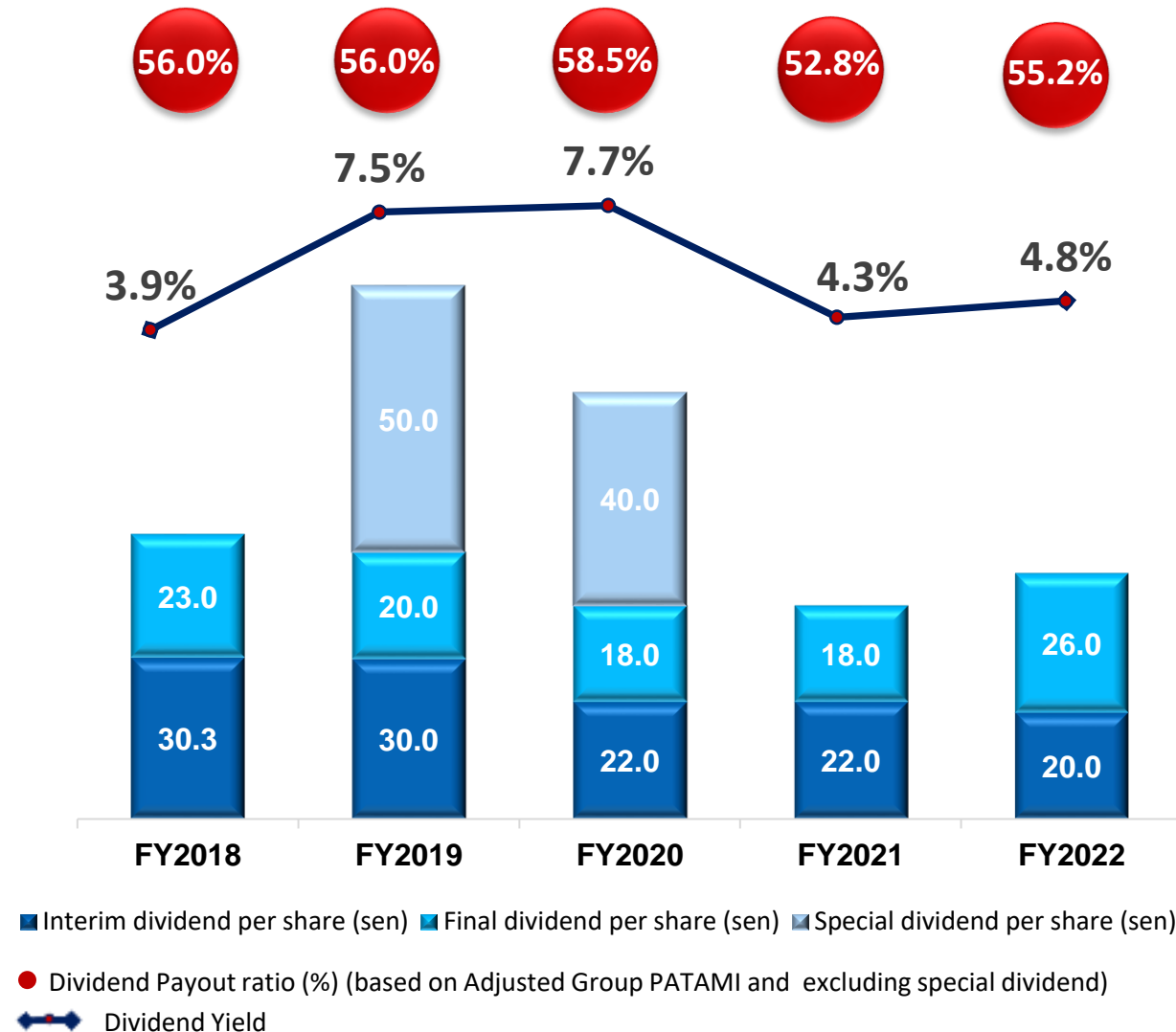
Year	Achievement	Internal threshold
2021	45.3	55.0
2022	45.1	55.0

2023 Internal Threshold: 53.0

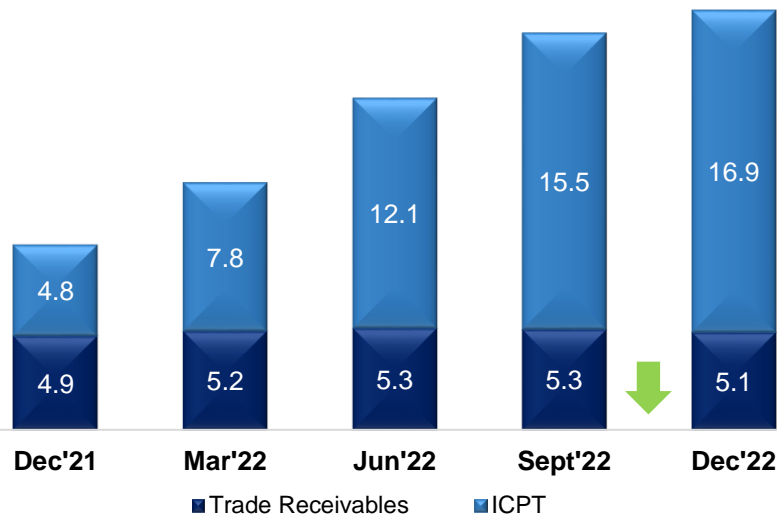
We strive for sustainable dividends to ensure long term value for the shareholders, proven by our historical dividend payout record

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



Receivables (RM bil)



- Amid the high fuel cost, ICPT receivables remained relatively high due to the timing mismatch between the upfront payment made by TNB and recovery of the surcharges via the ICPT framework.
- Going forward, pressure on ICPT receivables is expected to ease given current fuel price trends and Government upholding the IBR framework.
- Coal price has moderated from 345.93 USD/MT* in Jun'22 to 311.23 USD/MT* in Jan'23.

* Source: globalCOAL Newcastle index



Receivables

i

ICPT Cost Recovery
(1HFY23)

RM16.2 bil

TNB will fully recover the net imbalance cost via:

- The ICPT surcharge passed-through to non-domestic customers (at 3.70sen/kWh and 20.0 sen/kWh).
- Cost recovery from the Government of **RM10.4 bil.**
(Received RM4.0 bil for January 2023 and balance to be paid in five equal instalments)

ii

Improvement in
Trade Receivables
in Q4FY22

RM200 mil

- Improvement in average collection period (ACP) and ageing profile.


iii

ICPT Outlook

~RM12.0 bil


- ICPT to be recovered for 2HFY23 is forecasted to be around RM12.0 bil given current fuel price trends.
- ICPT mechanism is intact & TNB remains neutral.

2023 promises to be another exciting year as we pursue our Net Zero 2050 aspirations



Electricity Demand

Latest demand growth is 1.7%
(120,933 GWh)*
(IBR reference: 116,367 GWh)




Group CAPEX Forecast

Total Group CAPEX :
RM12.8 bil

- ❖ Regulated capex* : **RM7.0 bil**
- ❖ Others** : **RM5.8 bil**

* Includes ET Related capex of RM1.0 bil
** Major projects, subsidiaries and corporate



Working Capital Management

Proactive working capital management in current high fuel prices environment



Delivering Value to our Shareholders



We will continue to honour our dividend policy of 30% - 60% dividend payout ratio, based on adjusted PATAMI

Sustainable Growth



Ensuring business growth as we progress towards being a leading provider of sustainable energy solutions

* Source: Planning and Implementation Committee for Electricity Supply and Tariff

Key Highlights: Our commitment to sustainability has intensified in 2022, resulting in exciting developments across our businesses

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Sustainable Growth

Committed in delivering value to shareholders while aspiring to be a **leading provider of sustainable energy solutions** through progress in our strategic pillars:

- a) Future Generation Sources
- b) Grid of the Future
- c) Winning the Customer

GenCo

2022 Key Achievements

Nenggiri Hydro Project
300MW
COD: Q2 2027

- Construction works commenced in March 2022.
- Progress as of Dec 2022; 10.5%

Sungai Perak Life Extension Programme (LEP)
650.75MW
COD: Q3 2025

- Completed EPCC Proposal

Pipeline Projects

Paka Repowering
1,400MW
COD: 2030

- Ongoing discussion between TNB GenCo and related party.

New Combine Cycle Power Plant (CCGT), Kapar
2,100MW
COD: 2031

- Discussion with consultant on feasibility study

Electricity Export to Singapore
100MW
COD: 2023


- Export 100MW of electricity to Singapore, potential revenue contribution ~RM500 mil


2023 Outlook


- Nenggiri Hydro:** Expected to COD in Q2 2027
- Sungai Perak LEP:** Finalised new PPA
- Paka Repowering:** Establishment of feasibility study, as per Energy Commission's scope.
- New CCGT, Kapar:** Collaborative Agreement with partner
- Continue focus on plant performance enhancement programmes at 5 key domestic plants, i.e. JMKG, JEP, SPG, TJPS, TNBP


New Energy Division (NED)

2022 Key Achievements


102MW solar farms in the United Kingdom (UK) and an option to develop **65MW co-located Battery Energy Storage Systems (BESS)**



Acquired **97.3MW Onshore Wind** Portfolio in the UK



Completed **£72 mil refinance package** for TNB's offshore wind investment in Blyth Offshore



Commencement of LSS4 project, TNB Bukit Selambau 2 of **50MW**

Pipeline Projects

Pipeline totaling **~4.4GW** across focused markets to support our growth targets.





Large-scale Solar PV


Onshore wind


Offshore wind

2023 Outlook

- Expand focus beyond ASEAN into APAC (South Korea, Taiwan and Australia)

- Growing UK/EU renewables portfolio
- To pursue opportunities in the pipeline of 4.4GW
- LSS4 expected COD in Dec 2023

Green Technology	Joint Study	Current Updates & Outlook
Hydrogen	<p>TNB & Petronas</p> <p><i>Source: TPGSB</i></p>	<ul style="list-style-type: none"> TPGSB is currently working under Joint Working Committee with PETRONAS on Green Hydrogen under the corporate MOU signed on 19 August 2022. Finalising feasibility study agreement to explore on supply of green electrons and work across low carbon value chain.
Ammonia	<p>Feasibility Study on Co-Firing Ammonia in Coal Fired Boiler</p> <p>TNBR/TPGSB - IHI Corp Japan/IPSM - PETRONAS</p> <p><i>Source: TPGSB</i></p>	<ul style="list-style-type: none"> Successfully conducted ammonia co-combustion test as part of a joint initiative to decarbonise the country's power sector. To determine the optimal method on pollutants reduction in the future.
	<p>Feasibility Study on Co-Firing of Biomass & Ammonia in Jimah East Power (JEP)</p> <p>TPGSB - JEP - Mitsui - Chugoku</p> <p><i>Source: TPGSB</i></p>	<ul style="list-style-type: none"> Phase 1 of the feasibility study has been completed and the report has been submitted to Ministry of Economy, Trade and Industry (METI) of Japan. Currently embarking on feasibility study of Phase 2, i.e. small scale ammonia, biomass & coal co-firing.
Carbon Capture, Usage & Storage (CCUS)	<p>TNB & Petronas</p> <p><i>Source: TNBR</i></p>	<ul style="list-style-type: none"> Embarked on the carbon capture initiative to assess the technologies and business viability of CCS as a key player in CO2 emissions reduction. To evaluate the integrated Onshore/Offshore Carbon Dioxide (CO2) facilities, which the outcome will be an input for TNB carbon management strategy.

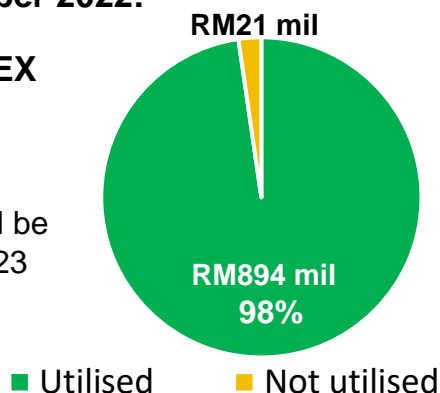
RP3
Approved
Capex

13% (RM2.54 bil)
Supporting the Energy Transition
(ET) and RAB growth

Progress as of December 2022:

2022 ET related CAPEX
(Total: RM915 mil)

Underutilised CAPEX will be
brought forward to FY2023



Key Projects



Smart Meter Installation progress:
>100% Total 2.4 mil units installed to date



LED Relamping Installation progress:
100% Achieved 50,000 units installation in 2022



Volt-Var Optimisation (VVO) progress:
100% Achieved 140 MVAR

Towards becoming a
Smart Utility by **2025**

85% TNB Smart Grid Index (SGI)
target by 2025

2022 SGI: 71.4%

2021 SGI: 67.9%

Regional Interconnection

2022 Key Achievement

Malaysia – Singapore Interconnection

- Completed the upgrading of the electricity interconnector between both countries in October 2022.
- The interconnector able to accommodate bidirectional electricity flows of around 100MW between Malaysia and Singapore.

