

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**

RE & EE in Government Buildings by 2025

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

- All eligible* NEW** government buildings need to source at least 5% of total energy generated from RE.
- All eligible EXISTING government 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 new 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 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)

Annual BEI reporting (Non-Residential Buildings)

- Voluntary submission from 2025
- Mandatory submission from 2026

Update Uniform Building By-Laws (UBBL) Clause 38(A) E

- Incorporate MS1525 based OTTV requirements as part of the approval conditions for all new developments, including residential buildings.

Penang Building Energy Rating Scheme

- Launch a Penang Building Energy Rating Scheme.

**By 2030, targets for NEW buildings should be
75% of the 2025 targets**

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 and professional bodies to increase the capacity and competency in building management.

Incentives and Certification



Incentive for Green Building: Offers incentives, rebates for '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 (PGO): Mandatory for all government offices to register as PGO and encourage non-governmental organizations to register as PGO.



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 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.