



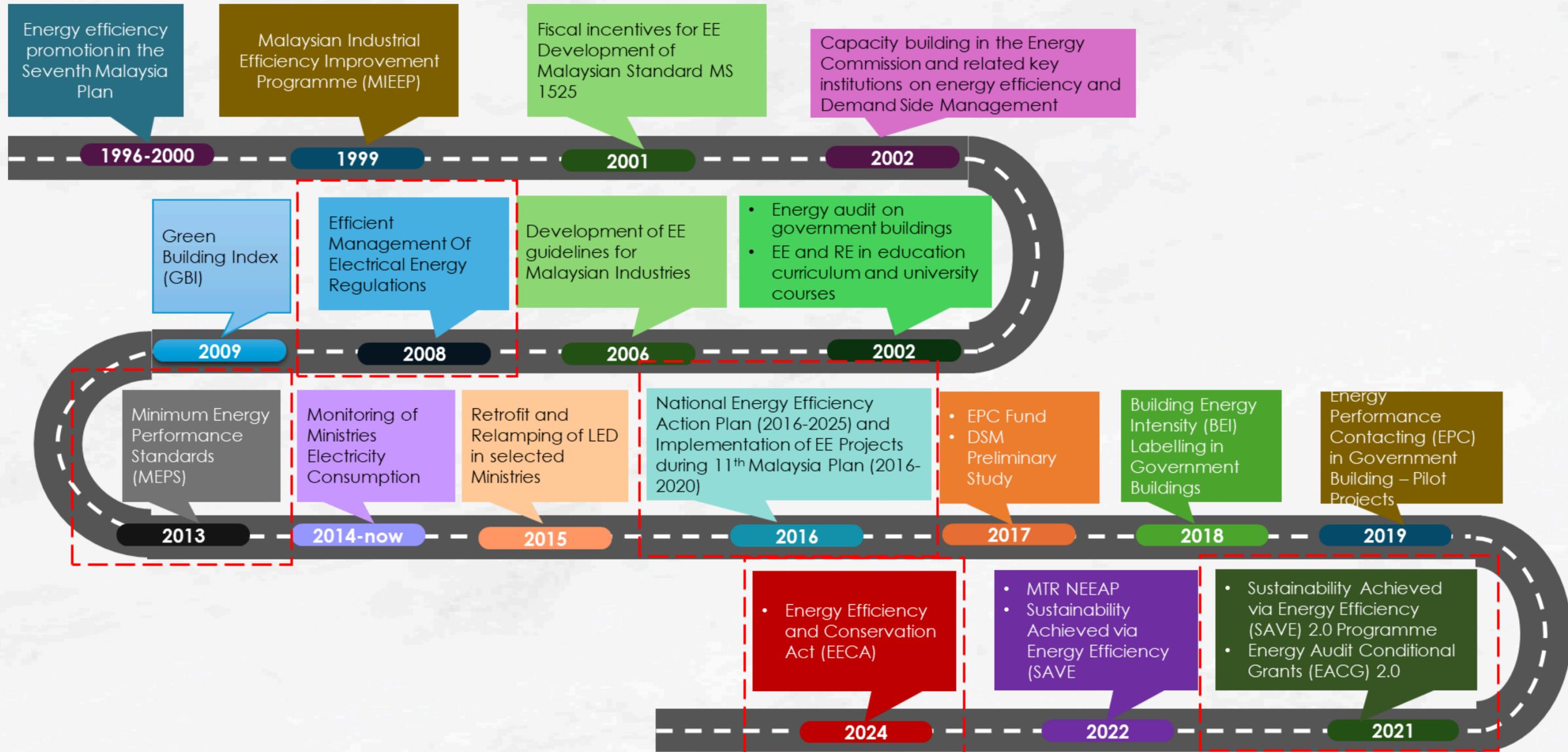
**37TH ENERGY CONSERVATION
WORKSHOP (ECAP 37) UNDER
ASEAN-JAPAN ENERGY
EFFICIENCY PARTNERSHIP (AJEEP)**

