



Dissemination of EE&C Outcomes within ASEAN Member States

EMAK 10

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**One Community
for Sustainable
Energy**

About the ASEAN Centre for Energy



-  Inter-governmental organisation established on 1 January 1999
-  Possesses legal personality representing 10 AMS interests in the energy sector.
-  Enjoys political backing & support from AMS, DPs & IOs.
-  Plays (3) critical roles to advance ASEAN energy cooperation: Catalyst, Data and Knowledge Hub, Think Tank
-  Manages ASEAN Plan of Action for Energy Cooperation (APAEC).

Vision: As catalyst for the economic growth and **integration** of the ASEAN region by initiating and facilitating multilateral **collaborations** as well as joint and collective activities on **energy**.

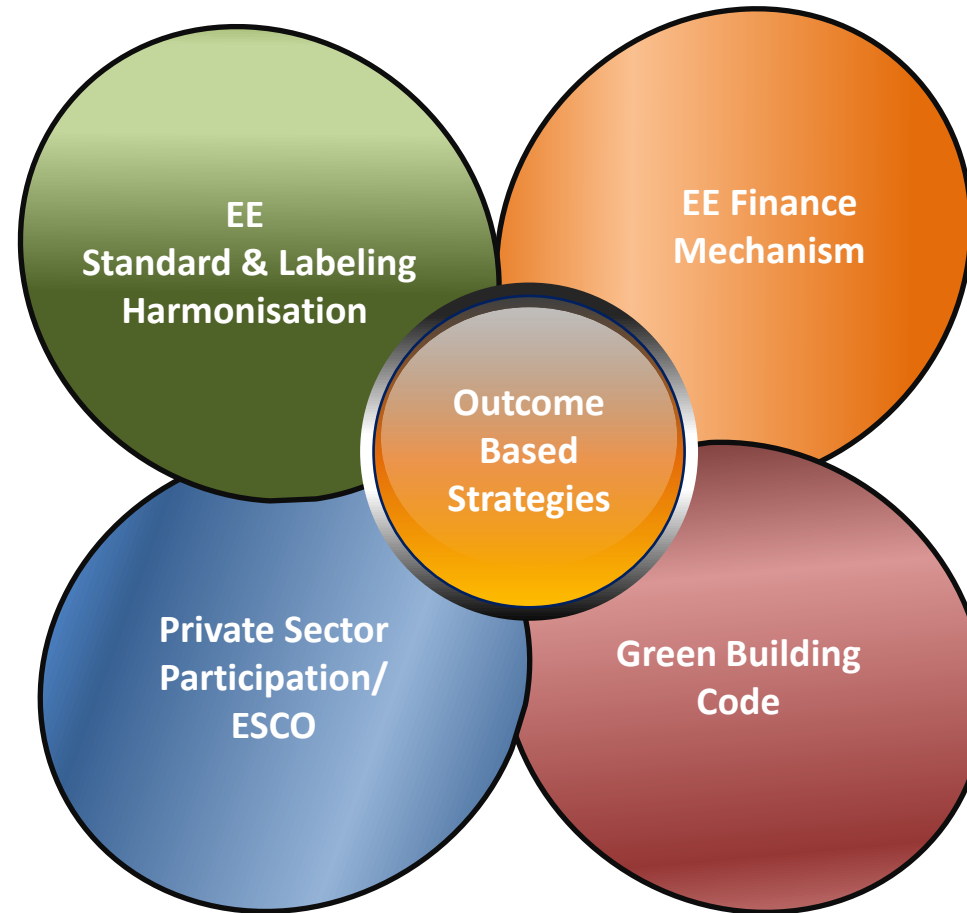
Energy Efficiency and Conservation Under APAEC Phase I:2016-2020

Action Plans

- ☐ Regional policy and roadmap for MEPS for AC and Lighting
- ☐ National Policy & roadmap for MEPS for AC and Lighting
- ☐ Awareness raising programme

Action Plans

- ☐ Create more opportunities for private sector
- ☐ Capacity Building
- ☐ ASEAN Energy Awards



Action Plans

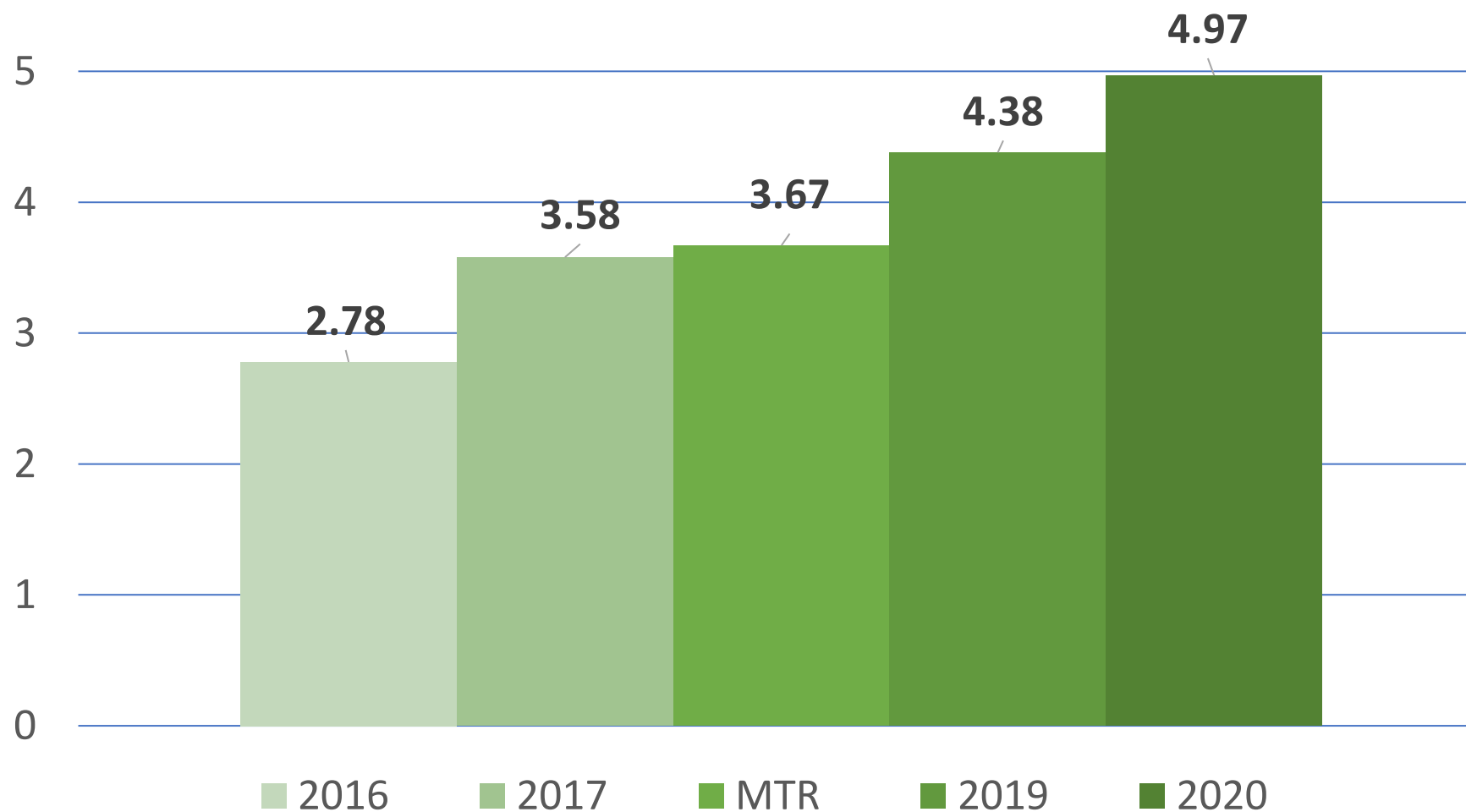
- ☐ Establish network of FIs
- ☐ Financing Training
- ☐ Pilot Projects
- ☐ Guidelines on EE financing
- ☐ Implementation of EE financing projects