2023 Outlook

TNB Collaboration with PLN and EGAT

- Collaborate and explore opportunities on interconnection as well as other Energy Transition initiatives between countries.
- To conduct feasibility studies to enhance the interconnection capacity between respective countries.

PLN



EGAT



Regulated Business

2023 Outlook

Key Projects Target Installation

- Smart Meter: 0.6 mil units
- VVO: Additional 140 MVAR

Green Energy Islands

- RE (Solar, BESS & Energy Management System) Phase 2 Award at both Pulau Perhentian and Pulau Redang

Establish partnership with prominent industry leaders to develop extensive electric vehicle ecosystem for the nation

Electric Vehicle Infrastructure Development

Electron Charger Hub

Launched 2 hubs for pilot testing; first highway equipped with Direct Current Fast Charger (DCFC) along north-south highway (R&R Ayer Keroh and Paka).



TNB to invest ~RM22 million in 2023 to spur the development of EV ecosystem

2023 Outlook

- Deployment of 40 EV charging stations along Peninsular highway roads and trunk roads. To date, TNB has identified 18 charging stations along highways.
- Collaborate with local petrol stations on EV charging points at Peninsular trunk roads
- Deployment of EV charging stations within SP Setia townships
- To build the nation's first solar-powered electron stations for electric vehicle (EV) in Klang Valley (Gamuda Cove and Gamuda Garden)

TNB signed six Memorandums of Understanding (MoUs) with various industries to proliferate EVs in Malaysia



Electric Vehicle Training Hub



ILSAS Electric Vehicle (EV) Training Hub

In January 2023, the NRECC Minister launched ILSAS EV Training Hub: provides reskilling training for the EV industry, focusing on fundamental knowledge covering basic battery storage and EV technology.

ILSAS is equipped with:

- Simulator for the AC and DC charging system
- EV Battery Management System simulator
- EV Air-condition system and
- EV Battery technology



Offer trainings certified by International bodies and develop more related courses on EV in order to support Malaysia EV Industry.

2023 Outlook



ILSAS expected to train ~400 participants in 2023 for EV and Battery Storage training starting in 2QFY2023.



Energy Efficiency

100% increase to ~250k users of Energy Budget feature in myTNB:



8,071 tonnes of CO2 avoided



Potential **savings of ~11GWh** in household energy consumption

GSPARX

2022 Key Achievements



Partnership with Smart Modular Technology

- GSPARX will install over 1MWp solar rooftop capacity with the combined solution of Green Electricity Tariff at Smart Company



Collaboration with FELDA

- GSPARX will install solar rooftop in 14 premises owned by FELDA across Peninsular Malaysia with capacity totaling 1.6MWp



Universiti Malaysia Pahang (UMP)

- TNB has secured a project with UMP Pekan campus. This marks GSPARX third public university collaboration



Collaboration with McDonald's – Gerbang Alaf

- TNB will collaborate with McDonald's – Gerbang Alaf to install 1.2MWp across 39 sites throughout Peninsular Malaysia

GSPARX aims to secure ~145MWp for 2023

Targeted Market Segments



Residential

- Klang Valley customers



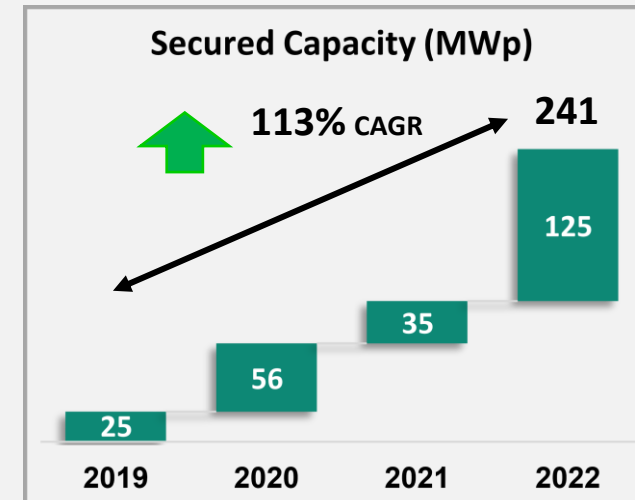
Industrial

- Companies exporting goods and products overseas who require carbon credits
- Medium voltage customers impacted by ICPT



Government

- Government buildings



Rapid growth since inception:

1774

Projects secured

241

MWp capacity

RM70 mil

2023 Expected Revenue

Appendix

4Q FY2022

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

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

RM mil		FY2022	FY2021	Variance RM mil	%
Revenue	1	50,867.7	48,119.9	2,747.8	5.7
Imbalance Cost Pass Through (ICPT)		22,315.3	4,509.6	17,805.7	>100.0
Operating expenses (without depreciation)	2	(53,209.6)	(33,832.9)	(19,376.7)	57.3
Net loss on impairment of financial instruments	3	(101.4)	(940.2)	838.8	(89.2)
Other operating income		940.0	918.1	21.9	2.4
EBITDA		20,812.0	18,774.5	2,037.5	10.9
EBITDA Margin (%)		40.9%	39.0%	-	1.9
Depreciation	4	(11,402.5)	(10,691.5)	(711.0)	6.7
EBIT		9,409.5	8,083.0	1,326.5	16.4
Foreign exchange:					
- Transaction gain / (loss)		26.0	(101.1)	127.1	>(100.0)
- Translation (loss)/gain	5	(249.5)	(67.4)	(182.1)	>100.0
Share of results of joint ventures		21.0	29.3	(8.3)	(28.3)
Share of results of associates		76.6	164.2	(87.6)	(53.3)
Profit before finance cost		9,283.6	8,108.0	1,175.6	14.5
Fair value changes of financial instrument		130.7	201.8	(71.1)	(35.2)
Finance income		277.7	221.8	55.9	25.2
Finance cost	4	(4,343.4)	(3,793.3)	(550.1)	14.5
Profit from ordinary activities before taxation		5,348.6	4,738.3	610.3	12.9
Taxation and Zakat:					
- Company and subsidiaries	6	(1,433.0)	(1,036.1)	(396.9)	38.3
- Deferred taxation		(358.2)	162.5	(520.7)	>(100.0)
Profit for the period		3,557.4	3,864.7	(307.3)	(8.0)
Attributable to:					
- Owners of the Company		3,463.3	3,661.8	(198.5)	(5.4)
- Non-controlling interests		94.1	202.9	(108.8)	(53.6)
Profit for the period		3,557.4	3,864.7	(307.3)	(8.0)

Y-o-Y analysis:

- Higher revenue mainly due to Group's sales of electricity increased by 6.7%, driven by sales demand growth of 5.2%.
- Higher operating expenses is mainly driven by higher generation cost.
- Includes lower Allowance for Doubtful Debts (ADD) of RM126.9 mil (FY2021 RM714.5 mil).
- Higher depreciation and finance cost mainly due to MFRS16 adjustment for EDRA Energy.
- Higher loss in forex translation mainly due to the weakening of MYR against USD.
- Higher tax expense due to Prosperity Tax of RM340.8 mil in FY2022 and deferred tax liability resulted from higher accrued revenue and capital allowance.

Quarter vs Previous Quarter (4QFY22 vs 3QFY22) analysis

RM mil		4QFY22	3QFY22	Variance	
				RM mil	%
Revenue	1	12,915.1	12,961.8	(46.7)	(0.4)
Imbalance Cost Pass Through (ICPT)		6,397.7	6,109.6	288.1	4.7
Operating expenses (without depreciation)	2	(15,105.1)	(13,533.1)	(1,572.0)	11.6
Net loss on impairment of financial instruments		26.9	(48.1)	75.0	>(100.0)
Other operating income		263.2	247.1	16.1	6.5
EBITDA		4,497.8	5,737.3	(1,239.5)	(21.6)
EBITDA Margin (%)		34.8%	44.3%		(9.4)
Depreciation		(2,997.8)	(2,825.7)	(172.1)	6.1
EBIT		1,500.0	2,911.6	(1,411.6)	(48.5)
Foreign exchange:					
- Transaction gain / (loss)		2.0	13.1	(11.1)	(84.7)
- Translation gain/(loss)	3	358.8	(413.8)	772.6	>(100.0)
Share of results of joint ventures		2.0	8.2	(6.2)	(75.6)
Share of results of associates		(6.9)	23.2	(30.1)	>(100.0)
Profit before finance cost		1,855.9	2,542.3	(686.4)	(27.0)
Fair value changes of financial instrument		5.6	66.4	(60.8)	>(100.0)
Finance income		97.8	57.4	40.4	70.4
Finance cost		(1,142.6)	(1,131.9)	(10.7)	0.9
Profit from ordinary activities before taxation		816.7	1,534.2	(717.5)	(46.8)
Taxation and Zakat:					
- Company and subsidiaries	4	228.1	(515.3)	743.4	>(100.0)
- Deferred taxation		(236.9)	(46.2)	(190.7)	>100.0
Profit for the period		807.9	972.7	(164.8)	(16.9)
Attributable to:					
- Owners of the Company		809.1	888.9	(79.8)	(9.0)
- Non-controlling interests		(1.2)	83.8	(85.0)	>(100.0)
Profit for the period		807.9	972.7	(164.8)	(16.9)

Quarter vs Previous Quarter analysis:

- 1 Lower revenue mainly due to lower TNB sales of electricity from all sectors.
- 2 Higher OPEX mainly due to higher generation cost driven by higher fuel prices (average coal price delivered RM1,028.1/MT vs RM1,023.8/MT).
- 3 Forex translation gain from the strengthening of MYR against USD.
- 4 Lower current tax resulted from higher capital allowance and reinvestment allowance claim.

Y-o-Y normalised EBITDA & PAT for FY2022

EBITDA Components	FY2022 RM mil	FY2021 RM mil
Reported EBITDA	20,812.0	18,774.5
Impairment	-	276.4
Additional ADD for TNB*	69.8	514.2
MFRS16 impact	1 (4,440.1)	(4,137.6)
Normalised EBITDA	2 16,441.7	15,427.5

PAT Components	FY2022 RM mil	FY2021 RM mil
Reported PAT	3,557.4	3,864.7
Impairment	-	276.4
Additional ADD for TNB*	69.8	514.2
Forex Translation Loss	249.5	67.4
MFRS16 impact	1 920.3	620.8
Normalised PAT	3 4,797.0	5,343.5

*ADD FY22: RM126.9mil, approved ADD FY22: RM 57.1mil
 ADD FY21: RM714.5 mil, approved ADD FY21: RM200.3 mil

- 1 Please refer MFRS16 impact slide for details.
- 2 Stronger normalised EBITDA in FY2022 (refer Appendix Slide 2 for details).
- 3 Lower normalised PAT in FY2022 due to higher tax expense from Prosperity Tax of RM340.8 mil and higher interest on borrowings of RM280.7mil.

