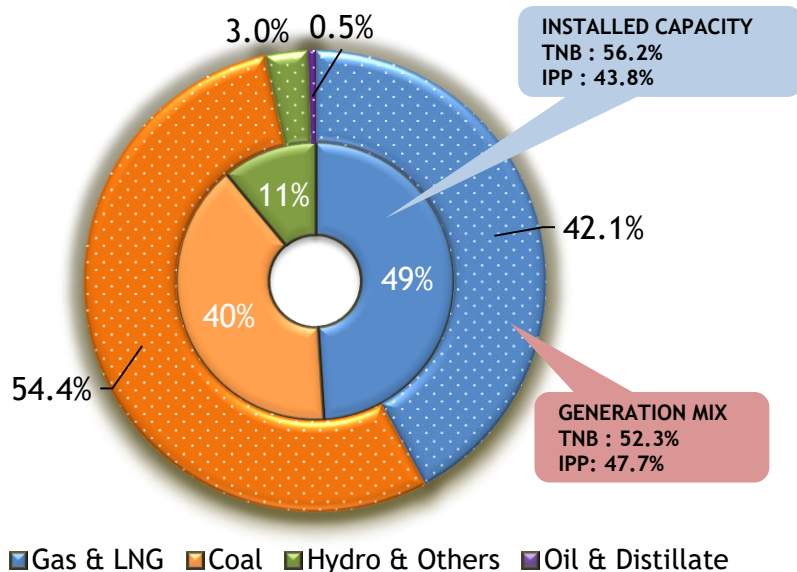
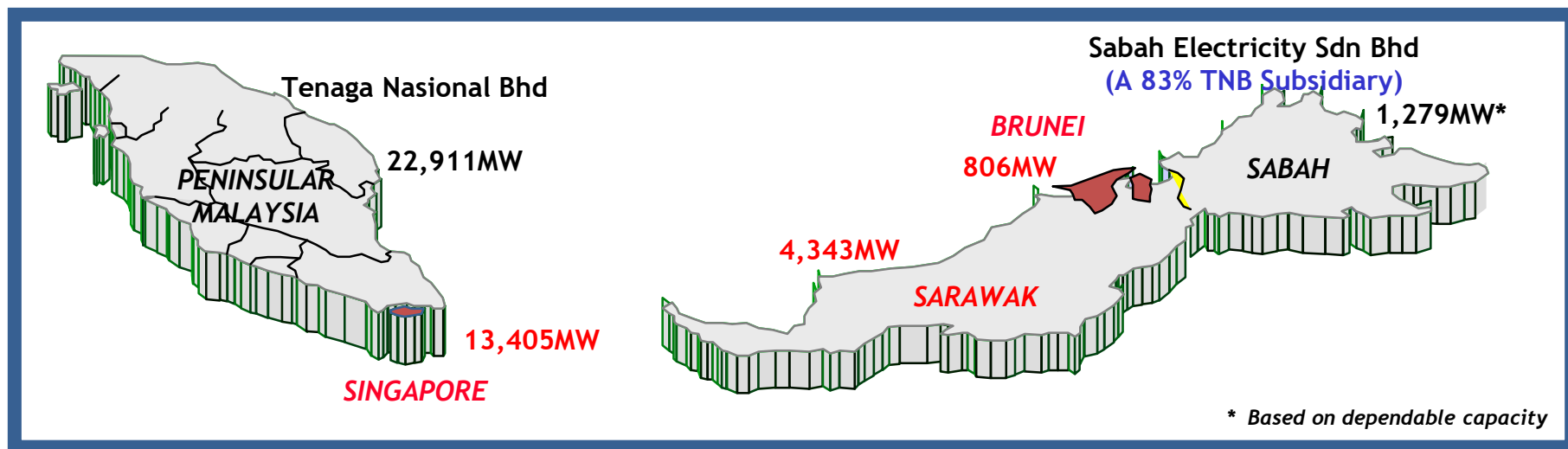


# TNB HANDBOOK

**NOMURA**

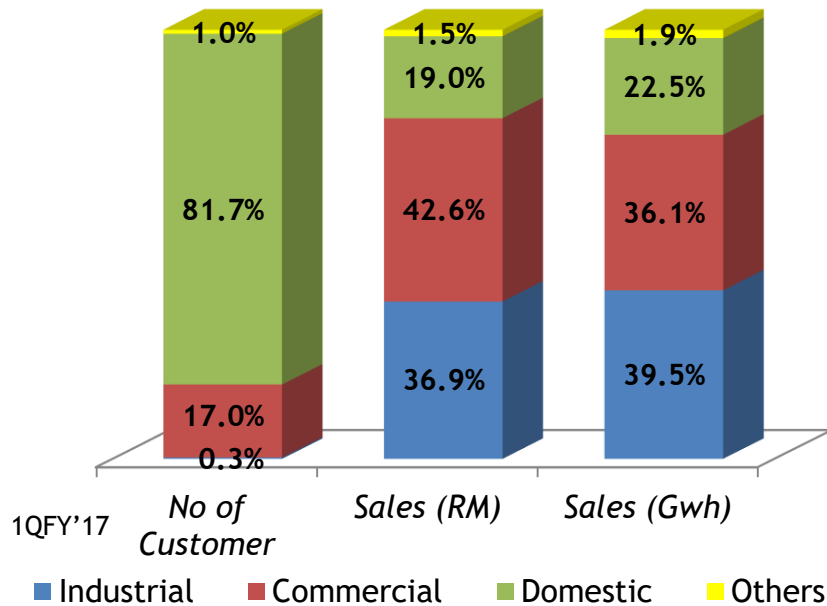
1. INTRODUCTION TO TENAGA
2. INCENTIVE BASED REGULATION (IBR)
3. BUSINESS STRATEGY & DIRECTION
4. DIVIDEND POLICY
5. FINANCIAL HIGHLIGHTS



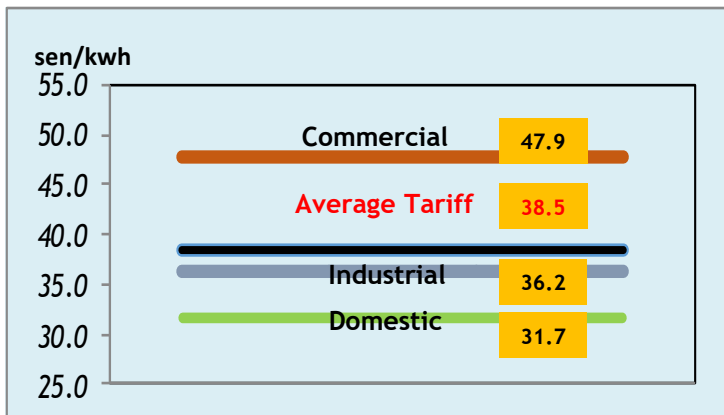
|   | FY'13   | FY'14   | FY'15   | FY'16   | 1QFY'17 |
|---|---------|---------|---------|---------|---------|
| TNB - Peninsula Installed Capacity (MW) | 11,462  | 10,814  | 11,708  | 12,904  | 12,880  |
| Total units sold (Gwh)                  | 105,479 | 108,102 | 110,837 | 115,505 | 29,548  |
| Total customers (mn)                    | 8.35    | 8.64    | 8.94    | 9.21    | 9.11    |
| Total employees ('000)                  | 35.0    | 36.1    | 36.0    | 35.6    | 35.6    |
| Total assets (RM bn)                    | 99.0    | 110.7   | 117.1   | 132.9   | 138.1   |