Action Plans

- ☐ Review of international experience on GBC
- ☐ Guideline of GBC
- ☐ Capacity building

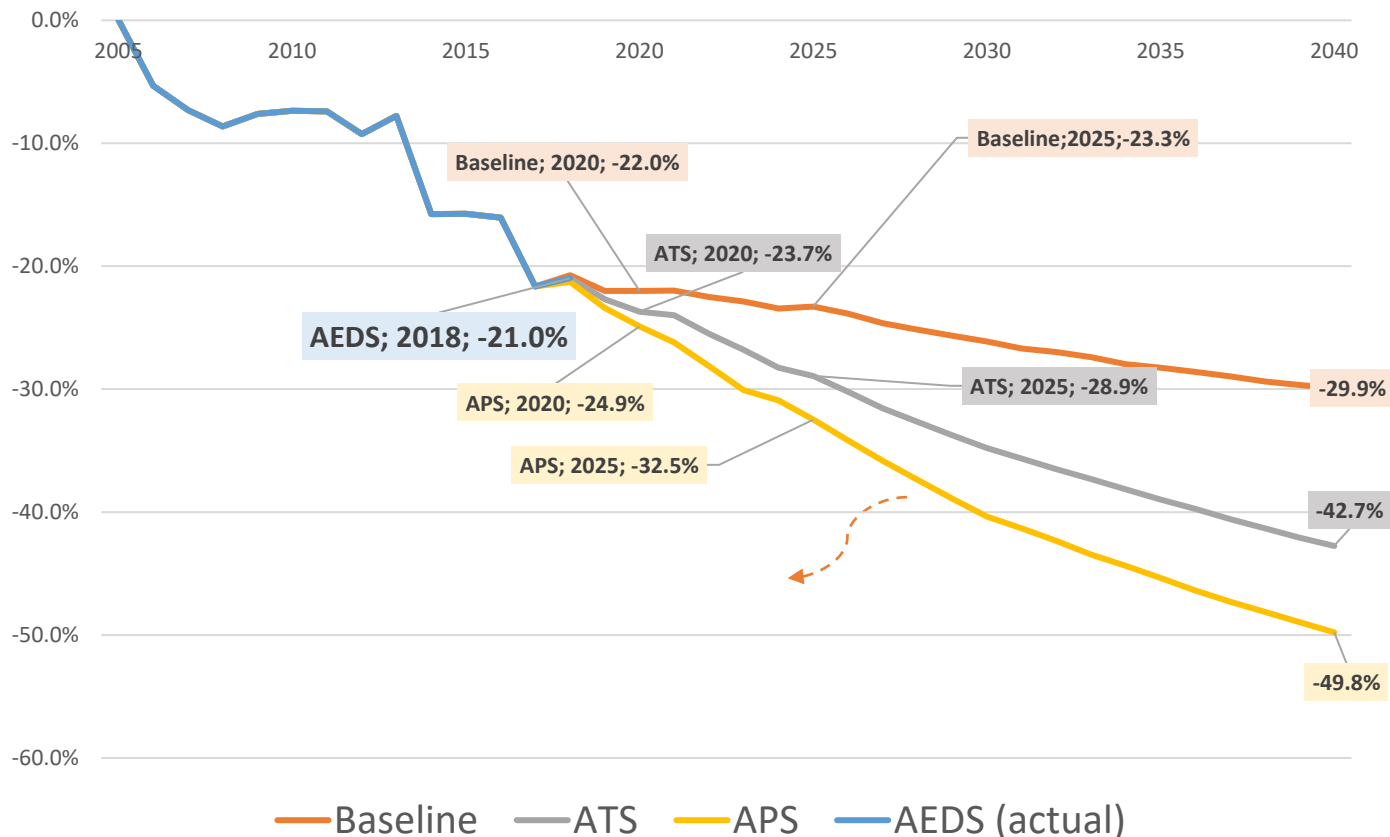
to reduce energy intensity (EI) by 20% in 2020 based on 2005 level.