Higher Y-o-Y sales of electricity and contribution from subsidiaries, driven by stronger economic growth

	4QFY22		3QFY22		Variance (4QFY22 vs 3QFY22)		FY2022		FY2021		Variance (FY2022 vs FY2021)	
UNITS SOLD	GWh		GWh		GWh	%	GWh		GWh		GWh	%
Sales of Electricity (GWh)												
- TNB	29,415.1		30,347.5		1	(932.4)	(3.1)	118,881.6	112,106.0	1	6,775.6	6.0
- SESB	1,433.0		1,472.3			(39.3)	(2.7)	5,734.8	5,373.5		361.3	6.7
- EGAT (Export)	0.2		-			0.2	-	0.5	1.3		(0.8)	(61.5)
- LPL	-		-			-	-	-	1,150.3	2	(1,150.3)	(100.0)
- TNBI (UK Wind)	23.5		14.3			9.2	64.3	82.3	72.5		9.8	13.5
- TNBI (Vortex)	38.8		126.7		3	(87.9)	(69.4)	365.9	337.1	3	28.8	8.5
- TNBI (CEI UK LTD)	74.0		42.2		4	31.8	75.4	169.1	-	4	169.1	100.0
Total Units Sold (GWh)	30,984.6		32,003.0			(1,018.4)	(3.2)	125,234.2	119,040.7		6,193.5	5.2
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	11,735.3	39.83	12,194.6	40.07	(459.3)	(3.8)	47,428.1	40.06	44,653.6	39.94	2,774.5	6.2
- Sales Discount	-		-		-	-	-		(540.9)		540.9	(100.0)
- SESB	492.3	34.37	504.5	34.26	(12.2)	(2.4)	1,962.3	34.31	1,844.0	34.35	118.3	6.4
- Sales Discount	-		-		-	-	-		(0.7)		0.7	(100.0)
- Accrued Revenue	(20.4)		(34.7)		14.3	(41.2)	16.9		120.5		(103.6)	(86.0)
- EGAT (Export)	0.2	-	0.1	-	0.1	(100.0)	0.6	-	0.4	-	0.2	50.0
- LPL	-		-		-	-	-		368.9	32.07	(368.9)	(100.0)
- TNBI (UK Wind)	34.4	146.38	21.1	147.55	13.3	>100.0	118.0	143.38	103.6	142.90	14.4	13.9
- TNBI (Vortex)	26.0	67.01	97.1	76.64	(71.1)	(73.2)	280.1	76.55	264.8	78.55	15.3	5.8
- TNBI (CEI UK LTD)	70.6	95.41	31.4	74.41	39.2	124.8	139.6	82.55	-	-	139.6	100.0
Sales of Electricity	12,338.4	39.82	12,814.1	40.04	(475.7)	(3.7)	49,945.6	39.88	46,814.2	39.33	3,131.4	6.7
Other Regulatory Adjustment	(98.7)		(228.0)		5	129.3	(56.7)	(778.1)	(551.9)	5	(226.2)	41.0
Relief Package from Government	-		-		-	-	0.6		474.1		(473.5)	(99.9)
SESB Tariff Support Subsidy	68.7		67.6		1.1	1.6	268.4		368.2		(99.8)	(27.1)
Fuel Subsidy - SESB	265.8		-		265.8	100.0	265.8		-		265.8	100.0
Others	-		-		-	-	-		(56.1)		56.1	(100.0)
Total Sales of Electricity	12,574.2		12,653.7		(79.5)	(0.6)	49,702.3		47,048.5		2,653.8	5.6
Goods & Services	219.5		201.3		18.2	9.0	734.0		708.9		25.1	3.5
Construction contracts	49.2		38.6		10.6	27.5	155.1		93.4		61.7	66.1
Customers' Contribution	72.2		68.2		4.0	5.9	276.3		269.1		7.2	2.7
Total Revenue	12,915.1		12,961.8		(46.7)	(0.4)	50,867.7		48,119.9		2,747.8	5.7
Imbalance Cost Pass Through	6,397.7		6,109.6		288.1	4.7	22,315.3		4,509.6		17,805.7	>100.0
TOTAL ICPT	6,397.7		6,109.6		288.1	4.7	22,315.3		4,509.6		17,805.7	394.8

1 4QFY22 vs 3QFY22: Lower units sold and sales of electricity from all sectors.

FY2022 vs FY2021: Higher units sold and sales of electricity mainly from commercial and industrial sectors.

2 Divestment of LPL on 30 Nov 21.

3 4QFY22 vs 3QFY22: Lower solar generation due to seasonality factor (winter season).

FY2022 vs FY2021: Higher generation mainly due to higher irradiance.

4 4QFY22 vs 3QFY22: Higher generation from offshore wind due to seasonality factor (higher wind speed).

FY2022 vs FY2021: Acquisition of 97.3MW onshore wind portfolio (UK) in April 2022.

5 Refer Other Regulatory Adjustment slide

6 Reported as Revenue in FY2022 due to IBR implementation in SESB.

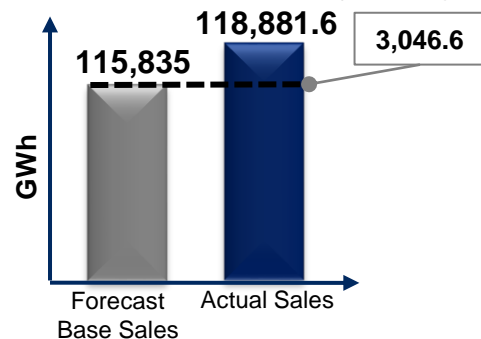
As at FY2022, other regulatory adjustment of RM778.2 mil to be returned

Components of Other Regulatory Adjustment	1QFY22 (RM mil)	2QFY22 (RM mil)	3QFY22 (RM mil)	4QFY22 (RM mil)	FY2022 (RM mil)	FY2021 (RM mil)
1 Revenue Adjustment for Revenue Cap & Price Cap	(44.2)	(239.4)	(211.8)	(21.7)	(517.1)	(323.2)
Refund Related to Regulated Business	(113.1)	(63.9)	(16.6)	(79.8)	(273.4)	(228.7)
Regulatory Adjustment for SESB*	0.6	8.6	0.4	2.7	12.4	-
TOTAL	(156.7)	(294.7)	(228.0)	(98.8)	(778.2)	(551.9)

*SESB has implemented IBR framework starting 1 January 2022

Revenue Cap

FY2022 Variation in Sales (in GWh)

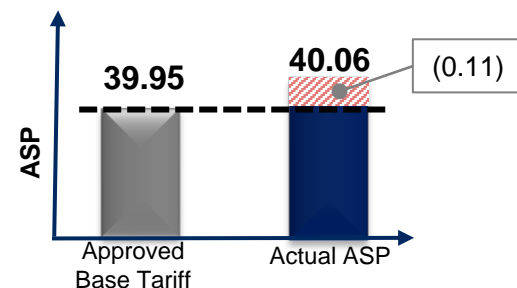


- The allowed annual revenue for revenue cap entities is based on 1.7% demand growth. Any excess/shortfall is adjusted through revenue adjustment mechanism.
- For FY2022, higher actual sales has led to amount to be returned via revenue adjustment mechanism.

Business Entities	Allowed Tariff (sen/kWh)	Variation in Sales (GWh)	Adjustment (RM mil)
Revenue Cap Entities	12.60	3,046.6	(383.3)*

Price Cap

FY2022 Variation in ASP (sen/kWh)

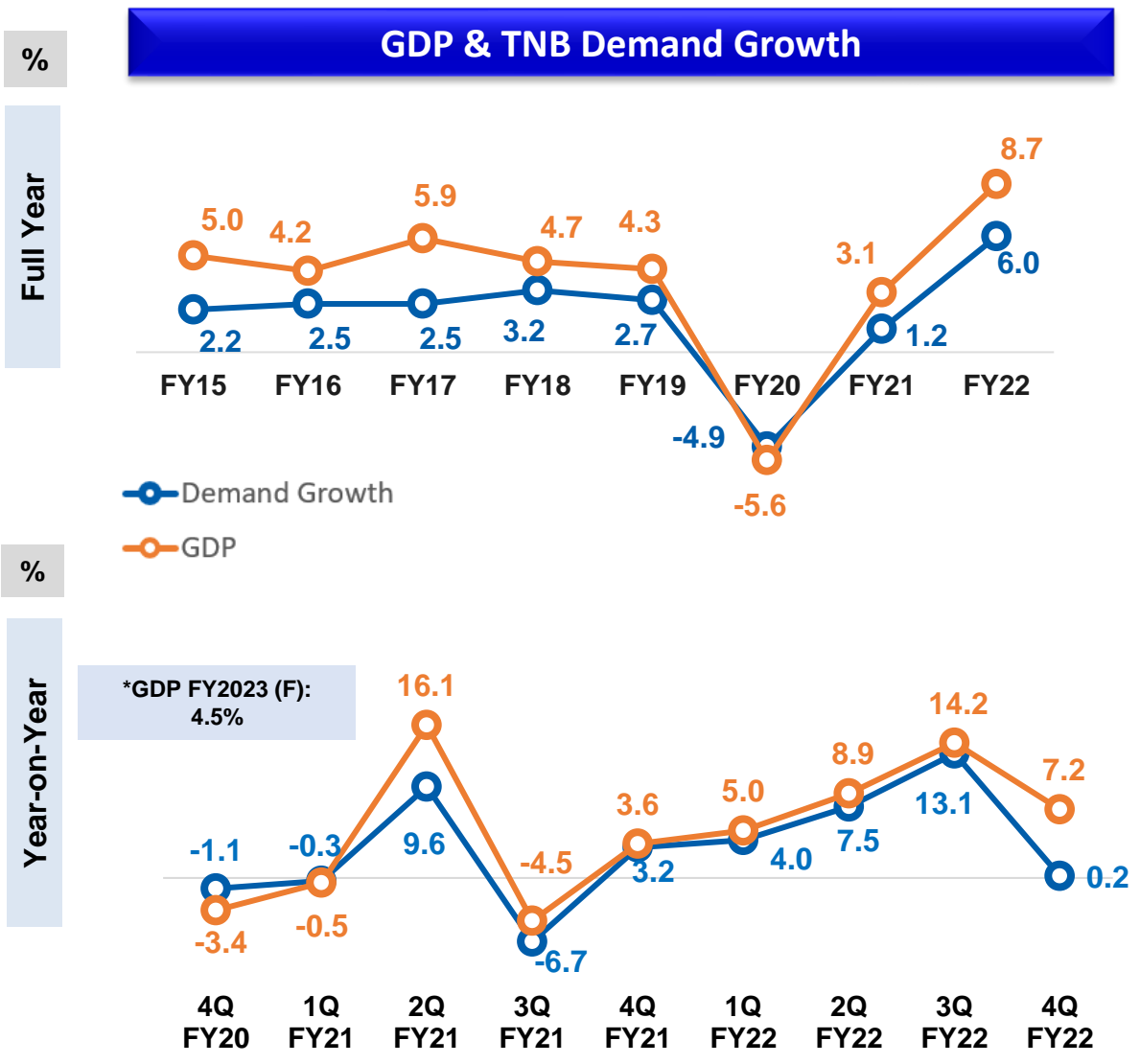


- Any excess/shortfall of revenue earned due to higher/lower Average Selling Price (ASP) compared to Base Tariff is adjusted through revenue adjustment mechanism.
- For FY2022, the ASP recorded was higher than the Base Tariff, leading to amount to be returned via revenue adjustment mechanism.

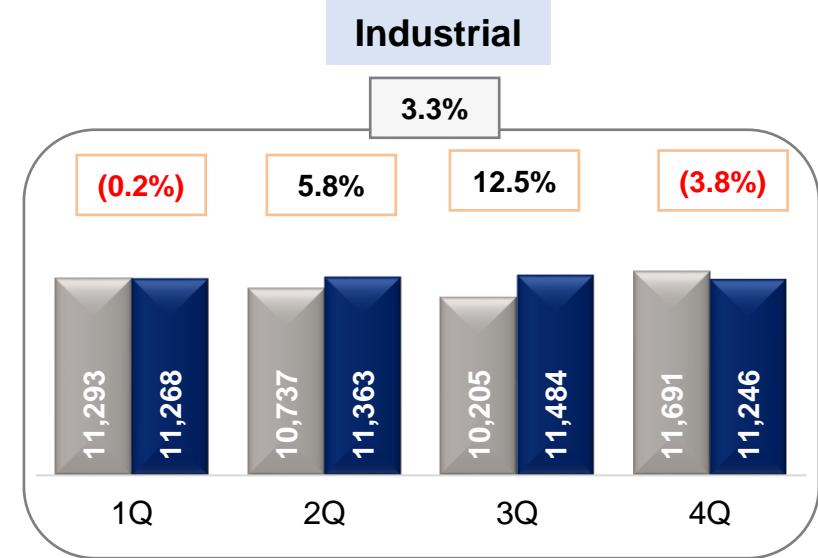
Business Entities	Actual Sales (GWh)	Variation in ASP (sen/kWh)	Adjustment (RM mil)
Price Cap Entity	118,881.6	(0.11)	(133.8)*

