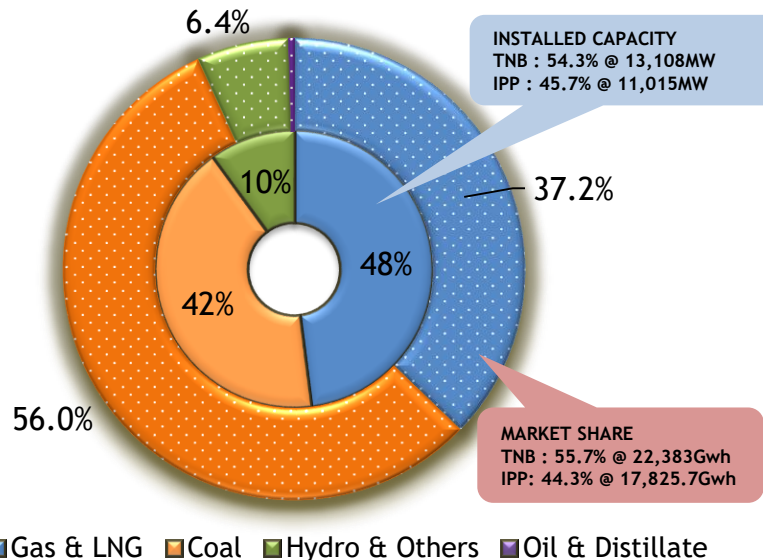
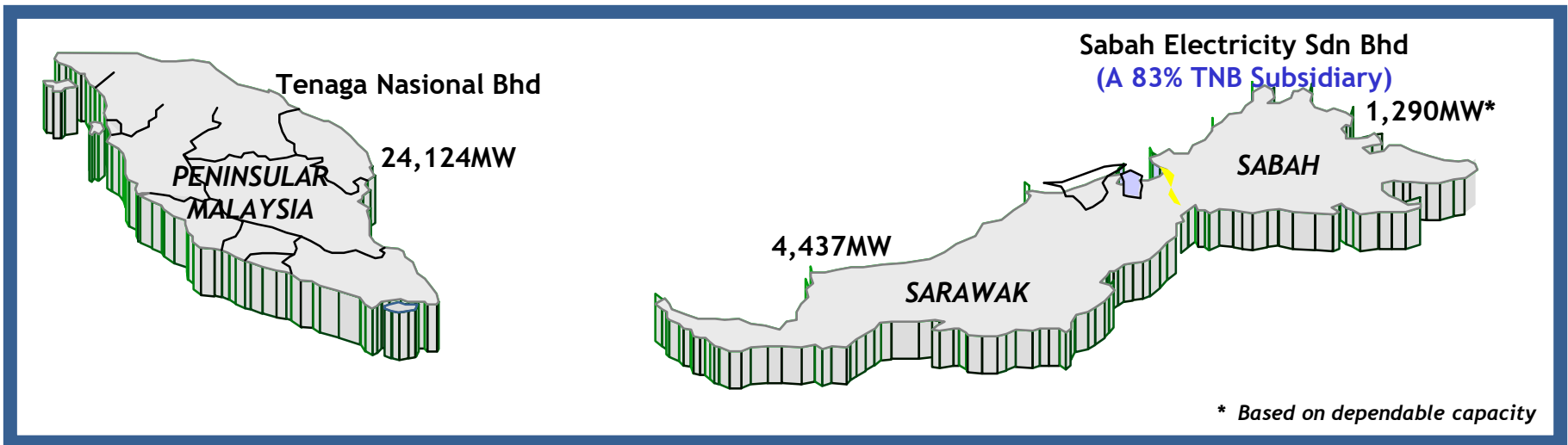


TNB HANDBOOK

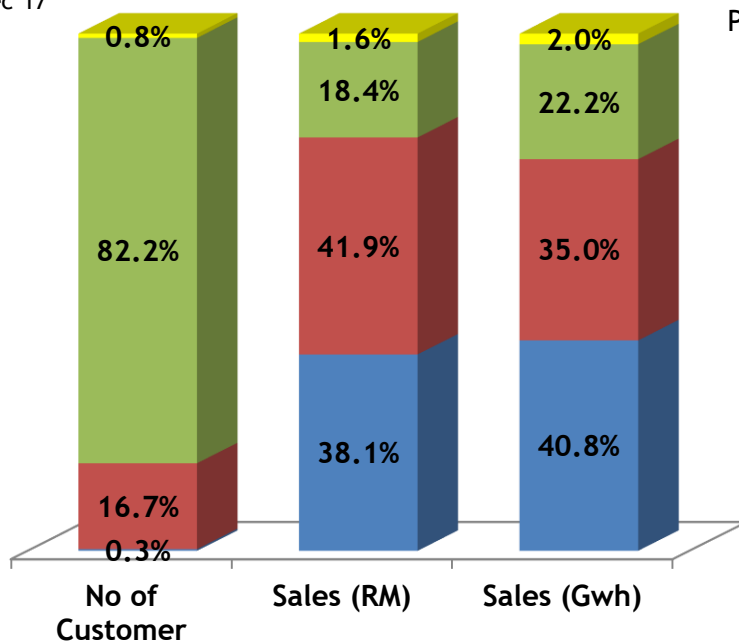


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	FY'14	FY'15	FY'16	FY'17	Period Ended Dec'17
Installed Capacity - Peninsula (MW)	10,814	11,708	12,904	12,880	TNB: 13,108 IPP: 11,015
Total units sold (Gwh)	108,102	110,837	115,505	116,586	39,562
Total customers (mn)	8.64	8.94	9.01	9.08	TNB: 9.4 Sabah: 0.6
Total employees ('000)	36.1	36.0	35.6	35.0	35.0
Total assets (RM bn)	110.7	117.1	132.9	142.0	144.3

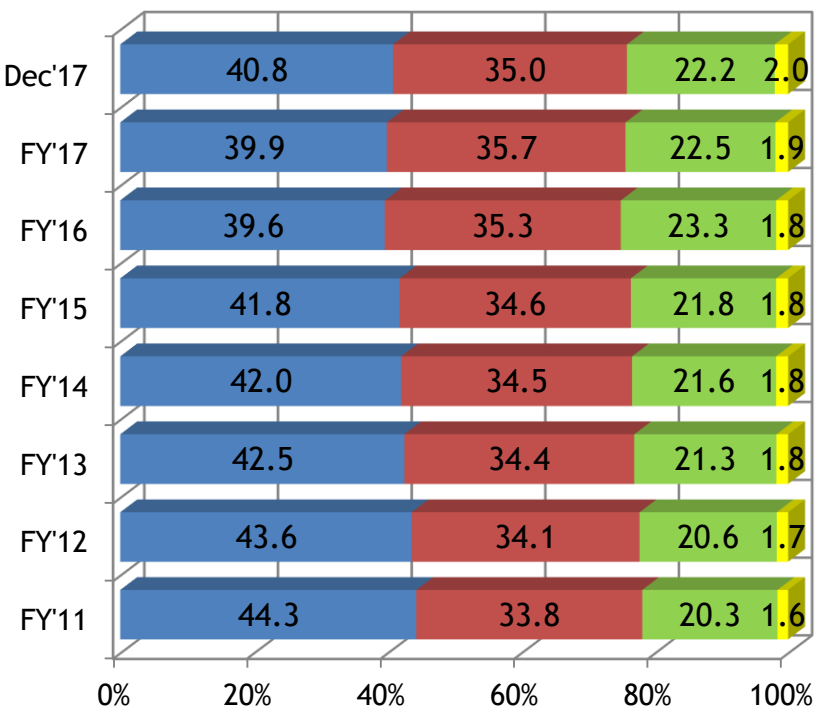
Period Ended
Dec'17



■ Industrial ■ Commercial ■ Domestic ■ Others

Sectoral Sales Analysis (Gwh)