# INTRODUCTION TO TENAGA

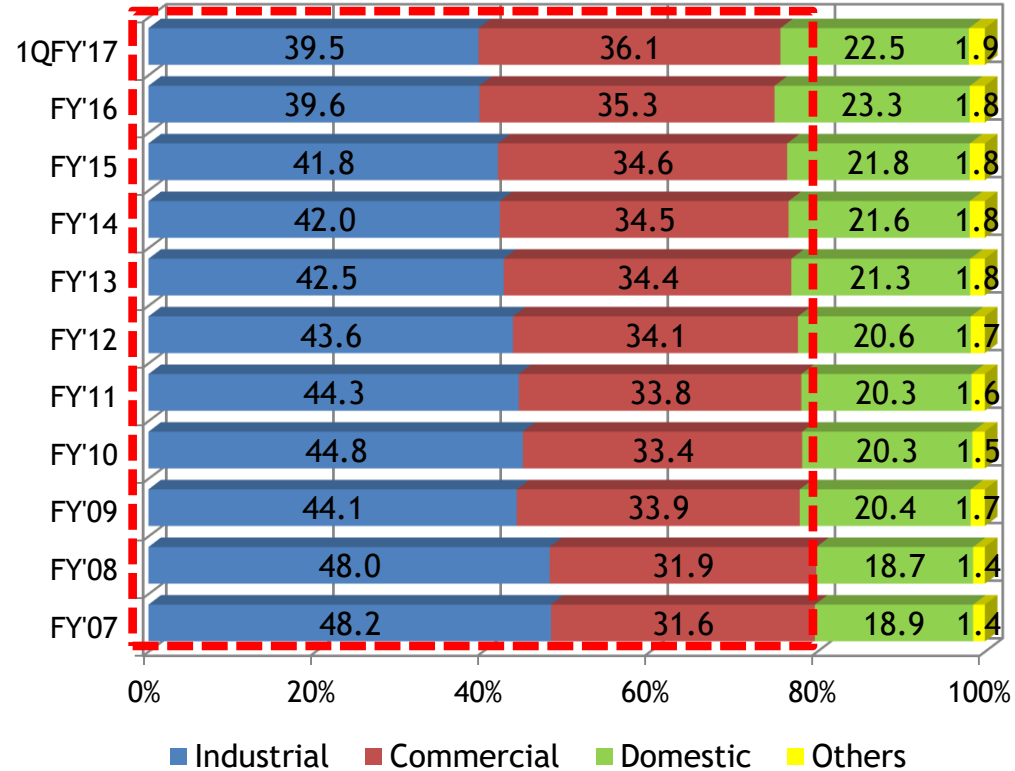
## Sectoral Sales Analysis



### Average Base Tariff by Sector



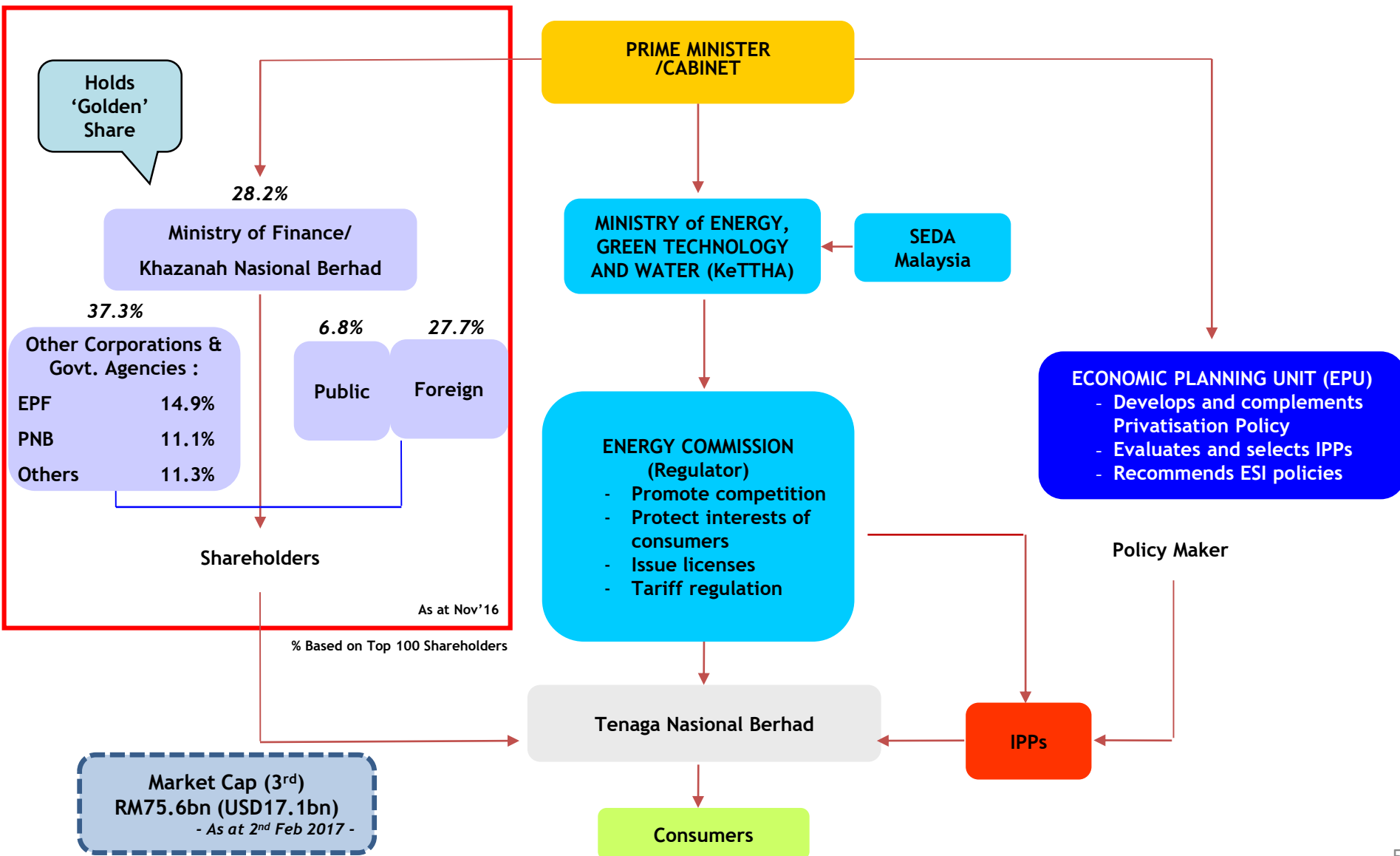
## Sectoral Sales Analysis (Gwh)



- Shift from Industrial-based to Service-based economy
- Commercial sector contributes the highest electricity sales margin

# INTRODUCTION TO TENAGA

## Industry Regulatory Framework



1. INTRODUCTION TO TENAGA
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# INCENTIVE BASED REGULATION (IBR)

## The Move Towards Better Regulation

IBR mechanism to strengthen the following:

 The Economic Regulatory Framework for Regulating TNB

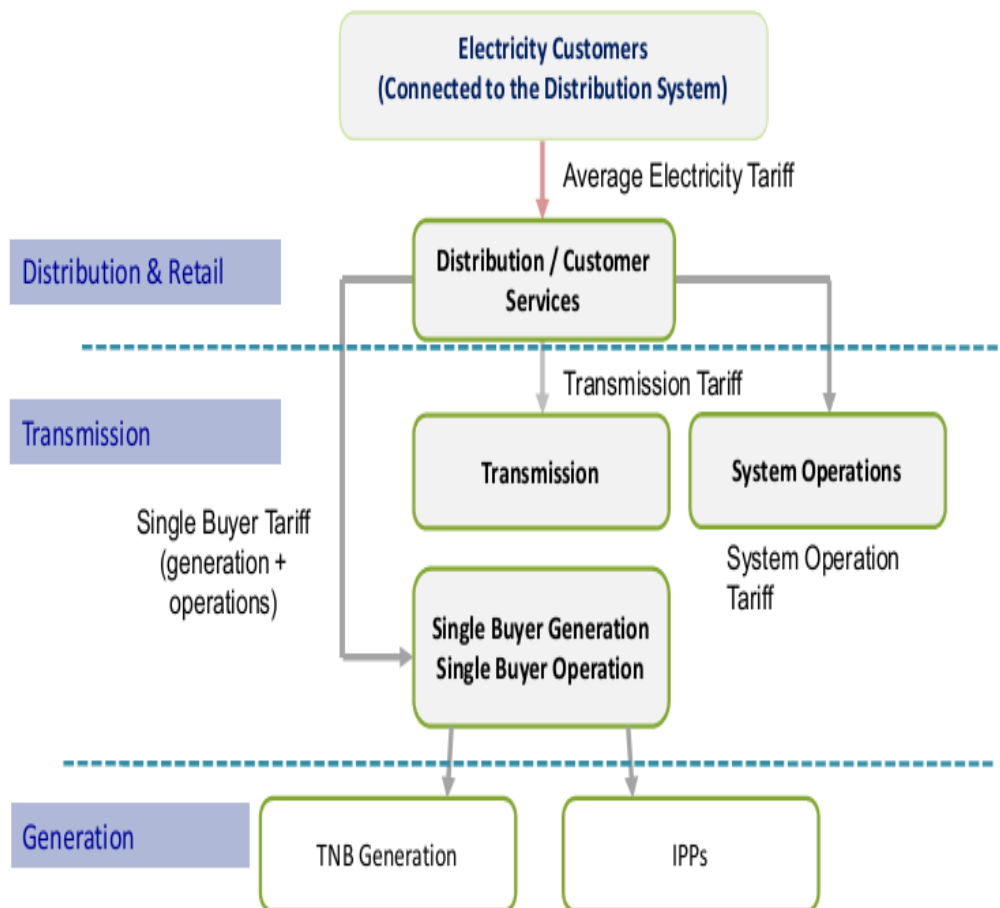
 The Tariff Setting Mechanism and Principles for Tariff Design

 Incentive Mechanisms to Promote Efficiency and Service Standards

 The Process of Tariff Reviews

 Creation of Regulatory Accounts and Its Annual Review Process

Business entities under IBR  
(Accounting Separation)



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

# INCENTIVE BASED REGULATION (IBR)

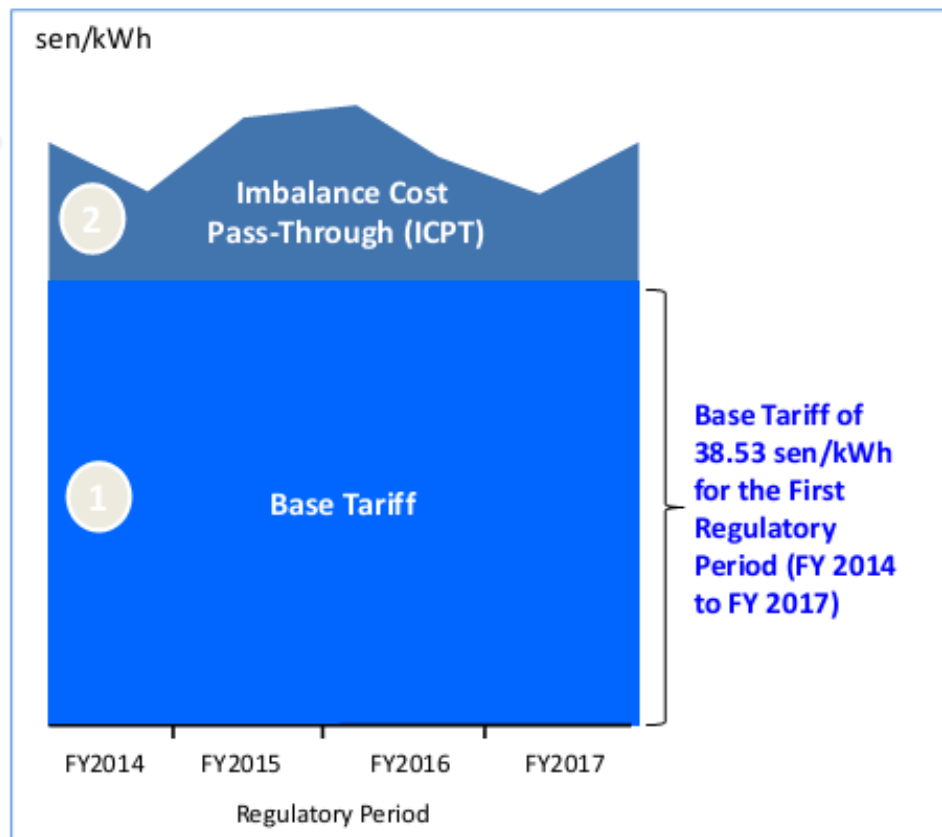
**Electricity Tariff Review = Base Tariff + Imbalance Cost Pass-Through (ICPT)**