* Numbers manually computed will not match due to decimal variance

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



Improved Y-o-Y electricity demand mainly in industrial & commercial sectors



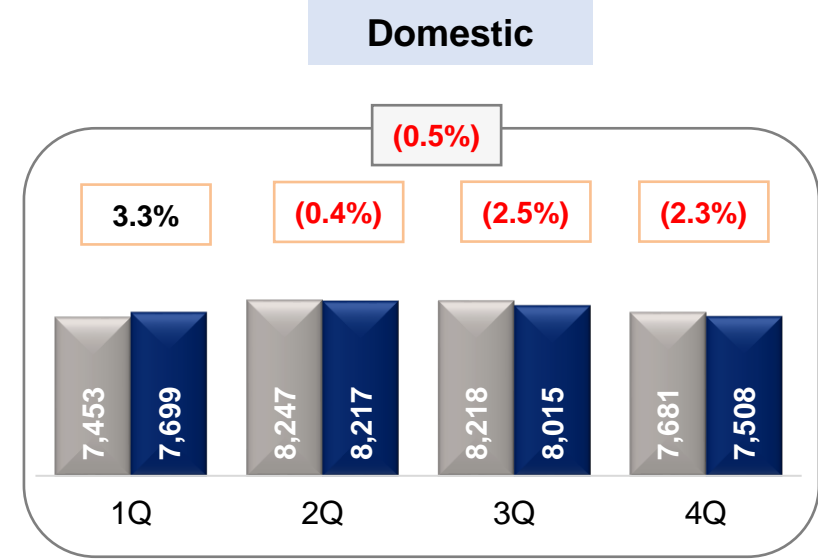
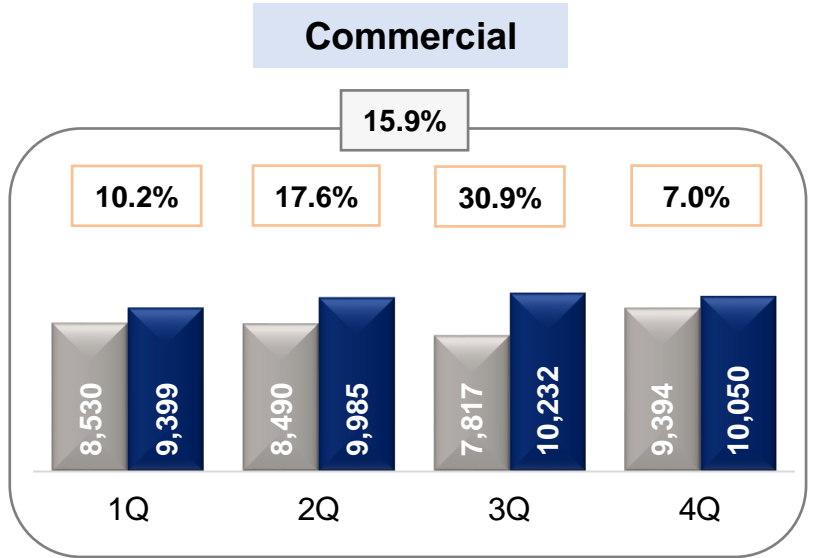
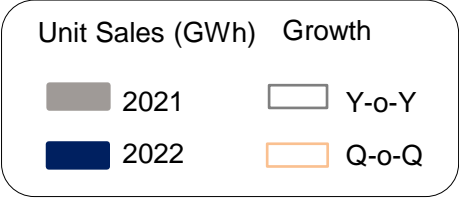
FY2022 main contributors for the increase in:

Industrial sectors

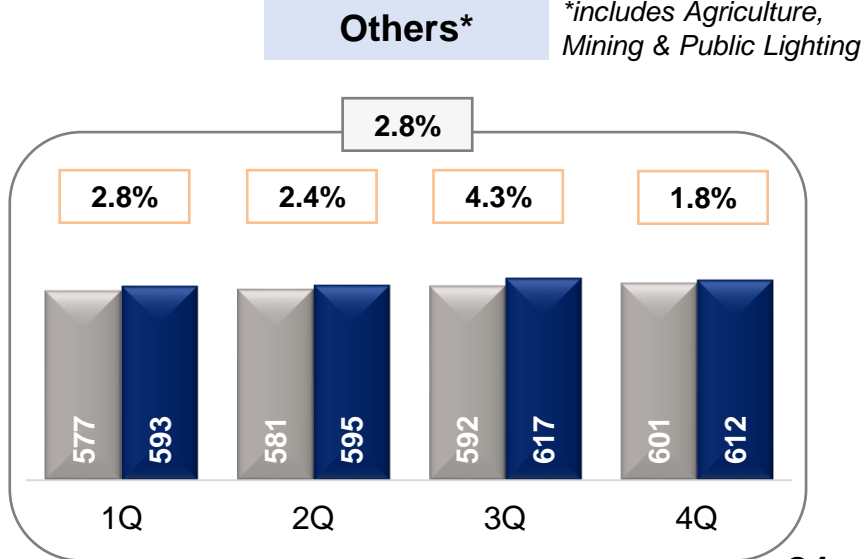
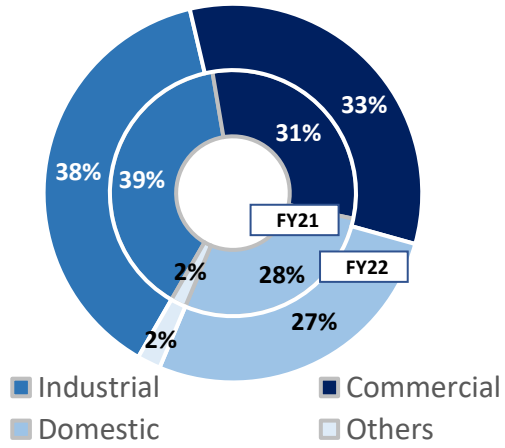
- Iron & steel, electric & electronic and transportation products

Commercial sectors

- Retails, accommodation services and education



Sector Mix (%) FY2022 vs FY2021



Higher Y-o-Y operating expenses due to increase in generation cost

	4QFY22 (RM mil)	3QFY22 (RM mil)	Variance (4QFY22 vs 3QFY22)		FY2022 (RM mil)	FY2021 (RM mil)	Variance (FY2022 vs FY2021)	
			RM mil	%			RM mil	%
Non-TNB IPPs Costs	5,097.7	5,337.5	(239.8)	(4.5)	17,999.5	8,863.8	9,135.7	>100.0
Capacity Payment	(58.4)	(81.7)	23.3	(28.5)	(328.5)	191.3	(519.8)	>(100.0)
Energy Payment	5,156.1	5,419.2	(263.1)	(4.9)	18,328.0	8,672.5	9,655.5	>100.0
TNB Fuel Costs	6,955.1	5,692.0	1,263.1	22.2	25,084.5	14,915.0	10,169.5	68.2
Fuel Costs	6,322.7	5,280.6	1,042.1	19.7	20,315.1	11,255.2	9,059.9	80.5
Fuel Price Adjustment	179.5	485.9	(306.4)	(63.1)	4,769.4	3,970.2	799.2	20.1
Fuel Subsidy - SESB	452.9	(74.5)	527.4	>(100.0)	0.0	(310.4)	310.4	(100.0)
Total Cost of Generation	12,052.8	11,029.5	1,023.3	9.3	43,084.0	23,778.8	19,305.2	81.2
Staff Costs	979.1	950.8	28.3	3.0	3,801.8	3,958.6	(156.8)	(4.0)
Repair & Maintenance	692.5	792.4	(99.9)	(12.6)	2,499.8	2,006.6	493.2	24.6
TNB General Expenses	694.9	368.6	326.3	88.5	1,873.5	1,838.2	35.3	1.9
Subs. General Expenses	685.8	391.8	294.0	75.0	1,950.5	2,250.7	(300.2)	(13.3)
Total Non-Generation Cost	3,052.3	2,503.6	548.7	21.9	10,125.6	10,054.1	71.5	0.7
Total Operating Expenses (without Depreciation)	15,105.1	13,533.1	1,572.0	11.6	53,209.6	33,832.9	19,376.7	57.3
Depreciation & Amortisation	2,997.8	2,825.7	172.1	6.1	11,402.5	10,691.5	711.0	6.7
Total Operating Expenses	18,102.9	16,358.8	1,744.1	10.7	64,612.1	44,524.4	20,087.7	45.1

1 Reported as Revenue in FY2022 due to IBR implementation in SESB.

2 4QFY22 vs 3QFY22: Higher generation cost due to higher fuel prices.

FY2022 vs FY2021: Higher generation cost mainly due to higher coal prices (USD212.5/MT vs USD116.2/MT).

3 FY2022 vs FY2021: Higher expenses driven by more R&M activities.

4 FY2022 vs FY2021: Lower Subsidiaries general expenses mainly due to impairment made for GMR of RM 276.4mil in FY2021.

5 FY2022 vs FY2021: Higher depreciation due to MFRS16 adjustment for EDRA Energy and growth in asset base.

Higher Y-o-Y fuel costs mainly due to higher coal and gas prices

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

Fuel Type	FY2022	FY2021	Variance	
			RM mil	%
Coal	28,910.2	14,995.8	13,914.5	92.8
Gas	10,683.1	6,191.5	4,491.6	72.5
Distillate	606.2	173.1	433.1	>100.0
Oil	139.4	19.8	119.6	>100.0
Total	40,338.9	21,380.1	18,958.8	>100.0

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

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

Fuel Type	FY2022		FY2021		Variance	
	GWh	Gen. Mix	GWh	Gen. Mix	GWh	%
Coal	72,917.6	55.9%	74,415.7	59.2%	(1,498.1)	(2.0)
Gas & LNG	48,477.3	37.2%	43,175.1	34.3%	5,302.2	12.3
Distillate	680.5	0.5%	157.2	0.1%	523.3	>100.0
Oil	2.8	0.0%	31.0	0.0%	(28.2)	(91.0)
Hydro	6,751.2	5.2%	6,832.4	5.4%	(81.2)	(1.2)
Solar	1,622.5	1.2%	1,111.1	0.9%	511.4	46.0
Total	130,451.9	100.0%	125,722.5	100.0%	4,729.4	3.8

Table C – Fuel Costs Related Data

Fuel statistics	FY2022	FY2021
Average Coal Price Delivered (USD/MT)(CIF)	212.5	116.2
Average Coal Price Delivered (RM/MT)(CIF)	935.0	481.3
Coal Consumption (mil MT)	31.9	32.3
Gas Reference Market Price (RM/mmbtu)	1QFY22	1QFY21 : 15.4
	Tier 1 : 30.0	
	Tier 2 : 36.9	
	2QFY22	2QFY21 : 18.9
	Tier 1 : 30.0	
	Tier 2 : 38.2	
	3QFY22	3QFY21 : 21.4
	Tier 1 : 30.0	
	Tier 2 : 43.4	
	4QFY22	4QFY21 : 26.8
	Tier 1 : 30.0	
	Tier 2 : 51.2	
Daily Average Piped Gas Volume (mmscfd)	886	800
Generation Cost per Unit (sen/kWh)	31.0	17.0

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

	FY2022	FY2021	Variance	
			USD	%
FOB	198.7	104.0	94.7	91.1
Freight	13.3	11.7	1.6	13.6
Others	0.5	0.5	(0.0)	(4.0)
CIF	212.5	116.2	96.3	82.9

Higher 4Q vs 3Q fuel costs mainly due to higher coal price

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

Fuel Type	4QFY22		3QFY22		2QFY22		1QFY22		Variance 4Q vs 3Q	
									RM mil	%
Coal	8,099.8		7,418.2		8,410.4		4,981.8		681.6	9.2
Gas	2,721.0		2,820.5		2,619.6		2,521.9		(99.5)	(3.5)
Distillate	60.1		36.9		94.7		414.5		23.2	63.0
Oil	34.3		105.1		-		0.0		(70.8)	(67.3)
Total	10,915.3		10,380.7		11,124.7		7,918.2		534.6	5.2

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

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

Fuel Type	4QFY22		3QFY22		2QFY22		1QFY22		Variance 4Q vs 3Q	
	GWh	Gen. Mix	GWh	Gen. Mix	GWh	Gen. Mix	GWh	Gen. Mix	GWh	%
Coal	17,690.5	55.1%	18,830.2	56.5%	19,164.8	57.8%	17,232.1	54.1%	(1,139.7)	(6.1)
Gas & LNG	11,779.5	36.7%	11,935.7	35.8%	12,309.8	37.1%	12,452.3	39.1%	(156.2)	(1.3)
Distillate	200.6	0.6%	3.6	0.0%	137.1	0.4%	339.2	1.1%	197.0	>100.0
Oil	0.1	0.0%	2.7	0.0%	-	0.0%	-	0.0%	(2.6)	(96.3)
Hydro	1,977.5	6.2%	2,095.6	6.3%	1,134.7	3.4%	1,543.4	4.8%	(118.0)	(5.6)
Solar	469.0	1.5%	450.0	1.4%	401.5	1.2%	302.0	0.9%	19.0	4.2
Total	32,117.2	100.0%	33,317.8	100.0%	33,147.9	100.0%	31,869.0	100.0%	(1,200.5)	(3.6)