10 - 14 NOVEMBER 2025

COUNTRY REPORT MALAYSIA

**AHMAD ZULHILMI HARUN
ASSISTANT DIRECTOR
ENERGY COMMISSION**

ENERGY EFFICIENCY INITIATIVES



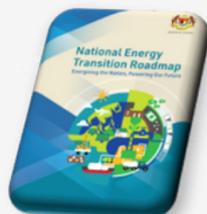
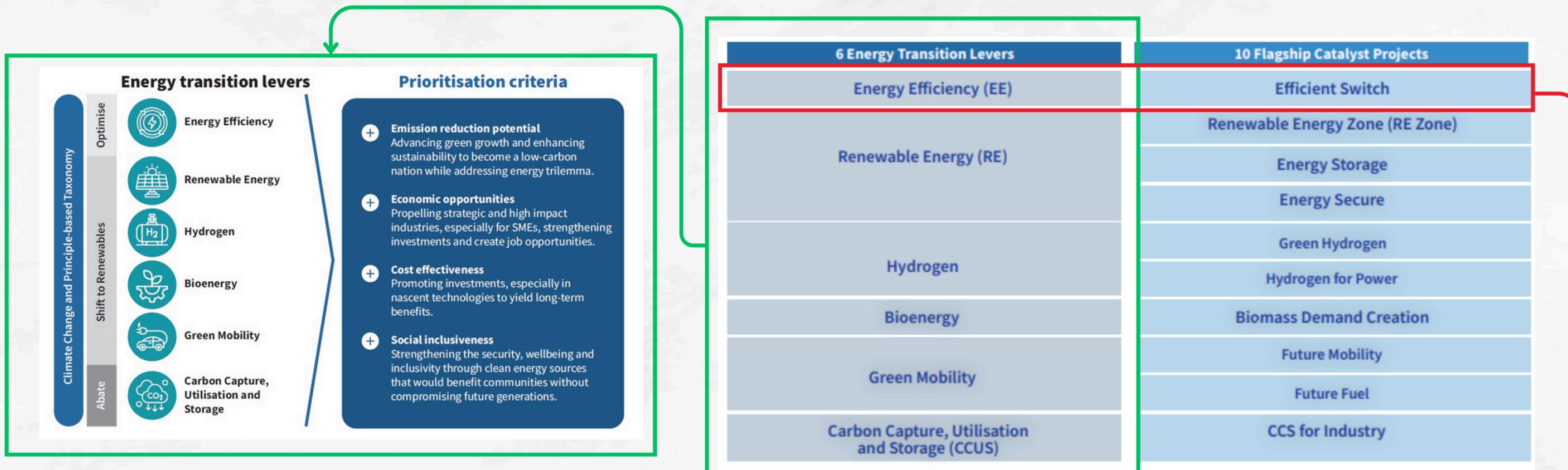
NATIONAL ENERGY TRANSITION ROADMAP (NETR)



Under purview Ministry of Economy



Malaysia's strategic plan to transition to a low-carbon, sustainable, and inclusive energy system, with the goal of achieving net-zero greenhouse gas emissions (GHG) by 2050



Sources: National Energy Transition Roadmap

Energy Transition Levers	Flagship	Modalities
Energy Efficiency (EE)	Efficient Switch	Energy Efficiency and Conservation Act (EECA) The Energy Efficiency and Conservation Bill to regulate energy-intensive users, buildings and products will be tabled in Parliament in the fourth quarter of 2023.