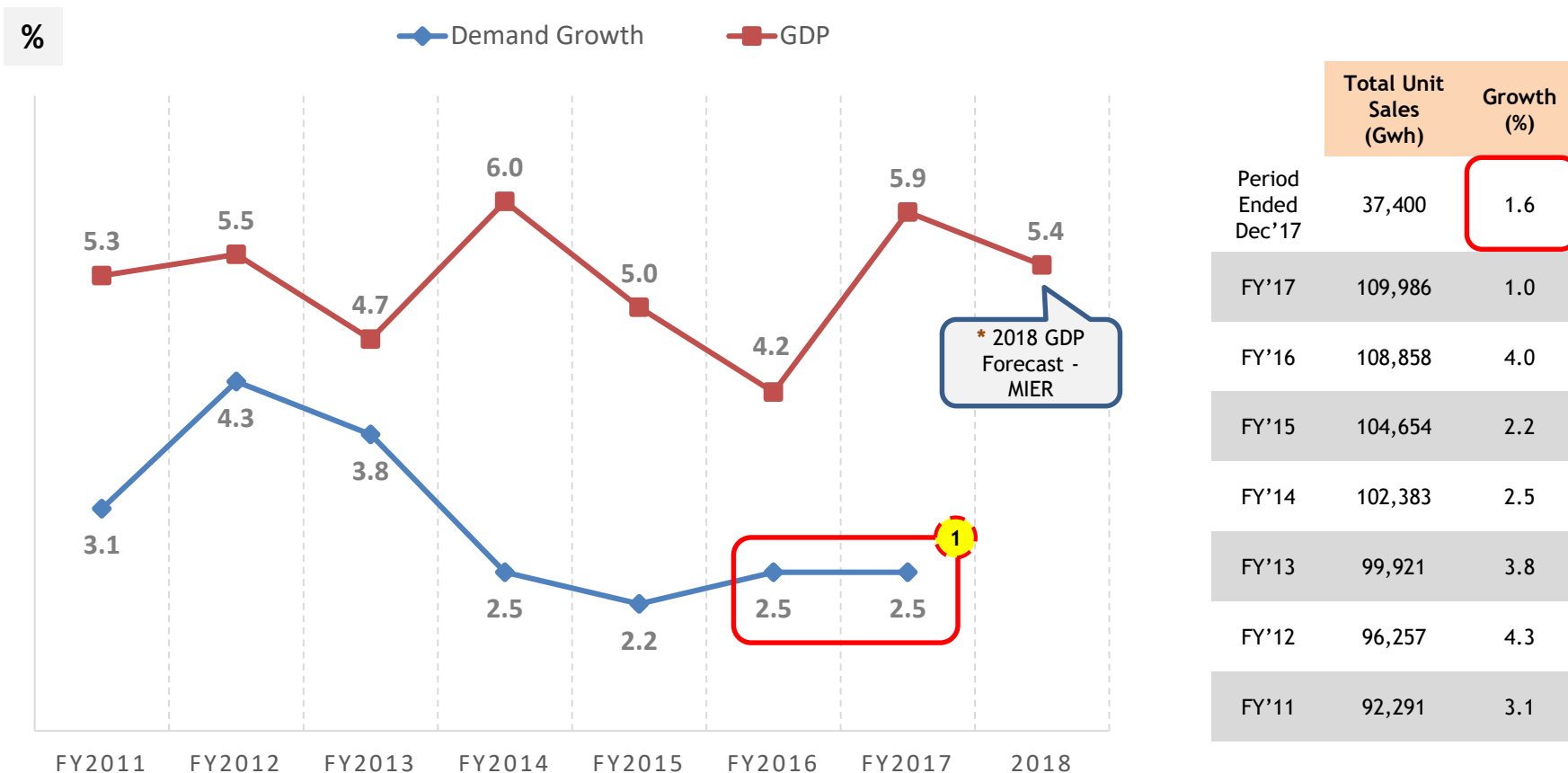
Period Ended Dec'17



■ Industrial ■ Commercial ■ Domestic ■ Others

INTRODUCTION TO TENAGA

Demand Growth Registered at 1.6%



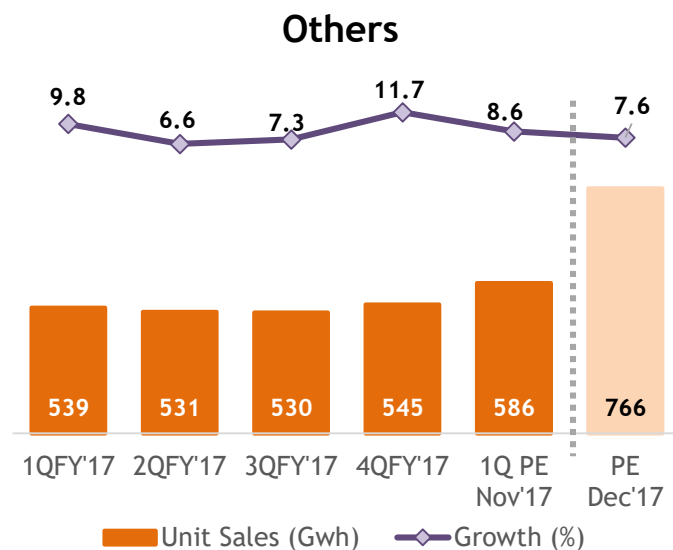
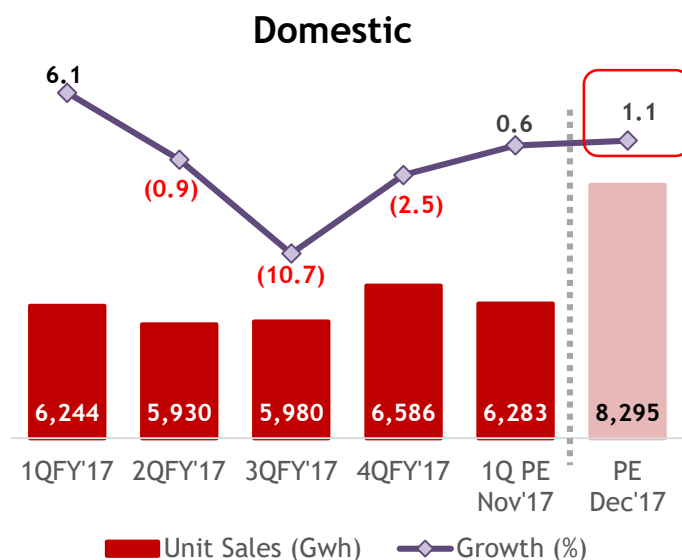
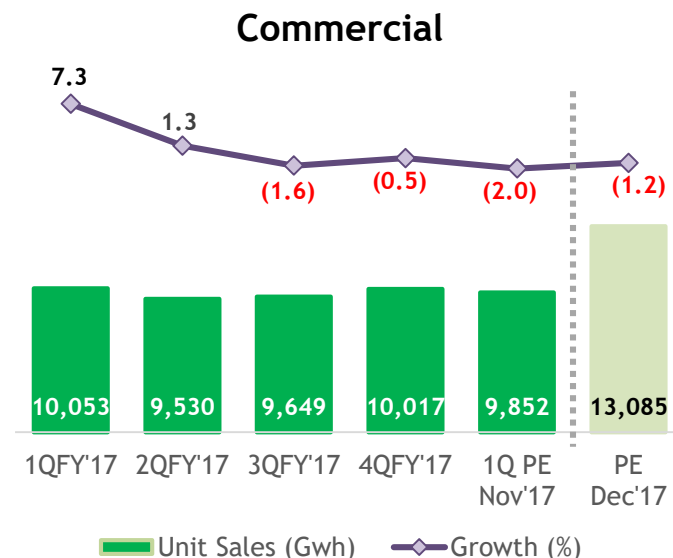
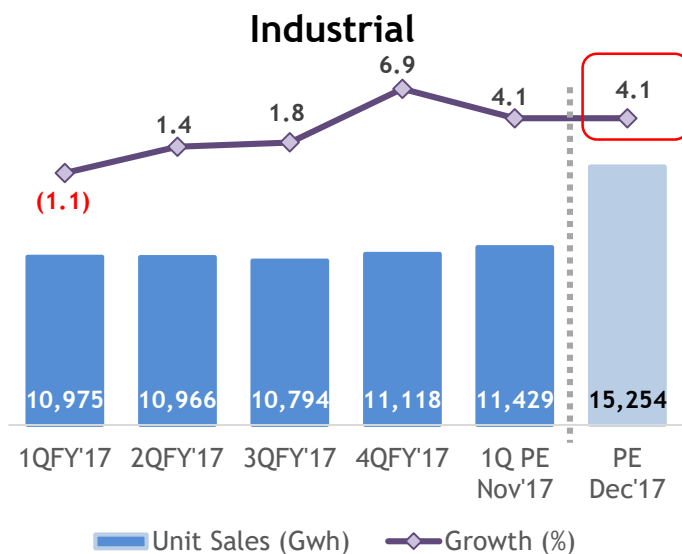
1

Average demand growth for FY2016 & FY2017. This is to eliminate the one-off El-Nino phenomenon during 3QFY'16

* MIER: Malaysian Institute of Economic Research

INTRODUCTION TO TENAGA

Upward Trend In Industrial & Domestic Sector (Y-o-Y)



INTRODUCTION TO TENAGA

Composition of BOD



**CHAIRMAN
TAN SRI LEO MOGGIE**



**EXECUTIVE DIRECTOR / CEO
DATUK SERI IR. AZMAN BIN MOHD**

Independent Non-Executive Directors (Total = 7)



**DATO' ABD MANAF
BIN HASHIM**



**DATUK SAKTHIVEL
ALAGAPPAN**



**TAN SRI DATO' SERI
CHOR CHEE HEUNG**



GEE SIEW YOONG



**NORAINI BINTI
CHE DAN**



**JUNIWATI BINTI
RAHMAT HUSSIN**



**BADRUL ILAHAN
BIN ABD JABBAR**

Non-Independent Non-Executive Directors (Total =2)



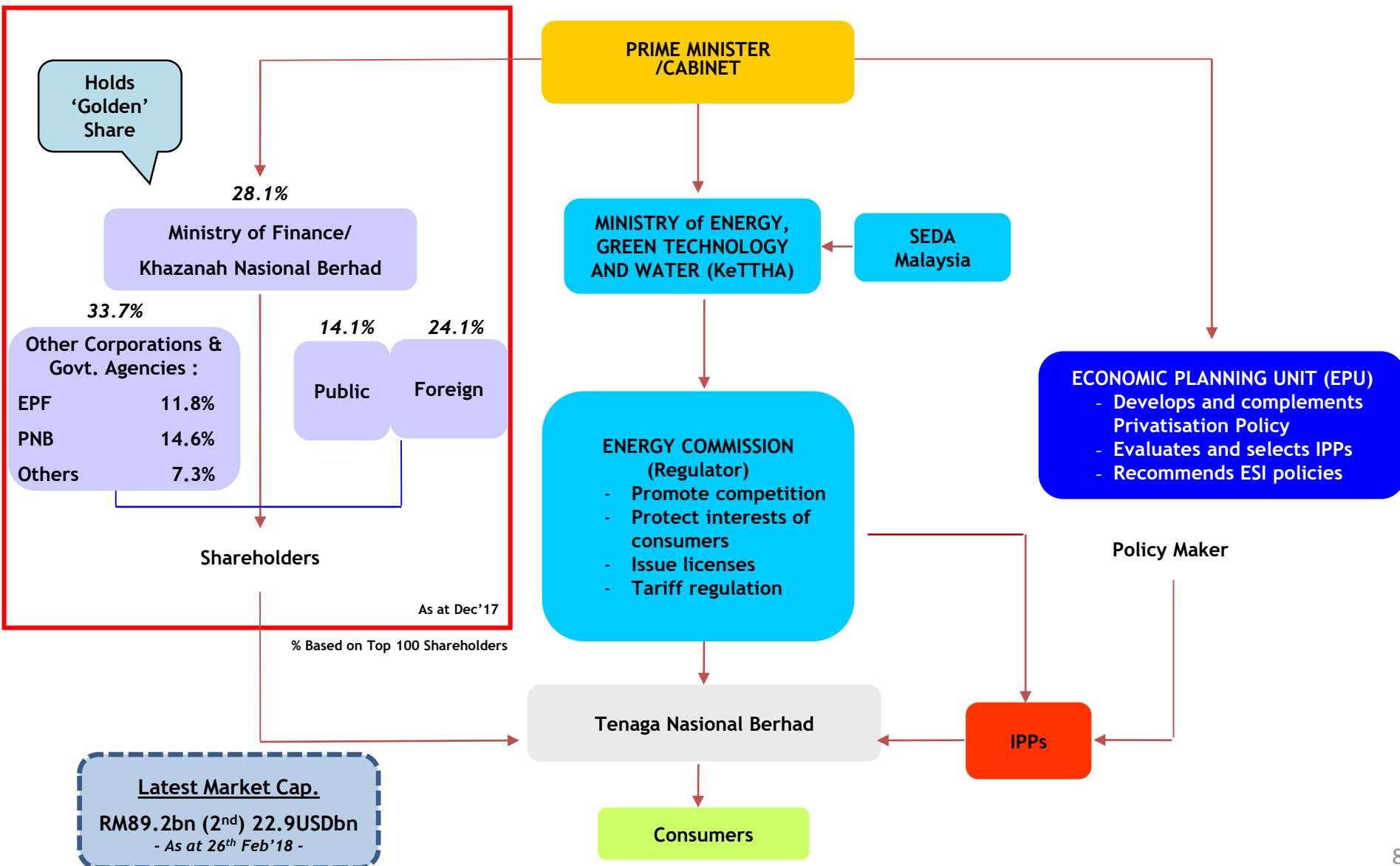
**DATUK SERI
HASHMUDDIN BIN
MOHAMMAD
(MoF)**