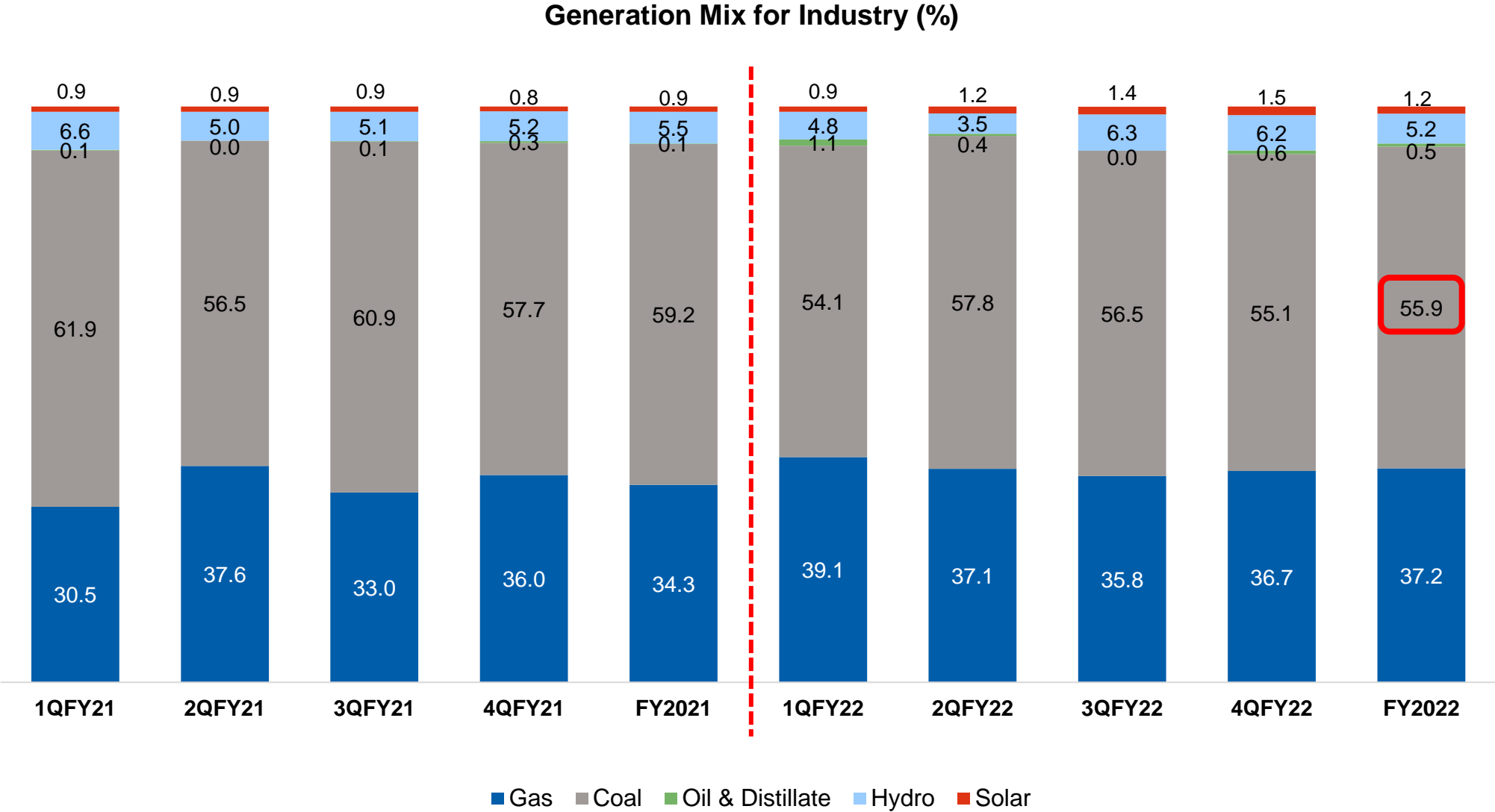
Table C – Fuel Costs Related Data

Fuel statistics	4QFY22	3QFY22	2QFY22	1QFY22
Average Coal Price Delivered (USD/MT)(CIF)	222.4	229.7	221.4	165.5
Average Coal Price Delivered (RM/MT)(CIF)	1028.1	1,023.8	960.4	696.3
Coal Consumption (mil MT)	7.8	8.3	8.4	7.4
Gas Reference Market Price (RM/mmbtu)				
Tier 1	30.0	30.0	30.0	30.0
Tier 2	51.2	43.4	38.2	36.9
Daily Average Piped Gas Volume (mmscfd)	866	862	905	912
Generation Cost per Unit (sen/kWh)	33.9	31.2	33.6	24.8

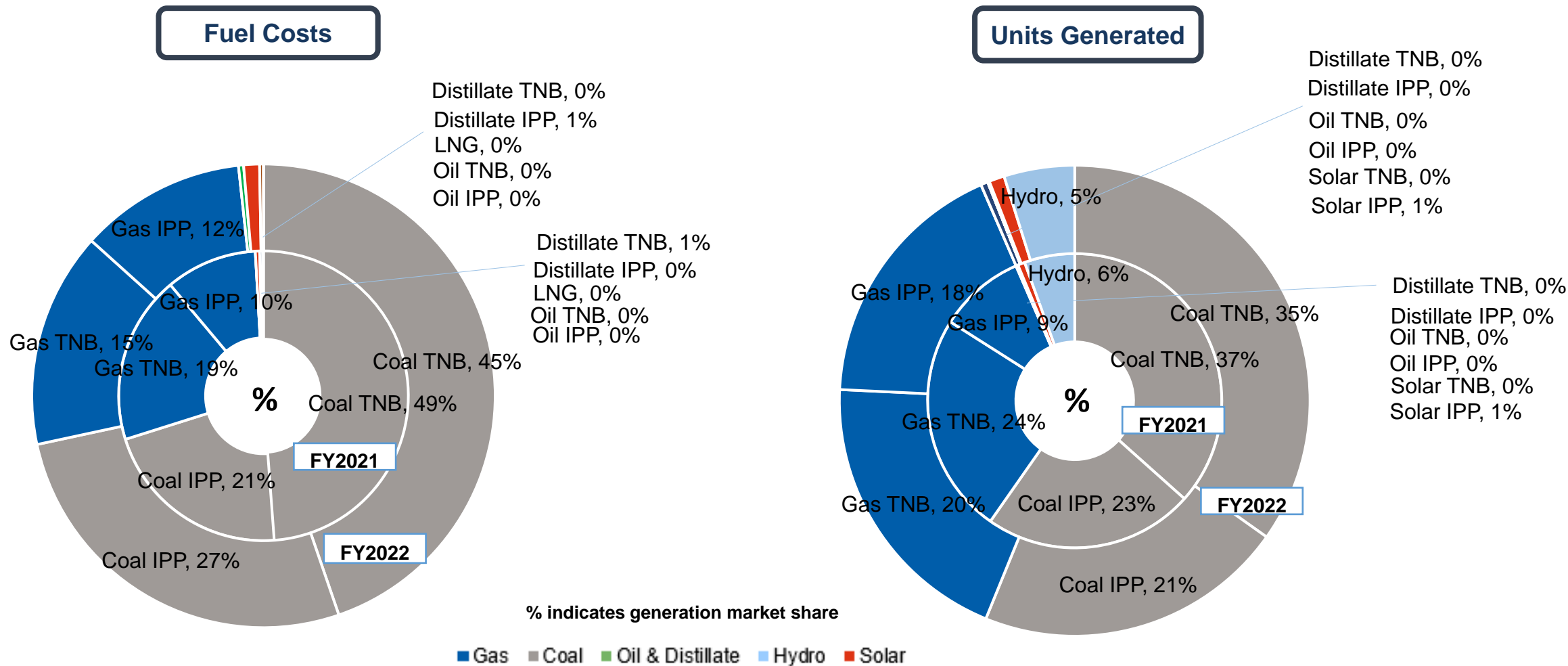
Table D – Average Coal Price Delivered (USD/MT)

	4QFY22	3QFY22	2QFY22	1QFY22	Variance 4Q vs 3Q	
					USD	%
FOB	208.7	215.8	207.1	152.3	(7.1)	(3.3)
Freight	13.2	13.4	13.8	12.6	(0.3)	(1.9)
Others	0.5	0.5	0.5	0.5	(0.0)	(4.1)
CIF	222.4	229.7	221.4	165.5	(7.3)	(3.2)

Lower generation from coal in FY2022



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



Note: Fuel Cost exclude solar and hydro

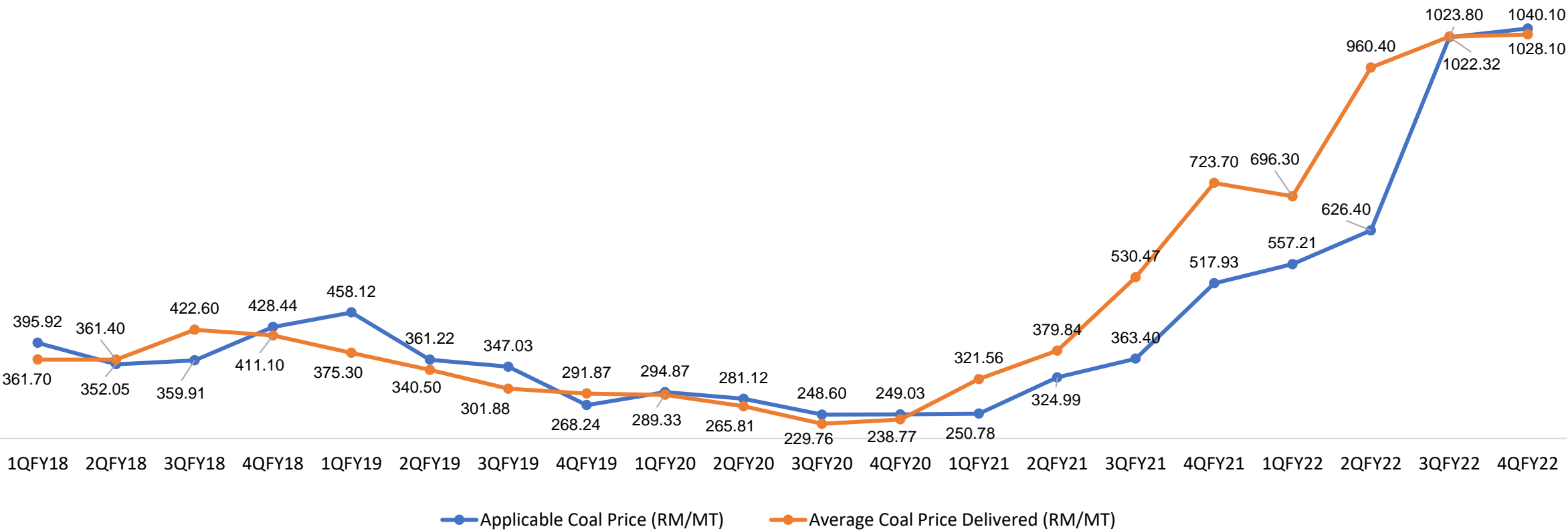
TNB is neutral to volatility in fuel costs under the ICPT framework

	1QFY22 (RM mil)	2QFY22 (RM mil)	3QFY22 (RM mil)	4QFY22 (RM mil)	FY2022 (RM mil)
Reported Total Cost of Generation (with MFRS16)	8,367.1	11,634.6	11,029.5	12,052.8	43,084.0
Adjustment not related to IBR	909.5	948.3	840.2	307.2*	3,005.2
TNB Capacity and VOR: SLA & SPV	1,816.1	1,621.5	2,191.0	1,744.5	7,373.0
Total Generation Costs (Related to IBR)	11,092.7	14,204.4	14,060.7	14,104.5	53,462.2

	1QFY22 (RM mil)	2QFY22 (RM mil)	3QFY22 (RM mil)	4QFY22 (RM mil)	FY2022 (RM mil)
Single Buyer Actual Generation Costs: (A)	11,092.7	14,204.4	14,060.7	14,104.5	53,462.2
<i>Actual Sales (GWh)</i>	28,959.3	30,159.7	30,347.5	29,415.1	118,881.6
<i>Single Buyer Tariff (RM/kWh)</i>	0.2620	0.2620	0.2620	0.2620	0.2620
Actual Gen Cost Recovered (RM mil) (B)	7,587.3	7,901.8	7,951.0	7,706.8	31,147.0
ICPT Surcharge / (Rebate) (C) (C = A – B)	3,505.4	6,302.6	6,109.6	6,397.7	22,315.3

