

Malaysia Energy Regulator's Outlook and Policy Towards Energy Transition

ERC Forum 2023: Renewable and Sustainable Energy Transition

28th August 2023



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Roles and Functions of Energy Commission



Roles and Functions of Energy Commission

ADVISES

Ministers on all matters concerning the national policy objectives for energy supply activities, the supply and use of electricity, the supply of gas through pipelines and the use of gas.

PLANS AND DEVELOPS

Laws, regulations, rules, guidelines and programs for the orderly development and functioning of the electricity and piped gas industries.

REGULATES

Electricity and piped gas tariffs and the quality of supply services, as well as promoted competition and prevents misuse of monopoly power.

LICENSES AND CERTIFIES

Electricity and piped gas suppliers, competent electricity and gas personnel, training providers, contractors, equipment and installations, energy service companies and energy managers.

INVESTIGATES

Complaints, accidents, offences and industry issues; and enforces compliance.

PROMOTES

The use of renewable energy and the conservation of non-renewable energy.

Good practices, as well as research, development and innovation in the electricity and piped gas industries.

MONITORS AND AUDITS

Performance and compliance of licensed and certified suppliers, service providers, installations, equipment importers, manufacturers and retailers.



Energy Commission (ST)

A statutory body established under the Energy Commission Act 2001 is responsible for regulating the energy sector, specifically the electricity supply and piped gas supply industries in Peninsula Malaysia and Sabah.



Overview of Malaysia's Power Sector



Electricity Supply Demand (2022)



PENINSULAR MALAYSIA

INSTALLED CAPACITY

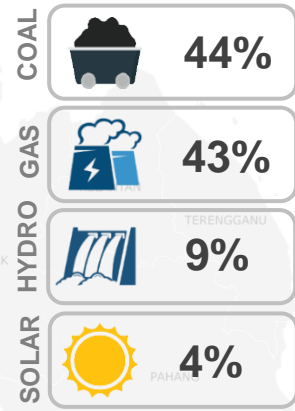
27,776MW

(as of Dec 2022)

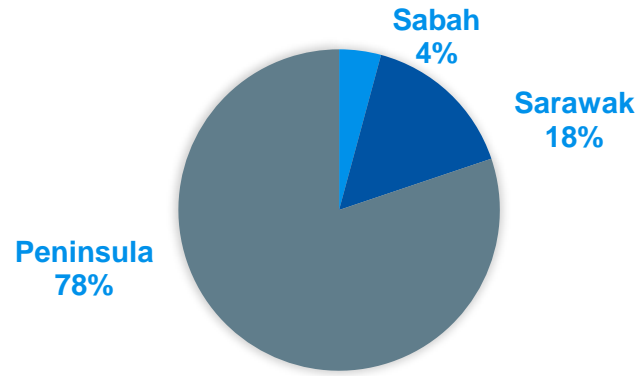
MAXIMUM DEMAND

19,183MW

(24th May 2022)



% DEMAND SHARE



SABAH

DEPENDABLE CAPACITY

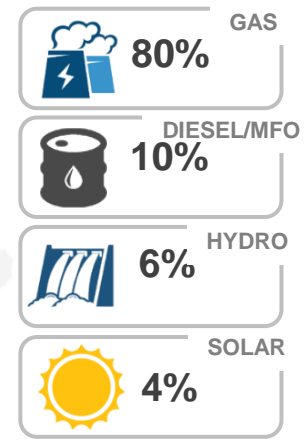
1,207MW

(as of Dec 2022)

MAXIMUM DEMAND

1,003MW

(28 May 2021)



SARAWAK

INSTALLED CAPACITY

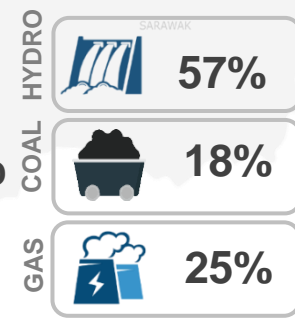
5,548MW*

(2022)

MAXIMUM DEMAND

4,383MW*

(2021)



- Peninsula represent 78% of total Malaysia demand
- The following presentation deck mostly will focus on Peninsula outlook and initiatives

Source: Energy Commission & Ministry of Utilities Sarawak

* Forecasted figures by SEB



ERC FORUM



12th Malaysia Plan (2021-2025) & Energy Policies



Twelfth Malaysia Plan, 2021-2025

“Malaysia to become carbon-neutral as early as 2050.”