**AMRAN HAFIZ BIN
AFFIFUDIN
(Khazanah)**

INTRODUCTION TO TENAGA

Industry Regulatory Framework

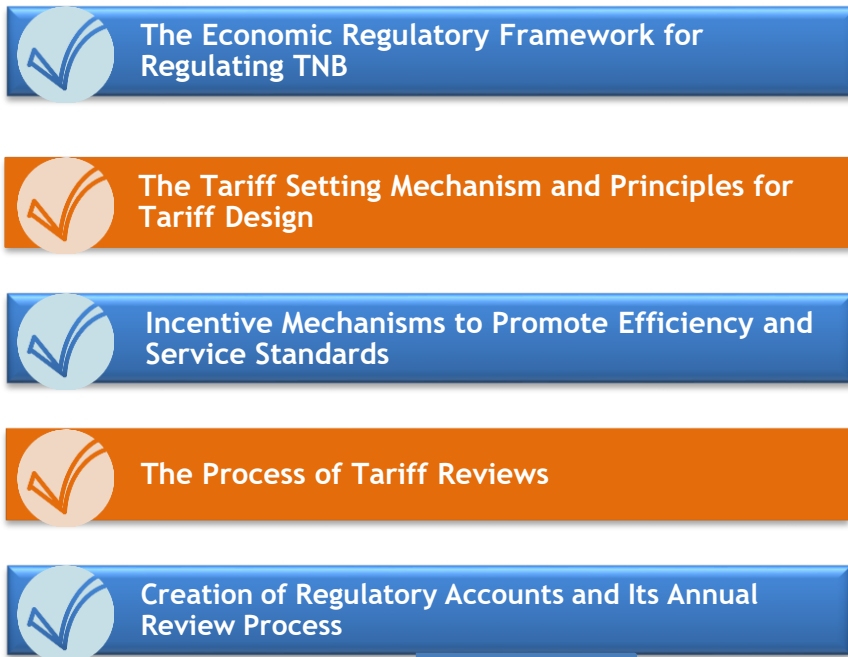


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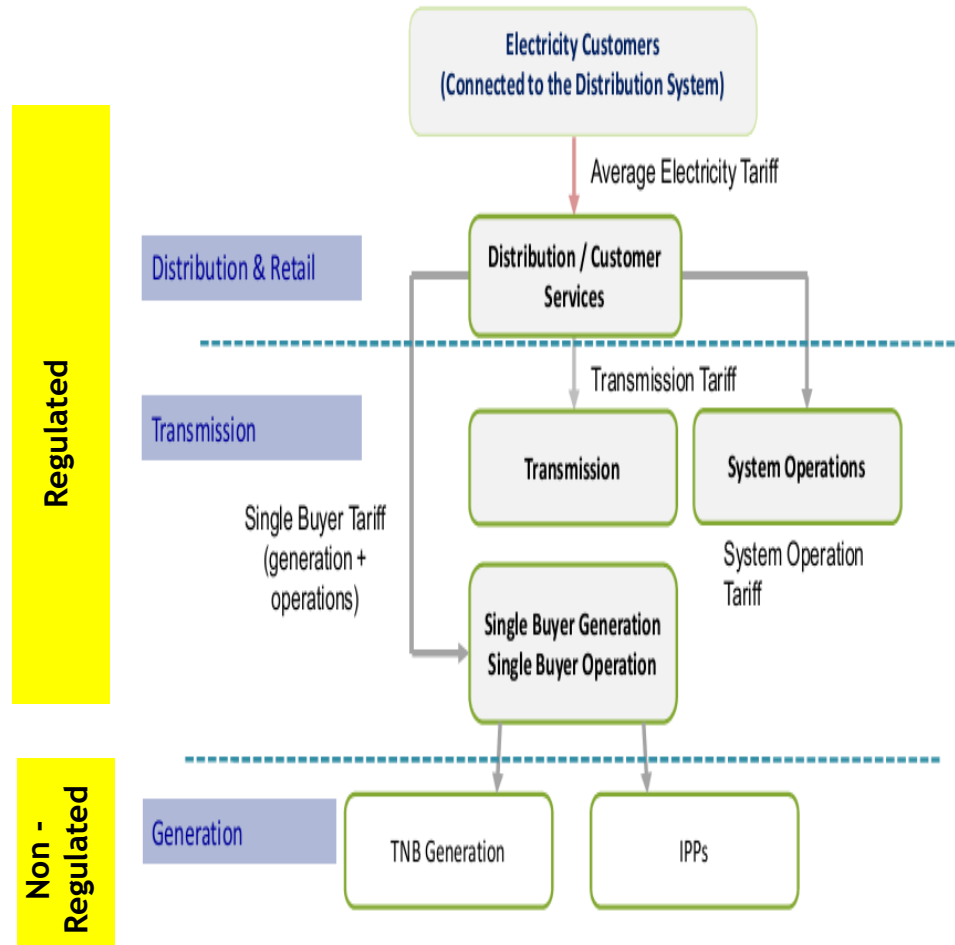
INCENTIVE BASED REGULATION (IBR)

The Move Towards Better Regulation

IBR mechanism to strengthen the following:



Business entities under IBR
(Accounting Separation)



11 Regulatory Implementation Guidelines (RIGS) were Developed for IBR Implementation

INCENTIVE BASED REGULATION (IBR)

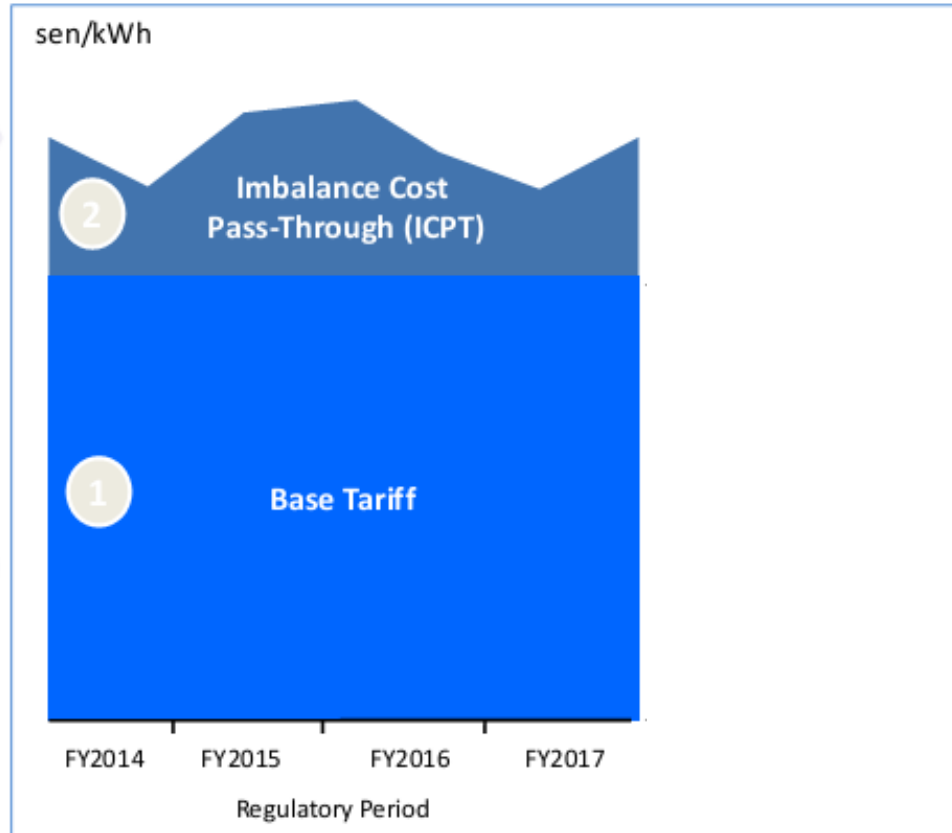
Electricity Tariff Review = Base Tariff + Imbalance Cost Pass-Through (ICPT)

Imbalance Cost Pass-Through (ICPT):