## 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:

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



## Principle for ICPT Calculation

Cost components comprise of:

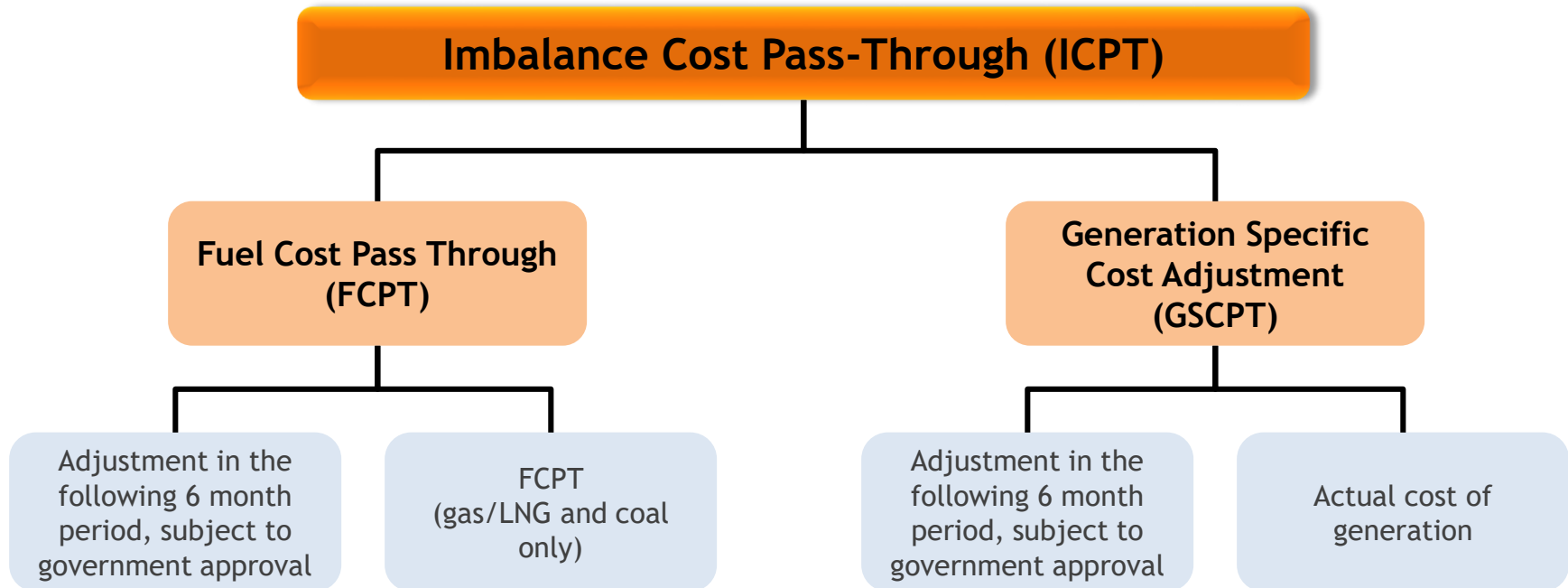
- Actual vs forecast cost of fuels & other generation costs for the preceding 6-month period; and
- Piped gas price increase of RM1.50/mmBtu for the next 6-month period

Note 1 : CAPEX = Capital expenditure  
Note 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:

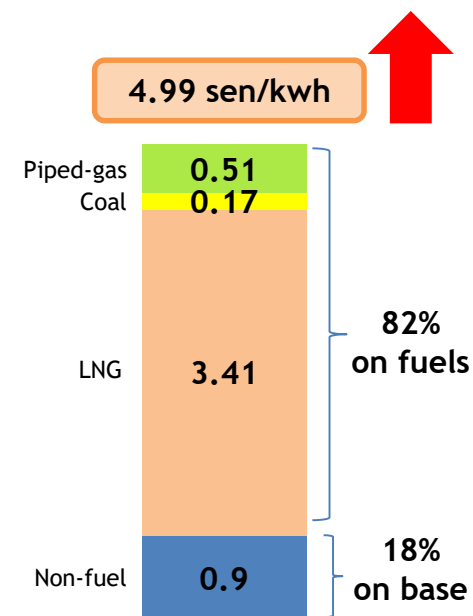
- Other fuel costs such as distillate and fuel oil
- All costs incurred by SB under the power procurement agreements (PPAs, SLAs and etc.) and fuel procurement agreements (CSTA, CPC, GFA/GSA and etc.)
- Renewable energy FiT displaced cost

|      |  |
|------|--|
| 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)

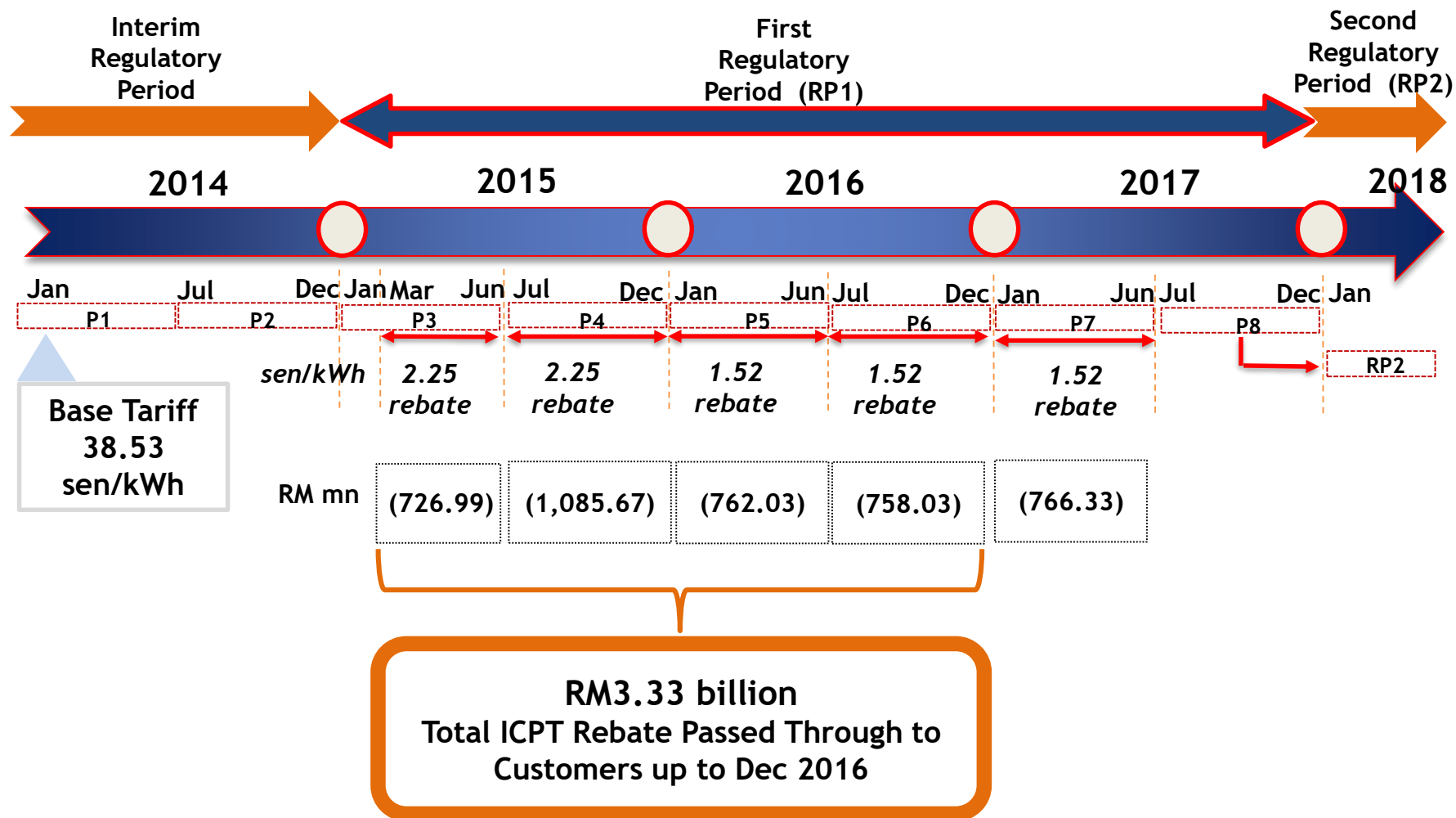
Average Base Tariff of 38.53 sen/kwh is Effective from 1<sup>st</sup> January 2014

| Tariff Components   | sen/kWh      | % increase   |
|---|--------------|--------------|
| Average Tariff (Jun 2011)   | 33.54        |              |
| Fuel Components:  |              |              |
| <ul style="list-style-type: none"> <li>Piped-gas regulated price (from RM13.70/mmBTU to RM15.20/mmBTU @1,000 mmscfd)</li> </ul> | 0.51         | 1.52         |
| <ul style="list-style-type: none"> <li>Coal (market price) (from USD85/tonne to USD87.5/tonne CIF@CV 5,500kcal/kg)</li> </ul>   | 0.17         | 0.51         |
| <ul style="list-style-type: none"> <li>LNG RGT market price at RM41.68/mmBTU (for gas volume &gt; 1,000 mmscfd)</li> </ul>      | 3.41         | 10.17        |
| Non-fuel component (TNB Base Tariff)  | 0.90         | 2.69         |
| <b>AVERAGE BASE TARIFF EFFECTIVE<br/>1<sup>st</sup> JANUARY 2014</b>  | <b>38.53</b> | <b>14.89</b> |



# INCENTIVE BASED REGULATION (IBR)

## IBR Regulatory Period Timeline & ICPT Review



1. INTRODUCTION TO TENAGA
2. INCENTIVE BASED REGULATION (IBR)
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# BUSINESS STRATEGY & DIRECTION