Performance of Energy Efficiency and Conservation Programme in APAEC Phase I: 2016-2020



ASEAN has exceeded the Energy Intensity Reduction Target and set a new target for APAEC Phase II: 2021-2025

Energy Intensity Reduction (TPES, from 2005 level)



Sources: AEDS

- As of 2018, ASEAN has achieved 21% energy intensity reduction based on 2005 level.
- ASEAN to look into a more ambitious target for APAEC Phase II with 32% by 2025
- Expand the regional EE&C initiatives to Transport and Industrial Sectors

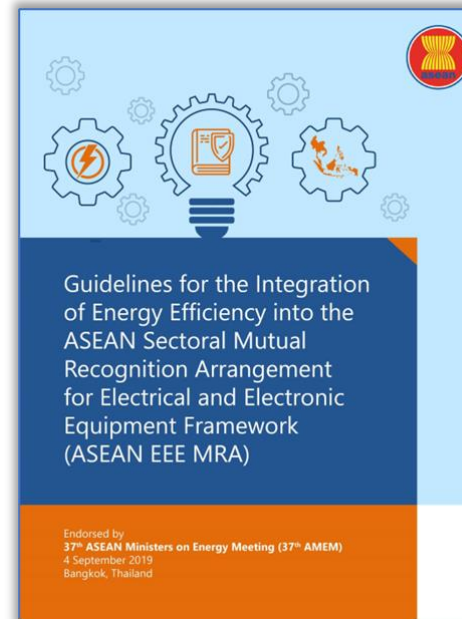
Key Accomplishment Energy Efficiency and Conservation



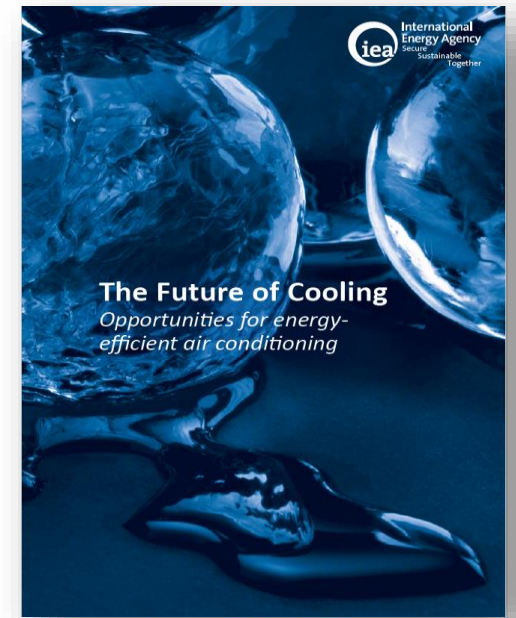
Study on Financing
Mechanism for EE Project
Implementation



Regional Policy Roadmap for
Lighting



Guidelines for EE integration
to ASEAN EEE MRA



Future of Cooling in ASEAN

Private Sector Participation



ASEAN Energy Business Forum

A **high-level platform** for information exchange and cooperation opportunities for key stakeholders of ASEAN energy sector.



ASEAN Energy Awards

A platform to **showcase the best practices** in EE&C, Renewable Energy, and Clean Coal Technology in accelerating energy transition



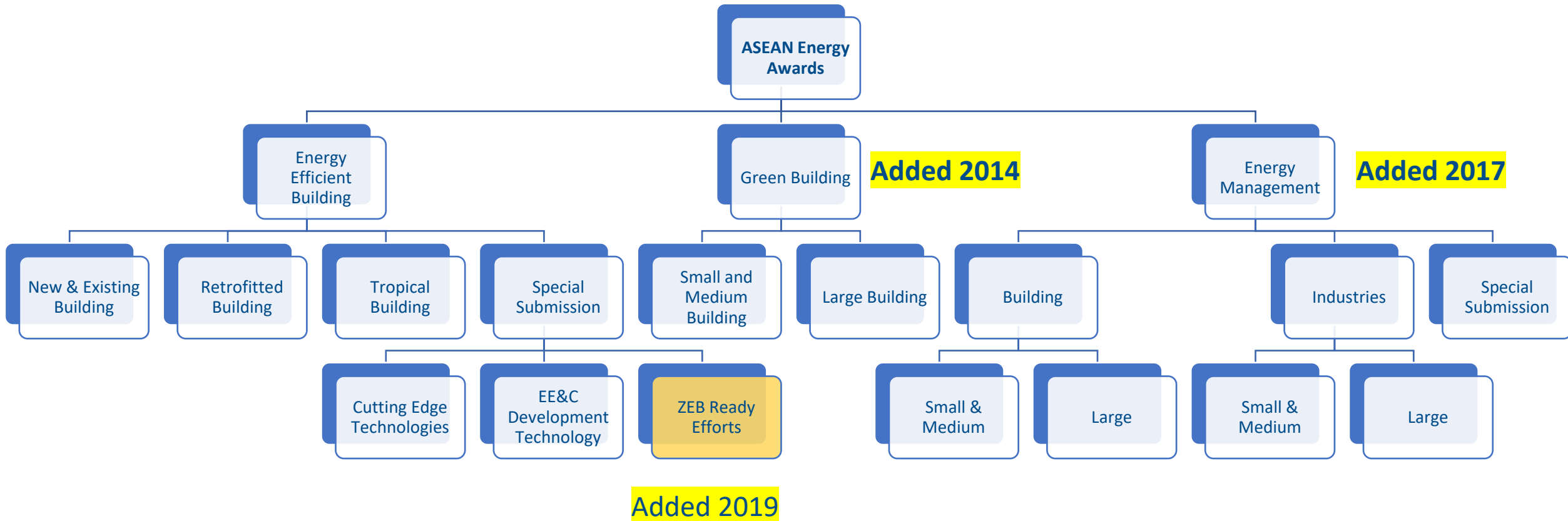
CEFIA
Cleaner Energy
Future Initiative
for ASEAN
ASEAN+3



