EECA 2024 EnMS STARTER PACK

C6 · EnPI / EEI WORKSHEET

EnPI / EEI Worksheet

Establish your energy efficiency indicator and baseline — SEC path for industry, BEI path for buildings — per GP46 para. 5.2.4 and GP45

GP46 requires the energy baseline to be represented through an Energy Efficiency Indicator — Specific Energy Consumption (SEC) for industry, Building Energy Intensity (BEI) for buildings — or regression analysis, with defined conditions for revision and benchmarking against peers or your own history. This worksheet walks the Committee and REM through establishing the indicator that the EE&C report will then carry every year.

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INV-ENMS-C6	1.0	29 July 2026	Innovast Sdn Bhd	Anslem Lim, CEO

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DRAFT FOR ADAPTATION — this template is not regulatory advice. Prepared with reference to GP/ST/No.46/2024 (Pind. 1/2026) (Guidelines on Energy Management System), the Energy Efficiency and Conservation Act 2024 [Act 861] and the Energy Efficiency and Conservation Regulations 2024 [P.U.(A) 466/2024]; sources last verified 18 July 2026. Adapt every field to your organisation before use. Only Suruhanjaya Tenaga can determine compliance with the Act.

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1 Choose your path

Your facility	Indicator	Path
Manufacturing plant / industrial facility	SEC — energy per unit of output, with POE allocation across products	Section 2
Office, mall, hotel, hospital, campus, data centre or other building	BEI — annual energy per m² of gross floor area; EIP factors in the Commission's online system	Section 3
Mixed site (e.g. plant with large office block)	SEC for the production boundary + BEI for the building boundary; report per the dominant sector classification	Sections 2 + 3 — flag to your REM

Whichever path: the boundary is the **whole facility** (GP46 para. 5.2.4(a)), the dataset is **at least twelve consecutive months** of the most recent consumption (GP46 para. 5.2.4(b)(ii)), and the sector/subsector classification follows GP45 Appendix B as presented in the Commission's online system.

2 Path A — Industry: SEC

2.1 Definitions (GP45 para. 4.1.6)

- **SEC** — the amount of energy consumed per unit of output or activity in a specific process, system or sector. The calculation includes energy used in production areas **and** non-production areas (offices, common facilities) within the premise (GP45 para. 4.1.6.5).
- **POE** — Percentage Of Energy: the fraction of the month's total energy consumption attributed to each product, in percent. One product ▮ POE = 100%. Multiple products ▮ the POEs must sum to 100% each month (GP45 para. 4.1.6.2). POE may be determined from submetering or from the energy audit (GP45 para. 4.1.6.3).

Monthly SEC for a product = (E × POE/100) ÷ P, where E = total energy consumed in the month and P = production quantity of that product in the month (GP45 Equation 1). The Commission's online system computes SEC automatically from your reported consumption, production and POE; compute it here first so you know your number before it does.

2.2 Worksheet

Facility / premise:		Baseline period (12 months):	
Sector / subsector (GP45 App. B):		Prepared by (REM):	

Product	Unit of measurement (UOM)	POE basis (submeter / audit)	POE %	Annual production	Annual energy share (GJ)	SEC (GJ/UOM)

Enter one row per product. POE column must total 100. Use the C7 tracker for the monthly detail behind this summary — monthly SEC is where the story lives; the annual figure smooths it away.

2.3 Variable data to record alongside (GP45 para. 4.1.7)

Factors other than production that move your consumption — record them monthly in the C7 tracker so regression and normalisation are possible later: operating hours, number of shifts, shutdown days, cooling degree days, major maintenance events. For the industry sector, any variable data other than production may be reported (GP45 para. 4.1.7.7).

3 Path B — Buildings: BEI

3.1 Definitions

- **BEI** — Building Energy Intensity: annual energy use per Gross Floor Area, kWh/m²/year (GP46 para. 5.2.4(c)(i)(A)).
- **GFA** — per GP45 para. 2: the total floor space measured between the external sides of walls (party walls to centres), excluding parking and its M&E spaces, external covered parking, staircases and lift shafts above ground/lobby, commercial-vehicle waiting areas, rooftop/podium gardens and recreation in open or semi-open spaces, and pedestrian pathways. Compute GFA once, document the workings, and reuse it consistently.
- **EIP** — Energy Intensity Performance: the Commission's method associating building energy consumption with its drivers (GFA, data centre IT load, occupancy rate, hospital beds, hotel rooms). The variable data used is determined by the Commission in the online system (GP45 para. 4.1.8.3); your job is to hold clean monthly values for each driver.

