Table of Contents

1. Basic Direction on EE Database under the APAEC Phase II

2. The Significance of PRS System for ASEAN Region

3. Utilization of the data at the regional level and linkages to mutual recognition agreement

4. Key Issues and the Way Forward
Key Outcomes of
the 38th AMEM

APAEC Phase II: 2021-2025

- **Endorsed** the ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II: 2021-2025 with a sub-theme of “Accelerating Energy Transition and Strengthening Energy Resilience through Greater Innovation and Cooperation” to serve as the blueprint for the long-term transformation of ASEAN’s energy landscape towards a sustainable future.

- **Endorsed** the 6th ASEAN Energy Outlook (AEO6) to complement APAEC Phase 2.

- **Endorsed** the new regional targets for the development of EE&C and RE:
  - **Energy intensity reduction target of 32% by 2025, based on 2005 levels.**
  - **RE share target of 35% of Total Installed Power Capacity by 2025, which will contribute to achieving the aspirational RE share target of 23% in the ASEAN Total Primary Energy Supply.**
ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II: 2021-2025

“Accelerating Energy Transition and Strengthening Energy Resilience through Greater Innovation and Cooperation”

- ASEAN Power Grid
- Trans-ASEAN Gas Pipeline
- Clean Coal Technology
- Energy Efficiency and Conservation
- Renewable Energy
- Regional Energy Policy and Planning
- Civilian Nuclear Energy

APS Targets

EI REDUCTION TARGET
Reduce EI by 20% in 2020, 32% in 2025 based on 2005 level.
Programme Area No. 4: Energy Efficiency and Conservation

‘To Reduce Energy Intensity at 32% by 2025’

Outcome-Based Strategies and Programmes

- Harmonised EE Standard
- Private Sector and EE Finance
- Sustainable Building
- Industry – EMS technology uptake
- Transport - Fuel Efficiency and EV system

Harmonised standard for AC and Lighting (existing).
Expansion plan to cover refrigerator, electrical motor, TV, etc.,.
MRA

Private Sector and EE Finance
- Energy Efficiency Fund, ESCO Fund, Tax Incentives, Subsidy, Concessional Loan (GCF, IFIs), On-Bill Financing, Blockchain
- Business Forum

Sustainable Building
- Green Building Code
- Roadmap Development
- Energy Audit and training
- EE and Net Zero Award for building
- Sharing Best Practices on Net Zero Building

Industry – EMS technology uptake
- Energy Management Adoption
- Energy Manager training (AEMAS)
- ASEAN EE Award for Industry
- EE Pilot Projects

Transport - Fuel Efficiency and EV system
- E- Mobility
- Fuel Economy Standard
- Demand Side Management & Demand Response
- Information sharing on best practices
ASEAN has attained a 21% energy intensity level in 2018, surpassing the aspirational target of 20% set for 2020.
Basic Directions of Energy Efficiency under APAEC Phase II: 2021-2025

- To achieve the indicative target at the ASEAN level of at least 32% primary energy intensity reduction in 2025
- Expansion on Standard Harmonisation for more appliances and Industry Equipment
- Business forum activities to enhance ASEAN energy R&D and EE investment.
- Strengthen cooperation in EE&C sector, capacity building and sharing on best practices
- Improve the ASEAN energy efficiency database system (data management on building, industry & transport and product registration system for policy making, facilitate exchange information and analysis
- ASEAN Sustainable Energy Manager Training and Certification
- EE investment and financing projects (Mobilizing private Capital in EE investment)
- To increase energy efficiency in all sector including transport and industry
Significance of ASEAN Product Registration System

“A joint collaboration between ACE and UNEP to support the harmonisation of EE standards in the region”
Methodology

Regional database model selection

Technical Elements

Development of the system

Testing of the system

Software Development

Launch

Implementation

Approval

Regional Assessment and framework
One Community
for Sustainable
Energy

ASEAN Regional Roadmap for EE Harmonisation on AC

Component

1. Harmonization of Testing Methods
   - ASEAN will harmonize testing standards referencing ISO 5151-2010
     ✓ Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam to adopt by 2016
     ✓ Cambodia, Laos, Myanmar to adopt by 2018

2. Harmonization of Evaluation Methods
   - Evaluate fixed speed and inverter ACs separately
   - Consider a common evaluation method (CSPF) using ISO 16358-1 by 2020

3. Harmonization of MEPS
   - ASEAN countries will notify minimum MEPS of 2.9W/W for EER/weighted EER and 3.08W/W for CSPF
   - The MEPS would be reviewed and revised periodically at interval of 5 year or less

4. Testing Infrastructure
   - Establish an appropriate framework for round robin testing (RRT) and evaluation process for testing facilities by 2020

5. Mutual recognition Agreements (MRA)
   - Evaluate feasibility of incorporating energy performance testing into existing MRA (AHEEERR)
   - If existing MRA not appropriate, establish new MRA by 2020

6. Reporting
   - ASEAN will establish a regional product database by 2020
EE Standard Harmonisation in ASEAN

1. Ensures Quality, Safety, Efficient and Environmental
2. Facilitate Trade and Market Access

- The Regional Policy Roadmap for MEPS for RACs was endorsed by the 35th AMEM in 2017
- Reduction of 3,456 Gigawatt hour (per annum) of the cooling energy use in the residential through increasing and harmonized standard on AC
- The Guidelines for the Integration of Energy Efficiency into the ASEAN Sectoral Mutual Recognition Arrangement for Electrical and Electronic Equipment (ASEAN EEE MRA)
- Developing with UNEP PRS System as repository of conformity assessment and market monitoring
ASEAN Electrical and Electronic Equipment Mutual Recognition Arrangement (ASEAN EEE MRA)

