



# VALUE-BASED INTERMEDIATION FINANCING AND INVESTMENT IMPACT ASSESSMENT FRAMEWORK (VBIAF) SECTORAL GUIDE TOWN HALL

## Case Study on Energy Management of Buildings

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# 01 BACKGROUND

## GREEN TECHNOLOGY MASTER PLAN MALAYSIA 2017 - 2030

CURRENT

MOVING FORWARD

### GREEN BUILDING

#### GOVERNMENT BUILDING

Emission reduction  
**10.9 ktCO<sub>2</sub>eq (2014)**

#### PRIVATE BUILDINGS

Emission reduction  
**60.4 ktCO<sub>2</sub>eq (2013)**



550  
(2020) **>>** 1,750  
(2030)

Total number of  
green buildings

#### GOVERNMENT BUILDING

Targeted Emission reduction  
**98.2 ktCO<sub>2</sub>eq (2020)**

#### PRIVATE BUILDINGS

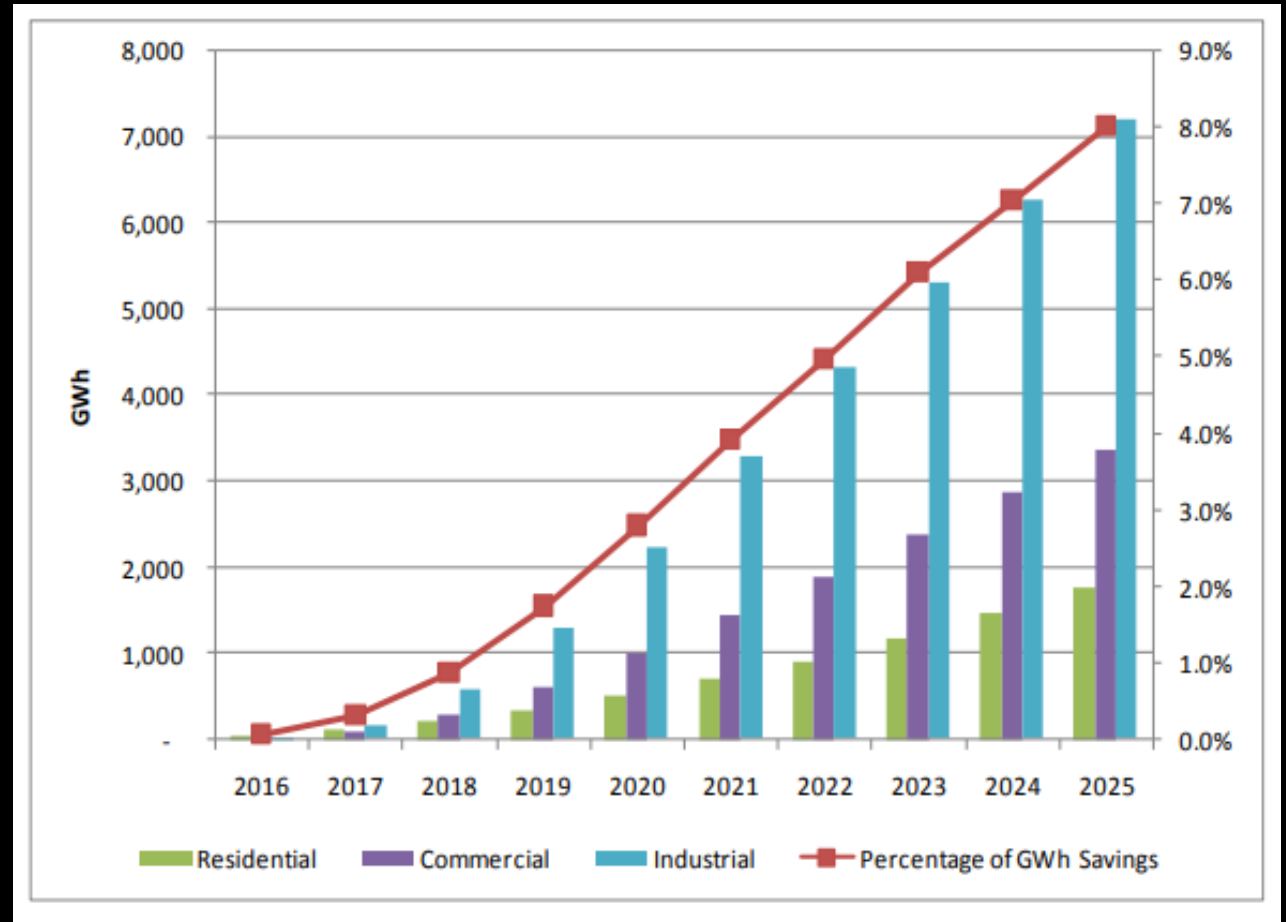
Targeted Emission reduction  
**858.4 ktCO<sub>2</sub>eq (2020)**

# 01 BACKGROUND (Cont.)

## NATIONAL ENERGY EFFICIENCY ACTION PLAN (2015 – 2025)

### INITIATIVE:

- 1) Energy Audit and Energy Management in Buildings and Industries
- 2) Energy Efficient Building Design