- Tariff adjustment to reflect uncontrollable fuel costs and other generation costs (difference between forecast and actual cost of procuring electricity that is beyond the control of utility)

Base Tariff under IBR framework reflects:

- a) CAPEX and OPEX of
 - transmission, distribution, system operation (SO) and single buyer operation (SB)
- b) Power purchase cost charged by generators (including base price for fuel) to the SB
- c) Return on regulated asset (rate base) of transmission, distribution, SO and SB business units



Principle for ICPT Calculation

Cost components comprise of:

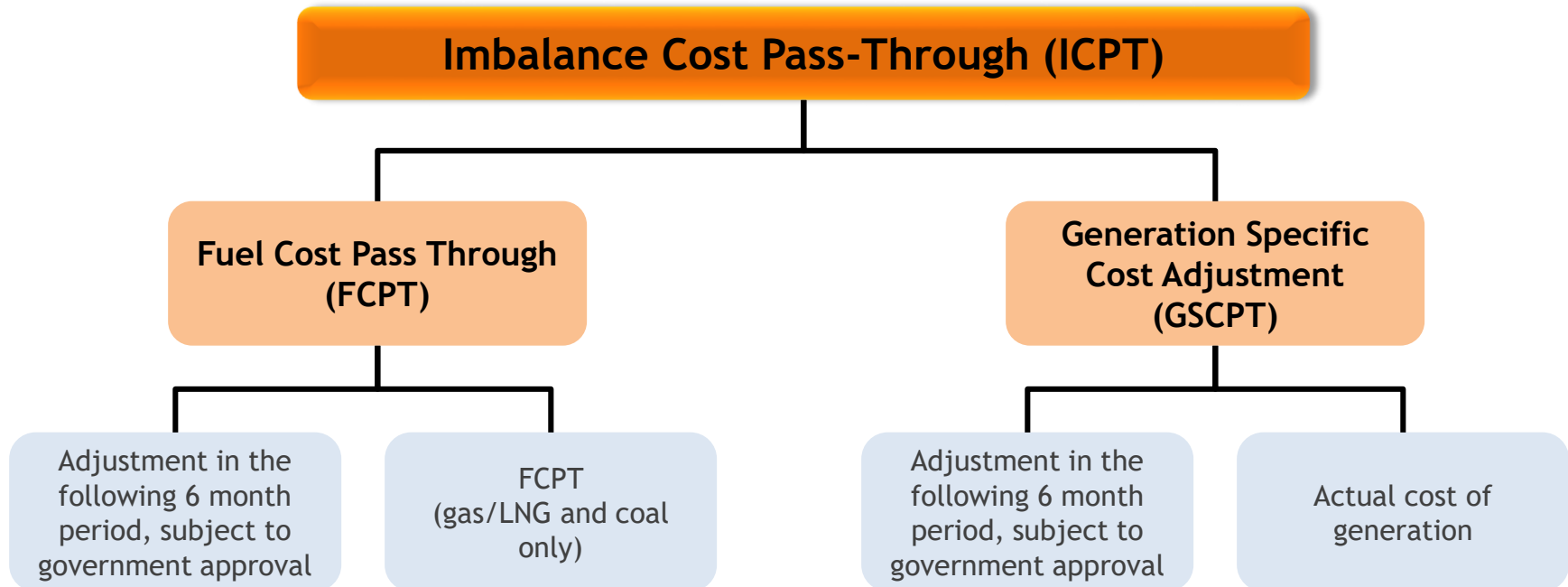
- Actual vs forecast cost of fuels & other generation costs for the preceding 6-month period; and
- Piped gas price increase of RM1.50/mmBtu for the next 6-month period

Note 1 : CAPEX = Capital expenditure

2 : OPEX = Operational expenditure

INCENTIVE BASED REGULATION (IBR)

Imbalance Cost Pass-Through (ICPT) Comprises Two Components



Changes in gas/LNG and coal costs

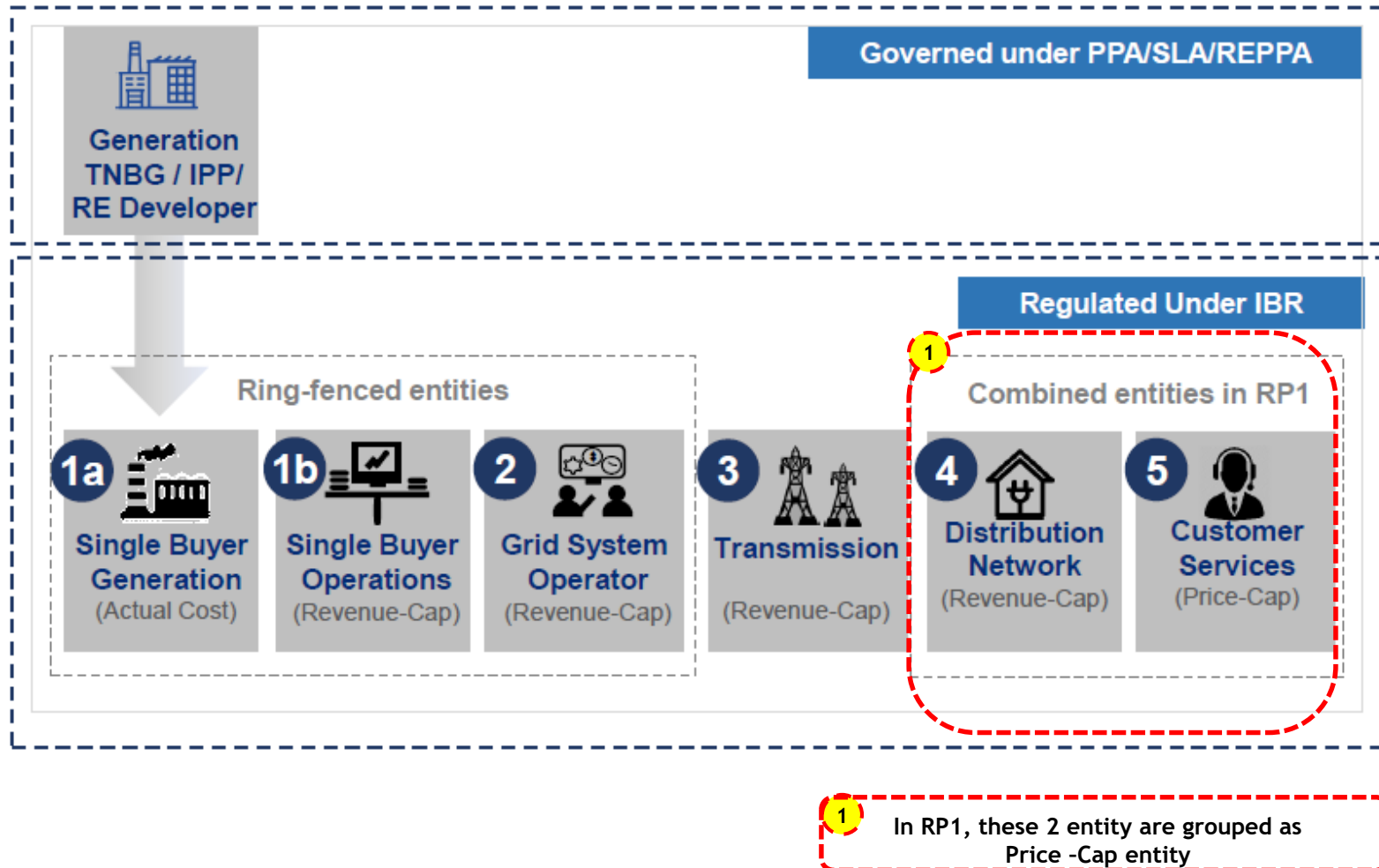
Changes in:

- Other fuel costs such as distillate and fuel oil
- All costs incurred by SB under the power procurement agreements (PPAs, SLAs and etc.) and fuel procurement agreements (CSTA, CPC, GFA/GSA and etc.)
- Renewable energy FiT displaced cost

PPAs	Power Purchase Agreements
SLAs	Service Level Agreements
CSTA	Coal Supply and Transportation Agreement
CPC	Coal Purchase Contract
GFA	Gas Framework Agreement
GSA	Gas Supply Agreement

INCENTIVE BASED REGULATION (IBR)

IBR ENTITIES

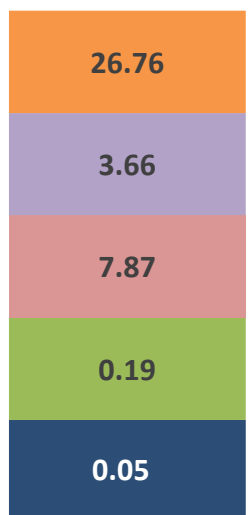


INCENTIVE BASED REGULATION (IBR)

BASE TARIFF

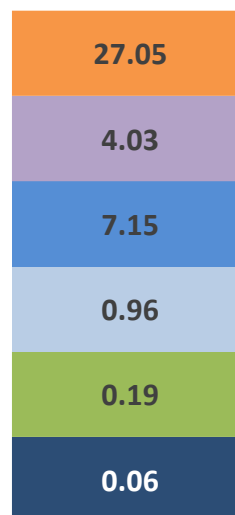
Average Tariff by IBR Entities (sen/kwh)

RP1 (2015 - 2017)



38.53 sen/kwh

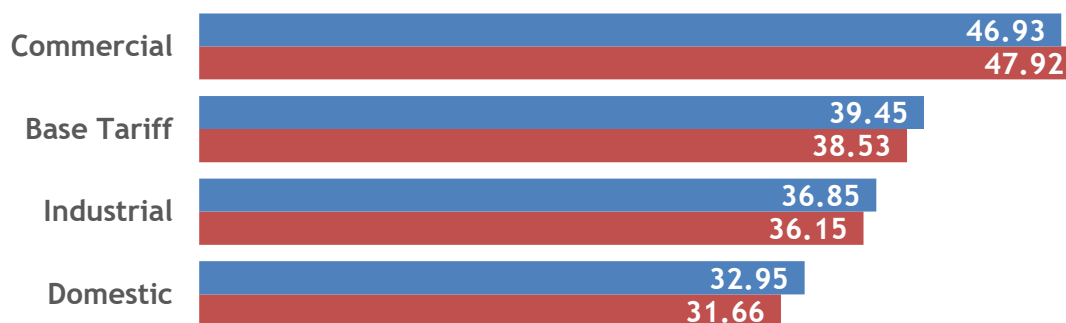
RP2 (2018 - 2020)



