

Harmonization of Energy Performance Standards for Air Conditioners - A Regional Policy Roadmap

Introduction:

Air conditioning represents a large proportion (up to 50%¹) of electricity demand in the residential and commercial sectors in ASEAN economies. The market of room air conditioners is expected to grow at a pace of at least 10% per year over the next 5 years², further increasing energy demand. The economies of the ASEAN countries are moving towards a common market by 2016. It becomes imperative that the product performance standards are harmonized. A number of efforts have already taken place for harmonizing electro technical standards for various products. This paper describes the policy roadmap for the harmonization of energy performance standards of small and medium residential air conditioners. This regional policy roadmap closely follows the ASEAN Plan of Action for Energy Cooperation (APAEC).

The policy roadmap herein, enumerates various components that have been recommended by the policy and technical working groups of the ASEAN SHINE project and where concrete action is required.

Objectives:

To provide clear guidelines in the adoption of policies to promote the use of more efficient air conditioning equipment and define the targets to be achieved by all ASEAN countries with regards to the adoption of harmonized energy performance standards of ACs by 2020.

Components:

- 1) **Harmonization of Testing Methods:** On the basis of various recommendations the ASEAN countries have agreed for a uniform testing method derived from ISO 5151-2010. The testing method is to be adopted and notified by countries by 2016, with the exception of Cambodia, Laos, Myanmar to be adopted and notified by 2018. The countries also need to agree to take into consideration metrics to measure part-load energy performance, and any revision to ISO 5151- 2010 in the future. Any revision of the harmonized testing standards at the national level should be informed at the EE&C SSN.

¹ International Copper Association, "Market Study for Harmonization of Energy Efficiency Standards for Air-conditioners and Refrigerators in South-east Asia", Research report, ICA, 15th November 2010.

² Source: Euromonitor.

- 2) **Harmonization of Evaluation Methods:** For fixed speed and inverted based ACs the ASEAN countries will report the performance as EER or CSPF . A common evaluation method namely CSPF using ISO 16358-1 may be considered by 2020.
- 3) **Harmonization of MEPS:** The ASEAN countries will notify an EER (also refers to weighted EER) of 2.9W/W or CSPF of 3.08W/W by 2020 as mandatory MEPS for all fixed and variable drive ACs below 3.52kWcapacities. The MEPS would be periodically reviewed and revised at an interval of 5 years 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) :** The ASEAN countries would evaluate feasibility of incorporating energy performance testing into existing MRA (AHEEERR), or establish new MRAs if necessary by 2020 which would encompass the following elements:
 - Information exchange agreement
 - Mutual recognition of test results
 - Mutual recognition of certification
 - Laboratory accreditation
 - Inspection accreditation
 - Testing certification
 - Verification/Challenge/check testing
- 6) **Reporting:** By 2020 the ASEAN Center for Energy would establish a regional product database for collection of product information, starting with the EMTIPS programme. This would enhance information exchange between member countries and could help in providing alerts to non-compliance related cases. This tool could be specifically used to exchange information on products tested by official market surveillance authorities. The database can also be used to monitor programmes, prepare verification activities and eventually flag out products for which a declared characteristic is proven incorrect.

Figure 1: MEPS stringency and coverage (cooling capacity) in ASEAN economies for single split ACs and Harmonized MEPS