ASEAN+3 Cleaner Energy Future Initiative for ASEAN

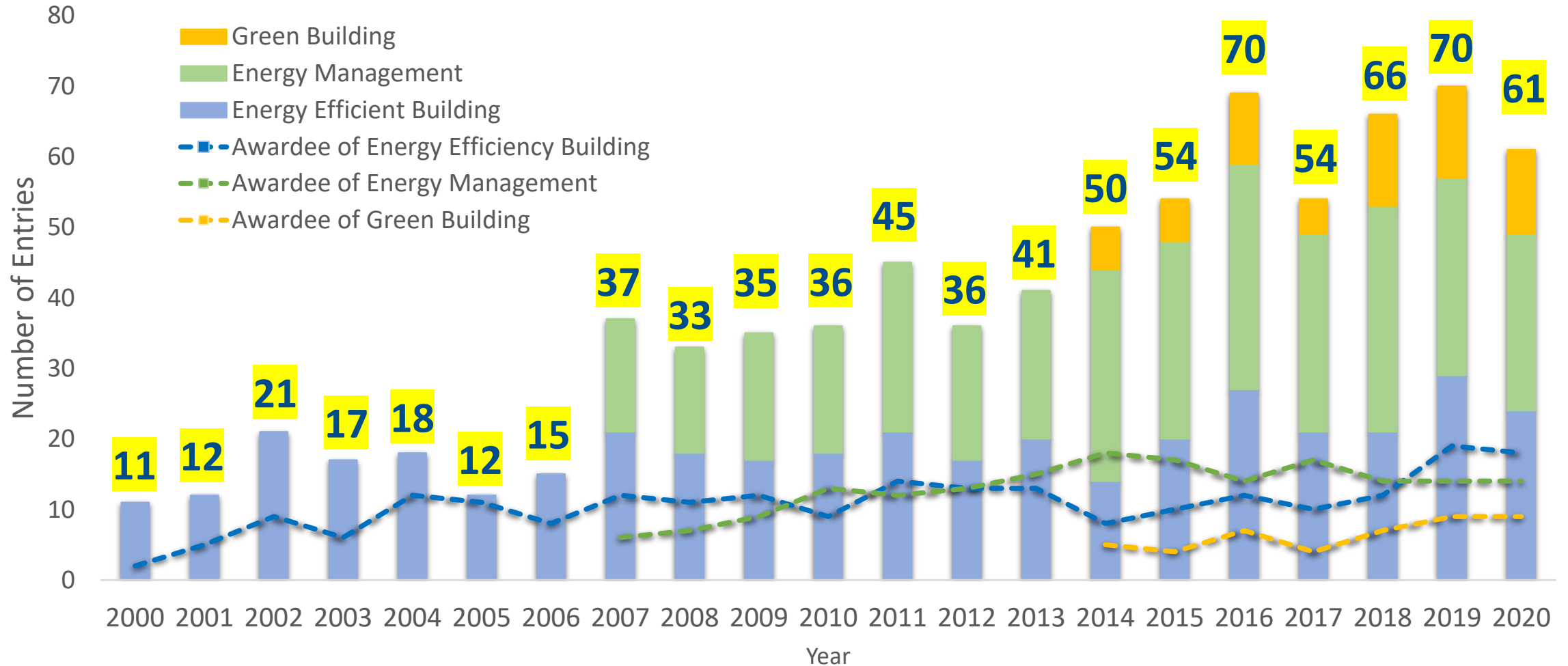
Facilitate collaboration **between public and private sectors** in ASEAN+3
For accelerating the deployment of cleaner energy and low carbon technologies in ASEAN region

ASEAN Energy Awards – EE&C Categories



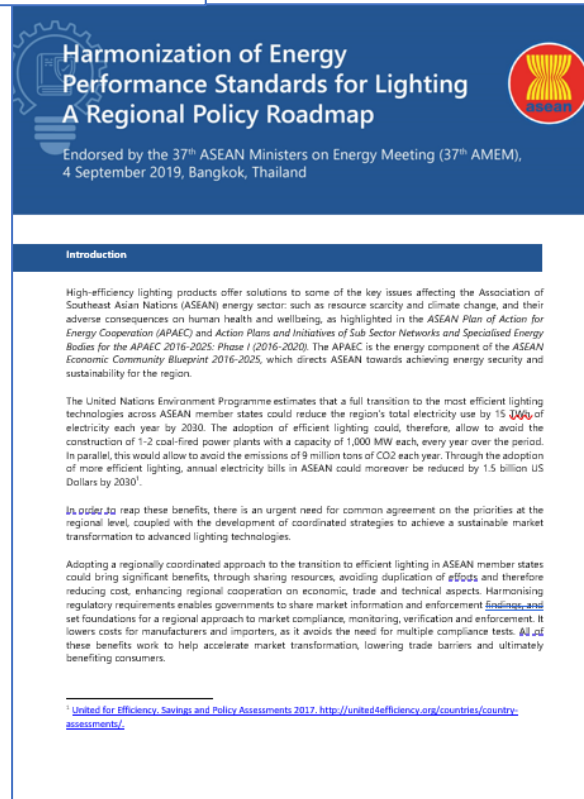
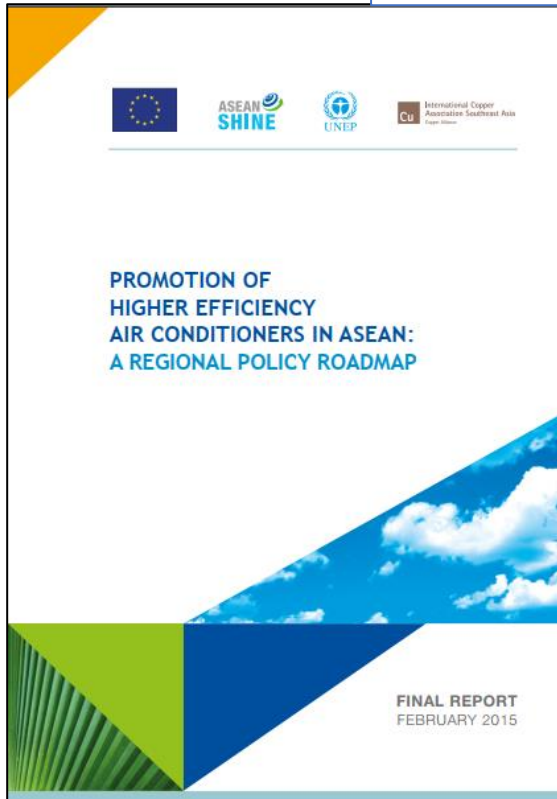
ASEAN Energy Awards – EE&C Categories

