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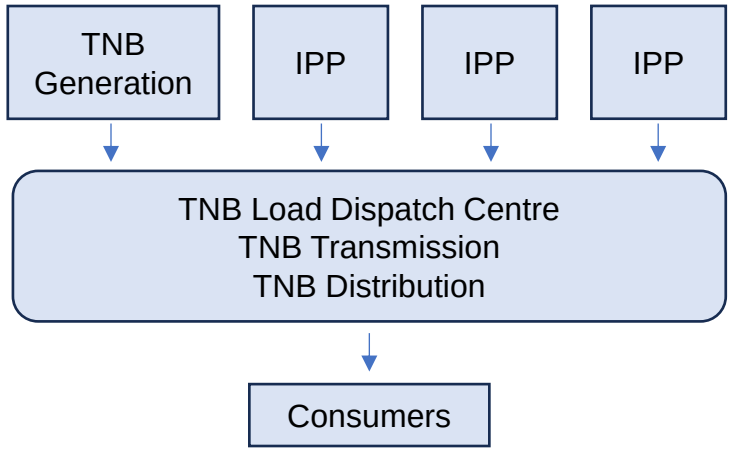
Malaysia's Electricity Industry: Efficiency at the Expense of Market Dynamism

Current structure for Malaysian electricity supply industry

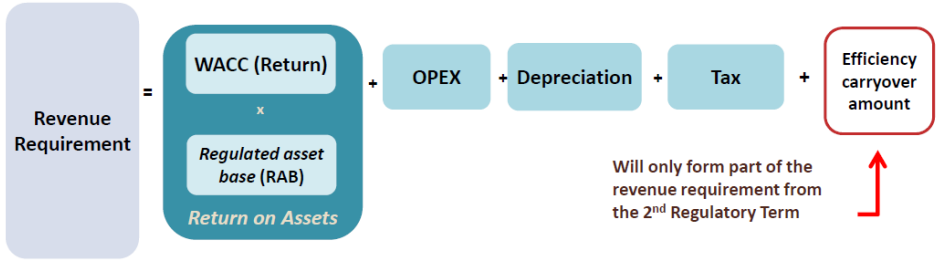


Source: Economic Analysis in Restructured Electricity Supply Industry (ESI) for Malaysian Market Model (2016). MATEC Web of Conferences.

What is IBR?

IBR is a regulatory framework that sets performance benchmarks for utilities and links financial rewards or penalties to their ability to meet these targets. Essentially, IBR is designed to **encourage operational efficiency** and **cost control** by ensuring that any savings or overruns are reflected in the utility's financial performance.

Revenue Requirement Building Block Model Under the IBR Framework



Some key features:

1. Prudent and efficient cost in tariff determination
2. Imbalance cost pass-through mechanism for uncontrollable costs (changes in forecast vs actual cost of generation)
3. Setting of performance targets with incentive/penalty mechanism by regulator

Source: Suruhanjaya Tenaga Malaysia

Malaysia's electricity sector is a cornerstone of the nation's development, yet its structure and regulatory framework have long been subjects of debate. At the heart of this debate is **Incentive-Based Regulation (IBR),** a mechanism intended to drive efficiency within the industry. However, IBR's true role appears to have been to maintain operational stability in a market dominated by Tenaga Nasional Berhad (TNB), whose monopoly is inherently negative for consumers as it stifles competition and contributes to higher electricity tariffs*. This write-up explores the dynamics of the Malaysian electricity market, examines the workings and impacts of IBR, and considers whether a shift toward a more competitive, market-dynamic model is necessary for the future.