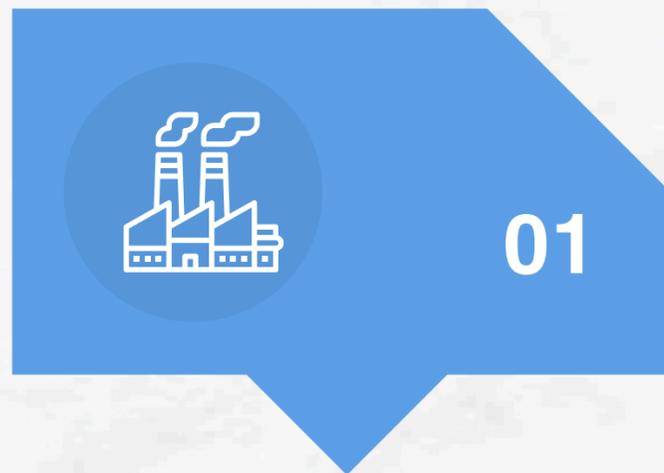
ENERGY EFFICIENCY AND CONSERVATION ACT (EECA) 2024 - APPLICATION



Enforced on **1st January 2025**



Apply to **Peninsular Malaysia** and **Federal Territory of Labuan**



ENERGY CONSUMER

Subjected to energy consumer that meets the minimum prescribed threshold of **21,600GJ annually**.



BUILDING

Subjected to buildings as specified in Third Schedule of the Act and meet criteria set out in the Guideline. Currently, **Office Building** with **Gross Floor Area (GFA) \geq 8,000m²**



ENERGY USING PRODUCTS

Requirement to obtain **Certificate of Registration (COR)**, **Certificate of Efficiency (COE)** and to be affixed with an energy efficiency rating label

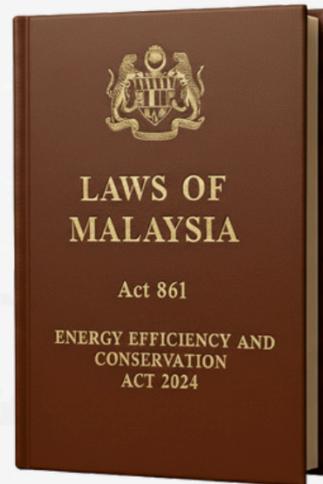


REGISTRATION OF ENERGY MANAGER, ENERGY AUDITOR & TRAINING INSTITUTION

Application for registration of:

1. Energy Manager (First Type & Second Type)
2. Energy Auditor
3. Training Institution

ENERGY EFFICIENCY AND CONSERVATION ACT (EECA) 2024 - OBLIGATION



Note

- As of November 2025, no energy consumer has been deemed yet.
- Currently in monitoring 12 months energy consumption from Jan 25- Dec 25
- The earliest notices are expected to be issued in Jan/Feb 2026

ENERGY MANAGEMENT INFORMATION SYSTEM (EMIS)

Tool to monitor Energy Consumer compliance

- Appointment of REM
- Implementation of EnMS
- Submission of EE&C Report
- Submission of EA report

Analysis

Can perform analysis on
the reported data



Web-Based

Online web-based
system

Developer

Developed by Ekonerg
Konzalting Ltd. from
Croatia.

ENERGY CONSUMER - REM APPOINTMENT



WHAT TO DO?

- Must appoint a REM within 3 months of receiving written notice
- The REM must be **among its employee**



REM REQUIREMENTS

If 12 consecutive months energy consumption is:

- **21,600GJ ≤ Energy ≤ 50,000GJ**
 - First Type REM or a Second Type REM
- **Energy > 50,000 GJ**
 - Second Type REM



REM LIMITATION

Appointed REM can serve up to 8 energy consumers, provided if they are **related corporations**



NOTIFICATION

Shall notify the Commission by electronic means on the appointment of the registered energy manager

If cannot appoint a
REM among its employees

Allowed to appoint Non-Employee
Second Type REM for a maximum of **3
years** from the date stated in the written
notice.

Appointed non-employee
Second Type REM can serve up
to 8 energy consumers

After 3 years, must appoint a
REM from among its employees



EMIS - REM APPOINTMENT

General Data

File number: 002

Premise Name: Test EECA EC - Industry

Address: Lot 45, Jalan Tun Razak, Kompleks Damai

State: Kuala Lumpur

City: Kuala Lumpur

ZIP ID: 50400

Subsector: Industry / Manufacture of Basic Metals

Projects: EECA 2024

Reporting period: 12

REM

Name: Test EECA REM
 Certificate Type: REM T2
 Certificate of Registration Number: PT2-2025-0001
 Practising Certificate Number: PT2-2025-0001/001
 Practising Certificate Expiration Date: 31/07/2026
 Employee: Yes
 Email: zulhilmi@st.gov.my
 Tel: 0388708680
 Mobile: 0122811926