ASEAN Energy Awards



Harmonisation and Promotion of EE S&L Regional Policy Roadmap

Regional Policy Roadmap

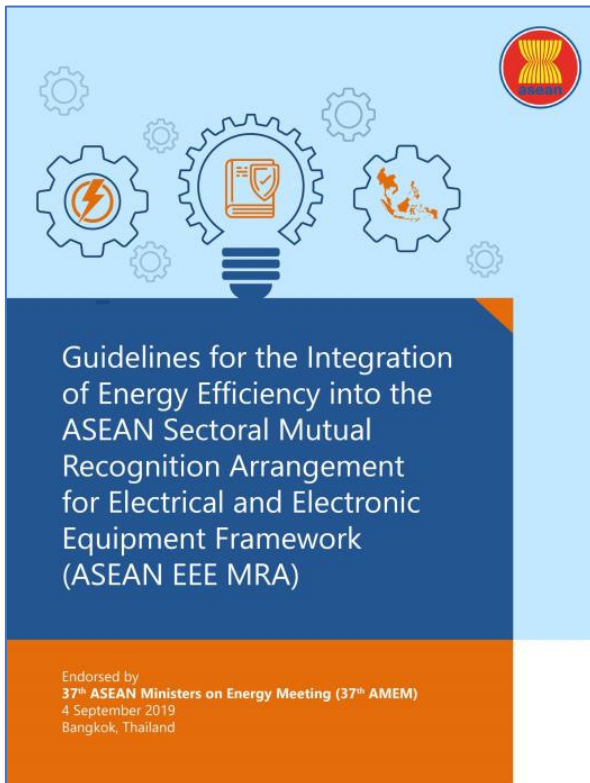


Expansion
to other
Electrical
Appliances

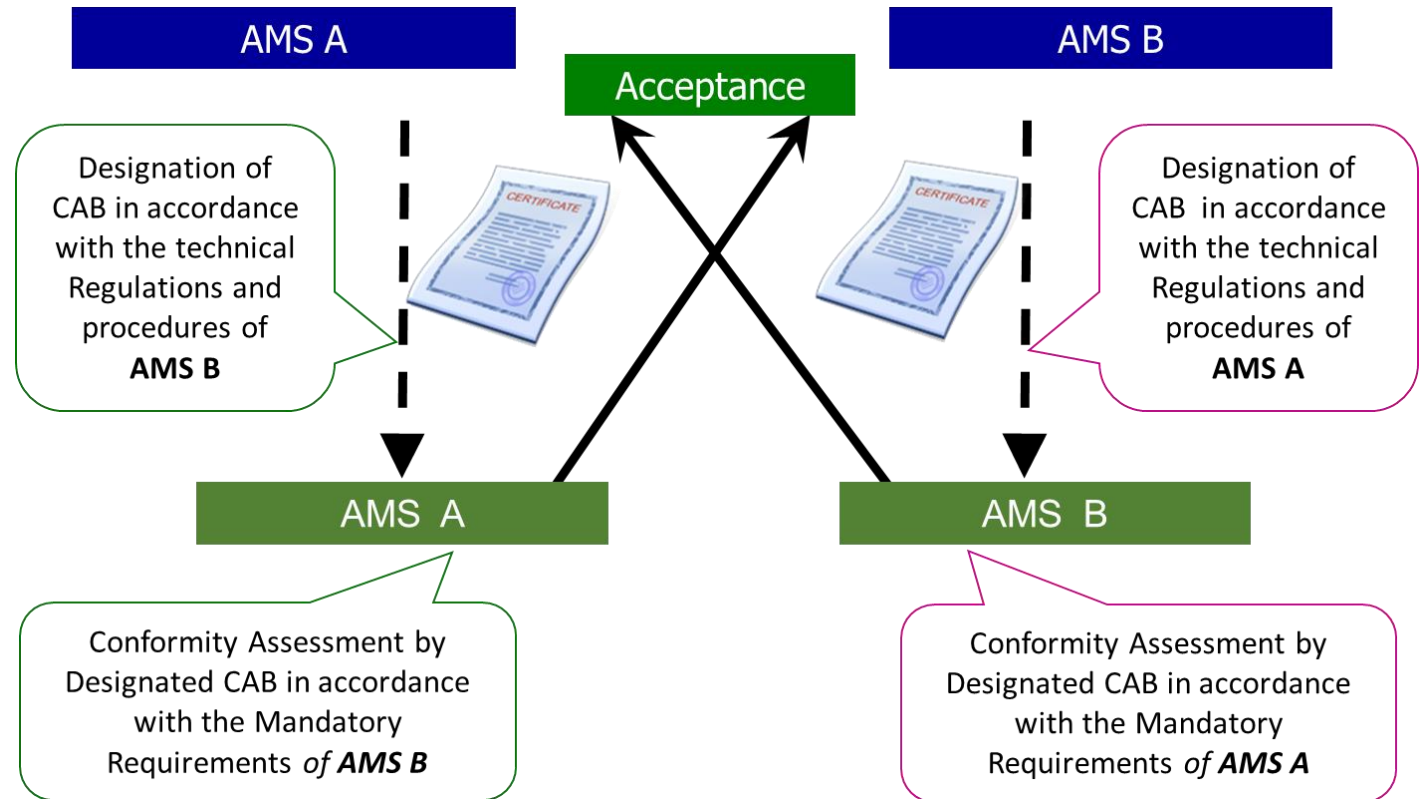
A roadmap to facilitate harmonisation or clear alignment of minimum energy performance standards for air conditioners and Lighting in ASEAN economies.

- Harmonisation of Energy Performance Standards for Electric Motors
- Harmonisation of Energy Performance Standards for Transformer
- Regional Product Registration Database and System on AC and Refrigerator for ASEAN: to assist tracking and monitoring products in the ASEAN market

Harmonisation and Promotion of EE S&L Integration of Energy Efficiency to ASEAN EEE MRA



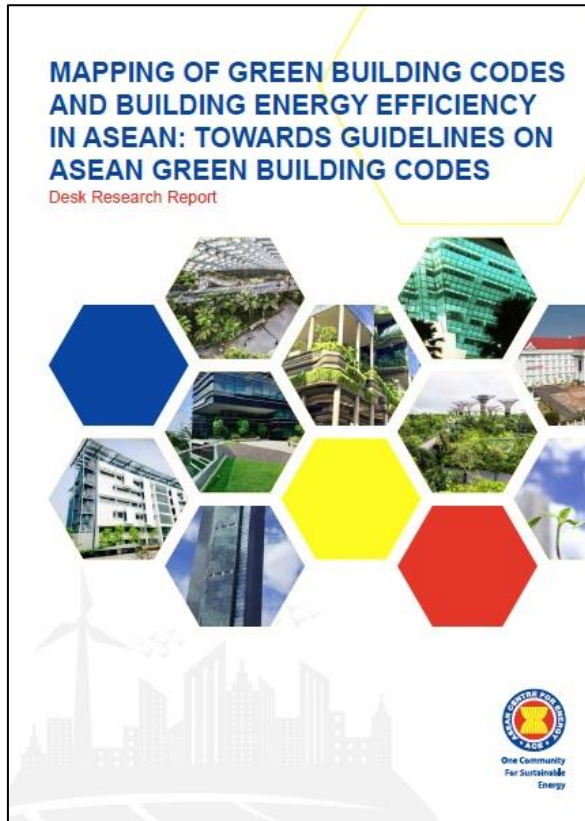
Guideline of Integration of Energy Efficiency (EEf) to ASEAN EEE Mutual Recognition Arrangement