** Footnote: (1) Liberalisation of the Power Industry Provides Great Opportunities for Malaysia, The Edge Markets, [20 Sep 2018]; (2) Will the Government Prepare to Loosen TNB's Monopoly on Energy?, The Malaysian Reserve [26 Oct 2023].*

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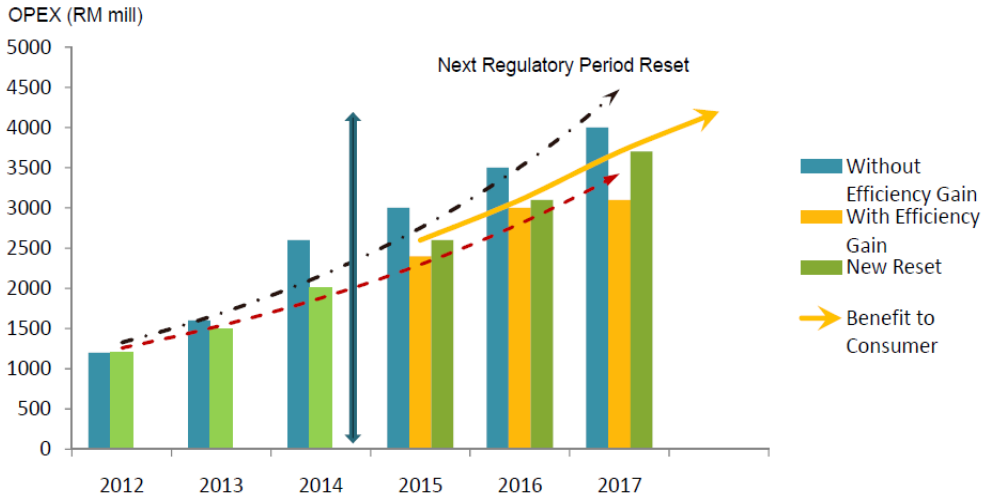
While IBR boosts TNB's efficiency, it also shields the company from market pressures, limiting competition that could benefit end-users

Implications for Malaysian Consumers

For the average Malaysian, the benefits of IBR are mixed at best. Although TNB has achieved operational efficiencies, these gains have not materialized into cost savings at the consumer level. Instead, consumers have often been left facing higher tariffs due to the cost pass-through mechanism. Moreover, without the benefit of a liberalized market, consumers have no choice but to rely on a single, dominant supplier—a situation that **limits the incentives for innovation and competitive pricing**.

The chart suggests that while IBR helps lower TNB's operating costs through efficiency gains, the direct benefit to consumers remains unclear. The gap between "Without Efficiency Gain" and "With Efficiency Gain" reflects cost savings, but if these savings primarily enhance TNB's financial position rather than reducing tariffs, the monopoly benefits more than consumers. Although the regulatory reset (green bars) adjusts tariffs, if it merely stabilizes TNB's profits rather than passing efficiency gains to consumers, IBR may **reinforce TNB's market advantage rather than fostering competitive pricing**.

Energy Commission's view on IBR – benefitting consumers



Section 26, Electricity Supply Act 1990

Empower Suruhanjaya Tenaga to review and determine the electricity tariff with approval by the Minister

Current policy: IBR framework for electricity tariff review and determination

Objective: To deliver efficient and reliable electricity supply at the efficient cost and reasonable tariff

Source: Suruhanjaya Tenaga Malaysia

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Competitive, deregulated markets can drive both innovation and efficiency

The Case for Market Dynamism

International examples from the **UK, Australia, Germany**, and even neighboring **Singapore** illustrate that **competitive, deregulated markets can drive both innovation and efficiency.** In these markets, price signals play a crucial role: rising prices encourage investment in alternative energy sources like solar panels, and the proliferation of distributed energy resources empowers consumers to become prosumers—both consumers and generators of power.