39.45 sen/kwh

- Single Buyer Generation
- Transmission/Grid
- Distribution Network & Customer Services
- Distribution Network
- Customer Services
- Single Buyer Operations
- Grid System Operations

Average Tariff by Sectors (sen/kwh)



■ RP2 ■ RP1

INCENTIVE BASED REGULATION (IBR)

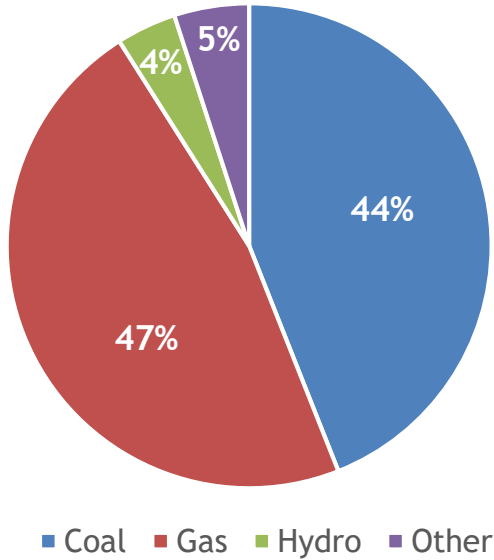
WACC, RAB, CAPEX & OPEX

No	Item	RP2
1.	WACC	7.3%
2.	Avg. Regulated Asset Based (RAB)	RP2 Approved RAB = RM54.8 bn
3.	CAPEX	RP2 Approved CAPEX = RM18.8 bn
4.	OPEX	RP2 Approved OPEX = RM18.2 bn

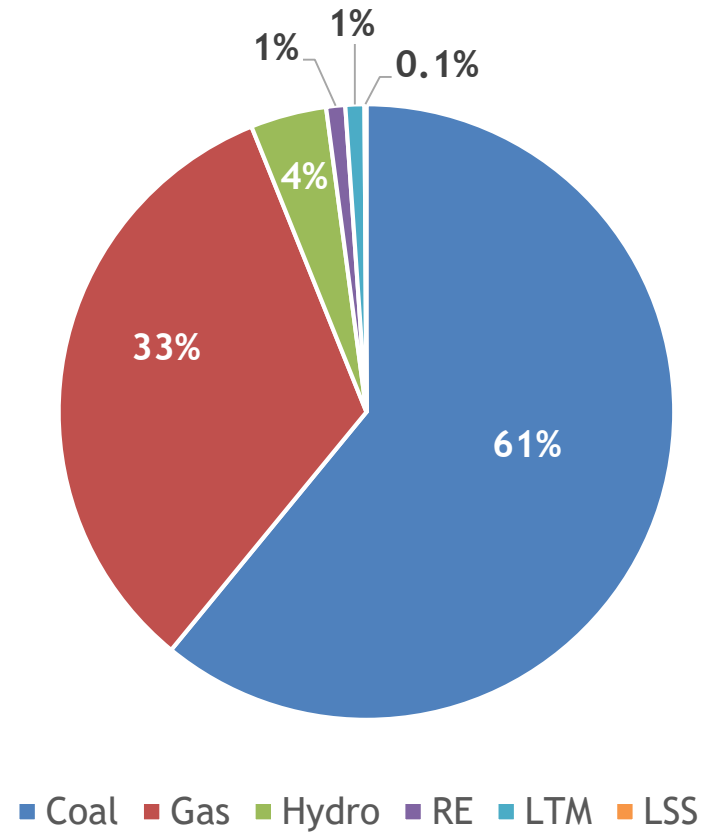
INCENTIVE BASED REGULATION (IBR)

GENERATION MIX

RP1



RP2

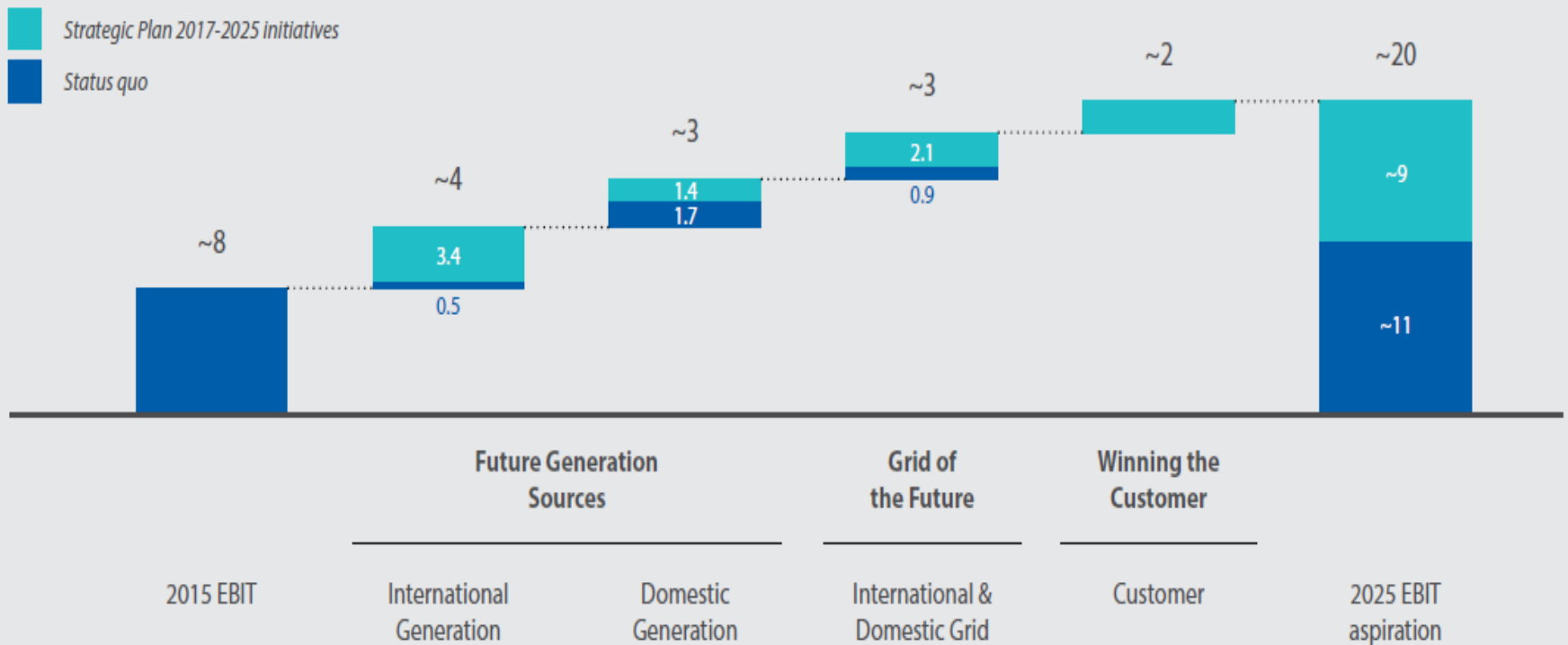


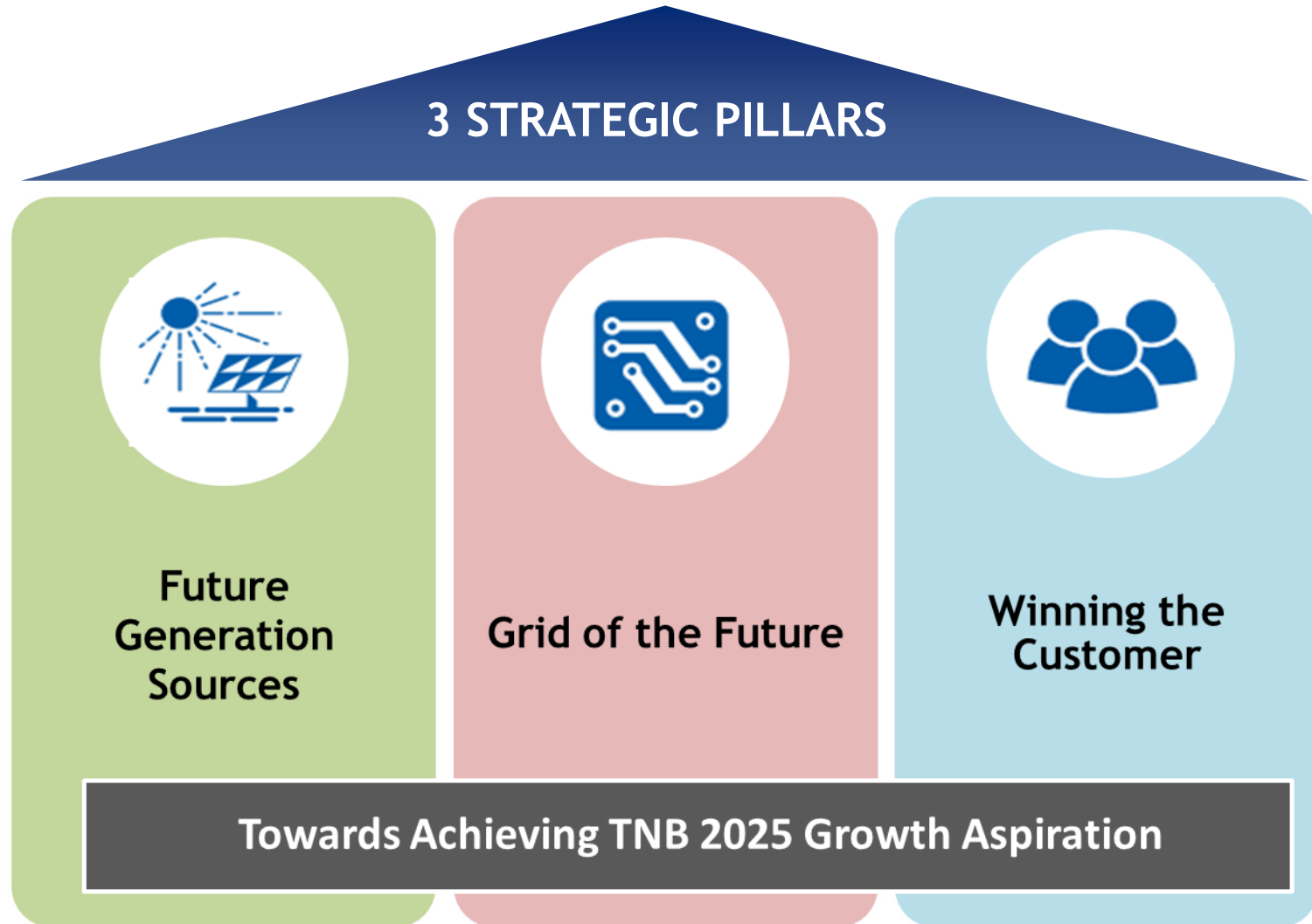
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TNB 2025 GROWTH ASPIRATION