Provide the **action steps** as well as harmonised guidelines, processes, and documentation to enable **ASEAN Member States (AMS)** to integrate their **energy efficiency regulations** into the processes of the **ASEAN EEE MRA**

Green Building Codes to increase the penetration of high energy efficient products

Mapping of Green Building Codes and Building Energy Efficiency in ASEAN



- ✓ Mapping study on GBC and EE&C in Buildings
- ✓ Technical recommendation on GBC and EE&C in Buildings
- ✓ Policy recommendation on GBC and EE&C in Buildings

AGEP
ASEAN-German Energy Programme

Future initiative

Roadmap for Sustainable and Energy Efficient Buildings in ASEAN – with IEA

Goals

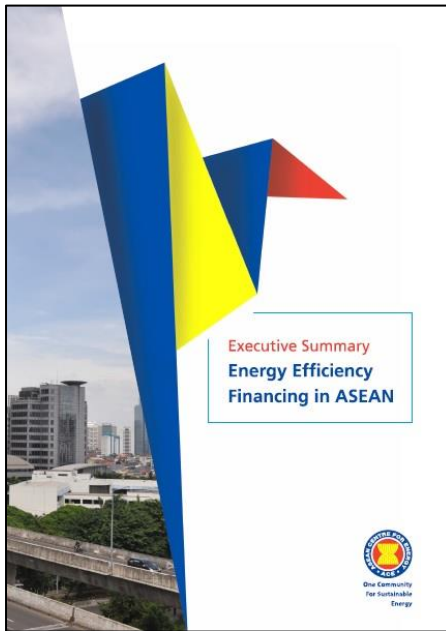
- Improve the understanding, design and implementation of buildings and cooling energy efficiency policies.
- Support the requirement for harmonised targets and standards that enable the transfer of learnings and further the integration and connectivity of the region

Output

- Long term buildings roadmap for ASEAN
- Sustainable cooling roadmap for ASEAN

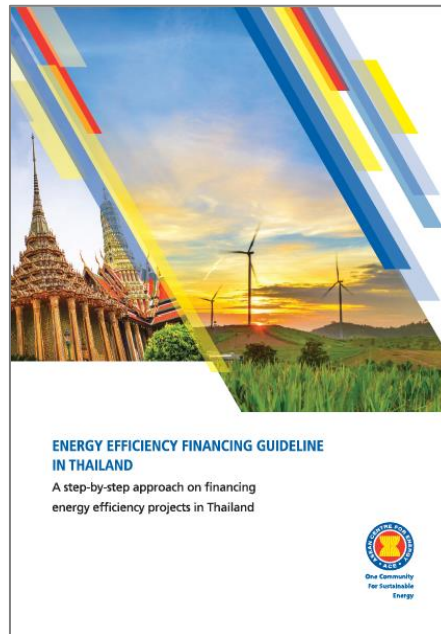
Enhance the participation of financial institutions in EE&C development

Mapping of Energy Efficiency Financing in ASEAN



- ✓ EE policies, rules and regulations
- ✓ Financing schemes, mechanism and incentives
- ✓ Stakeholder mapping
- ✓ Challenges and recommendations

EE Financing Guidelines in Thailand



- ✓ Current EE situation in Thailand
- ✓ EE financing mech. under the ENCON Fund
- ✓ Eligibility criteria & application process for each mechanism
- ✓ Decision-making matrix to select the suitable mechanism

Financing Mechanism Design for EE&C Project Implementation



- ✓ EE financing best practices
- ✓ National EE Financing Mech. Recommendations
- ✓ Regional EE Financing Mech. Recommendations

ASEAN Japan Energy Efficiency Partnership (AJEEP) Scheme 2

Objectives

1. To improve the quality and quantity of trainers for Energy Management Training
2. To build up or refine the Energy Manager Certification System in each AMSs
3. To ensure sustainability of Energy Manager Capacity Building in each AMSs

AJEEP Training of Trainers (TOT)

Participant should complete the required activities as follows:

1. Practice-1 : Training of Trainers
2. Practice-2 : Trial Energy Audit
3. Report & Presentation of Trial Energy Audit
4. Examination at Training Center(Mini-plant)
5. Examination at ECAP



Practical Energy Manager Training (TOT)