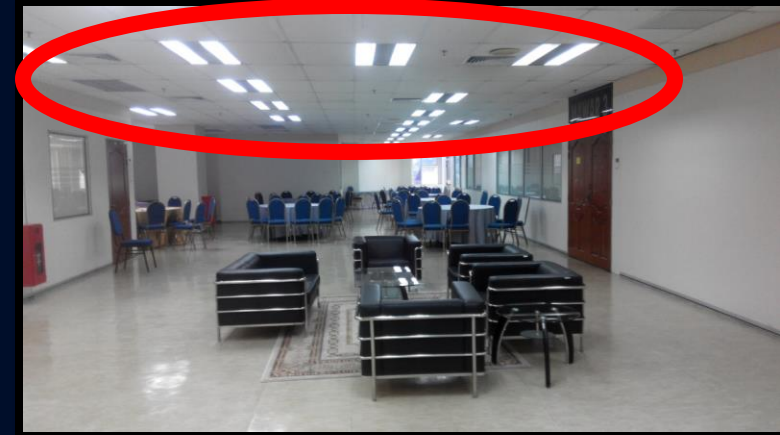


# 01 EE JOURNEY

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## Conduct energy audit:

- a) Done internally or by appointing expert (ESCOs)
- b) Site survey (drawings, energy supply, services)
- c) Survey appraisal (cost, potential energy/cost savings, payback period, risk, lifetime of measures)
- d) Investment appraisal (equipment cost, installation cost, maintenance)



# 02 KEY SUCCESS FACTORS (KSF) & CHALLENGES

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## a) KSF

- Top management support
- Energy Manager
- Structured and clear energy management plan
- Constant communication & awareness
- Close tracking and monitoring
- Continuous improvement
- Technology

## b) CHALLENGES

- Buy-in from management
- Human behaviour
- Available funding
- Competency

# 03 MEASUREMENT & VERIFICATION (M&V)

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## a) Why?

To determine the expected energy savings happened are actually from measures implemented

## b) How?

- Developing M&V plan.
- Specify methods to monitor and measure energy consumption & methods to calculate the savings

## c) When?

At least once before energy-savings measures are implemented & after a period of operation

## d) Who?

Independent party to verify

# 04 FUNDING APPROACH

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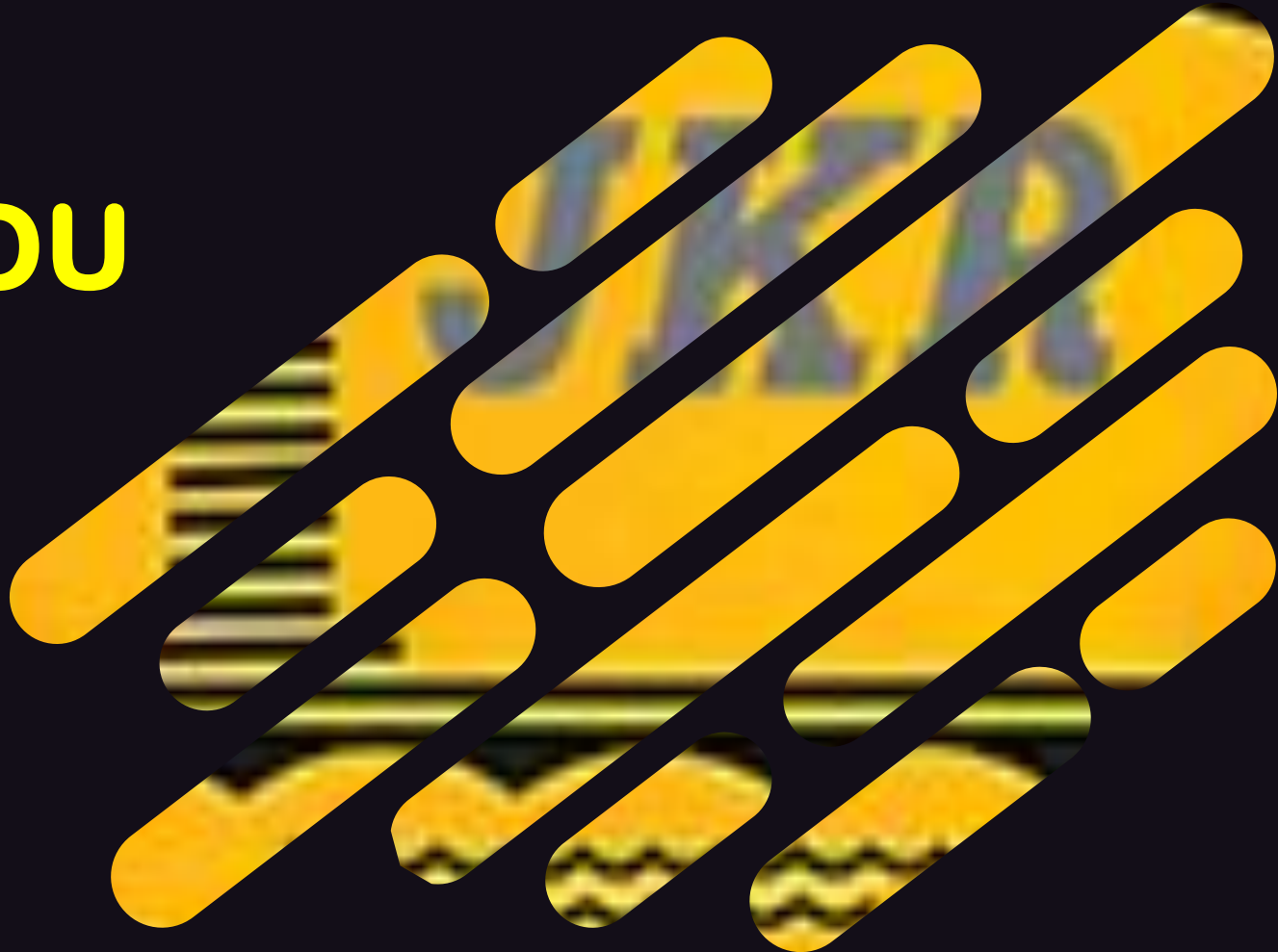
**a) Corporate Loan**

**b) Leasing**

**c) Energy Performance Contracting**



# THANK YOU



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