“A comprehensive National Energy Policy will be introduced to provide long-term strategic direction to support national aspiration of carbon neutrality.”

“Renewable energy to account for 31% of Malaysia's total energy capacity by 2025.”

“Commitment to cease construction of new coal-fired power plant.”





Energy Policies in Malaysia

National Petroleum Policy (1975)

Efficient utilization of petroleum resources

Ensuring the nation exercises majority control in the management and operation of the industry

National Energy Policy (1979)

Supply Objective:
Ensure adequate, secure & cost-effective energy supply

Utilization Objective:
Promote efficient utilization of energy and eliminate wasteful and non-productive usage

Environmental Objective : Minimize negative impacts to the environment

National Depletion Policy (1980)

To prolong the life span of the nation's oil and gas reserves

Four-fuel Policy (1981)

Aimed at ensuring reliability and security of supply through diversification of fuel (oil, gas, hydro and coal)

Five-fuel Policy (2001)

Encourage the utilization of renewable resources such as biomass, solar, mini hydro etc

Efficient utilization of energy

National RE Policy and Action Plan (2010)

To enhance utilisation of indigenous RE resources to contribute towards National electricity supply security and sustainable socio-economic development.

National Energy Policy 2022-2040

To improve economic resilience and ensure energy recovery while achieving equality and universal access as well as ensuring environmental sustainability. Includes energy-based hydrocarbons and renewable resources.



UN CLIMATE CHANGE CONFERENCE UK 2021

COP 26:
To reduce Malaysia's Greenhouse Gas intensity of GDP by 45% by 2030 relative to the emissions intensity of GDP in 2005



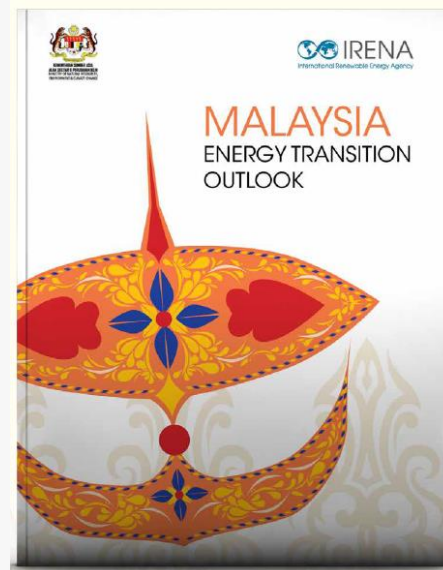


Malaysia Energy Transition Outlook



- ❑ The **Ministry of Natural Resources, Environment and Climate Change or NRECC** with combined effort with the **International Renewable Energy Agency (IRENA)** has crafted Malaysia's future pathway towards a lower carbon energy system, namely Malaysia Energy Transition Outlook (METO).
- ❑ METO will serve as a valuable reference for state and non-state players in making informed decisions towards a sustainable energy future for our country.

Launch of the METO on 9th March 2023 by Ministry of Natural Resources, Environment and Climate Change