Sector	Number of Premises				
	All	Appoint REM	Not appoint REM	Appoint REM Among its Employee	Appoint Non-Employee REM T2
Commercial	7	5	0	3	1
Industry	2	2	0	2	0
All sectors	9	7	0	5	1

EMIS Database Statistics

Filter by project: EECA 2024

Sector	Number of Premises					Number of Compliance Audits	Number of EE&C Reports			Number of EA Reports		Number of EE Improvement Plans		
	All	Appoint REM	Not appoint REM	Appoint REM Among its Employee	Appoint Non-Employee REM T2		Not submitting EE&C Reports	Not submitting EA Reports	Audits for Current Year	Submitted for Current Year	Total Submitted	Submitted for Current Year	Total Submitted	Submitted for Current Year
Commercial	7	5	0	3	1	1	1	0	11	27	1	1	1	1
Industry	2	2	0	2	0	0	1	0	4	4	0	0	0	0
All sectors	9	7	0	5	1	1	2	0	15	31	1	1	1	1

Note

- No appointment yet in year 2025 since no notice is issued.
- Appointment will begin in year 2026

ENERGY CONSUMER - EnMS



WHAT TO DO?

Develop EnMS within **1 year** from the appointment date of the **first REM**



DEVELOP & CONTINUOUS IMPLEMENT

Develop and continuous implement the EnMS in accordance with the Guideline on EnMS issued by the Commission.



Note

- EnMS shall be develop and implement according to the guideline.
- Energy Management Policy & Committee shall be reported in EMIS

EMIS - EnMS

Energy Management Policy

Energy Management Committee

Energy Management System (Checked)

Refresh Edit Reject

Energy Management Policy

Test EECA EC – Industry is committed to sustainable and efficient energy use across its operations. We aim to continuously improve our energy performance and reduce energy-related impacts, while complying with all applicable legal and other requirements.

To achieve this, we will:

1. Comply with the Energy Efficiency and Conservation Act 2024 (EECA 2024) and other relevant energy-related regulations.
2. Implement and maintain an effective Energy Management System that supports continual improvement.
3. Set, monitor, and review measurable objectives and targets for improving energy performance.
4. Promote energy efficiency by integrating energy considerations into operational, maintenance, and procurement activities.
5. Adopt energy-efficient technologies and best practices where feasible.
6. Enhance awareness and capability of employees through training, communication, and engagement.
7. Encourage collaboration with suppliers, contractors, and stakeholders to foster energy-efficient practices across our value chain.
8. Monitor, measure, and report energy performance to ensure transparency and continual progress.
9. Provide the necessary resources (financial, technical, and human) to effectively manage energy use and achieve energy objectives.

Energy Management Committee

1. Encik Zulkifli Hassan – Plant Director (Chairperson)
2. Puan Aisyah Ramli – Registered Energy Manager (REM)
3. Tuan Mohd Farid Salleh – Production Manager
4. Cik Nurul Afiqah Idris – Facilities & Utilities Manager
5. Encik Faizal Rahman – Health, Safety & Environment (HSE) Manager
6. Puan Hanani Aziz – Finance & Administration Manager
7. Encik Adam Lim – Procurement Manager
8. Cik Siti Nabila Jamaludin – Energy Data & Reporting Officer (Committee Secretary)

 Hotel Suruhanjaya Tenaga 01 2025 - 12 2025 Report (4).pdf

Upload signed Energy Management Policy

Note

- No submission yet in year 2025 since no notice is issued.
- submission will begin in year 2026

ENERGY CONSUMER - EE&C REPORT



FIRST REPORT

Submit within **30 days after 1 year** from the appointment of the **first REM**



SUBSEQUENT REPORT

- Submit **annually**
- Within **30 days after the anniversary of the first REM's appointment**



Note

- Data shall be reported based on the guidelines
- EE&C report shall be reported via EMIS.