Aspire to Grow our EBIT to RM20.0 billion by 2025 through Domestic & International Investment

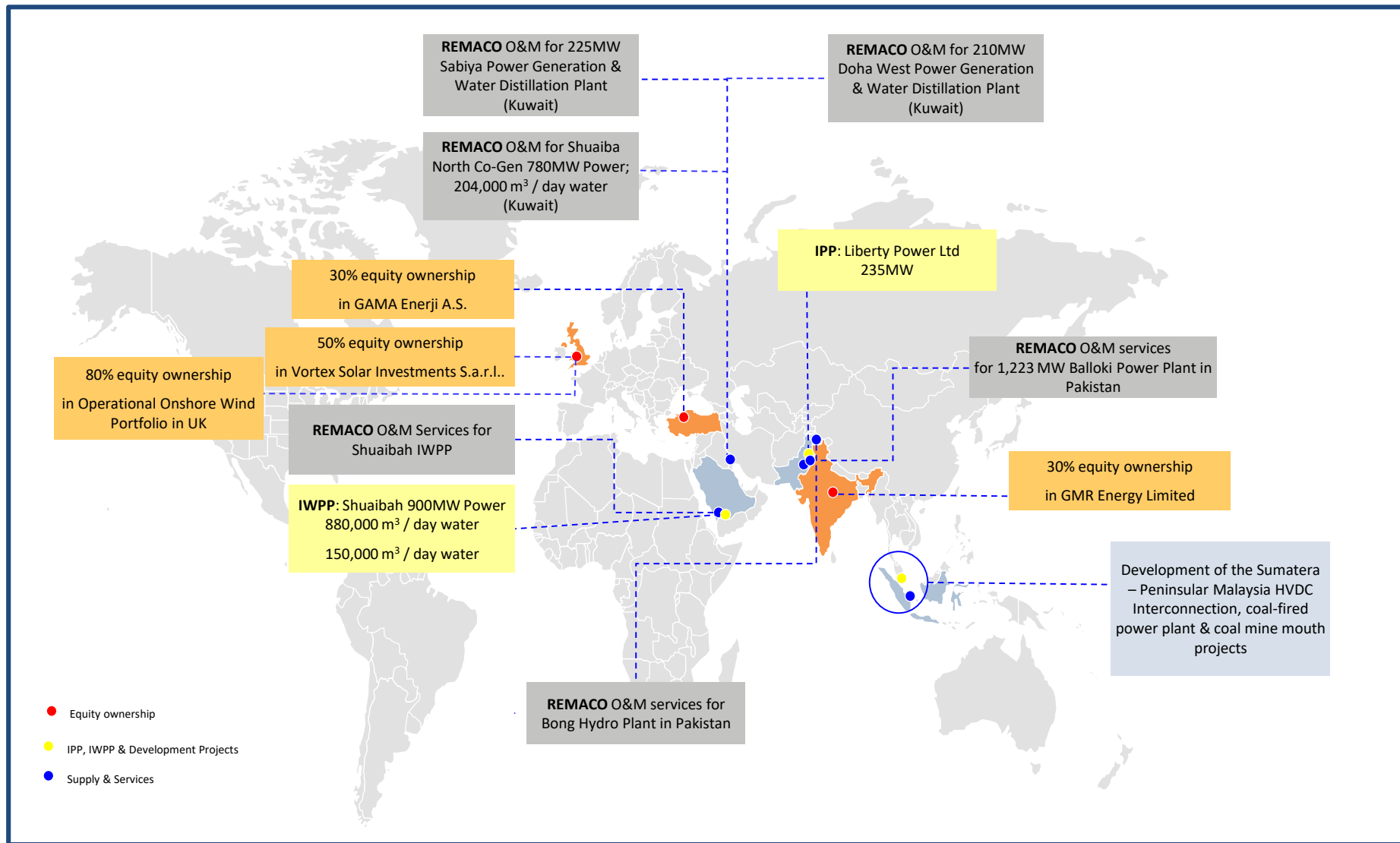
TNB 2025 Growth Aspiration (in RM Billion)





EXPANDING GLOBAL FOOTPRINT TO ACHIEVE ASPIRATION

TNB is currently present in more than 5 countries



INTERNATIONAL ACQUISITION

Four International Acquisitions to Support Aspiration



30%

Equity interest of GAMA Enerji A.S.

Assets include a 840MW natural gas-fired plant and 117.5MW wind plants



30%

Equity interest of GMR Energy Limited.

Assets include 2,298MW coal, gas and solar plants.

Vortex Solar UK

50%

Equity interest of Vortex Solar Investments S.a.r.l.

Assets include 24 operational solar PV Farm across England and Wales with net installed capacity of about 365MW

Tenaga Wind Ventures

80%

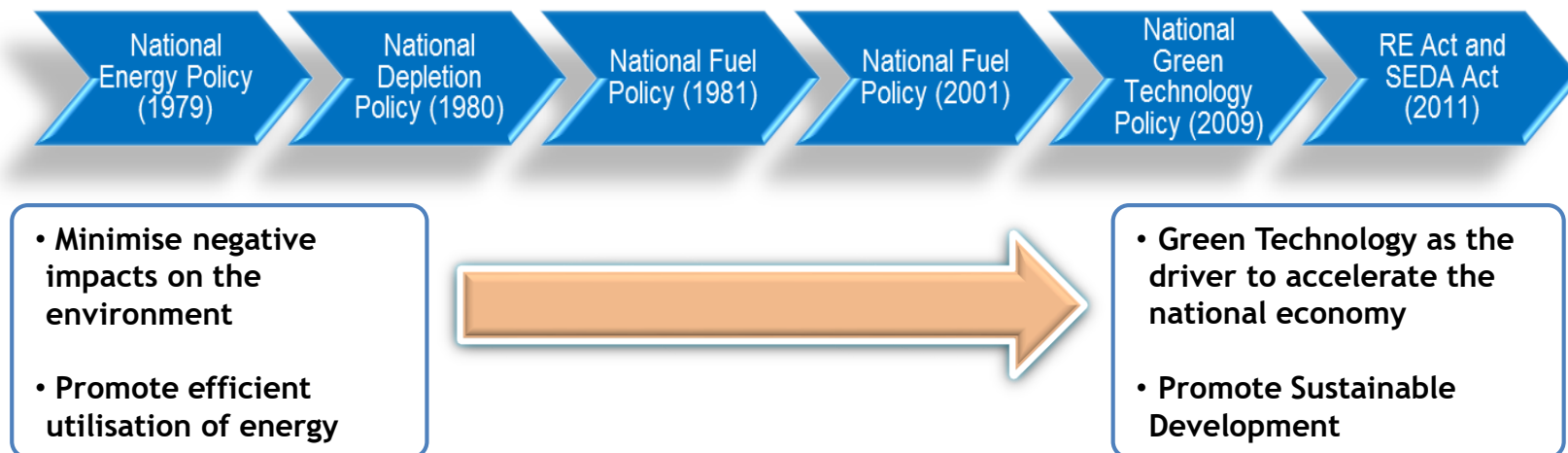
Equity interest of GVO Wind Limited & Blumerang Capital Limited

Assets include 53 operational onshore medium wind turbines with a total combined capacity of 26.1MW