Way forward for energy transition and RE

transition and RE

Improve the existing policy and regulatory framework of electricity supply

Map out a bolder and more aspirational energy transition plan

Organise a utility-led International Energy Transition Conference

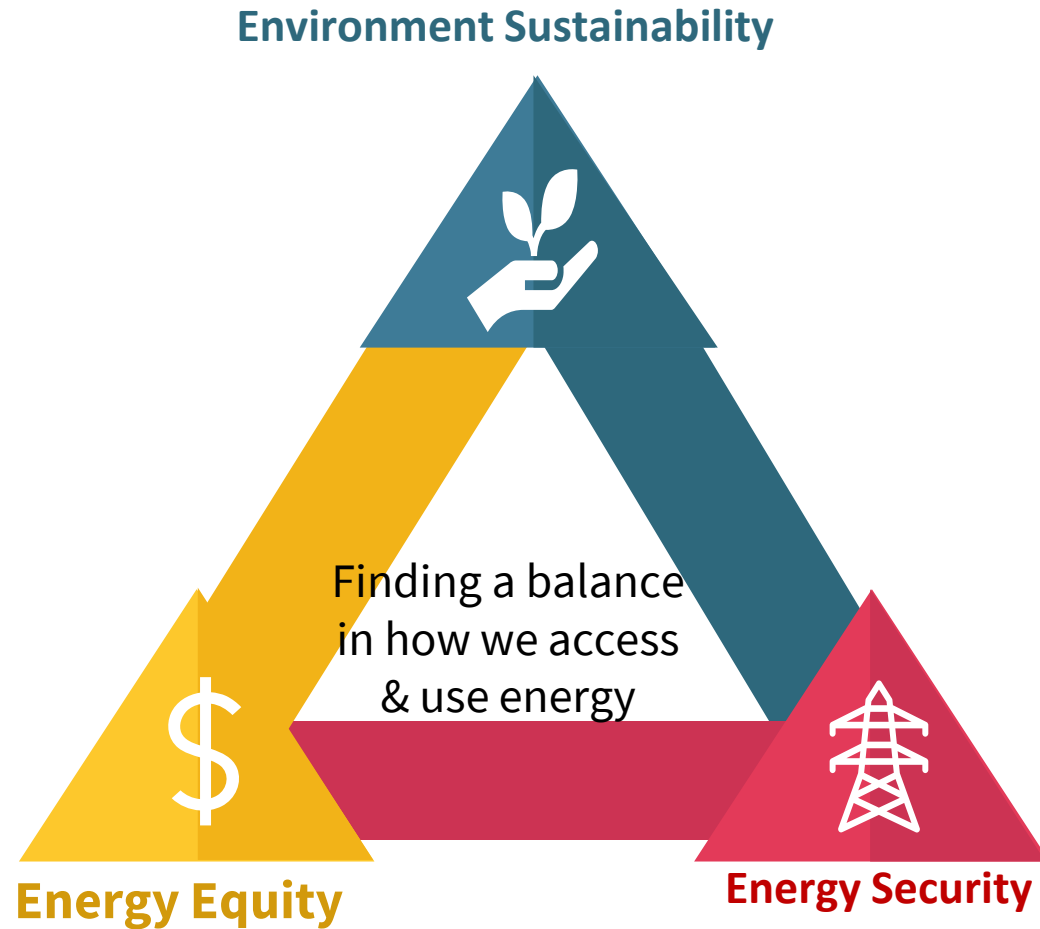


Transition towards Decarbonizing Power Sector



Energy Trilemma

Ongoing challenge for the electricity supply industry and requires judicious decision making and trade-offs to balance these three aspects.