STRUCTURE OF THE EE&C REPORT

GENERAL INFORMATION

Updated when there is changes in information

Premise Profile

Energy Information

Premise Operation Information

PERIODIC INFORMATION

EnMS

Energy Consumption

Production Data

Variables Data

For Industry Sector only

- Compulsory for Commercial Sector
- Optional for Industry Sector

Energy Saving Measures (ESM)

EMIS - EE&C REPORT

Note

- No submission yet in year 2025 since no notice is issued.
- Submission will begin in year 2027

EnMS

Energy Management System

Energy Management Policy

Test EECA EC – Industry is committed to sustainable and efficient energy use across its operations. We aim to continuously improve our energy performance and reduce energy-related impacts, while complying with all applicable legal and other requirements.

To achieve this, we will:

- Comply with the Energy Efficiency and Conservation Act 2024 (EECA 2024) and other relevant energy-related regulations.
- Implement and maintain an effective Energy Management System that supports continual improvement.
- Set, monitor, and review measurable objectives and targets for improving energy performance.
- Promote energy efficiency by integrating energy considerations into operational, maintenance, and procurement activities.
- Adopt energy-efficient technologies and best practices where feasible.
- Enhance awareness and capability of employees through training, communication, and engagement.
- Encourage collaboration with suppliers, contractors, and stakeholders to foster energy-efficient practices across our value chain.
- Monitor, measure, and report energy performance to ensure transparency and continual progress.
- Provide the necessary resources (financial, technical, and human) to effectively manage energy use and achieve energy objectives.
- Review this policy annually to ensure it remains relevant and aligned with organisational goals and regulatory requirements.

This policy applies to all operations, processes, and personnel under the control of Test EECA EC – Industry.

Energy Management Committee

- Encik Zulkifli Hassan – Plant Director (Chairperson)
- Puan Aisyah Ramli – Registered Energy Manager (REM)
- Tuan Mohd Farid Salleh – Production Manager
- Cik Nurul Afiqah Idris – Facilities & Utilities Manager
- Encik Faizal Rahman – Health, Safety & Environment (HSE) Manager
- Puan Hanani Aziz – Finance & Administration Manager
- Encik Adam Lim – Procurement Manager
- Cik Siti Nabila Jamaludin – Energy Data & Reporting Officer (Committee Secretary)

Energy consumption

Production data

Variables data

Energy

Year	Month	Energy				Total [GJ]
		123456789012 Electricity - Conventional	9988123456 Natural Gas			
		kWh	GJ	GJ	GJ	
2025	1	520,000.000	1,872.000	300.000	300.000	2,172.000
2025	2	540,000.000	1,944.000	290.000	290.000	2,234.000
2025	3	580,000.000	2,088.000	310.000	310.000	2,398.000
2025	4	600,000.000	2,160.000	320.000	320.000	2,480.000
2025	5	620,000.000	2,232.000	330.000	330.000	2,562.000
2025	6	610,000.000	2,196.000	320.000	320.000	2,516.000
2025	7	590,000.000	2,124.000	310.000	310.000	2,434.000
2025	8	570,000.000	2,052.000	300.000	300.000	2,352.000
2025	9	560,000.000	2,016.000	290.000	290.000	2,306.000
2025	10	550,000.000	1,980.000	280.000	280.000	2,260.000
2025	11	530,000.000	1,908.000	270.000	270.000	2,178.000
2025	12	510,000.000	1,836.000	260.000	260.000	2,096.000
Total		6,780,000.000	24,408.000	3,580.000	3,580.000	27,988.000

Products and Specific Energy Consumption (SEC) (?)

Year	Month	Product				SEC	
		Basic Iron and Steel - Steel A		Basic Iron and Steel - Steel B		Basic Iron and Steel - Steel A [GJ/MT]	Basic Iron and Steel - Steel B [GJ/MT]
		MT	POE [%]	MT	POE [%]		
2025	1	12,000.000	60.000	8,000.000	40.000	0.109	0.109
2025	2	11,500.000	58.000	7,900.000	42.000	0.113	0.119
2025	3	12,500.000	62.000	8,200.000	38.000	0.119	0.111
2025	4	13,000.000	61.000	8,500.000	39.000	0.116	0.114
2025	5	13,500.000	63.000	8,700.000	37.000	0.120	0.109
2025	6	13,200.000	60.000	8,600.000	40.000	0.114	0.117
2025	7	12,800.000	59.000	8,450.000	41.000	0.112	0.118
2025	8	12,700.000	61.000	8,350.000	39.000	0.113	0.110
2025	9	12,600.000	60.000	8,250.000	40.000	0.110	0.112
2025	10	12,400.000	62.000	8,100.000	38.000	0.113	0.106
2025	11	12,200.000	58.000	8,000.000	42.000	0.104	0.114
2025	12	11,800.000	59.000	7,900.000	41.000	0.105	0.109
Total		150,200.000		98,950.000			

