Lessons from ASEAN

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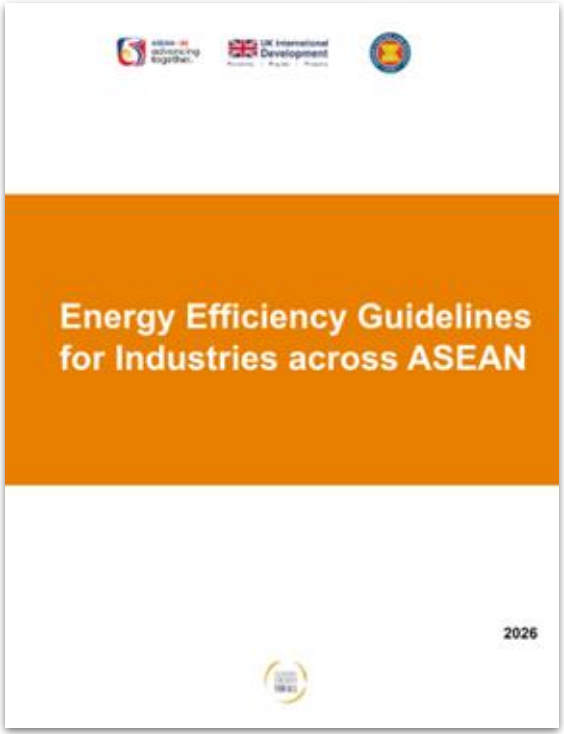
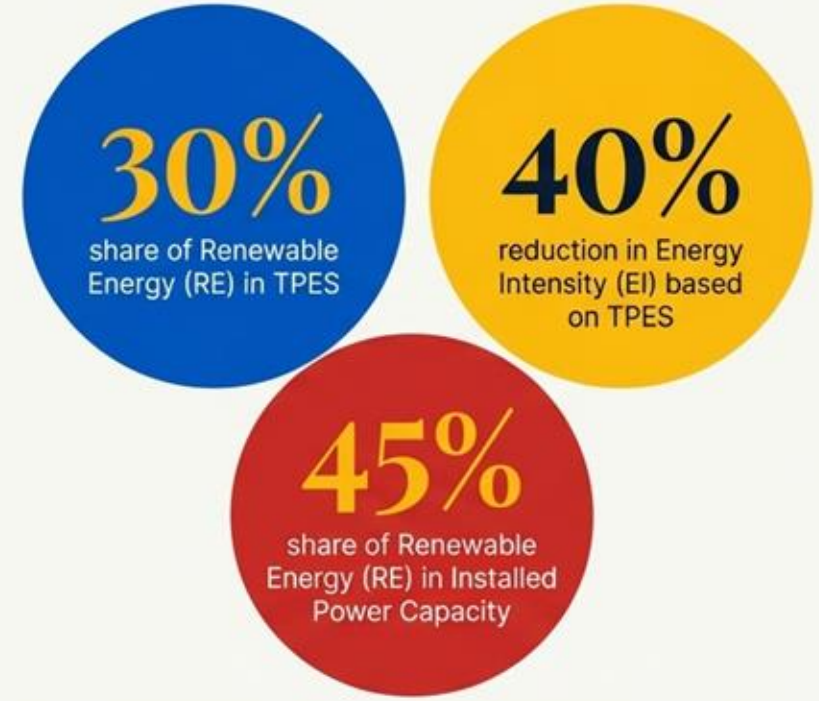


ASEAN's 40% energy intensity target: Why Industrial parks and SMEs matter



Aligning with APAEC Programme Area 4 and the Strategy for Carbon Neutrality.

35–60%

of ASEAN's GDP is driven by SMEs, representing the region's core economic engine.

80%

of total employment in the region is provided by the SME sector.

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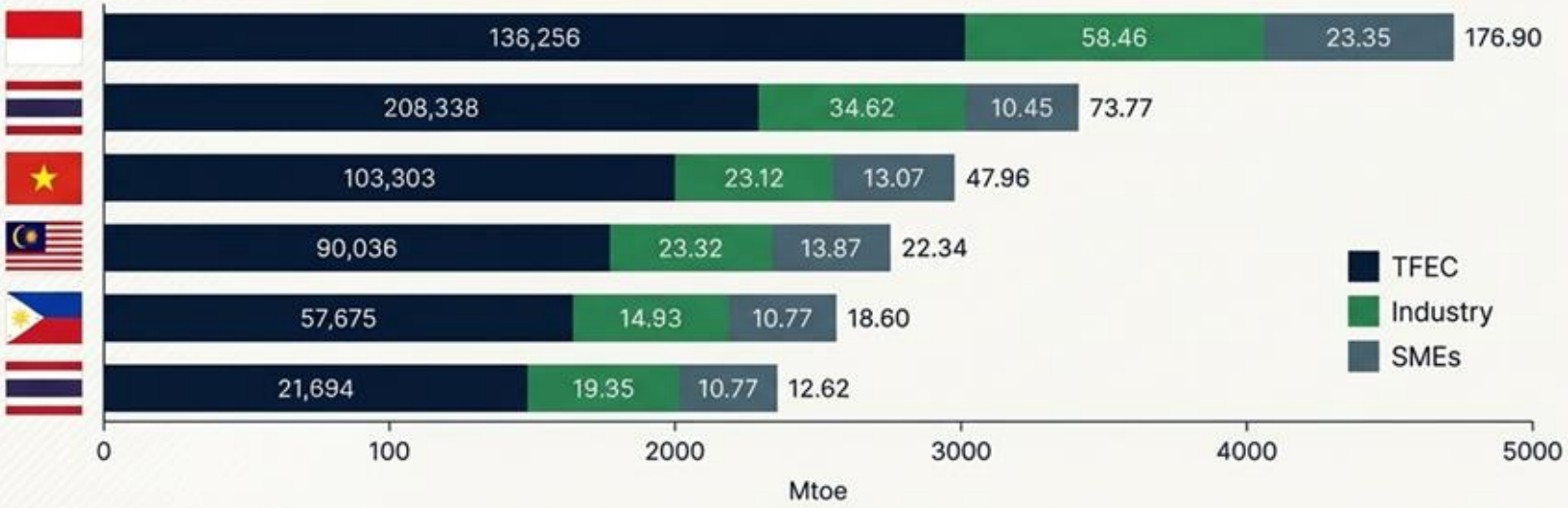
15–30%