Decarbonization
Decentralization
Digitalization

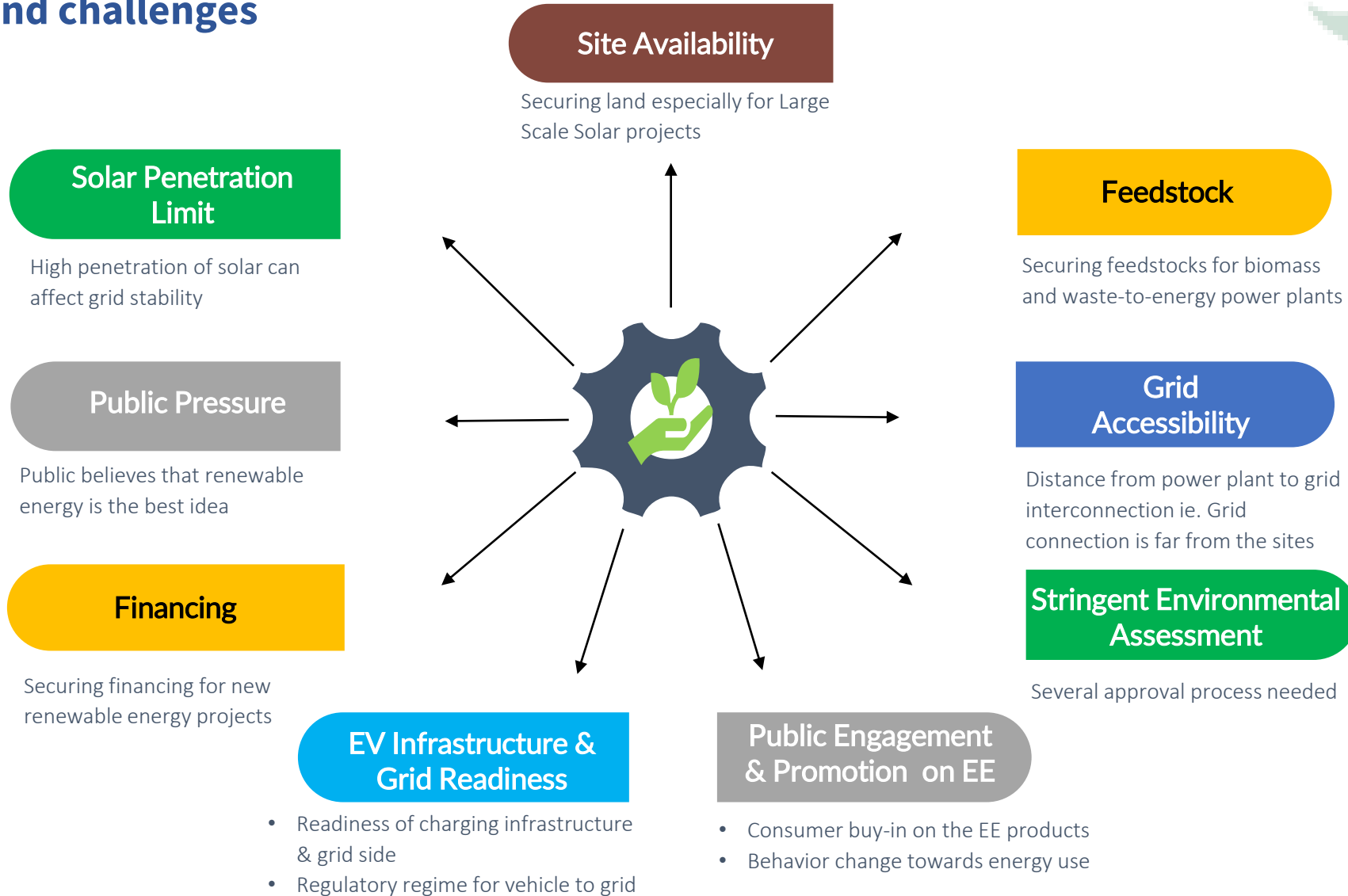


FAIR TARIFF
to consumers



Environment Sustainability Transition

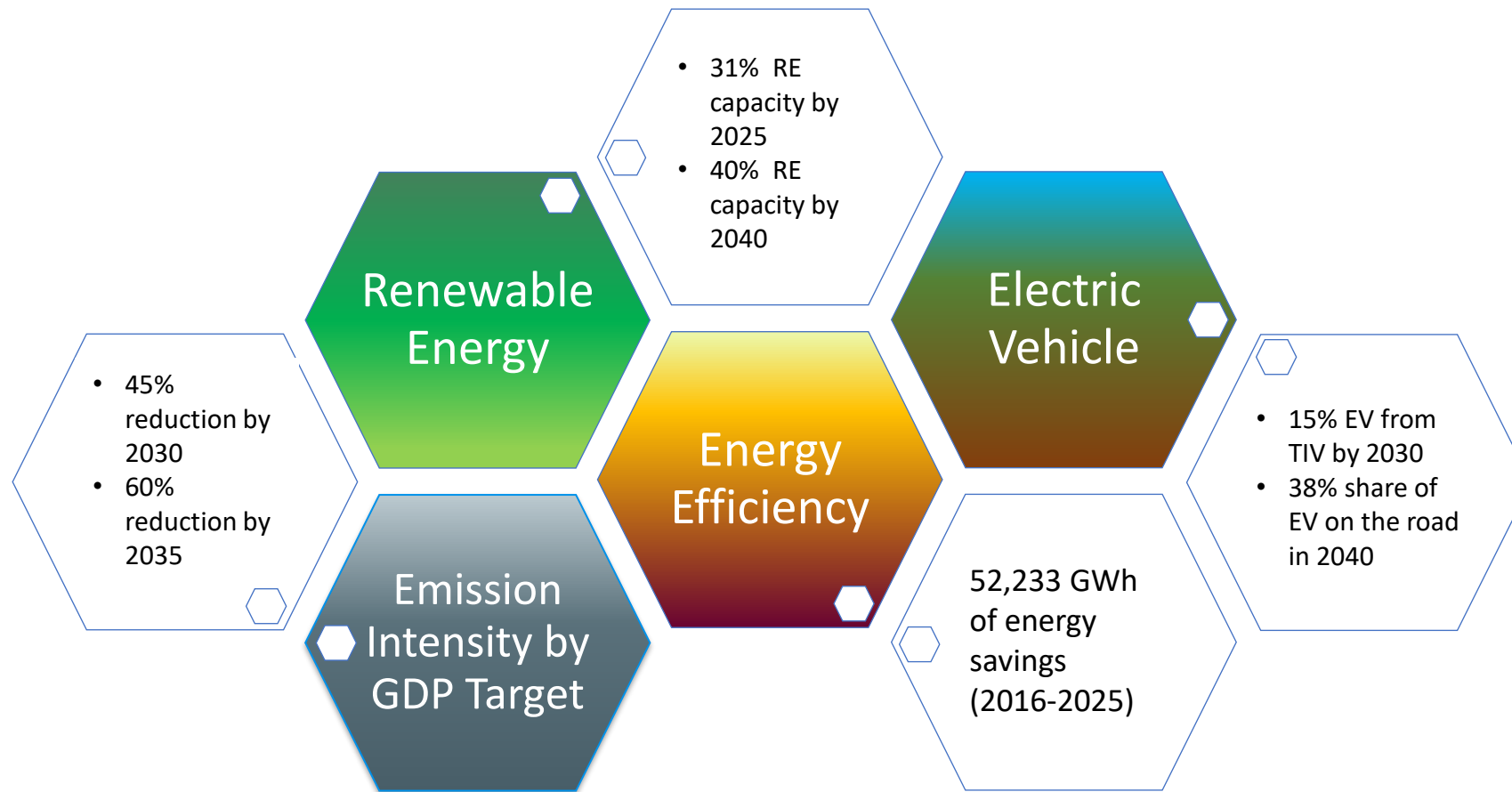
Issues and challenges





Managing Environment Sustainability Transition

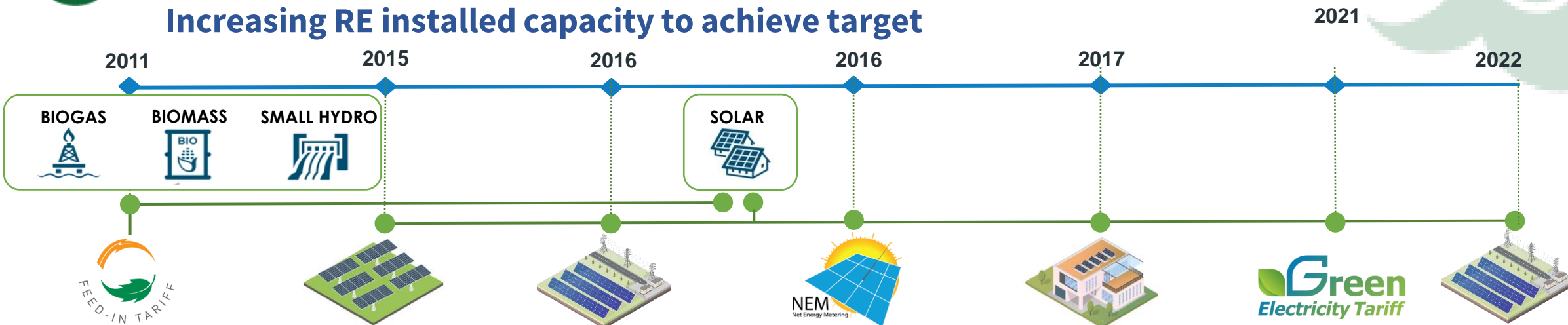
Via target setting and promotion





Managing Environment Sustainability Transition