Country	Market Structure	Consumer Choice	Pricing Mechanism	Renewable Energy Integration	Key Regulatory Body	Key Challenges
UK	Fully liberalized; wholesale and retail markets are competitive	Consumers can choose from multiple retailers	Dynamic pricing, time-of-use tariffs	Strong renewable push (wind, solar); Feed-in Tariffs (FiTs) and Contracts for Difference (CfD) support	Ofgem (Office of Gas and Electricity Markets)	Energy price volatility, affordability concerns
Australia	National Electricity Market (NEM) for wholesale; competitive retail in some states (e.g., Victoria, NSW)	Varies by state (Victoria, NSW fully open; others partially open)	Spot market pricing, real-time price signals	High solar adoption; grid challenges due to renewable intermittency	Australian Energy Regulator (AER)	High reliance on gas, price fluctuations
Germany	Unbundled market with competition in generation and retail	Consumers can switch suppliers freely	Wholesale market with FiTs; focus on renewable subsidies	Strongest renewable integration (Energiewende policy); high solar & wind capacity	Bundesnetzagentur (Federal Network Agency)	High electricity costs due to green energy subsidies
Singapore	Open Electricity Market (OEM) since 2018; generation and retail are competitive	Households and businesses can choose from multiple providers	Fixed-rate, discount-off-tariff, and peak-off-peak plans	Growing solar adoption; grid stability well-managed	Energy Market Authority (EMA)	Small market size, reliance on natural gas

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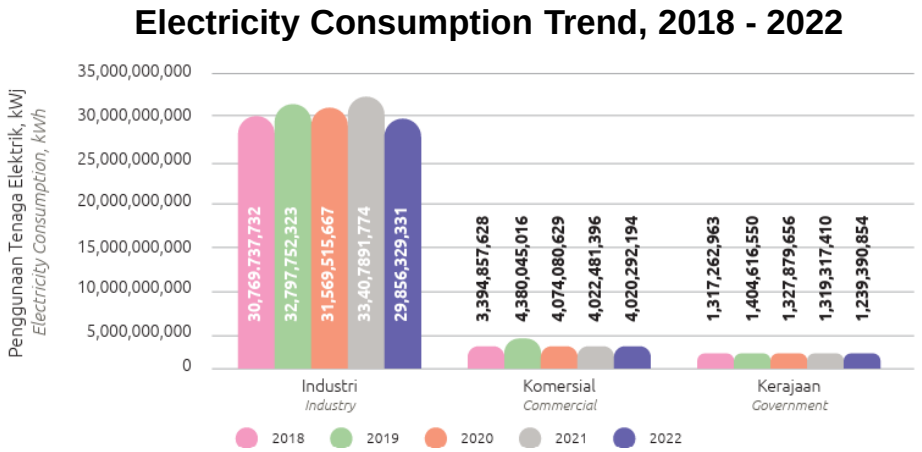
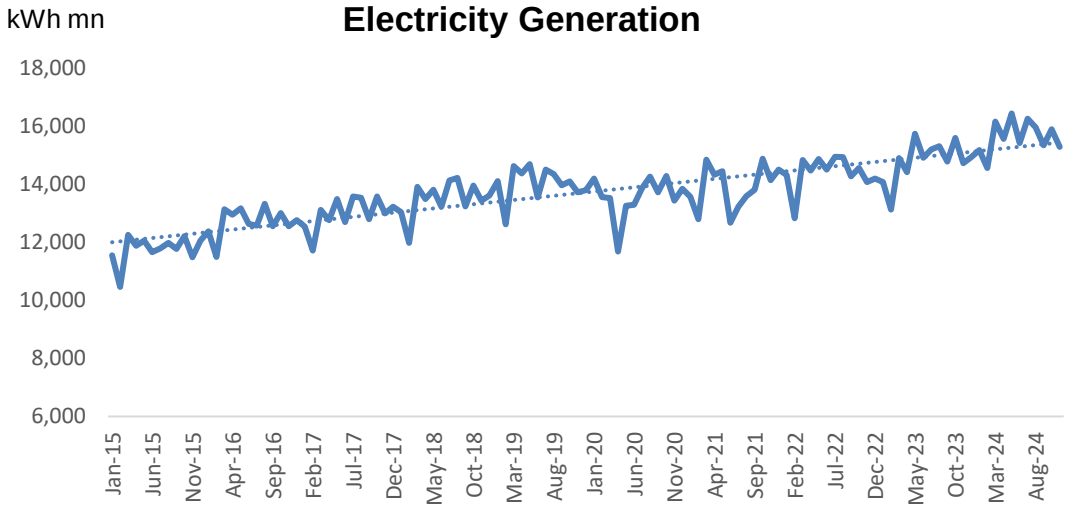
Balancing stability and market dynamism is crucial for a resilient and sustainable energy future in Malaysia



