

Penang Energy Framework (Targets)

The Malaysian government launched the National Energy Transition Roadmap (NETR) to facilitate the transition of the energy sector towards net zero emission by 2050. To help achieve this target, the State Government of Penang set up the Penang Energy Framework Taskforce (PEF) and introduced Renewable Energy (RE) and Energy Efficiency (EE) Targets and Action Plans.

RE target of
10%
by 2030

Reduction of Energy Intensity (Electricity) of
25% by 2030

- Targeting public buildings for the first phase.

RE & EE in Public Buildings by 2025

Public buildings should be assessed for and to take action to increase RE&EE if deemed suitable:

- All eligible* NEW** public buildings need to source at least 5% of total energy generated from RE.
- All eligible EXISTING public buildings should strive to source 5% of total energy generated from RE.

*Meet the criteria set by SEDA for rooftop solar installation

**NEW buildings are buildings at the design stage by the Architect / Principal Submitting Person (PSP) before obtaining the approval of the Local Authority.



NEW Stand-Alone Commercial and Industrial Buildings by 2025



Group 1:
Low Voltage

25%
usage of RE

or

75%
of roof
installation (solar)

Group 2:
Medium Voltage

5%
usage of RE

or

75%
of roof
installation (solar)

Group 3:
High Voltage

2%
usage of RE

or

75%
of roof
installation (solar)

- All NEW commercial buildings with air-conditioned space exceeding 4,000m² to source at least 2% of total energy generated from RE.

All new buildings need to achieve Building Energy Intensity (BEI) by 2025



Office Buildings – BEI of 150



Retail – BEI of 240



Hotels – BEI of 200 (1-3 stars) and BEI of 290 (4-5 stars)



Hospitals – BEI of 200 (limited clinical services) and BEI of 290 (major clinical services)

By 2030, targets for NEW buildings should be

75% of the 2025 targets

Annual BEI reporting (Non-Residential Buildings)

- Voluntary submission from 2025
- Mandatory submission from 2026

Update Uniform Building By-Law Clause 38(A) E

- Ensure MS1525 requirements are applicable to ALL new buildings including residential buildings.

Penang Building Energy Rating Scheme

- Launch a Penang Building Energy Rating Scheme.

Penang Energy Framework (Action Plans)

Capacity Building



TRAINING FOR STAFF

State and local authorities must commit to send staff to attend Energy Management Systems training programmes.



PILOT PROJECT

Conducting pilot projects to increase the capacity and understanding of officers on energy management.



JKR GUIDELINE


Collaborate with JKR and use their Energy Reduction Plan as example to train all building managers.

Awareness and Education



Awareness Program


PGC to collaborate with non-governmental sectors, professional bodies and universities for awareness and educational programs.



Collaboration with Educational Institutes

State government to collaborate with educational institutions or professional bodies to increase the capacity and competency in building management.


Incentives and Certification




Incentive for Green Building: Offers incentives, rebates or 'fast track' approvals for green concept buildings.




Energy Rating for Buildings: Provide an Energy Rating for Buildings and related to parties who comply to the conditions.



Green Building Standards: Establish it as one of the evaluation criteria in determining the use of local government land for new development projects.



Penang Green Office: Mandatory for all public offices to register as Penang Green Office and encourage non-governmental organizations to register as Penang Green Office.



Use of MS and ISO: Encourage building owners/managers to use the existing standards such as MS and ISO through organizing various energy management activities and programs.



Promote Energy Management Systems: Through programs organized by the State Government.

Data Collection and Enforcement

Monitoring and Reporting

Consistent monitoring and monthly reporting to the Implementing Agency.

Data Collection Portal

Development of a monitoring portal by the Implementing Agency for monitoring and collecting energy consumption data.

Installation of TNB Smart Meters

Installation of TNB smart meters in all buildings.