Variables

Year	Month	Variable
		No of Shutdown Days
2025	1	1.000
2025	2	4.000
2025	3	2.000
2025	4	3.000
2025	5	2.000
2025	6	2.000
2025	7	2.000
2025	8	2.000
2025	9	1.000
2025	10	3.000
2025	11	2.000
2025	12	5.000

Export

Energy Saving Measures (ESM)

Energy Saving Measures (ESM)

List

Category	Type	Brief description	Investment Cost [MYR]	Status	Comment
Equipment	Lighting (Installation of high efficient unit only)	Replaced conventional fluorescent lamps with LED fixtures to reduce lighting energy consumption.	95,000	In Progress	

Summary of Implemented ESM (?)

Category	Type	Brief description	Yearly Savings [GJ] (?)	Yearly Savings Cost [MYR]	Investment Cost [MYR]	Simple Payback Period [Years]	Month & Year completed	Status	Comment
Equipment	Air Cond System / Chiller / AHU (Installation of high efficient unit only)	Installed high-efficiency chiller units and upgraded AHU components to improve cooling system performance.	540	150,000	750,000	5	07/2025	Completed	
Operations	Lighting (Installation of high efficient unit only)	Implemented scheduled lighting control and occupancy sensors to optimize usage hours.	32.4	9,000	18,000	2	06/2025	Completed	

ENERGY CONSUMER - EA REPORT



WHO PREPARE EA REPORT?

Appointed REA shall prepare an EA report based on the energy audit conducted.



SUBMISSION TIMELINE

- Within 1 year from the date the written notice as Energy Consumer
- Within the 5th year for every 5 years from the date of submission of the last EA Report
- Follow period specified in the written notice of exemption, if granted by the Commission)



EXEMPTION OPTION

- May apply to the Commission to be exempted from submitting subsequent EA report within the **first 3 months on the 5th year for every 5 years** from the date of **last submission of the EA Report**
- Must show **significant energy efficiency improvements**
- Commission **may approve** the exemption and issue a written notice with effective date

STRUCTURE OF THE EA REPORT

Cover Page

Declaration

Executive Summary

Introduction

Methodology

Details Of Facility Operations

Equipment/System Audited

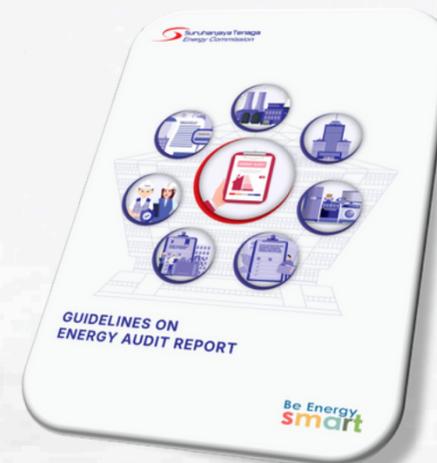
Baseline Description

Observations & Findings

Analysis & Identification of ESM

ESM Improvement Plan

Appendices



Note

- EA report shall be prepared based on the guidelines
- EA report shall be reported & uploaded via EMIS.