**TNB Aspires to Become a Domestic and Regional Champion**

## DOMESTIC & REGIONAL CHAMPION

**Enabling a  
Stable  
Regulatory  
Environment**

**Exceeding  
Customer  
Expectations**

**Driving  
Operational  
Excellence &  
Cost Efficiencies**

**Growing  
Profitable  
Business**

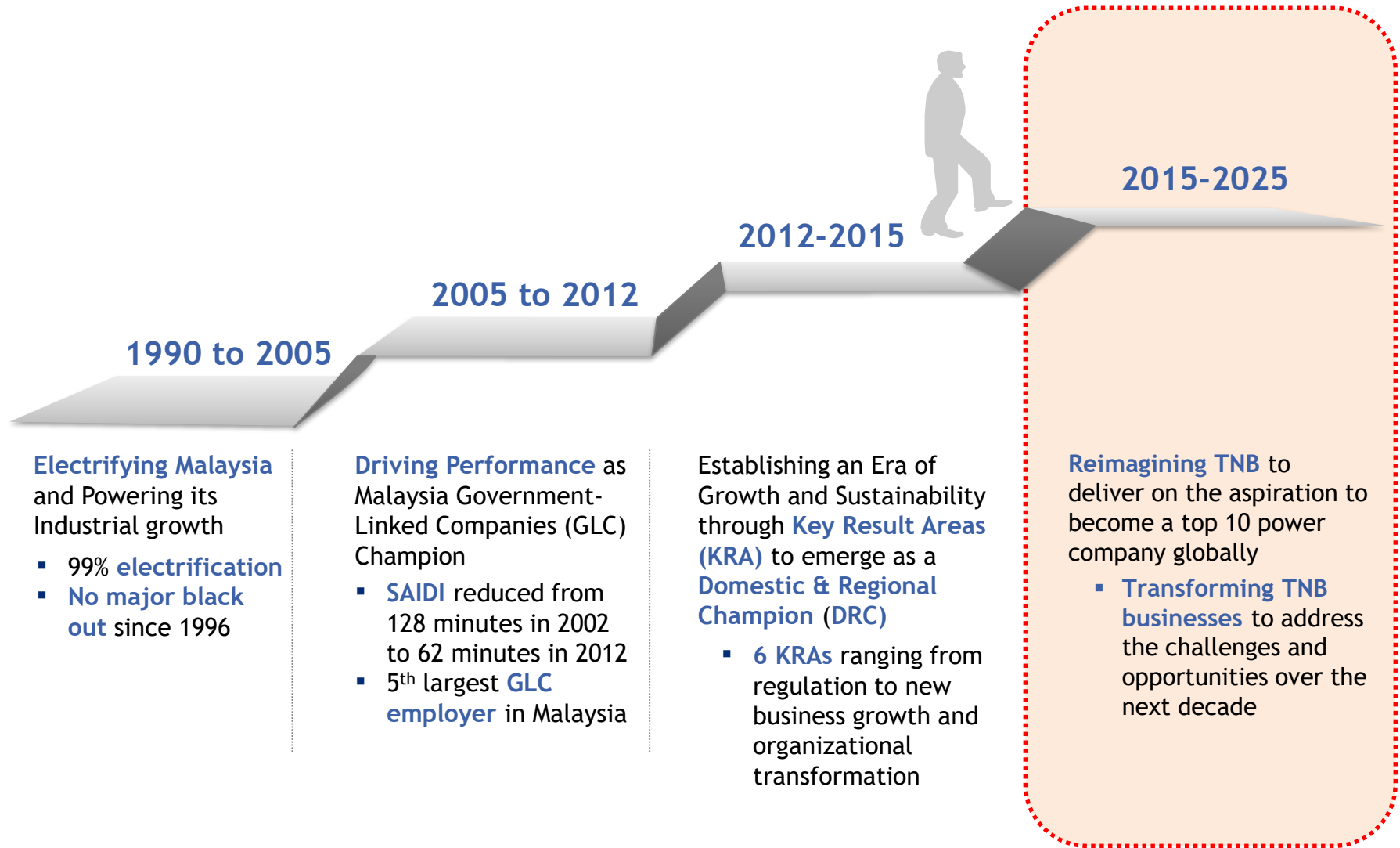
**Transforming Our People and Leadership**

## OUR STRATEGY

TNB's strategy to achieve our aspiration of becoming amongst the leading corporations in the energy & related business globally is centred on five focus areas: Enabling a stable regulatory environment, exceeding customer expectations, driving operational excellence and cost efficiencies, growing profitable business, and transforming our people and leadership.