3.2 Worksheet

Building:		Baseline period (12 months):	
Sector / subsector (GP45 App. B):		Prepared by (REM):	

Item	Value	Basis / source
Gross floor area, GFA (m²) — per the GP45 exclusions		As-built drawings ref:
Air-conditioned area (m²)		
Data centre area (m²) and IT equipment energy (kWh/yr), if any		
Enclosed parking area (m²) / external corridor area (m²)		
Occupancy driver — rate (%), beds, rooms or students (per building type)		
Total 12-month energy consumption, all fuels (GJ) — from C7 tracker		
Electricity share (kWh)		
BEI = annual energy (kWh) ÷ GFA (m²)		kWh/m²/yr

Hold the driver data monthly in the C7 tracker. If your building already carries a GP/ST/No.48/2024 (Pind. 1/2026) energy intensity assessment or label, use the same GFA workings here — one GFA, everywhere.

4 Baseline, revision and regression (both paths)

- **Baseline.** Fix the twelve-month baseline period and record the EnPI value it produces. The baseline is the reference every later saving, target and benchmark is measured against (GP46 para. 5.2.4(c)).
- **Revision conditions.** GP46 para. 5.2.4(c)(ii): revise the baseline if the EEI no longer reflects the organisation's energy performance, or after changes to static factors — size, operation system, equipment failure or natural events. Write the trigger list for your facility here and have the Committee endorse it: _____
- **Regression.** Where consumption is driven by variables (production, weather, occupancy), a regression model of consumption against those variables gives a fairer baseline than a single ratio — GP46 recognises both (para. 5.2.4(c)(i)(B)). Start simple: one or two drivers, monthly data, R^2 and residuals reviewed by someone who can defend them. Innovast builds IPMVP-grade regression baselines as standard audit output.

5 Benchmarking and targets

- **Internal benchmark** — compare the current EnPI against your own baseline within 12 months, or against your targets (GP46 para. 5.2.4(d)(ii)).
- **External benchmark** — compare against facilities or services in the same category, or an established standard value (GP46 para. 5.2.4(d)(i)). Note the comparator and its source here: _____
- **Targets** — set from the EnMS assessment and this analysis (GP46 para. 5.3.1); GP46 contemplates achievement within three years of establishment (para. 5.3.2, "may"). Record the target EnPI and date in the action plan (C8) and re-present both at every management review.

> **Sector EnPIs are where generic templates fail.** kWh per tonne, per room-night, per bed-day, per m^2 at what occupancy — the defensible indicator depends on your operation. Innovast sets EnPIs and baselines as part of every audit and EnMS engagement, and InnoSense then tracks them continuously. **eeca2024.my · anslem@innovast.asia**

The complete Starter Pack

This document is one of thirteen working documents in the EECA 2024 EnMS Starter Pack — together they stand up an energy management system that follows GP/ST/No.46/2024 (Pind. 1/2026) and the statutory duties of Act 861.

Code	Document	Use it to
C0	Pack Guide & Compliance Clock	Orient the team; diarise the statutory deadlines
C1	EECA EnMS Gap Assessment Checklist	Score your current position (Yes / Partial / No) against every GP46 element and statutory duty; get a readiness band
C2	Energy Management Policy Template	Draft the policy with the four GP46-mandatory commitments built in
C3	Committee & Governance Kit	Appoint the management representative; constitute the Committee; run and minute the meetings and the annual management review
C4	Legal & Obligations Register	Hold every Act 861 / EECR duty with citation, deadline, penalty, owner and status — the legal-compliance evaluation GP46 para. 8.2(g) expects
C5	REM Appointment Checklist	Choose internal vs external appointment; respect the tiering and the caps; manage the three-year window
C6	**EnPI / EEI Worksheet (sector-selectable)**	Establish the baseline and indicator — SEC path for industry, BEI path for buildings **(this document)**
C7	Energy Data Collection Plan + 12-Month Consumption Tracker (xlsx)	Plan and record the twelve months of consumption, generation and variable data GP46 requires
C8	Action Plan & ESM Register (docx + xlsx)	Turn audit findings into a prioritised, costed, owned action plan with M&V per ESM
C9	Communication, Awareness & Training Plan	Discharge GP46 para. 7.7–7.9 — communication matrix, motivation strategy, training programme
C10	EnMS Self-Evaluation Matrix (xlsx)	Run the GP46 para. 5.2.3(a) maturity self-evaluation at Committee formation and periodically after
C11	Work Procedure & Log Sheet Starters	Seed the operational controls — chiller plant and lighting examples to adapt
C12	EE&C Report Skeleton	Assemble the annual report content in the GP45 structure before entering it in the Commission's online system

Get the complete pack, free: eeca2024.my/enms-pack · anslem@innovast.asia · +60 12 355 6214