Concept Note: Study on the Potential for Energy Savings and GHG Emission Reductions from Higher Efficient Air Conditioners in the APEC Economies

Purpose: Consideration
Submitted by: EGEE&C
APEC Concept Note

Please submit through APEC Secretariat Program Director. Concept notes of more than 3 pages (including title page) or incomplete submissions will not be considered.

| Project Title: | Study on the potential for energy savings and GHG emission reductions from higher efficient air conditioners in the APEC economies |
| Source of funds (Select one): | ☐ Operational Account | ☑ TILF Special Account | ☐ APEC Support Fund |
| Committee / WG / Sub-fora / Task-force: | |
| Proposing APEC economy: | |
| Co-sponsoring economies: | |
| Expected start date: | March 2012 |
| Expected completion date: | February 2013 |
| Project summary: | The long-term objective of this project is to help APEC economies materialize the enormous energy savings and GHG emission reduction potential related to the increase of MEPS for Room Air Conditioners (RACs). This study will assess the energy savings and GHG emission reduction potential related to the increase in energy performance of RACs, share experiences among APEC economies about successful and less successful EES&L programs for RACs and provide APEC economies with recommendations on how to develop roadmaps for the increase of MEPS and development of efficient EES&L programs for RACs. This project also intends to initiate a discussion among APEC economies on the interest and potential for harmonization of testing methods for RACs. This is a one-year project which will include data gathering, literature review, interviews with strategic stakeholders, desktop analysis and modelling, as well as a workshop for consultation and dissemination purposes. |
| Total cost of proposal: | (APEC funding + self-funding) |
| 142,000 USD |
| Total amount being sought from APEC (USD): | |
| By category: | Travel: 50,000 |
| Hosting: 30,000 | Publication & distribution: 2,000 | Other: |

Project Proponent Information and Declaration:

Name: 
Title: 
Organization: 
Postal address: 
Tel: 
Fax: + 
E-mail: 

I declare that this submission has been prepared in line with the Guidebook on APEC Projects. If approved, I agree to develop the project in line with APEC project requirements.

Name of Project Proponent 
Date:
Project Synopsis

1. **Relevance:** Why should APEC undertake this project? What problem or opportunity will the project address and why is it important?

   Room air conditioners (RACs) consume a significant share of the electricity in the residential and commercial sectors. In tropical countries such as Thailand, Singapore, Philippines, RACs represent about 50% of total households electricity consumption, or 5% of the country’s total electricity (for Thailand). A study conducted by UNEP and ICA shows that increasing the energy efficiency of RACs in ASEAN countries to EER 3.2 (China’s new MEPS) would save 5,373 GWh of electricity annually, corresponding to annual GHG emission reductions of about 30,000 MtCO₂. Even in China, a further improvement in MEPS at a net negative cost to consumers, using existing technologies could save 69 GWh of electricity and avoid 73 MtCO₂ annually by 2020 according to an ICA sponsored study by LBNL. The potential for energy savings in APEC economies resulting from a higher uptake of higher efficient RACs is therefore enormous. The diffusion of energy efficient household appliances such as air conditioners, refrigerators, fans, etc. is highly dependent on the existence of national energy efficiency standards and labeling (EES&L) programs. In countries where such programs exist, the market share of higher efficient RACs increases regularly, Thailand being a very successful example. However, not all APEC economies have adopted ambitious EES&L programs.

   Within APEC, the ASEAN region is increasingly becoming a regional market and ASEAN countries are keen to support efforts that would eventually enhance mutual recognition among countries of the region, such as harmonization programs in standards and labeling. In this regard, a working group was formed at the ASEAN level to work on standards harmonization under the ASEAN Sectoral Mutual Recognition Arrangement for Electrical and Electronics Equipment.

   APEC includes a wide variety of economies in terms of economic development and in terms of experience in implement EESL programs. With enormous potential in terms of energy savings, sharing experiences across economies would significantly help respective governments design and implement successful EESL programs for RACs.

   The key objective of this project is to provide APEC economies with an assessment of the energy savings and GHG emission reduction potential from an increased share of higher efficient RACs at a net negative cost to consumers, using existing technologies. The study will provide economy-specific data and analysis, and include an analysis of best practices. Finally, the study will include recommendations to APEC economies on how to develop national roadmaps for the increase of MEPS and the design/implementation of efficient EESL programs.