*Reclass of SESB Fuel Subsidy from cost to revenue in 4QFY22

Coal price trending



Coal price & Applicable Coal Price (ACP) comparison

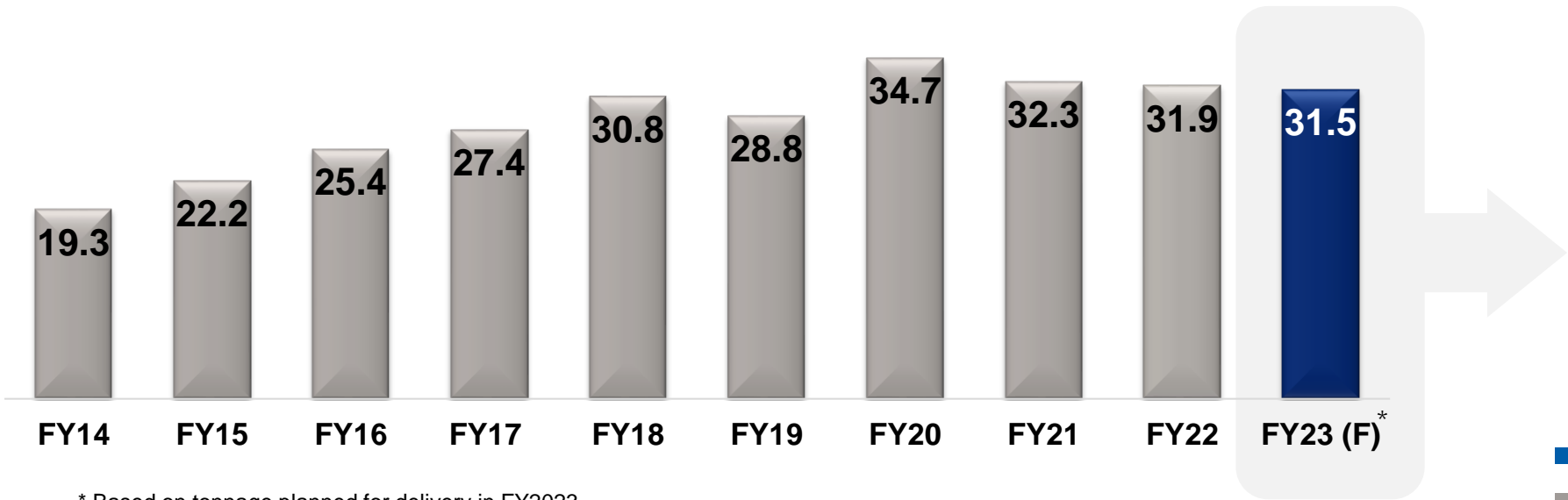
	4QFY21	1QFY22	2QFY22	3QFY22	4QFY22
Average Coal Price Delivered (RM/mmbtu) *	32.88	31.88	46.76	48.88	44.96
ACP (RM/mmbtu)	23.73	25.53	28.70	46.84	47.65

* Based on internal conversion

- Fuel Price Adjustments (FPA) is the difference between the Applicable Coal Price (ACP) used to bill the generators and the actual coal price paid to supplier. The difference is caused by higher or lower coal price or due to currency exchange.
- In 4QFY22, the base ACP (RM47.65/mmbtu) used for billing the generators is higher than the coal price paid to supplier (RM44.96/mmbtu).

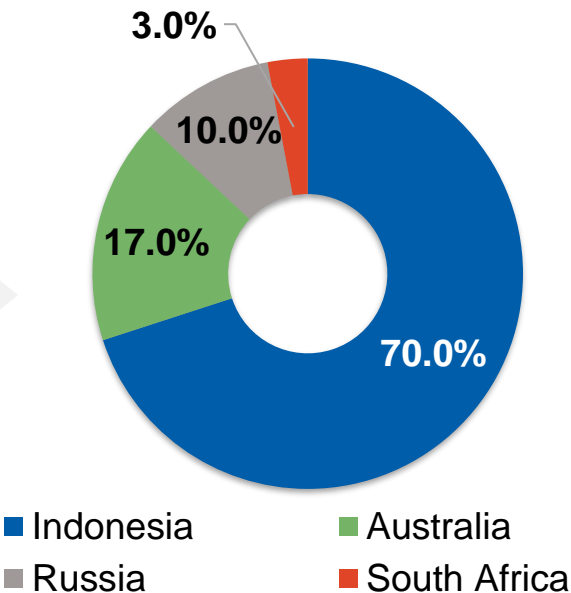
Industry coal requirement forecast for FY2023

Coal Consumption (mil MT)



* Based on tonnage planned for delivery in FY2023

Source Country Mix

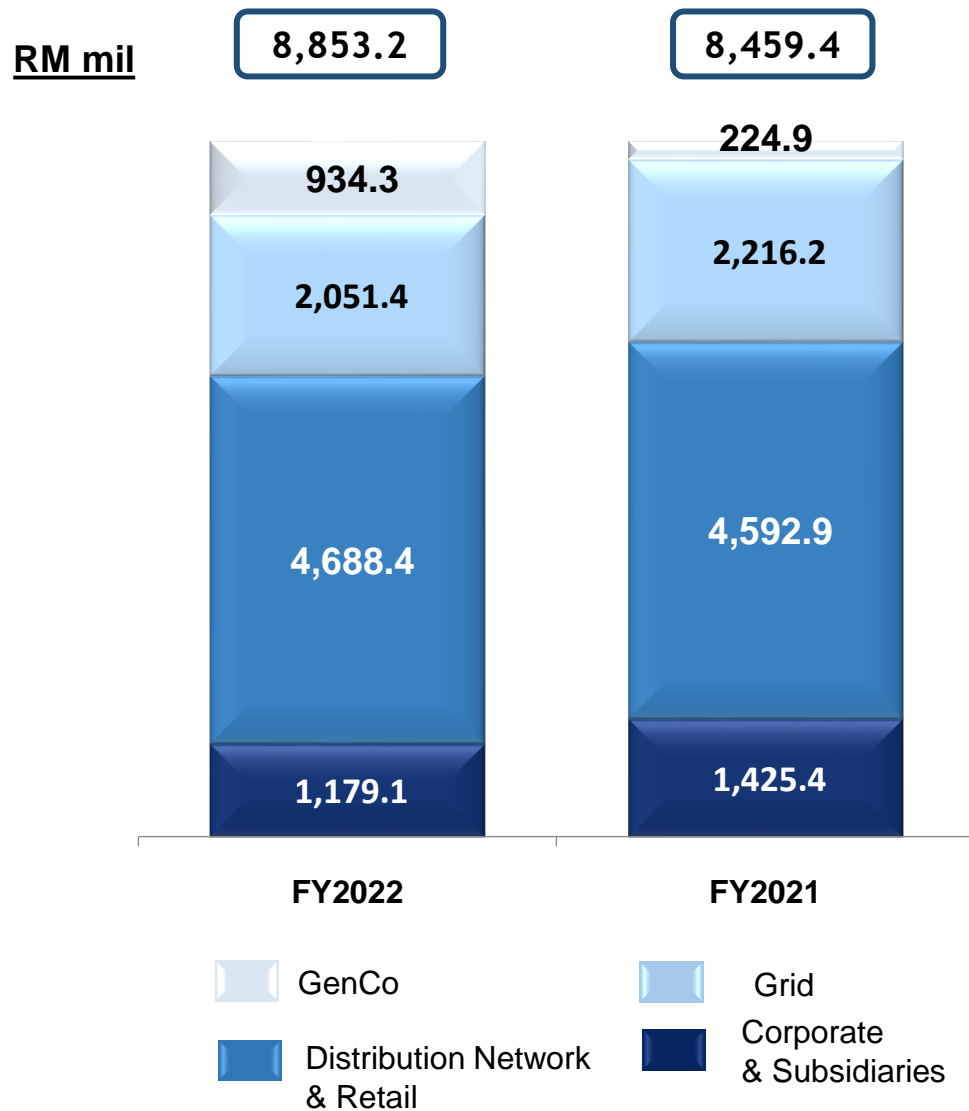


MFRS 16: Group PAT is negatively impacted by RM920.3 mil in FY2022

Net Impact of MFRS 16 (Y-o-Y) analysis

	FY2022 (RM mil)	FY2021 (RM mil)	Variance (RM mil)
Capacity Payment	4,440.1	4,137.6	302.5
Depreciation	(3,875.9)	(3,473.4)	(402.5)
Finance Cost	(1,756.4)	(1,460.1)	(296.3)
Deferred Tax	271.9	175.1	96.8
Net Impact	(920.3)	(620.8)	(299.5)

Group CAPEX



Regulated CAPEX and Regulated Asset Base (RAB)

FY	RP3 REGULATED ENTITIES CAPEX		
	IBR Approved (RM mil)	Actual YTD (RM mil)	Utilisation (%)
2022	7,168.0	6,723.3	93.8%

Total RAB (RM mil)	
Actual FY2022	Approved FY2022
61,339.4	62,248.7
Regulatory net returns: RM4,519.6 mil	

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

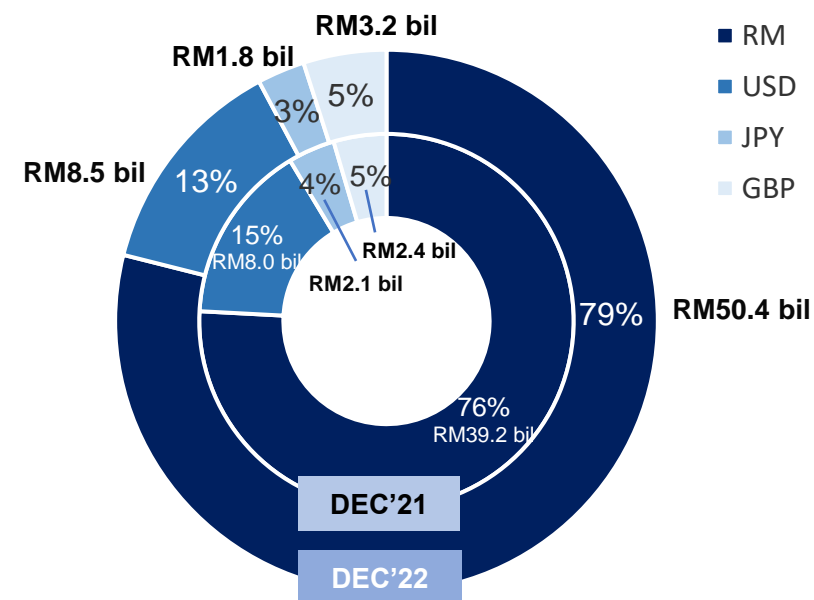
Gearing stood at 51.2% in FY2022

Statistics	31 Dec 2022	31 Dec 2021
Total Debt (RM bil)	63.9	51.7
Net Debt (RM bil)*	50.8	42.5
Gearing (%)	51.2	47.0
Net Gearing (%)	40.7	38.6
Fixed : Floating		
Underlying	95:5	95:5
Final Exposure	99:1	99:1
Effective Average Cost of Borrowing (based on exposure) **	4.63	4.61

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

** Inclusive of interest rate swap

Loan Breakdown



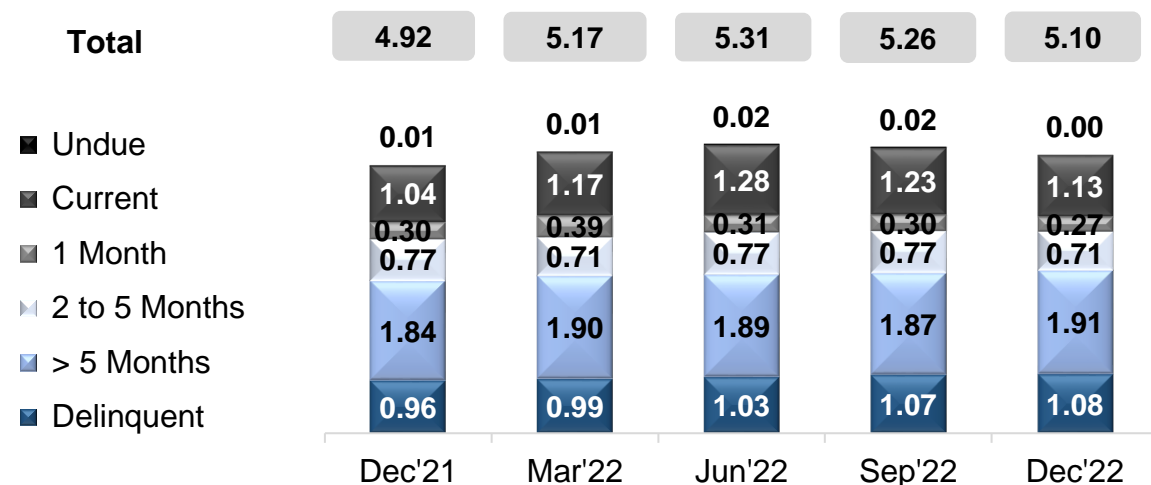
Investment Financing Principle:
Currency to match revenue streams

	Closing FOREX	31 Dec 2022	31 Dec 2021
USD/RM		4.41	4.17
100YEN/RM		3.33	3.63
GBP/RM		5.31	5.63

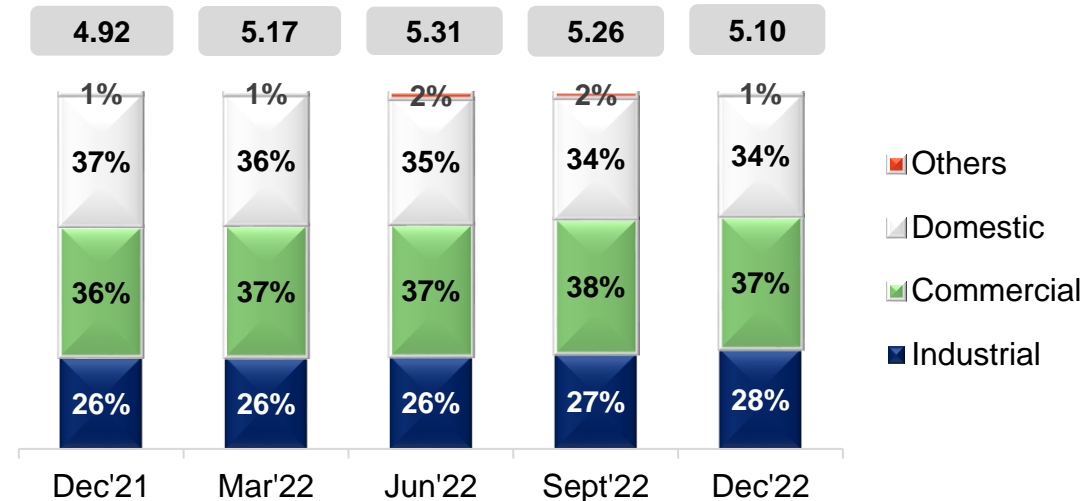
Note:
Debt consists of Principal + Accrued Interest

Improvement in trade debtors balance by 2.9% in Dec'22

Trade Debtors Ageing (RM bil)



Trade Receivables By Sectors (RM bil)



Ongoing initiatives to improve collection

- Promotional activities to increase enrolment of Autopay, Direct Debit and e-Bulk Scheme to targeted domestic and non-domestic customers.
- Enrich customer experience, especially via digital payment channels such as myTNB, Online Banking and e-Wallet.
- Provide personalised engagement with large power consumers such as SMEs and Government and Large Business (GLB).
- Perform close monitoring on commercial and industrial customers with debt exposure, especially those under vulnerable sub-sectors.