Source: ASEAN MRA Guideline
Benefits of PRS System to Support S&L Harmonization

★ Current Status  (Example)

Manufacturers

- Satisfy the standards in A country
  - A Domestic Market
- Satisfy the standards in B country
  - B Domestic Market
- Satisfy the standards in C country
  - C Domestic Market

Status
- Non-unified energy efficiency standard
  - Test standards
  - Evaluation index (e.g. APF, CSPF, EER, Weighted EER)
  - Energy efficiency standard values
  - Rating standards (in the multi rating system)
  - Indication rules

Issues
- Lacking testing laboratories
- Workloads for administration and manufacturers etc.

★ Harmonization  (Example)

Manufacturers

- Satisfy the harmonized standards

Status
- Harmonized energy efficiency standard
  - Unified test standards by ISO 5151
  - Unified evaluation index by ISO 16358 (CSPF)
  - Unified MEPS value
  - Common rating standards
  - One ASEAN Database

Countermeasure & expected Benefit
- i.e. Mutual Recognition Agreements (MRA)
- Mitigation of workloads for administration and manufacturers, etc. by easier and more smooth operation
- Lower the product price through the administration cost reduction
- Chances to expand territories to sell RACs
Framework of ASEAN PRS System

Data Features
- Product Characteristic
- Provision of compliances and legislation
- Complement product information with sales data
- International units CSPF (APF optional), Watt, etc

Sources: 6th ASEAN Energy Outlook
**DATA EXCHANGE IN SOUTHEAST ASIAN SYSTEM**

**Existing national systems**

- National PRS

Data transferred via API connections

(Software that allows apps to talk to each other)

**Countries need to install these connections!**

(Guidance and support is available for this)

**Regional ASEAN database**

The regional system collects the information from the national systems in a common database.

Access to the database is restricted to the ASEAN Centre for Energy and the national regulators from the 10 ASEAN countries.

**The benefits of the regional database for all users are:**

- Visibility of products allowed for sale in other countries
- Notification of new products in other countries
- Notification of products revoked in other countries
- Facilitates application of Mutual Recognition Agreements
- Ultimately, this information helps the region to adjust their policies better and to create synergies in transforming their markets to energy-efficient products

Products continue to be registered in existing national PRS.
Example Compliance with MEPS

ASEAN database

Registration revoked

Thailand PRS

Product not compliant!

Notification: Product registration revoked in Thailand — login to regional database for details
Recent achievements
Regional ASEAN Database (1)

- **Agreed to harmonization approach** for product registration activities in the region which has been developed based on four harmonization options
- **Agreed to Policy roadmap** to implement the agreed to harmonization approach
- Trained stakeholders of all ten countries of the region during a **regional workshop** in February 2020
Recent achievements
Regional ASEAN Database (2)

- Establishment and regular meetings of a **Technical Working Group** to guide the software development
- Development of **common datapoints for regional exchange of data**
- Development of draft **mock-up for regional database & prototype PRS** that has been reviewed by technical experts
- **Development version** ("draft software") has been developed
- **Software development** currently in its last testing phase

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<thead>
<tr>
<th>Common datapoints</th>
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<tbody>
<tr>
<td>General AC Lighting</td>
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<tr>
<td>National registration ID Manufacturer's name</td>
</tr>
<tr>
<td>Testing standard (AC) Refrigerator number</td>
</tr>
<tr>
<td>Testing Standard (lighting) Model number</td>
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<tr>
<td>Testing Standard (refrigerator) Family name/other models (if applicable)</td>
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<tr>
<td>Testing Standard (lighting) Global Trade Item Number (GTIN)</td>
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<td>Testing Standard (lighting) Global Trade Item Number (GTIN)</td>
</tr>
<tr>
<td>Legislation entry into force date Legislation expiry date</td>
</tr>
<tr>
<td>Legislation framework Family name/other models (if applicable)</td>
</tr>
<tr>
<td>Manufacturer's name Manufacturing location</td>
</tr>
<tr>
<td>Legislation entry into force date Global Trade Item Number (GTIN)</td>
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<td>Legislation expiry date Driving modes</td>
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<td>Legislation framework Family name/other models (if applicable)</td>
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**Mock-up regional database**

**2nd Technical Working Group meeting**

**Common datapoints**
Studies and Publications to Support ASEAN in Achieving its EI Reduction Target

- The 6th ASEAN Energy Outlook 2017-2040

Energy Efficiency Financing
- Mapping of Energy Efficiency Financing in ASEAN
- Financing Mechanism Design for EE&C Project Implementation

Private Sector Participation
- ASEAN ESCO Report
- ASEAN Best Practices in Energy Efficiency and Conservation

Green Building and EE Codes & Harmonization of EE S&L
- Mapping of Green Building Codes and Building Energy Efficiency in ASEAN
- Regional Policy Roadmap for Promotion of Higher Efficiency of AC in ASEAN
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Thank You