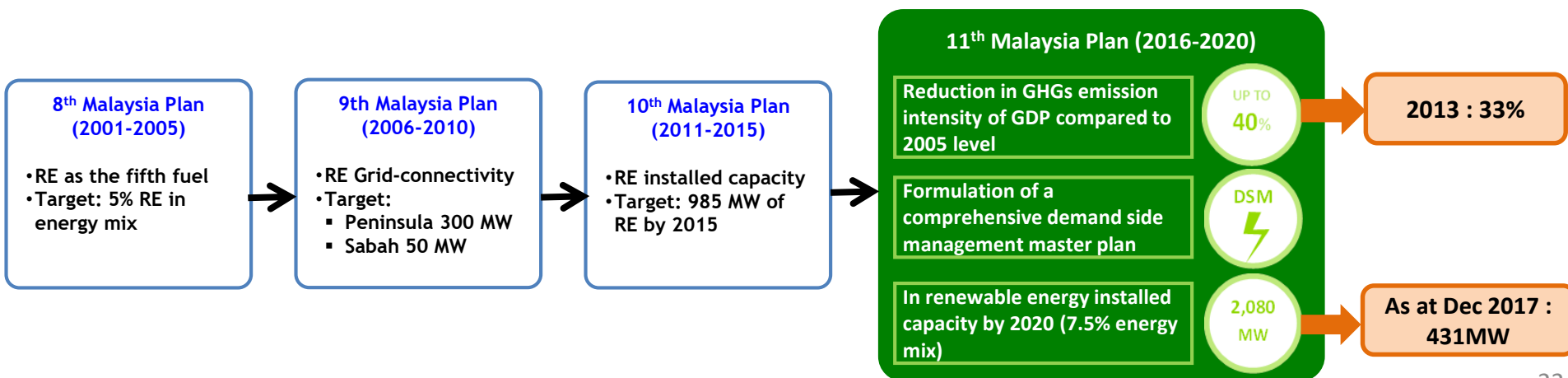
RENEWABLE GENERATION

Government Green Policy & Initiatives

Evolution on National Energy Policies



Government Green Development Plan



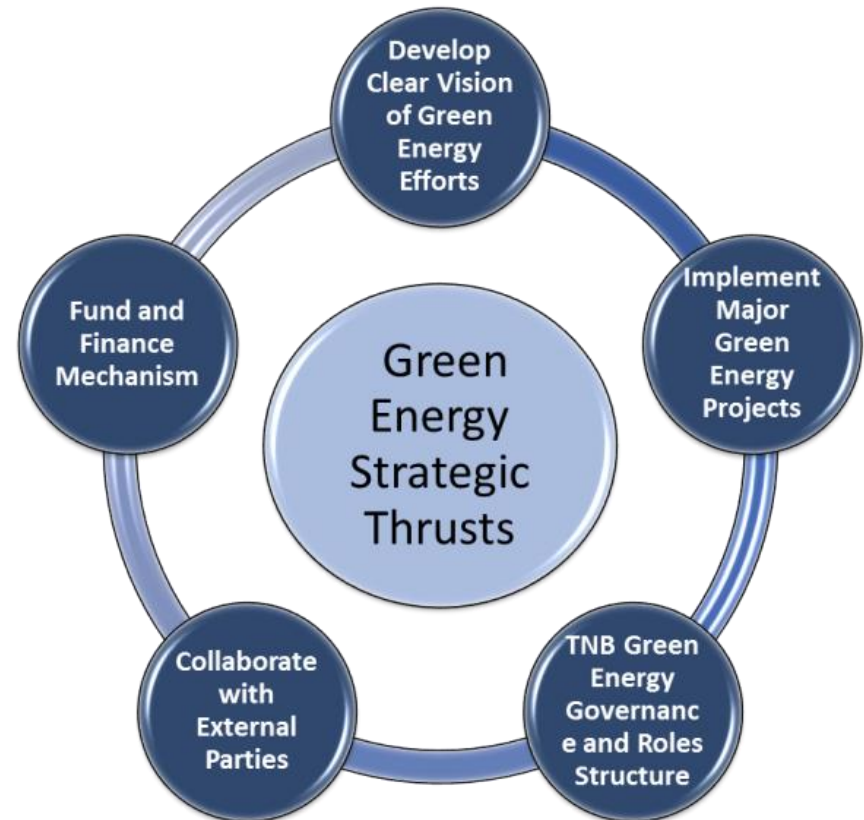
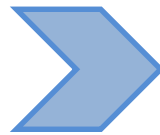
TNB Green Policy

“TNB is committed to support the national green agenda and minimise the environmental impact of our business by applying sustainable, efficient operations and delivering green energy through the application of appropriate technologies and investments”

**TNB RE Targets
by 2025**

1,700MW

**Actual as at to date
280MW**



BUILDING RENEWABLE ENERGY PORTFOLIO FOR GREENER FUTURE

50MW and 30MW Large Scale Solar (LSS) Photovoltaic Plants

TNB SEPANG SOLAR



50MW
LSS Photovoltaic Plant

Expected COD: 1 November 2018
PPA Tenure: 21 years

BUKIT SELAMBAU, KEDAH



30MW
LSS Photovoltaic Plant

TNB received a Letter of Acceptance
of Offer from Energy Commission
(EC) to develop a 30MW LSS Plant

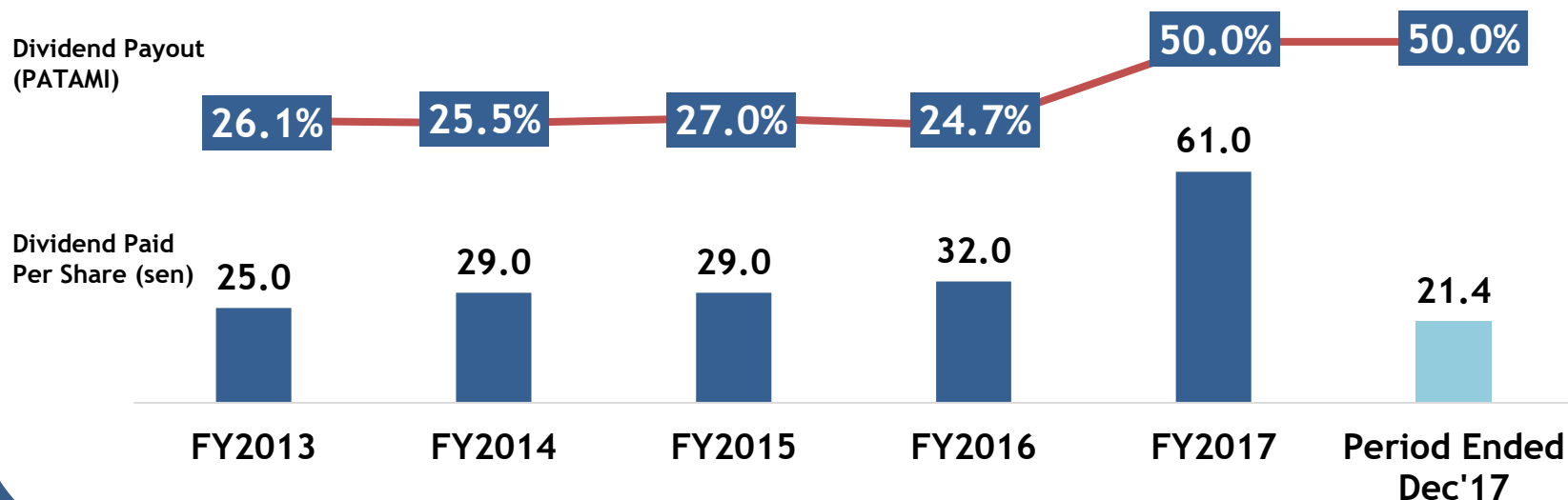
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FY2017 MARKS THE HIGHEST DIVIDEND PAYOUT TO DATE

Continue to Maximise Shareholders Value Through Consistent and Sustainable Dividend Payout Ratio at 50%

Dividend Policy

Distribution of dividend is based on 30% to 60% dividend payout ratio, based on the reported Consolidated Net Profit Attributable to Shareholders After Minority Interest, excluding Extraordinary, Non-Recurring items

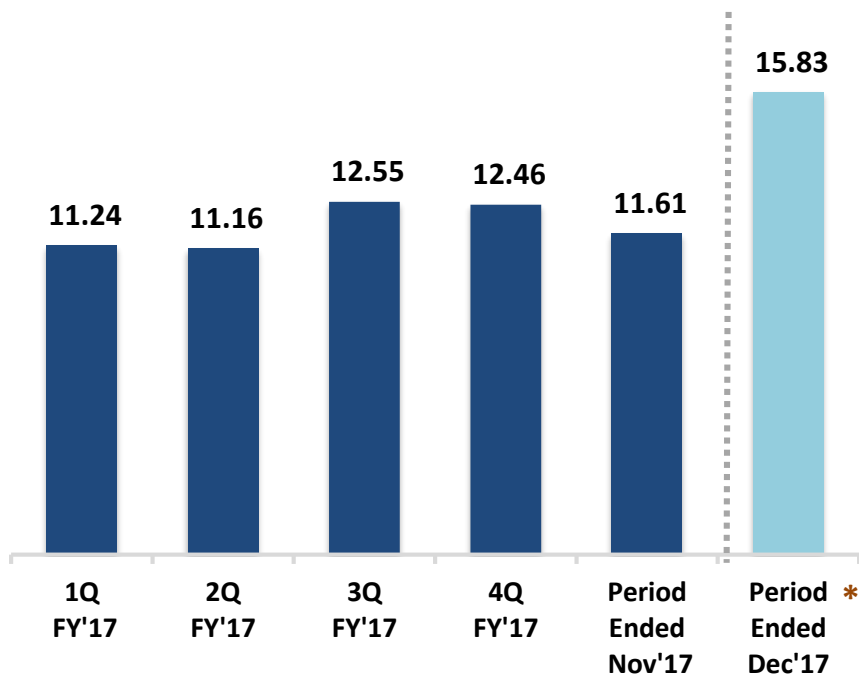


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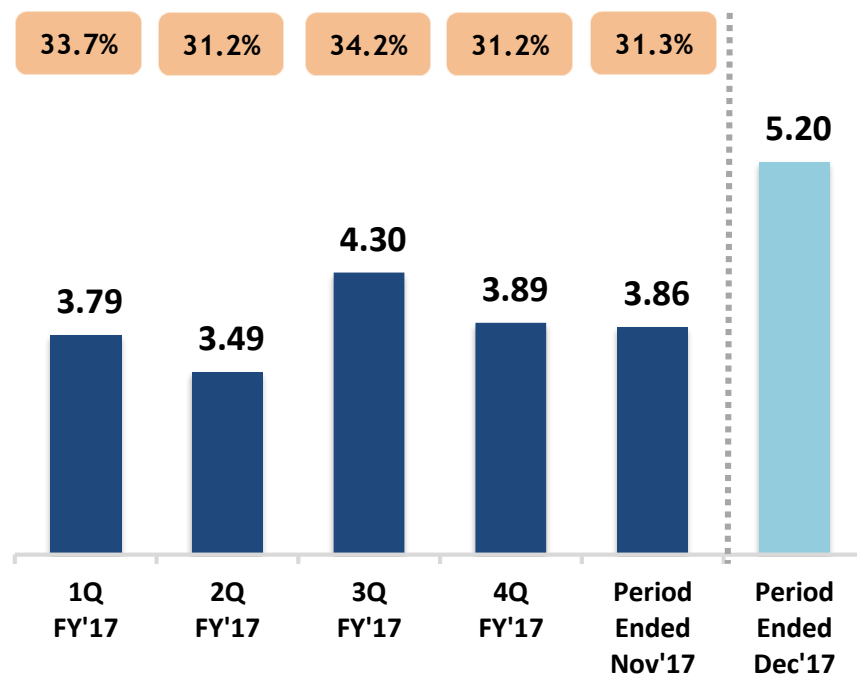
FINANCIAL HIGHLIGHTS