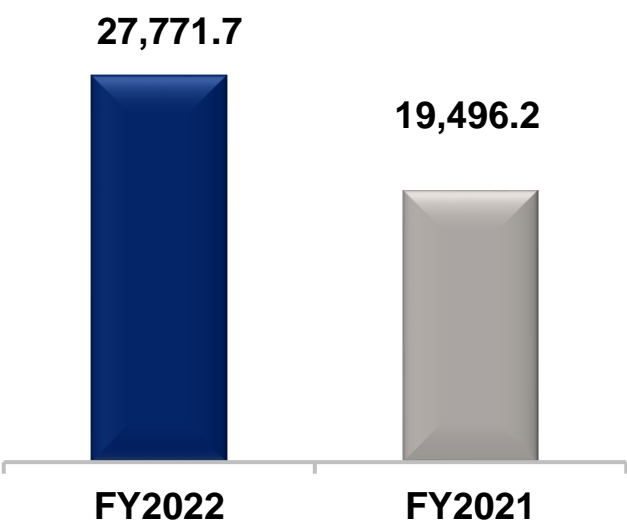
Cash flow

- We continuously monitor our cash flow position on a daily basis and remain prudent on our working capital management.
- For FY2022, the allowance for doubtful debts for TNB is RM126.9 mil.

Domestic generation business performance

RM mil

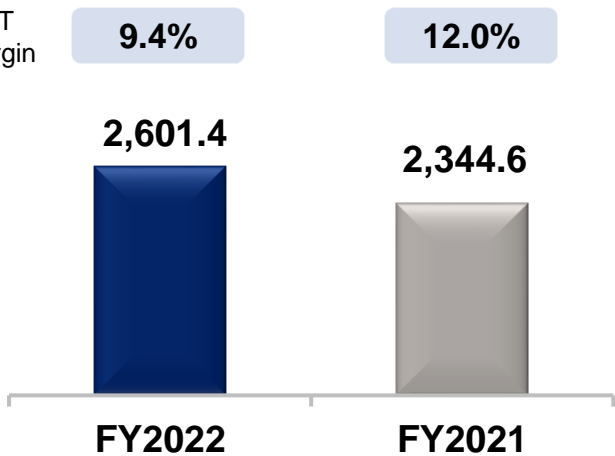
REVENUE



Higher revenue mainly due to higher energy payment resulted from higher fuel prices

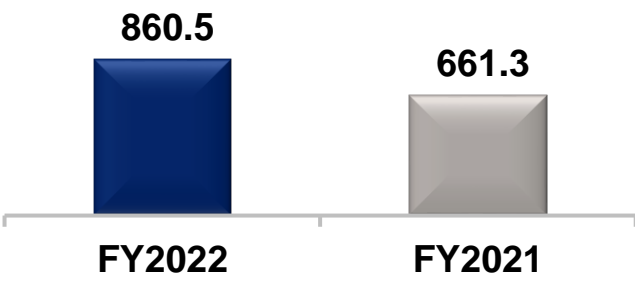
EBIT

EBIT Margin



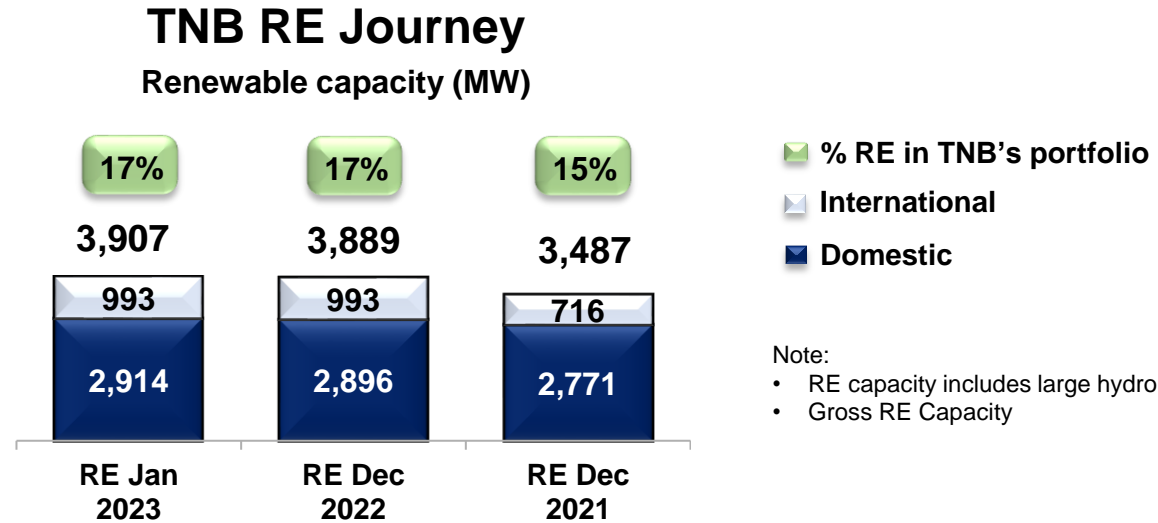
EBIT uplift initiatives of RM350.1 mil

PROFIT AFTER TAX



Note: Includes generation related subsidiaries

Our RE journey is progressing well



Recent RE Progress

1) Domestic renewables

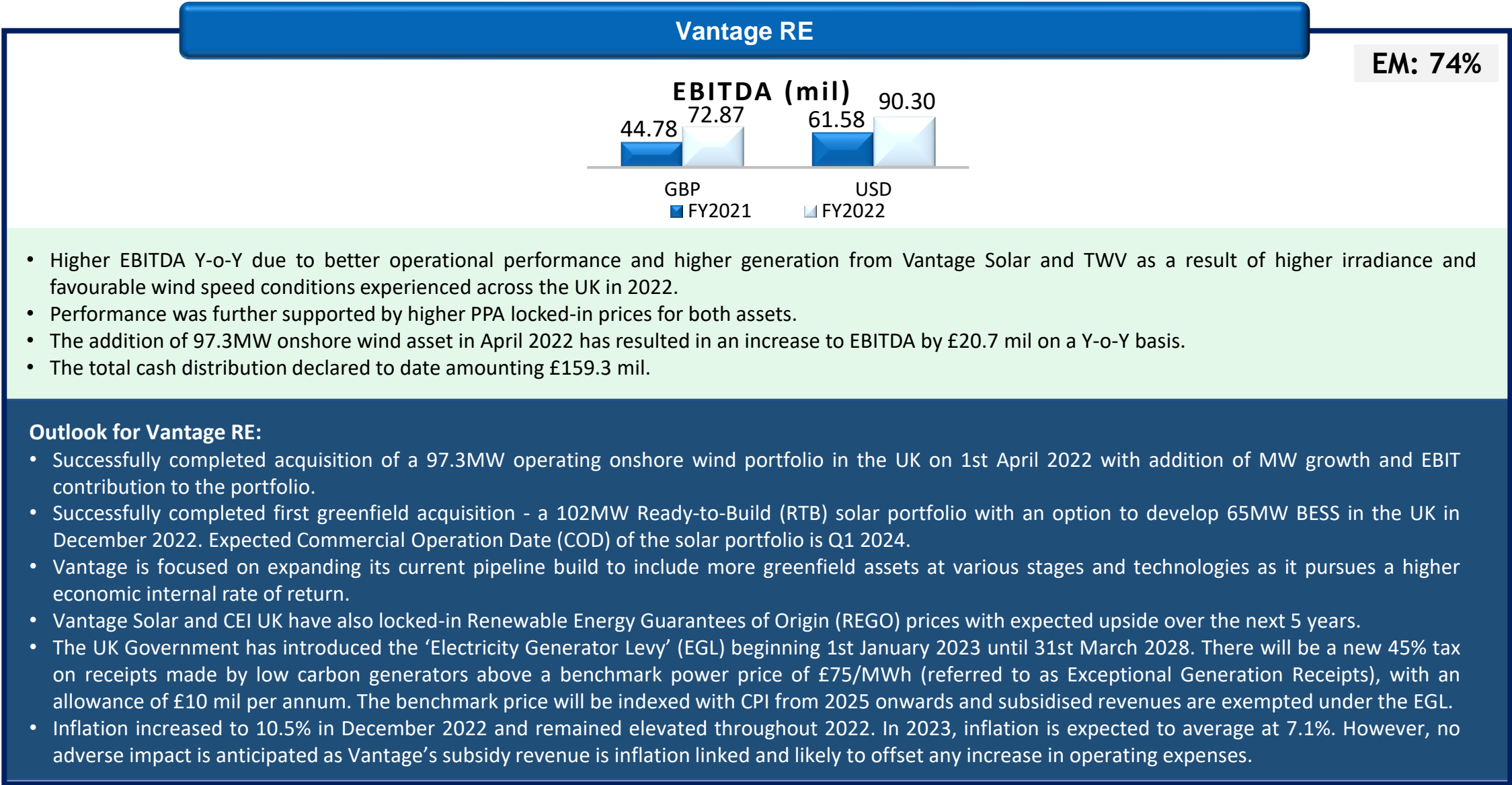
- We have signed a 30-year power purchase agreement for the 300MW Nenggiri hydro plant which is expected to commence on 1 June 2027. The construction works have started since 1 March 2022.
- **GSPARX has successfully secured a total capacity of 258.6MW as of Jan 2023. (Dec 2022: secured 240.9MW, Dec 2021: secured 116.3MW).**
- Successfully commissioned a mini hydro of 4.0MW in Sungai Tersat, Kuala Berang in December 2021.

2) UK / Europe renewables

- In December 2022, we have successfully acquired 102MW of solar farms in the UK & potential development of 65MW for battery storage. The solar farms are expected to achieve Commercial Operation Date (COD) by Q1 2024.
- In June 2022, Bajoli Holi hydro power plant of 180MW in GMR was successfully commissioned.
- In April 2022, we successfully acquired 97.3MW Onshore Wind Portfolio in the UK.
- We have successfully acquired a 49% stake in Blyth Offshore Demonstrator Ltd (BODL), an offshore UK wind farm company in October 2021, with existing floating offshore wind capacity of 41.5MW and further development rights for similar type of RE of up to 58.4MW.
- In May 2021, we acquired a 500kW FiT turbine in the UK.
- The formation and establishment of Vantage RE Ltd or RACo has been completed on 1 July 2021.