EMIS - EA REPORT

Executive Summary

Executive Summary

Objectives of Audit:

The objectives of the energy audit are as follows:

- To establish a baseline energy consumption for Kamaya Electric (M) Sdn Bhd - Factory 2
- To perform load profiling for the electrical power consumption for Kamaya Electric (M) Sdn Bhd - Factory 2
- To identify the main energy consuming loads and opportunities for energy savings for Kamaya Electric (M) Sdn Bhd - Factory 2
- To recommend energy saving measures based on the data collected and energy analysis

Scope of Audit:

After discussion and site visit to HHI Sdn Bhd and with the approval from Energy Audit Conditional Grant under RMK-11 Energy Efficiency Project, this EA is covered on the energy management system and energy balance and burden distribution for the entire site.

Systems or Equipment Audited:

- Air-Conditioner Split Units (ACSUs)
- Premix System (Including motor and compressor)
- Washing System (Including motor and compressor)
- Mixing System (including motor and blower)
- Extrusion 1,2,3 System (including motor, blower and vacuum)
- Extrusion 4,5,6 System (including motor, blower and vacuum)
- Cooling Tower System (Including motor and pump)

Energy data

Energy

Type	Account	Energy [UOM]	Energy [GJ]
Electricity - Conventional	220934073907	6,500,000 kWh	23,400.000 GJ
Total			23,400 GJ

Production data
(Industry)

Products and Specific Energy Consumption (SEC)

Product Type	Product Name	Value	SEC	POE (%)
Electrical Capacitors and Resistors	Capacitors	250,000 kpcs	0.037 GJ/kpcs	40 %
Electrical Capacitors and Resistors	Resistors	500,000 kpcs	0.028 GJ/kpcs	60 %
				100 %

* The total sum is rounded to 2 decimal places

Variables

Name	Value
No of Shutdown Days	60

Load Apportioning

System	Percentage
Motor	40.12%
Chiller	29.88%
Others	20.15%
Lighting	9.85%
100%	

* The total sum is rounded to 2 decimal places

Load Apportioning

Variables data

- Commercial - Compulsory
- Industry - Optional

Energy Savings Measures

Summary of Energy Saving Measures

No-Cost or Low-Cost Measures

Category	Type	Description	Estimated Yearly Savings [GJ] (1)	Estimated Yearly Savings Cost [MYR]	Estimated Investment Cost [MYR]	Estimated Simple Payback Period [Years]	Comment
No data							

Medium-Cost Measures

Category	Type	Description	Estimated Yearly Savings [GJ] (1)	Estimated Yearly Savings Cost [MYR]	Estimated Investment Cost [MYR]	Estimated Simple Payback Period [Years]	Comment
Equipment	Air Conditioner / Chiller / Air Handling Unit (AHU) / Cooling Tower	Change air conditioning	50,000.000	100,000	500,000	5	

High-Cost Measures

Category	Type	Description	Estimated Yearly Savings [GJ] (1)	Estimated Yearly Savings Cost [MYR]	Estimated Investment Cost [MYR]	Estimated Simple Payback Period [Years]	Comment
System	Waste Heat Recovery System	Install WHR	100,000.000	200,000	800,000	4	