Source: Suruhanjaya Tenaga Malaysia



Source: CEIC, DOSM

In conclusion, while IBR has been effective in **ensuring operational efficiency and cost control** within Malaysia's electricity sector, it has **not spurred the competitive market dynamics that drive innovation and lower consumer prices**. As the global energy landscape shifts—with increasing adoption of solar energy and distributed generation—it is **crucial for Malaysia to consider measured deregulation and targeted reforms**. Such changes would not only foster a more competitive market but also empower consumers and ensure that the benefits of efficiency are shared more equitably. Balancing the need for stability with the imperative for market dynamism will be key to securing a resilient and sustainable energy future for Malaysia.

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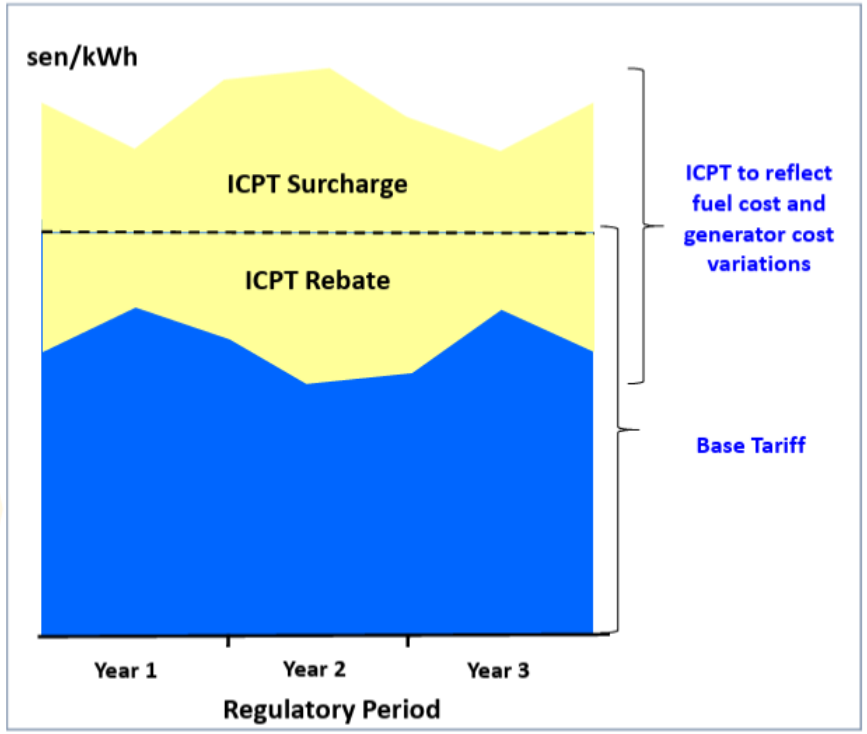
Appendix: Components of IBR

Electricity tariff is made up of two components under IBR Framework - Base Tariff and Imbalance Cost Pass-Through (ICPT)

Imbalance Cost Pass-Through (ICPT) :
6-monthly tariff adjustment to reflect variations in fuel costs, costs associated with PPAs & SLAs and RE displaced costs

Base Tariff reflects:
a) CAPEX and OPEX of Transmission, Distribution, System Operation (SO) and Single Buyer (SB) Operation
b) Return on regulated asset base of Transmission, Distribution, SO and SB
c) Power purchase cost charged by Generators (including base price for fuel) to the Single Buyer (SB)



Source: Suruhanjaya Tenaga Malaysia