INTERNATIONAL BUSINESS - CORE/RENEWABLE ENERGY (RE) ASSETS

International Performance as at Dec'22

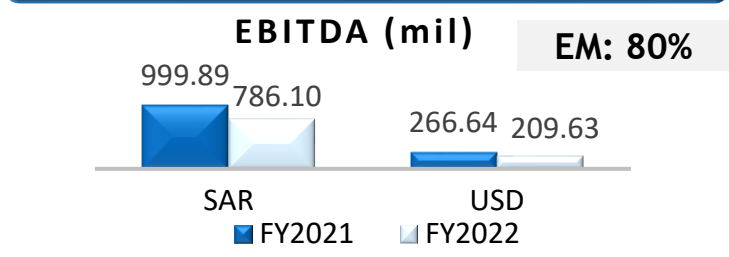


Notes :
EM : YTD EBITDA Margin

INTERNATIONAL BUSINESS - NON-CORE ASSETS

International Performance as at Dec'22

Shuaibah

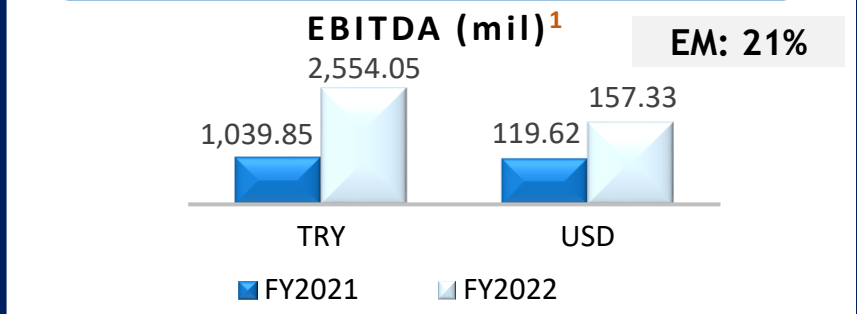


- Lower EBITDA Y-o-Y due to higher operating cost as a result of electricity import cost from the total plant outage at SWEC (Water and Power) in March, August and December 2022.
- Shuaibah maintains solid financial performance with higher Y-o-Y net profit margin by 11.7%.

Outlook for Shuaibah:

- Shuaibah is to remain 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.

GAMA Enerji A.S. (GEAS)

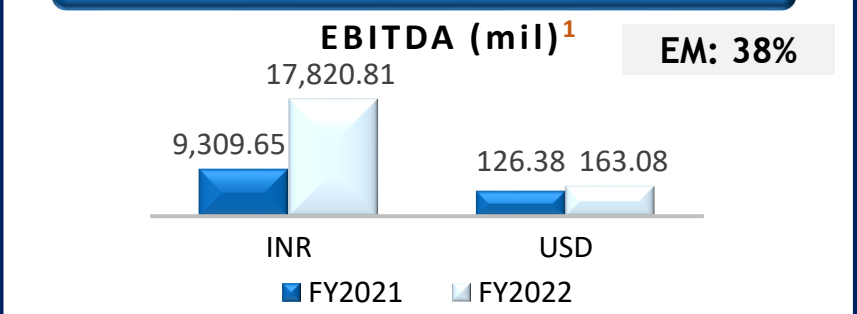


- Higher EBITDA Y-o-Y is mainly contributed by higher power prices as a result of higher share of gas generation.
- There has been no impact to GEAS operations from the recent earthquake.

Outlook for GEAS:

- Turkey is experiencing hyperinflationary economy as Turkey's inflation has surged at all time high ~85%. However, GEAS remains operationally profitable (EBITDA), benefiting from the lucrative electricity prices which is underpinned by high gas price and seasonal hydro generation. Furthermore, some portions of GEAS' revenue and cost are indexed to USD, and this cushion the financial impact of the hyperinflation and provides steady cash flows to GEAS.
- Recently, Energy Market Regulatory Authority (EMRA) postponed EPIAS's² advance payment, imbalance and collateral obligations in the affected earthquake region for 30 days starting February 2023.
- GEAS had fully repaid the debt repayment for ICAN's debt scheduled in 2022 and the successfully restructured debt within GEAS's portfolio provides sustainability to weather through current volatility in the market. In near term, GEAS is expected to secure payment for principal and interest in 2023 to 2024 from DIWACO's dividends and ICAN's cash flows.

GMR Energy Limited (GEL)



- Higher EBITDA Y-o-Y due to the full consolidation of Kamalanga's financial results upon the recognition of Kamalanga as a subsidiary (GEL previously recognised Kamalanga's share of profits only).
- The higher EBITDA is also due to higher merchant prices causing higher energy sales.

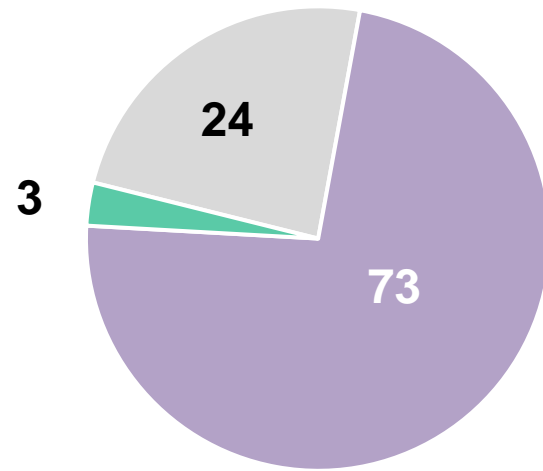
Outlook for GEL:

- Further improvement in economic activities is expected that will drive the power consumption and demand with the usage of heating appliances during winter, especially in the northern parts of the country.
- GEL coal plants (i.e., Kamalanga and Warora) had drawn up their coal strategies to ensure 100% linkage coal supply and coal procurement at competitive prices via e-auctions. GEL opines that domestic coal prices will go back to normal due to higher anticipated production by Coal India Limited.
- TNB is supportive of GEL's current initiatives to preserve value and sustainability of the portfolio, while in parallel pursuing exit strategies to enable TNB to re-focus its resources and capital into Renewable Energy (RE) in key markets, in line with TNB's approved "Reimagining TNB Strategy".

Notes :
EM : YTD EBITDA Margin
¹Reported 3 months lagging
²EPIAS is the market operator responsible for operating day-ahead, intra-day and balancing markets in the country

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

Actual Group Revenue* FY2022 (%)



RE Coal Others**

* Total revenue includes ICPT

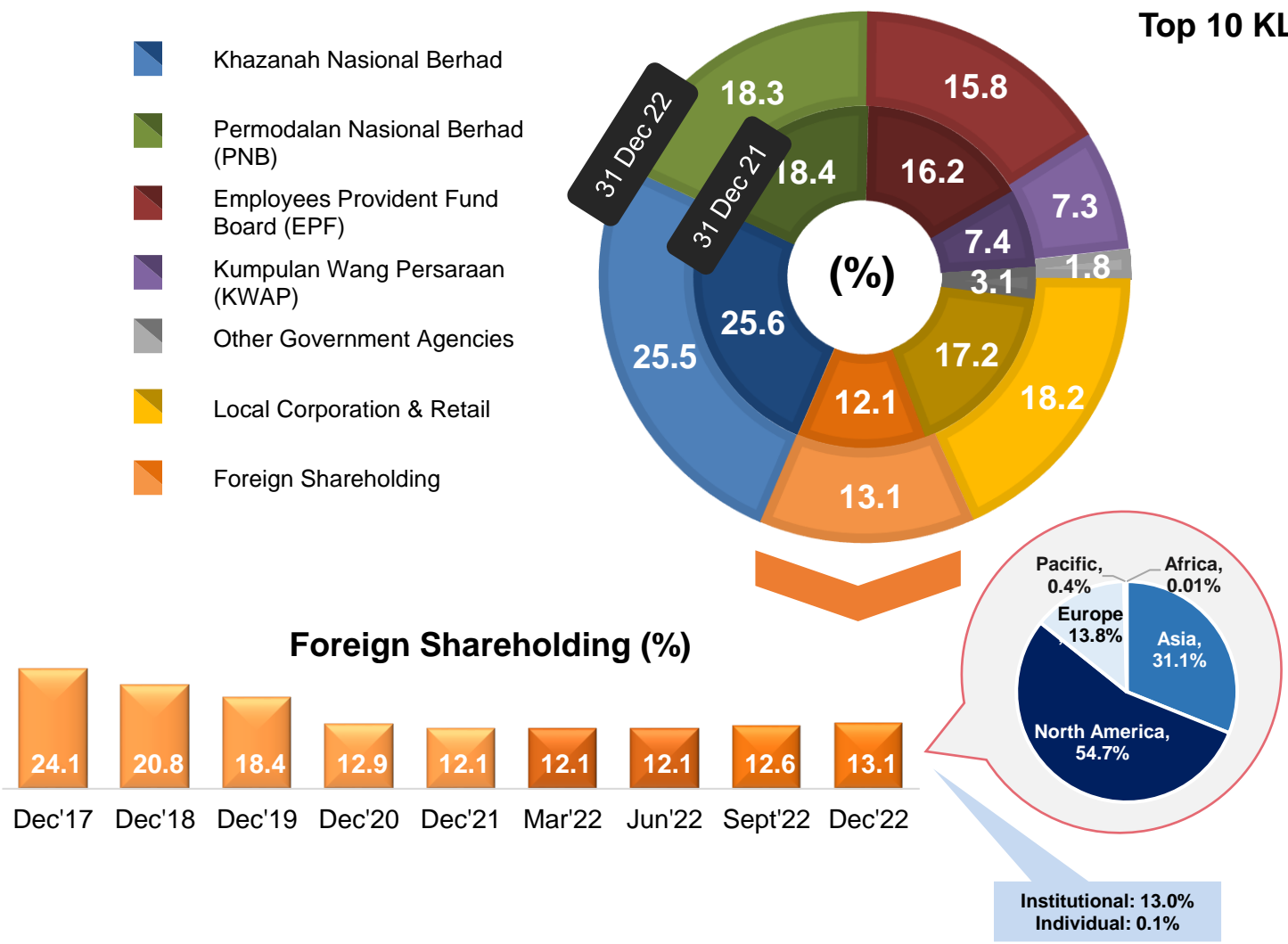
** Others include revenue from regulated business, subsidiaries and generation from gas



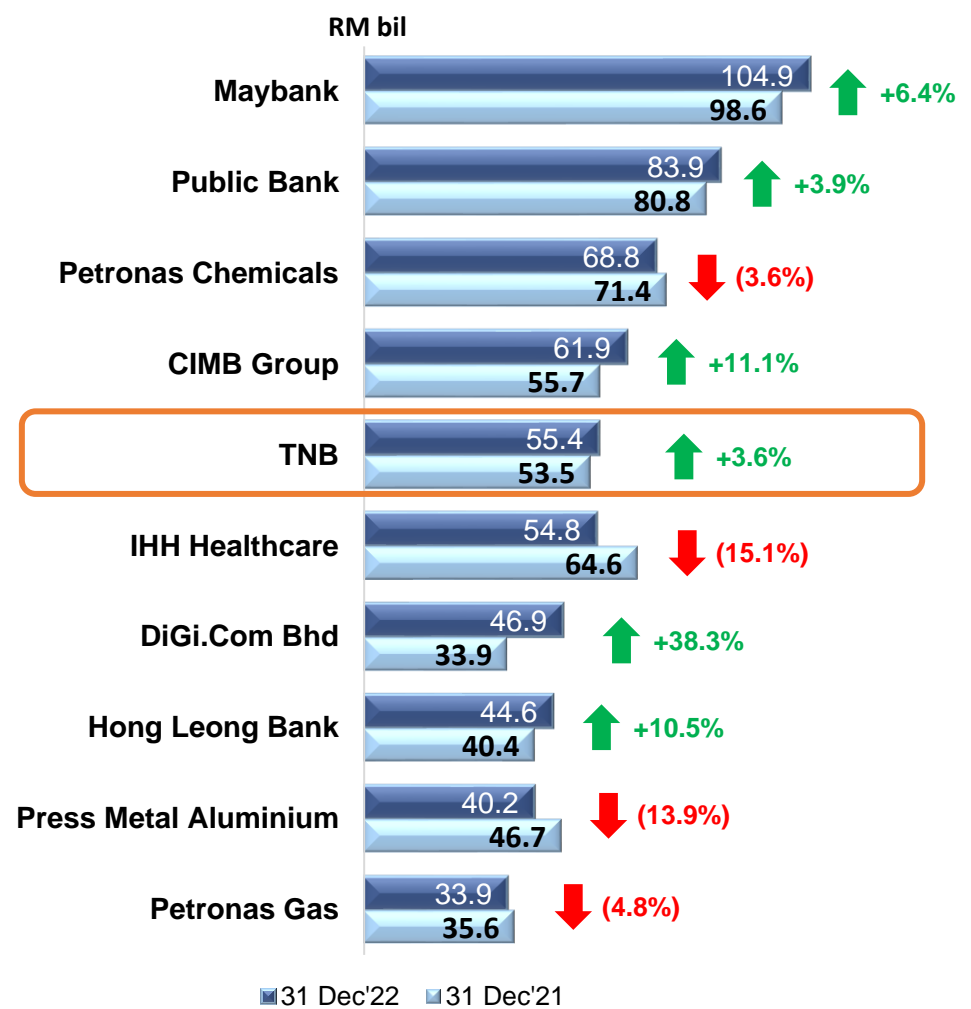
**Long-term aspiration:
aims to be coal-free by
2050**

- No new coal plant investment in the pipeline
- Reduction of coal capacity by 50% by 2035 & coal-free by 2050

TNB market capitalisation of RM55.4 bil as at 31 December 2022



Top 10 KLCI Stocks by Market Capitalisation as at 31 December 2022



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THANK YOU

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