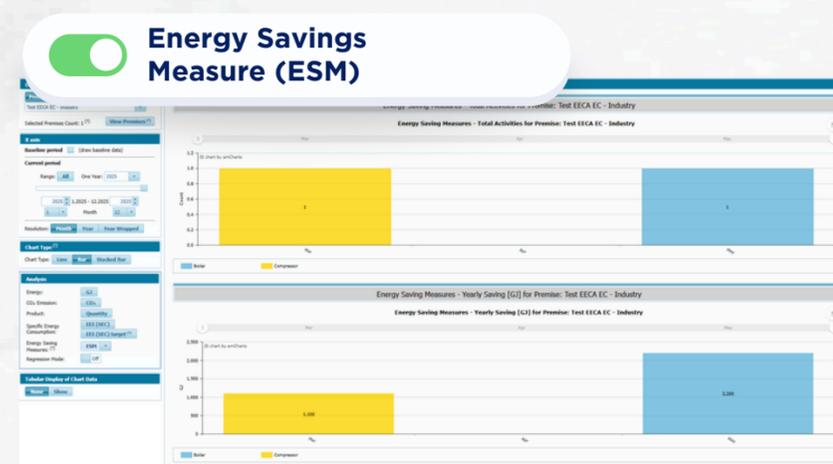
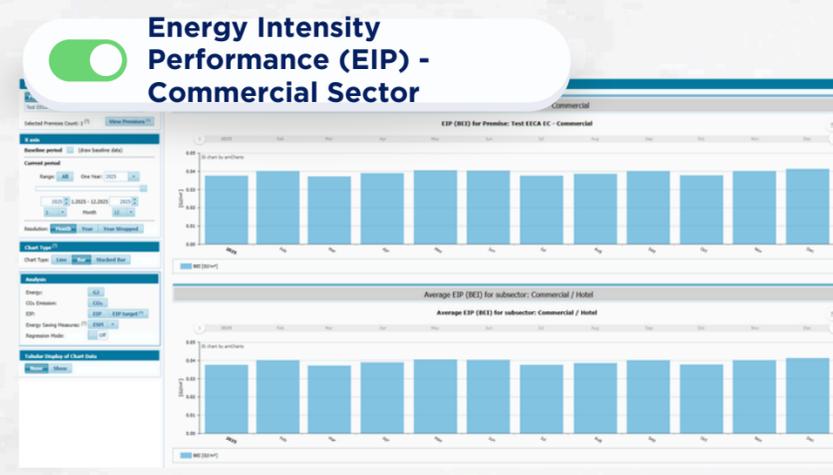
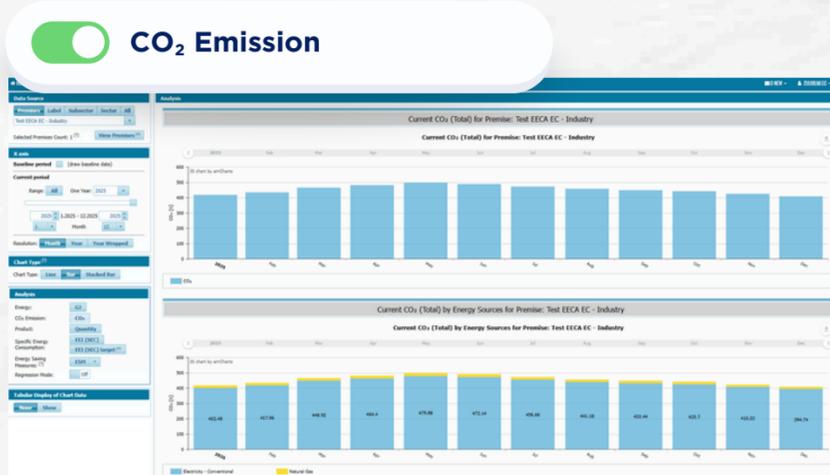
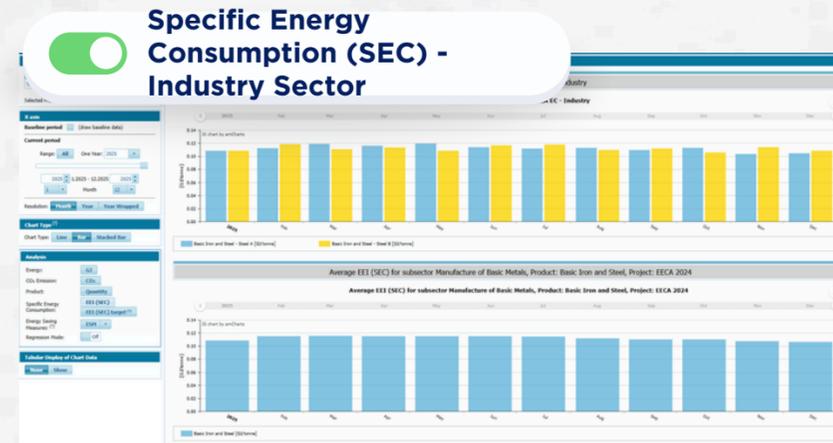
Upload EA Report

Documents

Note

- No submission yet in year 2025 since no notice is issued.
- submission will begin in year 2026

EMIS - ANALYSIS



THANK YOU

Energy Efficiency and Conservation Department
Suruhanjaya Tenaga (Energy Commission)

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