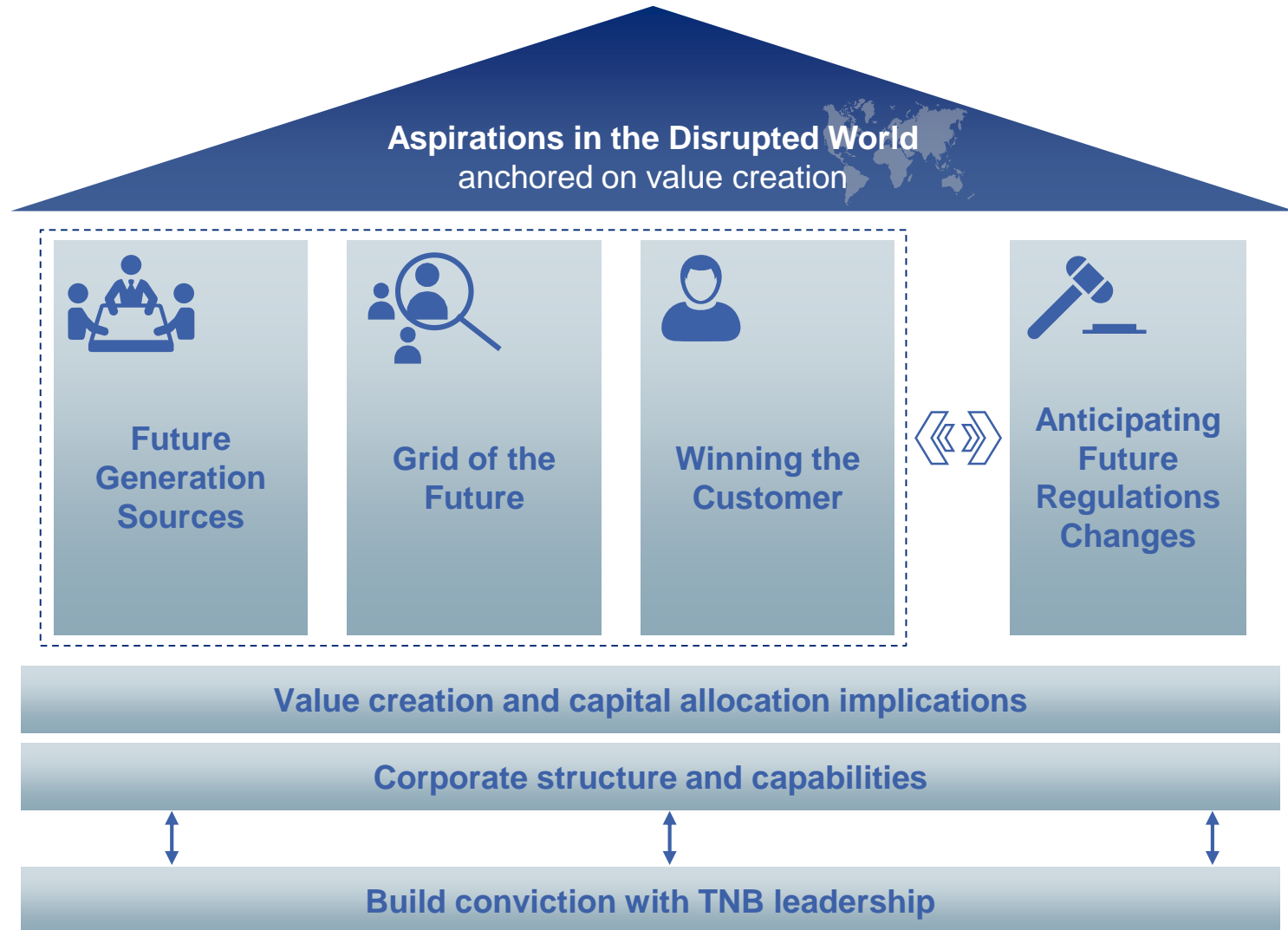
# BUSINESS STRATEGY & DIRECTION

## TNB Journey



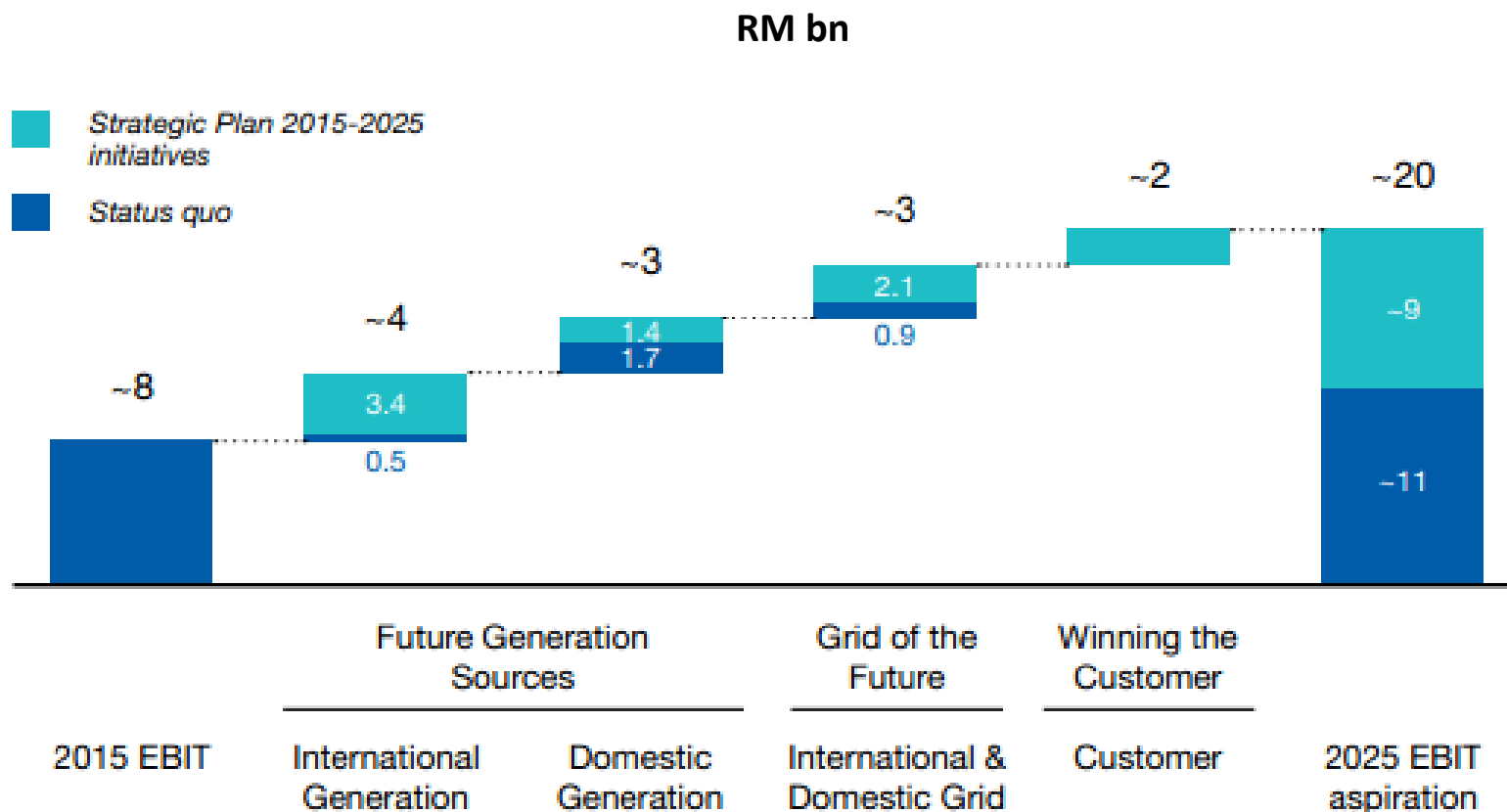
# BUSINESS STRATEGY & DIRECTION

## Reshaping TNB Future: Key Pillars of Value



# BUSINESS STRATEGY & DIRECTION

## TNB 2025 Growth Aspiration

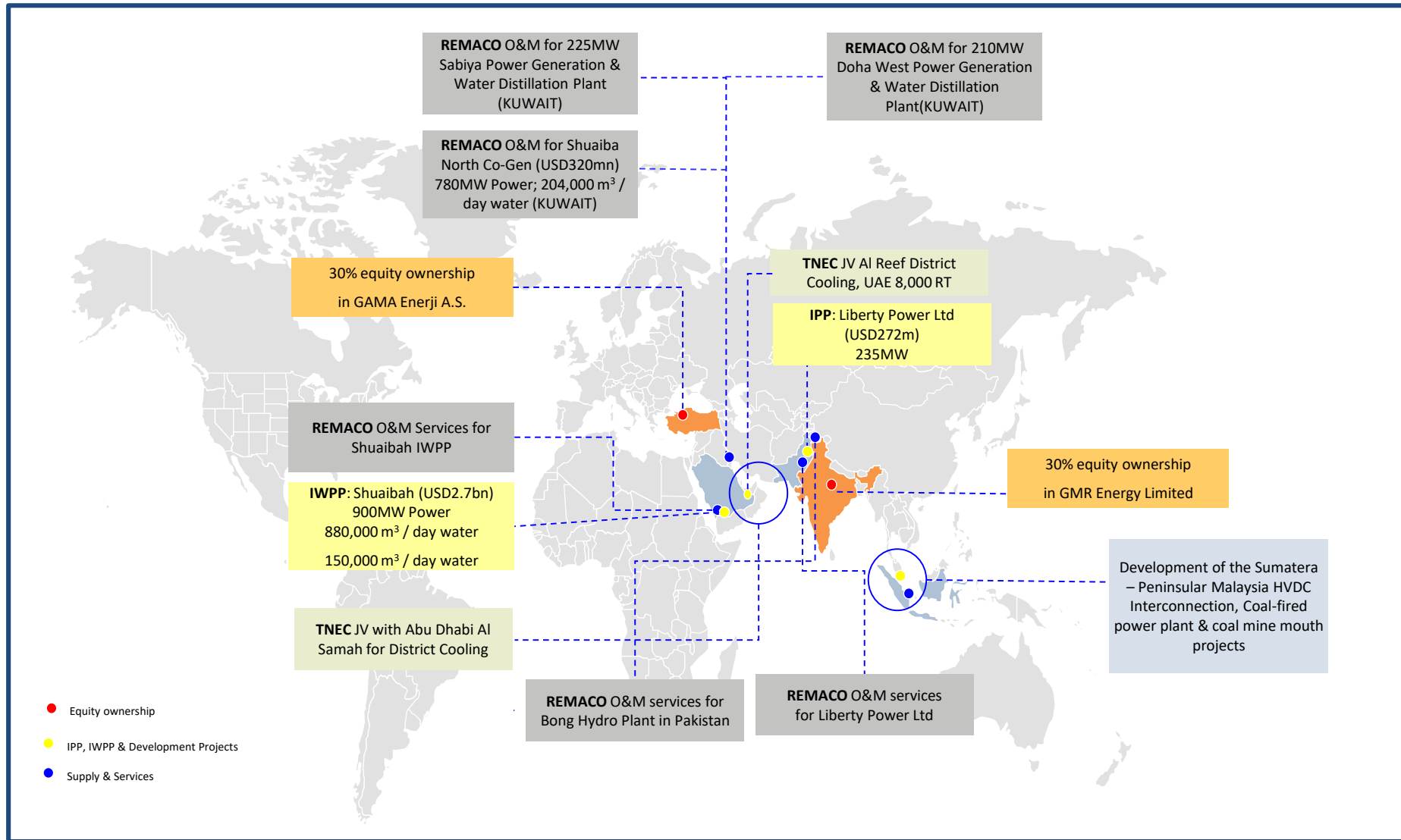


TNB aspires to grow our EBIT from RM8 billion currently to RM20 billion in 2025 through domestic and international investment



# BUSINESS STRATEGY & DIRECTION

TNB International Footprint: Currently One of the Largest Electricity Company in Asia

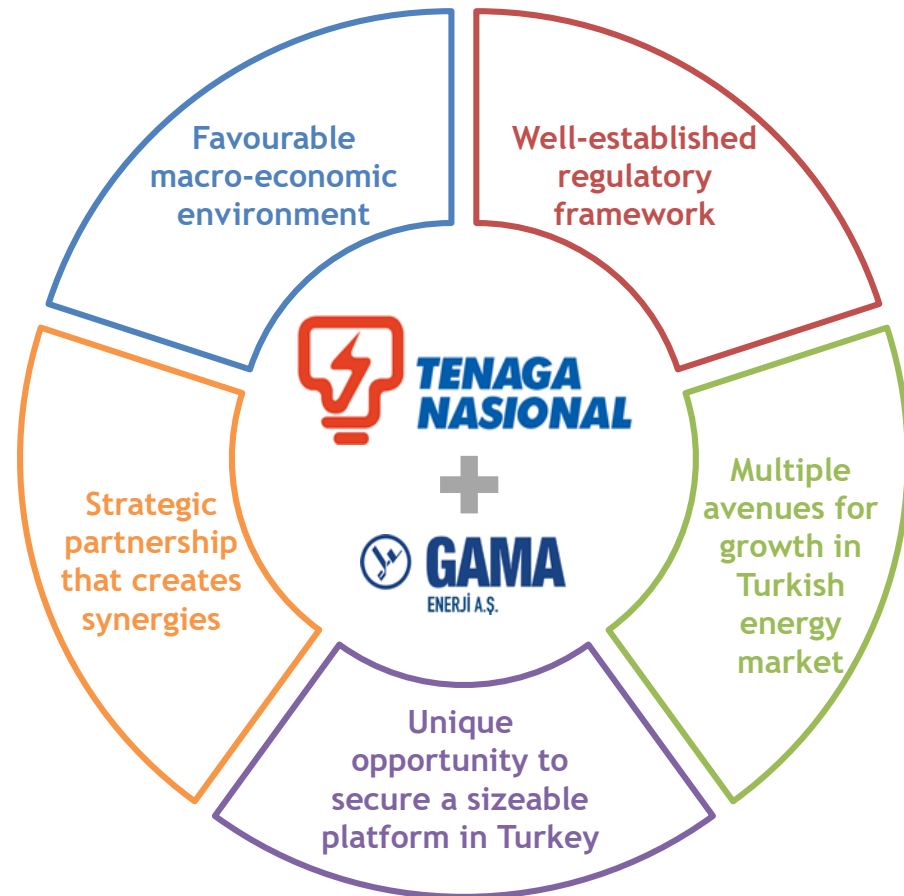


# BUSINESS STRATEGY & DIRECTION

International Acquisition: 30% Significant Minority Stake in GAMA Enerji A.S.

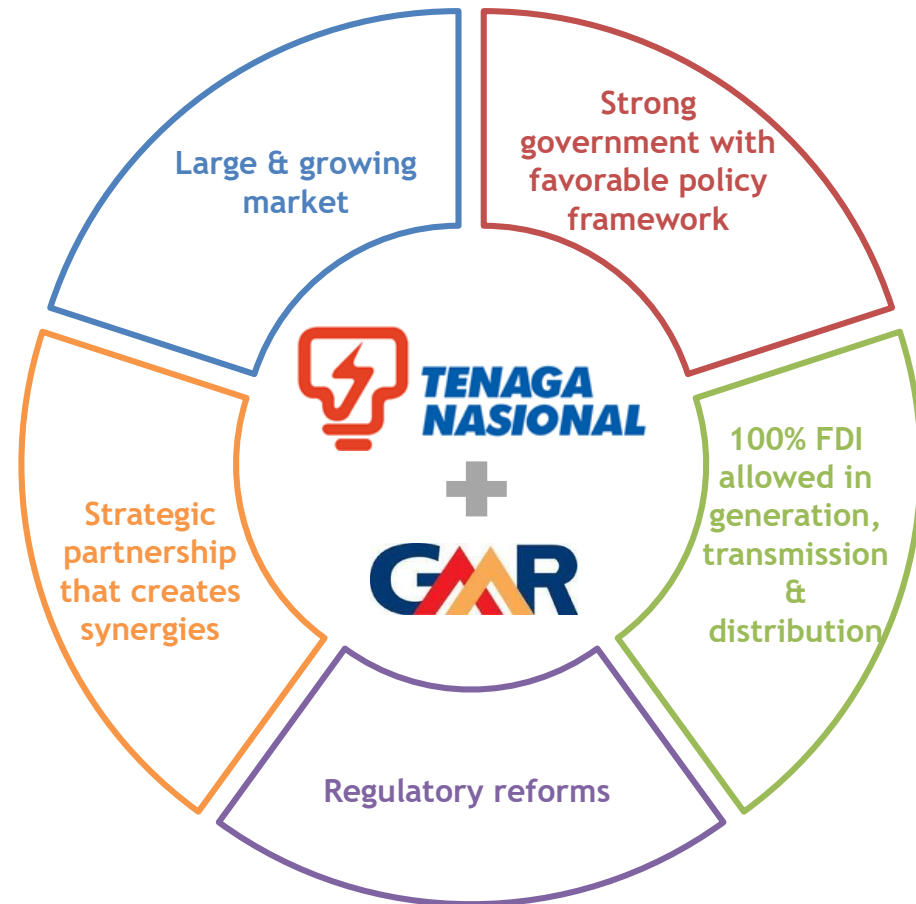
## GAMA Enerji A.S.