Solid Finish for a Short Financial Year

Revenue (RM bn)



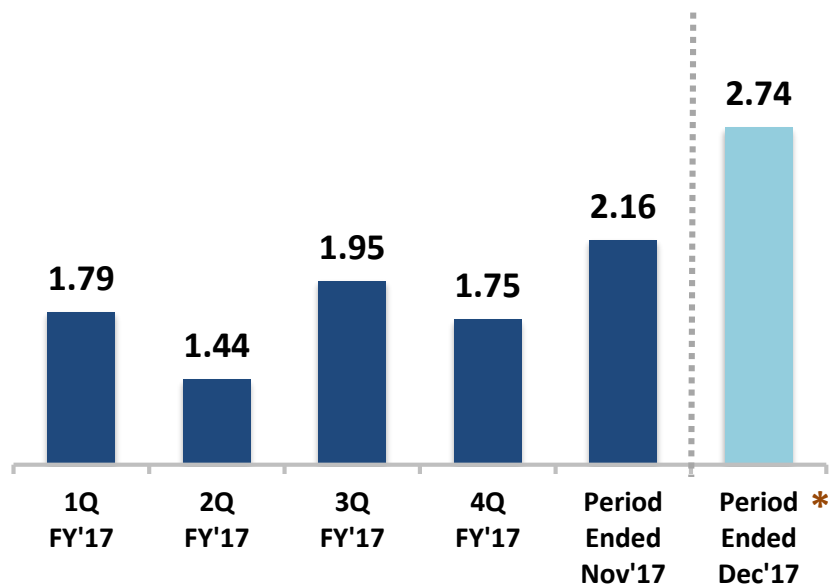
EBITDA (RM bn)



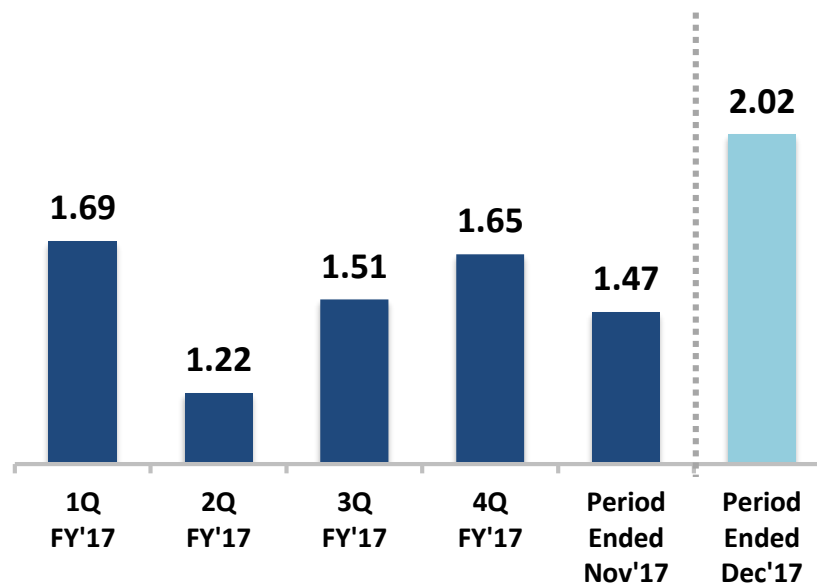
FINANCIAL HIGHLIGHTS

Financial Position Remain Intact

PAT (RM bn)



Normalised PAT (RM bn)



* Period of 4 months (Sep-Dec'17)

FINANCIAL HIGHLIGHTS

Key Performance Indicators

	Period Ended 31 Dec'17	Aug'17
• Return on Assets (ROA) (%)	5.6	5.4
• Company CPU (sen/kwh)	37.3	36.6
• Equivalent Plant Availability Factor (EAF) (%)	85.7	89.5
• Transmission System Minutes (mins)	0.05	0.23
• Distribution SAIDI (mins)	18.1	50.2

Jimah East Power

80%

Planned: 79%

2,000MW

COD:

U1: 15th Jun 2019

U2: 15th Dec 2019



TNB Sepang Solar

50%

Planned: 55%

50MW

COD:

1st Nov 2018



Southern Power Generation (SPG)

13%

Planned: 10%

1,440MW

COD:

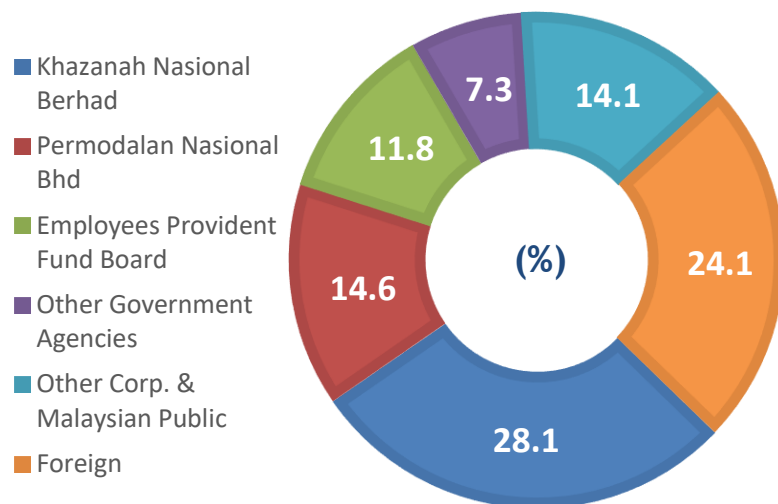
1st July 2020



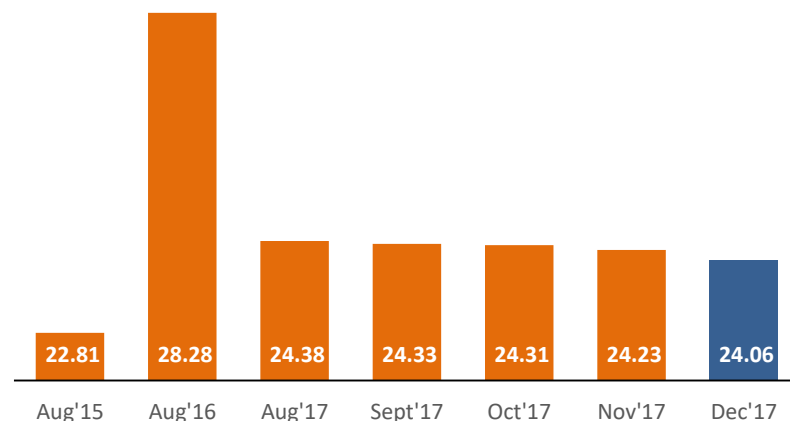
FINANCIAL HIGHLIGHTS

Growing Market Capitalization

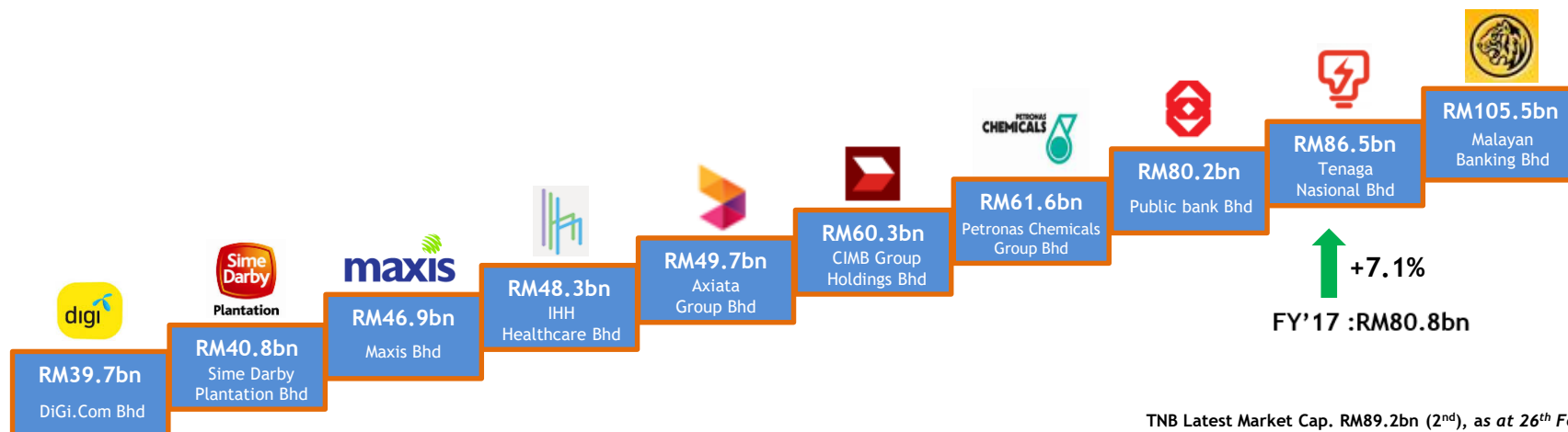
Shareholding as at Dec'17



Foreign Shareholding (%)



Market Capitalization as at Dec'17



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THANK YOU