of total operating costs for industrial SMEs are consumed by energy expenses alone.

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

Five countries drive over 90% of ASEAN's total final energy consumption and have strong SME industrial bases

- A comprehensive scoping assessment covered Indonesia, Thailand, Vietnam, Malaysia, and the Philippines.
- The industrial sector accounts for ~42% of ASEAN final energy consumption.
- SMEs consume 55–60 Mtoe annually across the region (13% of total energy demand).



Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

Five structural barriers prevent viable energy-efficiency opportunities from progressing to implementation

Awareness & Capacity

SMEs lack energy managers or in-house expertise; limited knowledge of EE opportunities and savings potential

Market Barriers

Outdated equipment continues to dominate despite short payback periods for replacements

Financing Challenges

High upfront costs, weak access to low-cost finance; banks perceive EE projects as risky with unclear savings verification

ESCO Market Gaps

Energy Service Company models underdeveloped; focus on large facilities, limited aggregation for SMEs

Enforcement Gaps

Fragmentation across agencies reduces compliance; weak monitoring capacity at local levels

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

The guideline addresses key adoption barriers by turning fragmented SME opportunities into investable and scalable projects

Deep dives next

In response, the guideline translates technical potential into an actionable approach…

- Developed with ACE and the EE&C-SSN, the guideline connects **technical opportunities** with the **institutions, investment decisions** and **delivery models** needed to act.
- A practical reference that **connects energy management**, **technologies, finance, stakeholder roles** and **project aggregation** to turn fragmented SME opportunities into investable and scalable projects

…by answering five practical implementation questions

Where are the savings opportunities?	• Baselines, audits, sub-metering and benchmarking
Which technical measures should be prioritised?	• Guidance for common electrical and thermal systems
Is the proposed investment financially viable?	• Savings estimates, payback and financial appraisal
How should projects be structured, financed & delivered?	• Project aggregation, ESCO models and financing approaches
Who needs to act, and how can implementation be scaled?	• Stakeholder responsibilities and a phased implementation pathway

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

Example from the guideline: prioritising practical measures with rapid returns

1. LED Lighting Upgrades

(50-70% savings, 1-2 yr payback)

2. Compressed Air Leak Repair

(Immediate recovery of 20-30% waste)

3. Motor Maintenance & VSDs

(15-25% energy reduction)

4. HVAC Scheduling & Controls

(15-30% cooling cost reduction)

5. Power Factor Correction

(Avoids penalties, maintains PF ≥ 0.95)

6. Insulation Improvements

(Reduces process heat loss by 10-20%)

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

Example from the guideline: structuring fragmented SME opportunities for financing and delivery

Shared Infrastructure:

Centralized steam, shared cooling, and aggregated monitoring improve reliability and economies of scale.

Pooled Procurement:

Collective purchasing of efficient equipment reduces capital costs through bulk negotiation.

Blended Finance:

Park-level aggregation improves bankability, enabling risk-sharing facilities, guarantees, and concessional financing that individual SMEs cannot access.

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

Moving from technical potential to implementation requires coordinated action by parks, industry and government

Short term | Medium term | Long term

5 priority recommen-dations

		Lead actors	Key enablers
1	Establish park-level energy cells	Industrial park authorities, supported by governments and industry associations	Coordinate data, audits, training, service providers and project development
2	Strengthen energy data and verification	SMEs, park authorities and ESCOs	Build baselines, sub-meter significant uses and verify savings to create confidence
3	Develop aggregated project pipelines	Park authorities, ESCOs, technology providers and financiers	Bundle similar measures across SMEs to reduce transaction costs and diversify risk
4	Introduce fit-for-purpose finance	Financial institutions, governments and development partners	Combine simplified appraisal, credit lines, guarantees, leasing or ESCO models with technical assistance
5	Enable policy and capacity	ASEAN institutions and Member State governments	Promote compatible methods, proportionate reporting, benchmarking, incentives and sustained training

Source: ASEAN Energy Transition and Green Value Chain for Carbon Neutrality, ASEAN-UK Green Transition Fund – Clean and Just Energy Transition.

The ASEAN Energy Efficiency Guidelines for Industrial Parks and SMEs

Launched to support practical, scalable energy-efficiency implementation across ASEAN

Learn more about the guideline and SEforALL's energy-efficiency work in Southeast Asia: https://missionefficiency.org/country-engagement/southeast-asia

Thank you

CAMERAS ON

Please switch on your camera for the inaugural launch photograph.