- On 13 April 2016, TNB had completed the acquisition of 30% equity interest of GAMA Enerji A.S. from GAMA Holding A.S., International Finance Corporation (IFC) and IFC Global Infrastructure Fund Holding.
- Total cash consideration : USD255.0 mn.
- GAMA Enerji A.S. assets include:
  - 840MW natural gas-fired plant
  - 45MW wind power plant under construction



### GMR Energy Limited

- On 4 November 2016, TNB had completed the acquisition of 30% equity interest of GMR Energy Limited via a bilateral transaction.
- Total cash consideration : USD300.0 mn.
- GMR Energy Limited assets include 2,298MW coal, gas and solar plants.

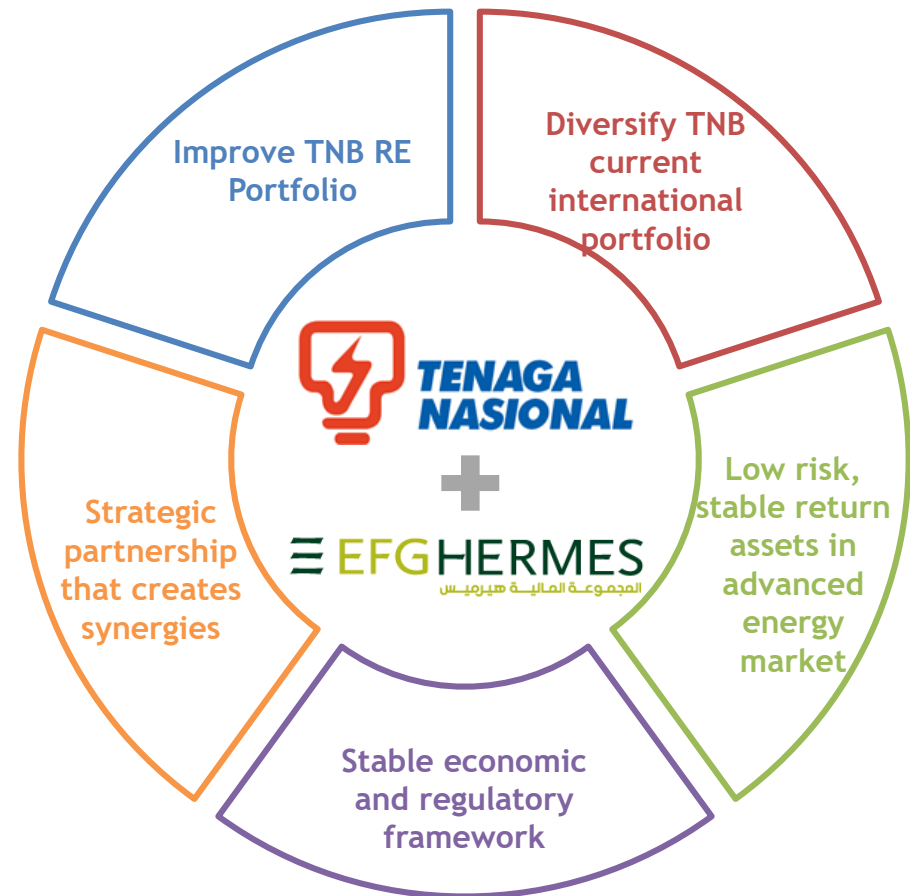


# BUSINESS STRATEGY & DIRECTION

International Acquisition: 50% Equity Interest in Vortex Solar Investments S.a.r.l.

## Vortex Solar

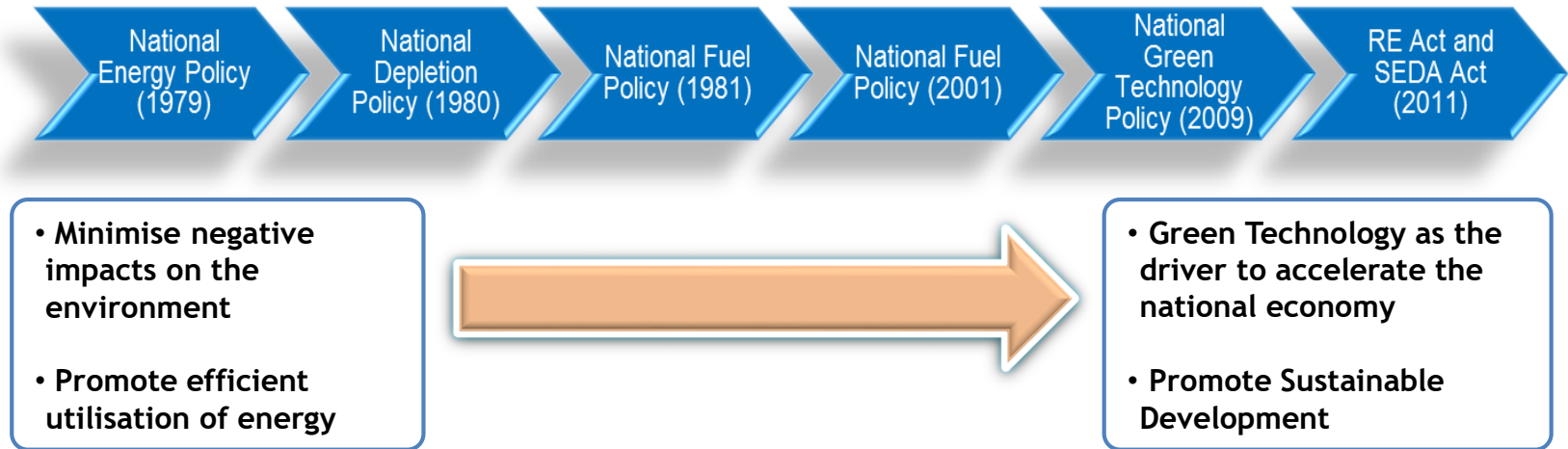
- On 6 January 2017, TNB via wholly owned subsidiary had entered into a Subscription and Funding Agreement with Beaufort Investments S.a.r.l., a wholly owned subsidiary of EFG Hermes Holding to subscribe for 50.0% new equity shares in Vortex Solar Investments S.a.r.l.
- The transaction is expected to be completed by the third quarter of 2017.
- Total cash consideration : GBP86.0 mn.
- Vortex Solar assets include 24 operational solar PV Farm across England and Wales with net installed capacity of about 365MW.