   - **Objective 1:** Provide a quantitative framework of energy savings and GHG emission reduction potential corresponding to the technologically feasible and economically justifiable increase in energy performance of RACs in APEC economies.
   - **Objective 2:** Share experiences among APEC economies about successful and less successful EES&L programs for RACs.
   - **Objective 3:** Provide APEC economies with suggested roadmaps for the increase of MEPS and development of effective EES&L programs for RAC’s.
   - **Objective 4:** Assess the interest and potential for harmonization of testing methods for RACs among APEC economies.

2. **Objectives:** Describe the 2-3 key objectives of the project. (e.g. to... create a framework...; ensure participants will be able to...; share experiences...; develop recommendations...; build interest...; revise strategies... etc.)

3. **Alignment:** Describe how the project will help achieve APEC’s key priorities and meet your forum’s work-plan or medium-term plan.

   This project, that will pave the way for a possible harmonization of testing methods (objective 4), is in line with the APEC Regulatory Cooperation Process Mechanism on Trade-Related Standards and Technical Regulations as this project, focusing on RACs, “target(s) an area where potential technical barriers to trade are identified and a trend in regulation is anticipated”. It is also directly relevant to the “APEC Growth Strategy” adopted by APEC Leaders in 2010 to achieve growth that is balanced, inclusive, sustainable, innovative and secure. The goals for sustainable growth,
4. **Methodology:** How do you plan to implement the project? In this section, address:

- **Timeline:** Project timelines and dates for key activities and deliverables

  Overall project duration is 1 year:
  - Initial data collection through EGEEC contacts, interviews (when appropriate), literature review and Internet search, review outcomes of “APEC Market compliance mechanisms for S&L programs”, "UNEP/ICA Market Study on Harmonization of Energy Efficiency Standards in South East Asia" and other studies: month 4
  - Data analysis, identification of best practices: month 7
  - Develop strategic framework for the development of national roadmaps for the increase of MEPS: month 8
  - Develop proposal for the harmonization of testing methods: month 9
  - Workshop for consultation and dissemination of results: month 11
  - Publication of report including comments and inputs from the workshop: month 12

- **Stakeholders:** Beneficiaries and stakeholders (APEC & non-APEC) and how they will be engaged

  This study is clearly intended to policy makers and standard making bodies in the field of EE&C. Other beneficiaries and stakeholders include test laboratories and RAC manufacturers. The study will include data gathering from and interviews with these key stakeholders and beneficiaries. Policy makers and standard making bodies in the field of EE&C are represented in the APEC EGEEC, so they will be regularly updated during EGEEC meetings, as well as through regular communications by email to provide them with drafts of the studies being conducted. Finally, they will be assembled in the workshop that will present the outcomes of the study, as well as share best practices with key experts being invited to deliver presentations. The workshop will engage participants in discussions as well as in providing comments that will be integrated in the final report. A project “steering committee” could also be constituted under the Project Overseer to provide inputs in the methodology, review/approve draft reports, and facilitate access to strategic stakeholders in APEC economies.

- **Previous projects/activities:** If and how this proposal builds on the findings or lessons learned from previous projects/activities, while avoiding duplication

  This project will benefit from the "APEC Market compliance mechanisms for S&L programs" which will provide data and information on the current EES&L programs implemented in APEC economies. This project will build on the "UNEP/ICA Market Study on Harmonization of Energy Efficiency Standards in South East Asia": data, information and recommendations have already been provided in this study for Southeast Asian economies, and the same methodology will be used to complete this project.

- **Communication:** How you plan to communicate the results or benefits of this project to others

  The outcomes of the study, including the assessment of energy saving and emission reduction potentials across APEC economies, best practices as well as recommendations to APEC economies will be disseminated as follows: 1) during the workshop assembling strategic stakeholders from APEC economies, especially members of the APEC Energy Working Group and APEC EGEEC; 2) the final report will then be distributed electronically through ICA’s network, APEC EWG and EGEEC network, as well as through other international forums and networks.