Increasing RE installed capacity to achieve target



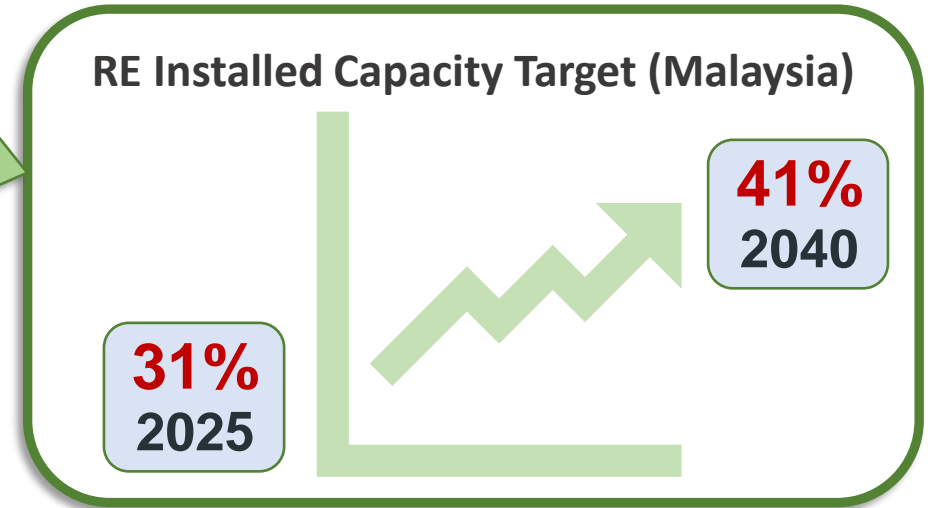
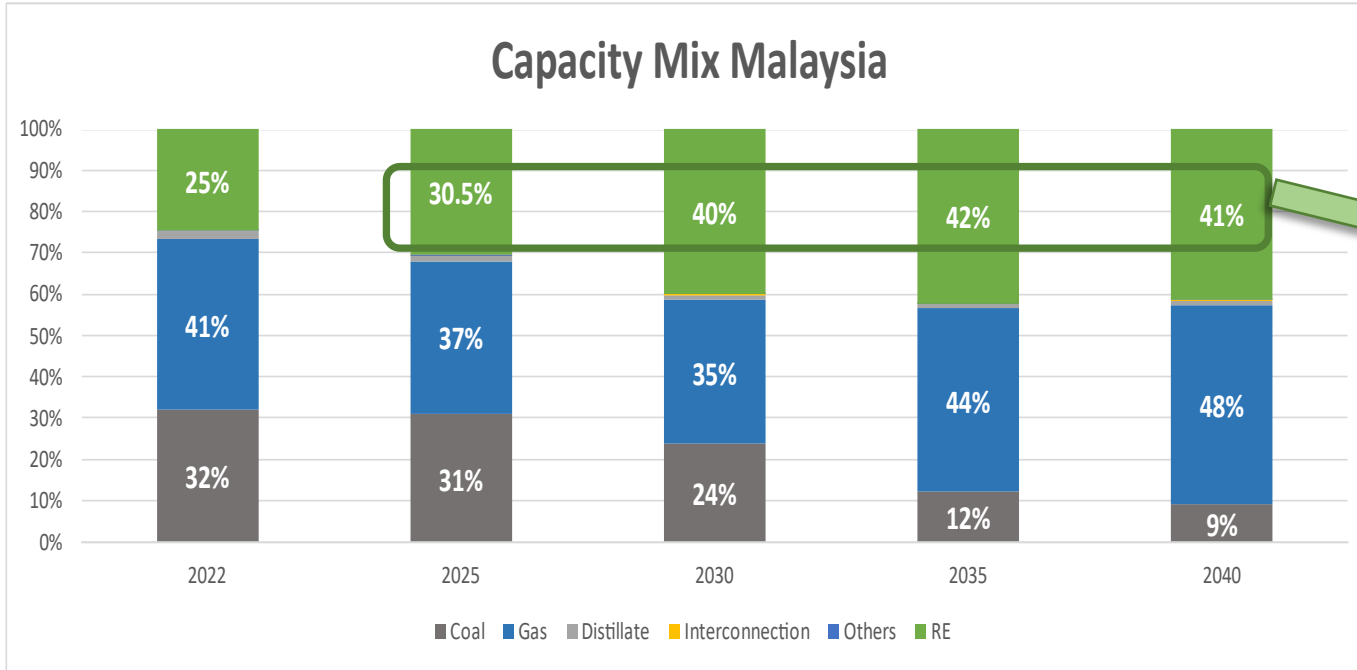
Feed-in Tariff (FiT)	New Enhanced Dispatched Arrangement (NEDA)	Large Scale Solar (LSS)	Net Energy Metering (NEM)	Self Consumption (SelCo)	Green Electricity Tariff (GET)	Corporate Green Power Programme
<ul style="list-style-type: none"> Sold to grid at premium rate for a fixed period Based on quota subject to FiT fund Solar quota ended in 2017 	<ul style="list-style-type: none"> Merchant plant / price takers Export to grid and supply to Single Buyer bid on price quantity / declare capacity 	<ul style="list-style-type: none"> Competitive bidding PPA based Bidding Quota (MW): Fast Track: 200 LSS1: 250 LSS2: 460 LSS3: 500 LSS4: 1,000 	<ul style="list-style-type: none"> Own consumption Installation size below own avg. consumption Only excess export to grid Quota offered (MW): NEM Rakyat: 150 NEM for Government Entities: 100 NOVA: 800 	<ul style="list-style-type: none"> Own consumption No export to grid 	<ul style="list-style-type: none"> Consumers can buy green electricity from grid Consumers will receive REC 	<ul style="list-style-type: none"> Corporate Customers can purchase electricity virtually from SPP through NEDA. Quota offered (MW): 800