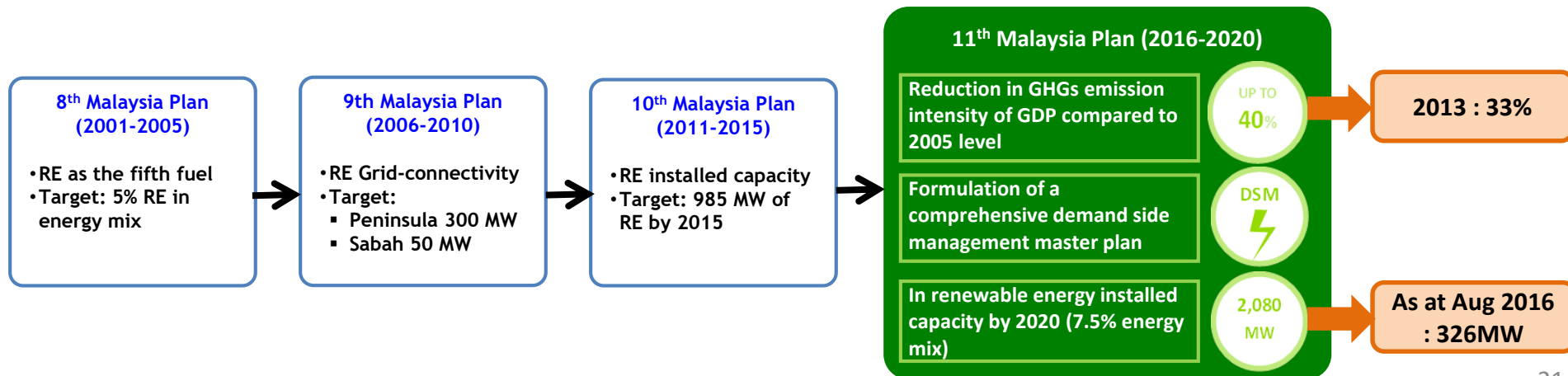
# BUSINESS STRATEGY & DIRECTION

## Renewable Generation: Government Green Policy & Initiatives

### Evolution on National Energy Policies



### Government Green Development Plan



# BUSINESS STRATEGY & DIRECTION

## Renewable Generation: TNB Green Policy & Initiatives

### 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”*

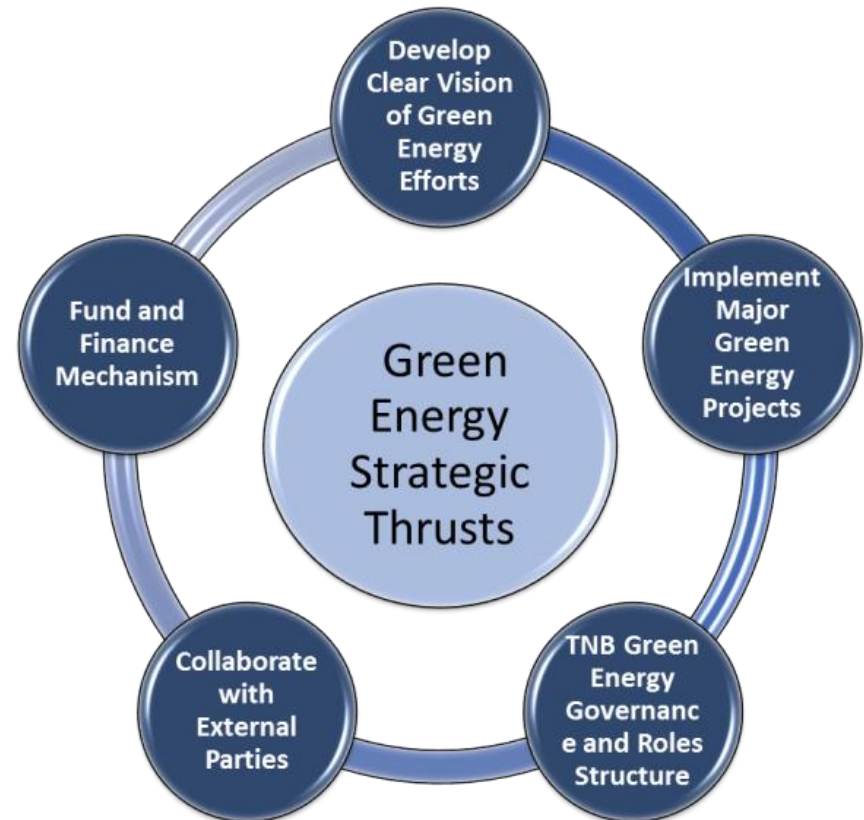
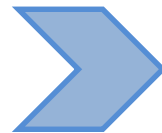
#### TNB RE Targets by 2020

##### Domestic

- 60-80 percent of national targets by 2020 (1,248 -1,664 MW)

##### International

- In accordance to TNB Investment policy and guidelines on ventures, M&A and bidding for Green Energy Projects



### 50MW Large Scale Solar Photovoltaic Plant

- On 21 December 2016, TNB had received Letter of Acceptance of Offer from the Energy Commission (EC) dated 15 December 2016 for TNB to develop a 50MW Large Scale Solar Photovoltaic Plant in Mukim Tanjung Duabelas, Daerah Kuala Langat, Selangor subsequent to a competitive bid process conducted by the EC.
- The Letter of Acceptance of Offer requires TNB to satisfy certain obligations, including completion of negotiations and execution of Project Documents prior to EC issuing the formal Letter of Award for the Project.

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# DIVIDEND POLICY

**TNB Revised Dividend Policy with Effect from Financial Year 2017**

## Previous Policy

Dividend is paid out based on 40% to 60% of its Company's Annual Free Cashflow; Cashflow from Operations less Normalised Capex and Interest Servicing

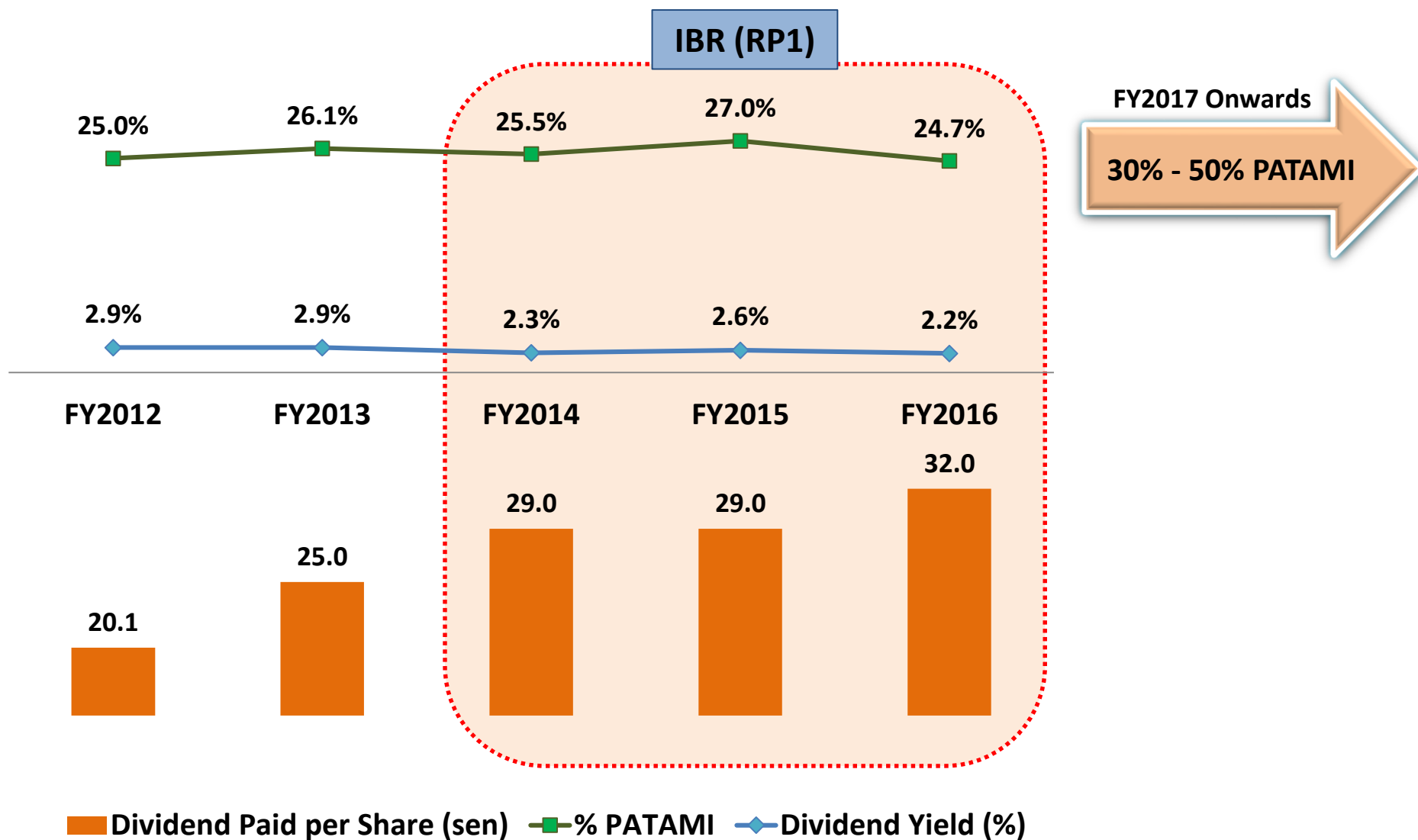
## New Policy

Distribution of dividend is based on 30% to 50% dividend payout ratio, based on the reported Consolidated Net Profit Attributable to Shareholders After Minority Interest, excluding Extraordinary, Non-Recurring items

TNB endeavours to adopt a dividend policy that would provide stable and sustainable dividends to shareholders while maintaining an efficient capital structure and sufficient to cater to its business prospects, capital requirements growth / expansion strategy and other factors considered relevant by the Board

# DIVIDEND

## 5-Year Dividend Payout



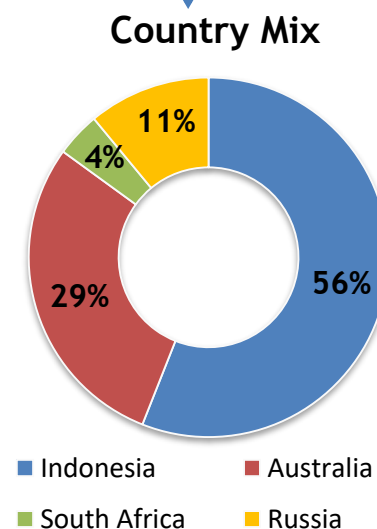
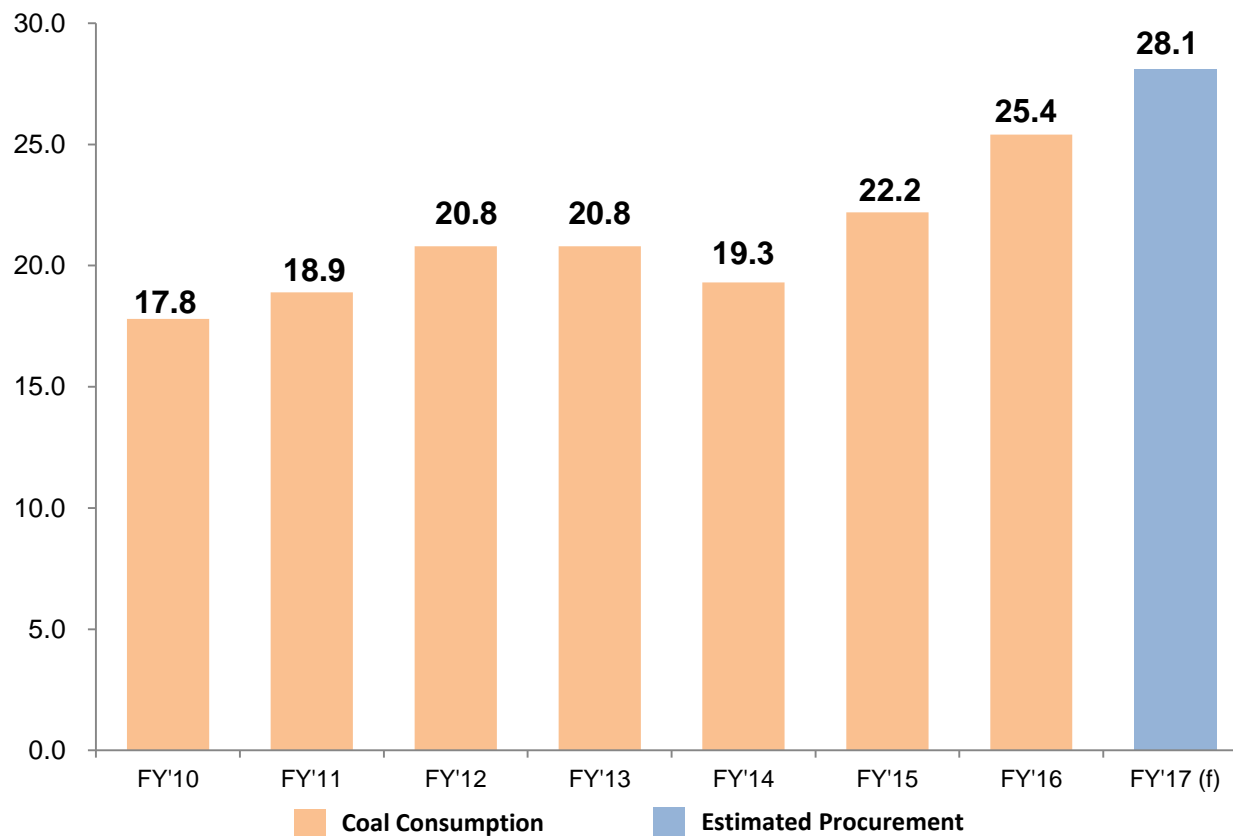
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# COAL REQUIREMENT