- Examination
- Energy Audit Planning

Practical Energy Audit in own Country

- Actual Practice
- Audit Report
- Working with Trainers

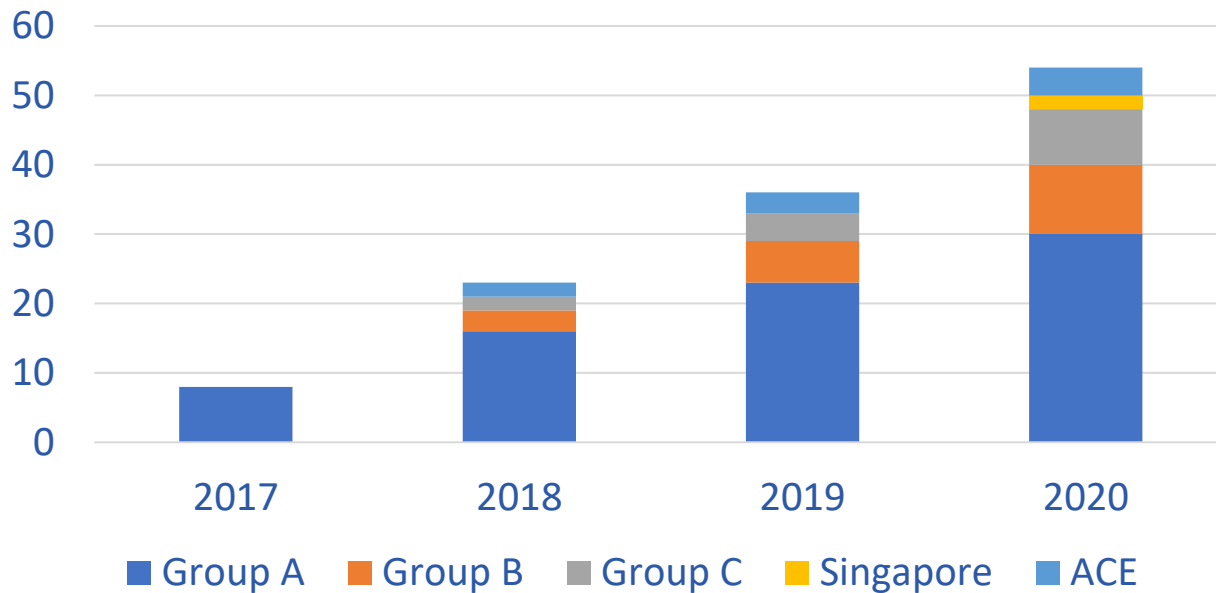
EC Lectures in Japan

- Presentation of Audit Report
- Energy Management System Lectures
- Examination

Achievements of the AJEEP Scheme 2

Numbers of AJEEP Certified Trainers

ASEAN Energy Manager Trainers
Under AJEEP Scheme 2



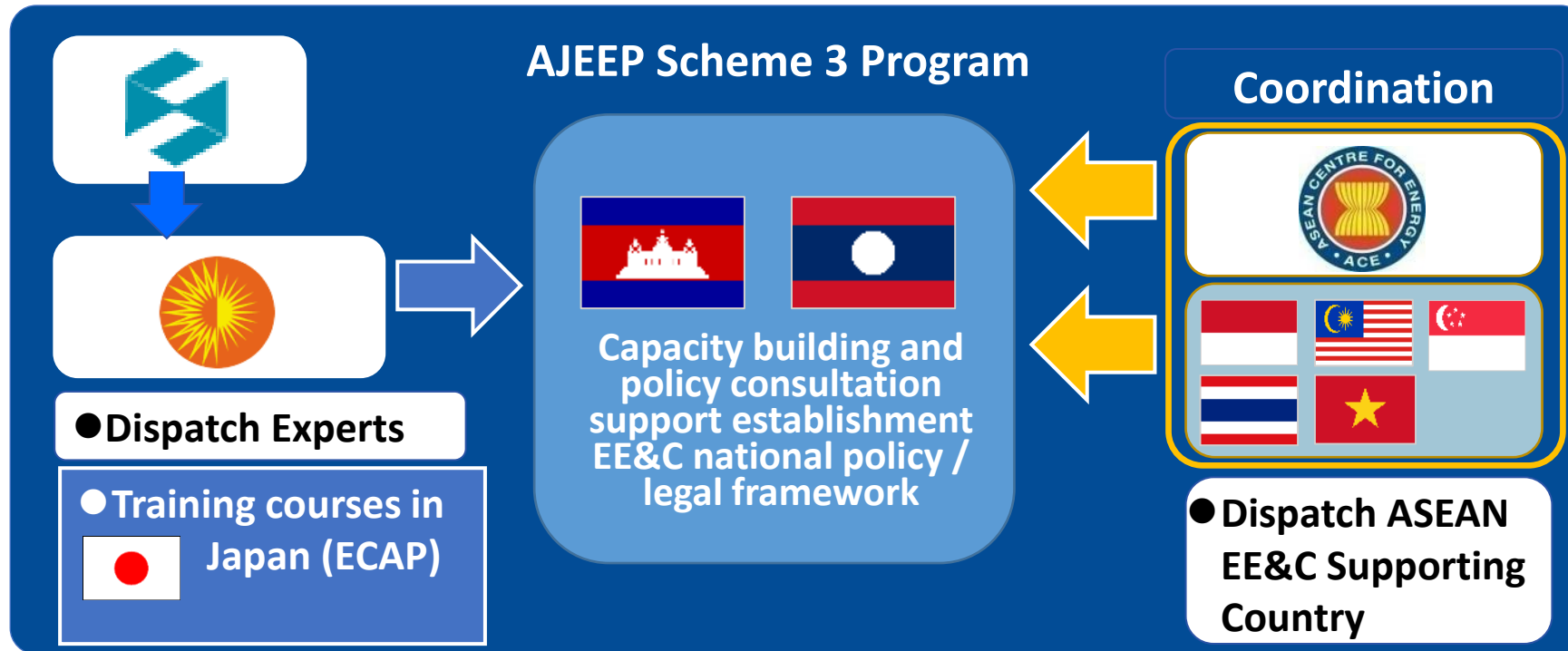
Group A: Indonesia, Malaysia, Thailand, Vietnam

Group B: Brunei Darussalam, Philippines, Myanmar

Group C: Cambodia, and Lao PDR

	2019-2020	Total (Trainer)
Group A	1 / Indonesia 2 / Malaysia 3 / Thailand 2 / Vietnam Total : 8 Trainers	30
Group B	2 / Brunei 2 / Myanmar Total : 4 Trainers	10
Group C	2 / Cambodia 2 / Lao PDR Total : 4 Trainers	8
Singapore	2 / Singapore Total : 2 Trainers	2
Total (Trainer)	18 + ACE:1	50 +ACE:4 Total: 54

ASEAN Japan Energy Efficiency Partnership (AJEEP) Scheme 3



Objectives

To narrow the gap of the EE&C promotion capabilities such as:



1. Establishment of better EE&C Policy & EE&C Legal Framework
2. Capacity building to implement the EC law
3. Awareness raising on the EE&C policy and Law/Regulation

Areas of support:

1. EE&C Policy and Law
2. EE Standard and Labeling System
3. Energy Management System

AJEEP Scheme 3 Progress and Achievements

1. EE&C Policy and Law



	 Cambodia	 Lao PDR
National EE&C Policy	National EE Policy, Strategy and Action Plan: targeted to be approved in 2020	National EE&C Policy: finalized in 2016
Master Plan for EE&C		Master Plan for EE&C: finalized in 2016
EE&C Act	-	-
EE&C Decree	-	Prime Minister Decree was approved <u>on 11th May 2020.</u>

2. S&L System Arrangement

Rating standard, MEPS & Label design	Finalised by MME and TWG and prescribed in the draft Sub-decree	Finalised by IREP, MEM and TWG and prescribed in the draft Provision
MVE, Supplier & product registration system	Finalised by MME and TWG and prescribed in the draft Sub-Decree (Outline)	Finalised by IREP, MEM and TWG and prescribed in the draft Provision
MRA (AC test lab.)	Under discussion with related ministries	Accreditation Centre in MOST is the MRA's jurisdiction.