Renewable Energy Target for Malaysia



- Renewable energy to account for 31% of Malaysia's total installed capacity by 2025.

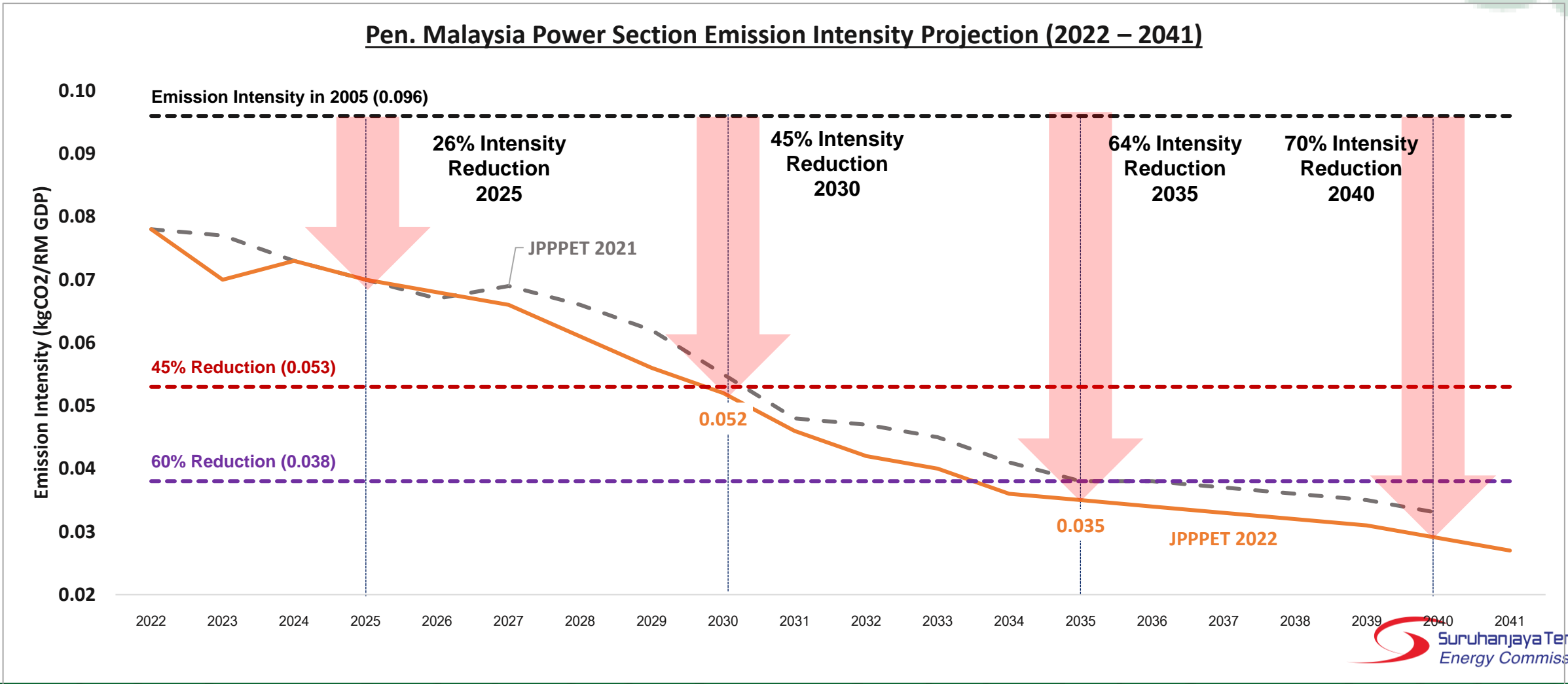


- In 2025, RE capacity will increase to 12,873MW to achieve the 31% target.
- In 2040, RE capacity is targeted to hit 22,514MW to achieve 41% target of capacity mix.



Power Sector Emission Projection

2022 planning meet the 45% Emission Intensity of GDP reduction target in 2030, as well as the 60% emission intensity reduction in 2035.





Electric Vehicle and Energy Efficiency

Fostering EV and enhancing EE



Low Carbon Mobility Blueprint

To guide the planning, implementation, monitoring and evaluation of green mobility initiatives

EV Key Targets:

- EV Charging Infra: 10,000 charging points by 2025
- 15% EV from Total Industry Volume by 2030
- 38% EV share on the road in 2040

Enhancing Energy Efficiency

Introduction of the Energy Efficiency and Conservation Act


National Energy Efficiency Action Plan (2016-2025)

- Aim to achieve 52,233 GWh of energy savings (8.0%)




Carbon Neutral by 2050


Carbon Neutral by 2050

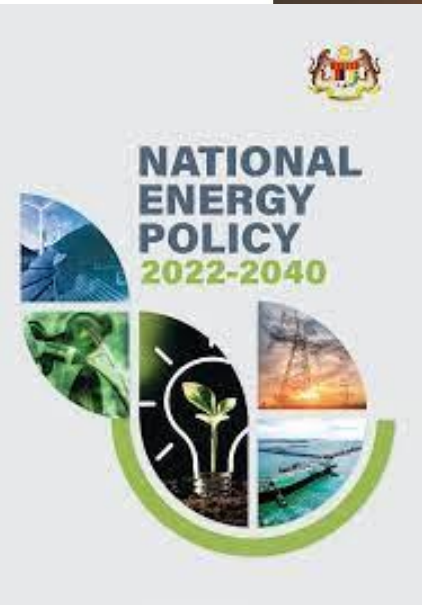
 **TheStar** Govt remains committed to carbon neutral Malaysia by 2050 target

Govt remains committed to carbon neutral Malaysia by 2050 target



ECONOMY
Monday, 27 Sep 2021
2:29 PM MYT



**NATIONAL ENERGY POLICY 2022-2040**

Prime Minister Datuk Seri Ismail Sabri Yaakob said Malaysia remains target of becoming a carbon-neutral nation by as early as 2050.

- The Generation Development Plan is annually reviewed considering global sentiment towards coal and Malaysia’s Prime Minister pledge for **Malaysia to become a carbon neutral country as early as 2050.**
- [National Energy Policy 2022-2040](#) (NEP) was launched on 19 September 2022 to provide a long-term strategic direction to support the aspiration of a carbon neutral nation.
- **Low Carbon Nation Aspiration 2040** (LCNA) in NEP is developed to achieve various targets in the energy-related sectors covering both electrical and non-electrical components in transport, industrial, residential and commercial.
- Some of LCNA 2040 targets:
 - Total installed capacity of RE : 18,431 MW
 - No new coal power plant
 - Percentage of coal in installed capacity : 18.6%
- NEP is a ‘live document’ and subject to periodic reviews every 3 years to ensure that the targets are achievable and to keep in line with international development in the energy transition space.



Thank you