Base Coal Price for IBR RP1 was at RM271.25/mt

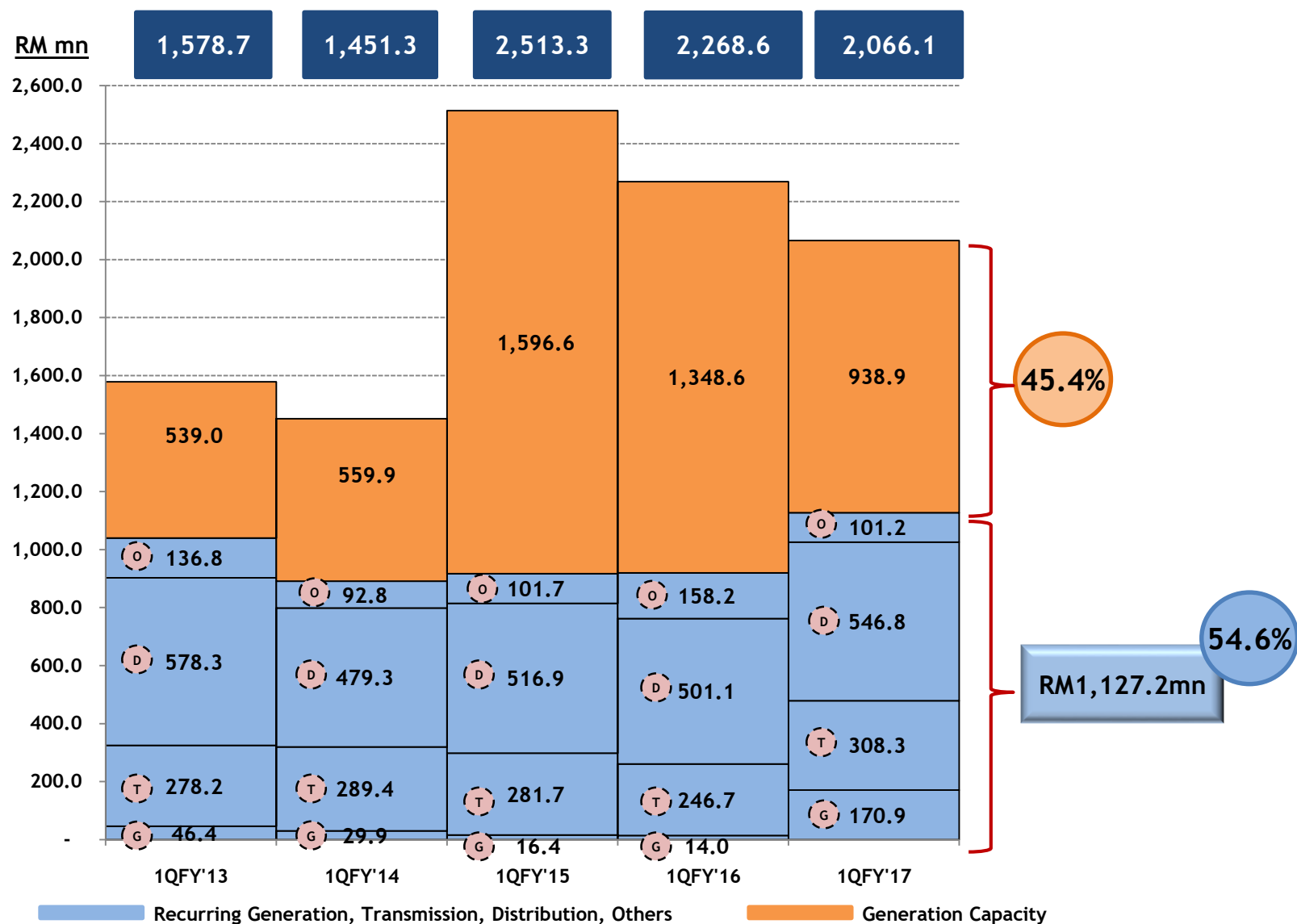
| Average Coal Price (CIF) | FY'10 | FY'11 | FY'12 | FY'13 | FY'14 | FY'15 | FY'16 | 1QFY'17 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|---------|
| (USD/metric tonne)       | 88.2  | 106.9 | 103.6 | 83.6  | 75.4  | 66.0  | 55.7  | 63.0    |
| (RM/metric tonne)        | 293.8 | 325.9 | 321.9 | 259.5 | 244.6 | 236.0 | 231.1 | 264.7   |

Tonne (mn)



# CAPITAL EXPENDITURE

Major Projects Represent 45.4% of Total CAPEX



# STATUS OF MAJOR PROJECTS

3 Generation Projects With Capacity Over 3,000MW Currently in the Pipeline

## Jimah East Power

**33%**

**2,000MW**

*COD:*

*U1: 15<sup>th</sup> Jun 2019*

*U2: 15<sup>th</sup> Dec 2019*



## Janamanjung Unit 5

**98%**

**1,000MW**

*COD:*

*1<sup>st</sup> Oct 2017*



## Hulu Terengganu Hydro

**99%**

**15MW**

**Tembat**

*COD:*

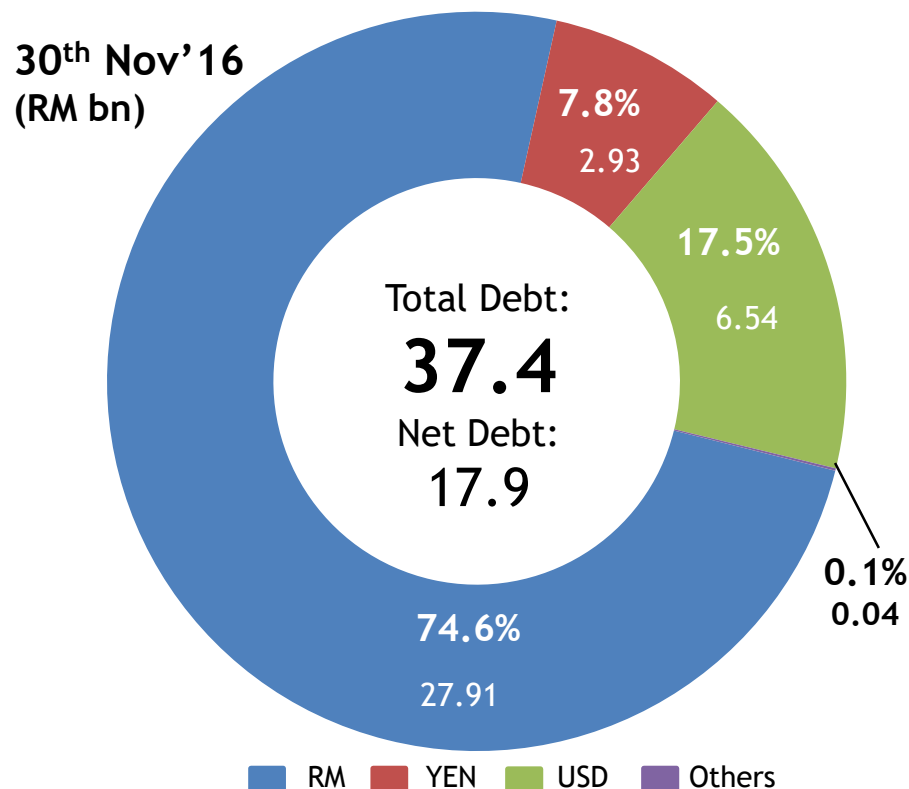
*U3: end Feb 2017*

*U4 Completed: 23<sup>rd</sup> Dec 2016*



# DEBT EXPOSURE & GEARING

## Improved Gearing due to Multicurrency Sukuk Issuance of USD750mn in October 2016



“The Group is required to hedge a minimum of 50.0% of TNB’s known foreign currency exposure up to 12 months period. The Group uses forward exchange contracts and currency options contract to hedge its foreign currency risk. Most of the forward exchange contracts have maturities of less than three months

### HEDGING POLICY

| Statistics                        | 30th Nov'16 | 31st Aug'16 |
|-----------------------------------|-------------|-------------|
| Gearing (%)                       | 40.7        | 39.5        |
| Net Gearing (%)                   | 19.5        | 19.7        |
| Fixed : Floating (%)              | 96.4 : 3.6  | 96.4 : 3.6  |
| <i>Final Exposure (%)</i>         | 96.4 : 3.6  | 96.4 : 3.6  |
| Weighted Average Cost of Debt (%) | 4.63        | 5.06        |
| <i>Final Exposure (%)</i>         | 4.63        | 5.06        |

| Closing   | 30 <sup>th</sup> Nov'16 | 31 <sup>st</sup> Aug'16 |
|-----------|-------------------------|-------------------------|
| USD/RM    | 4.47                    | 4.06                    |
| 100YEN/RM | 3.96                    | 3.96                    |
| USD/YEN   | 112.88                  | 102.53                  |

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

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# THANK YOU