AJEEP Scheme 3 Progress and Achievements

3. Energy Management System Arrangement

	 Cambodia	 Lao PDR
Threshold of designation	<ul style="list-style-type: none"> - Drafted tentative level of threshold with reference to electricity consumption data provided by EDL - Set tentative threshold with Type 1 and Type 2 for factories and buildings respectively - Collecting fuel consumption data for the further examination 	<ul style="list-style-type: none"> - Prescribed in Prime Minister Decree on EE&C (Factory: 20 TJ/y / 1000 kW / 1175 kVA) (Building: 20,000 m²)
"Model Project"	<ul style="list-style-type: none"> - Held the stakeholder meetings among the concerned ministries, university and companies. 	<ul style="list-style-type: none"> - Held the stakeholder meetings among the concerned ministries, university and companies.
EC Guideline	<ul style="list-style-type: none"> - Under consideration 	<ul style="list-style-type: none"> - The outline was prescribed in the Decree. - Under consideration
Periodical report	<ul style="list-style-type: none"> - Deepen understanding through group work practice and information sharing by supporting countries - Supposed to be drafted the template 	<ul style="list-style-type: none"> - Obligation of submission was prescribed in the Decree. - Deepen understanding through group work practice and information sharing by supporting countries - Trial making by cooperative companies with their own data - Supposed to be drafted the template
Qualification system and training for Energy Manager	<ul style="list-style-type: none"> - Energy Manager Training Committee was established in 2019. Resources in Scheme 2 will be utilized. 	<ul style="list-style-type: none"> - Obligation of assignment was prescribed in the Decree - Drafted in 2018 - Detailed design: under development

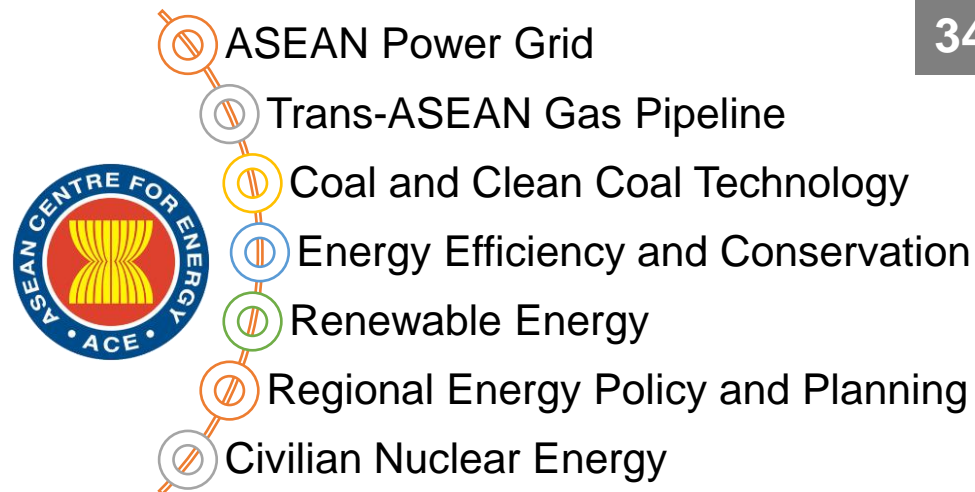
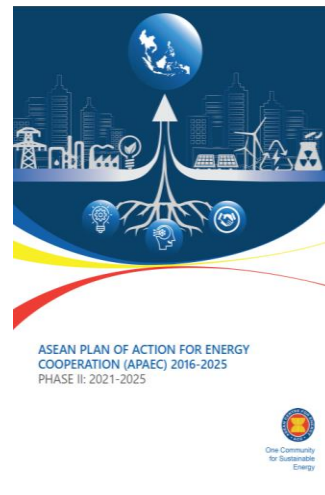
APAEC Phase II: 2021 - 2025

The ASEAN Plan of Action for Energy Cooperation (APAEC) is a series of guiding policy documents that aims to promote multilateral energy cooperation and integration to attain the goals of the ASEAN Economic Community (AEC). It serves as the platform for deeper cooperation both within ASEAN as well as with DPs and IOs towards enhancing energy security, accessibility, affordability, and sustainability within the framework the AEC.

38th AMEM endorsed APAEC Phase II:2021-2025, 19 Nov 2020

- **23% RE share in TPES & 35% in power capacity**
- **32% Energy Intensity Reduction Target by 2025**

7 Programme Areas
32 OBS
100 Action Plans
346 Annual Priorities



Enhancing Energy Connectivity & Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability & Sustainability for All
Accelerating Energy Transition & Strengthening Resilience through Greater Innovation and Cooperation

Key Strategies for APAEC Phase II: 2021 - 2025



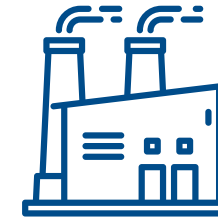
1. ASEAN Power Grid

To expand regional multilateral electricity trading, strengthen grid resilience and modernisation, and promote clean and renewable energy integration.



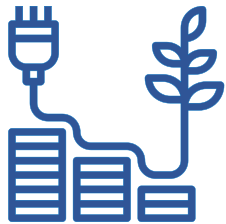
2. Trans-ASEAN Gas Pipeline

To pursue the development of a common gas market for ASEAN by enhancing gas and LNG connectivity and accessibility.



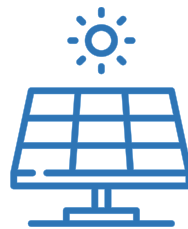
3. Clean Coal Technology

To optimise the role of CCT in facilitating the transition towards sustainable and lower emission development.



4. Energy Efficiency and Conservation

To reduce energy intensity by 32% by 2025 and encourage EE&C efforts, especially in transport and industry



5. Renewable Energy

To increase the share of RE to 23% in TPES and 35% in installed power capacity by 2025



6. Regional Energy Policy and Planning

To advance energy policy and planning to accelerate the region's energy transition and resilience

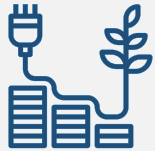


7. Civilian Nuclear Energy

To build human resource capabilities on nuclear science and technology for power generation.

Programme Area No 4: Energy Efficiency & Conservation

5 Outcome-based Strategies and 14 Action Plans



OBS1

Expand, Harmonise,
and Promote EE S&L



OBS2

Enhance Participation
of Private Sector,
Financial Institutions,
and Clusters



OBS3

Strengthen
Energy Efficiency
in Building



OBS4

Pursue Energy
Efficiency in
Transport



OBS5

Advance Energy
Efficiency in
Industry



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Thank You