



BUILDINGS AND APPLIANCES TASK FORCE

7th Meeting

7-8 October, 2009

Tokyo, Japan

Theme 1

Harmonization of Testing Procedures (Communities of Practice)

Jun Choi

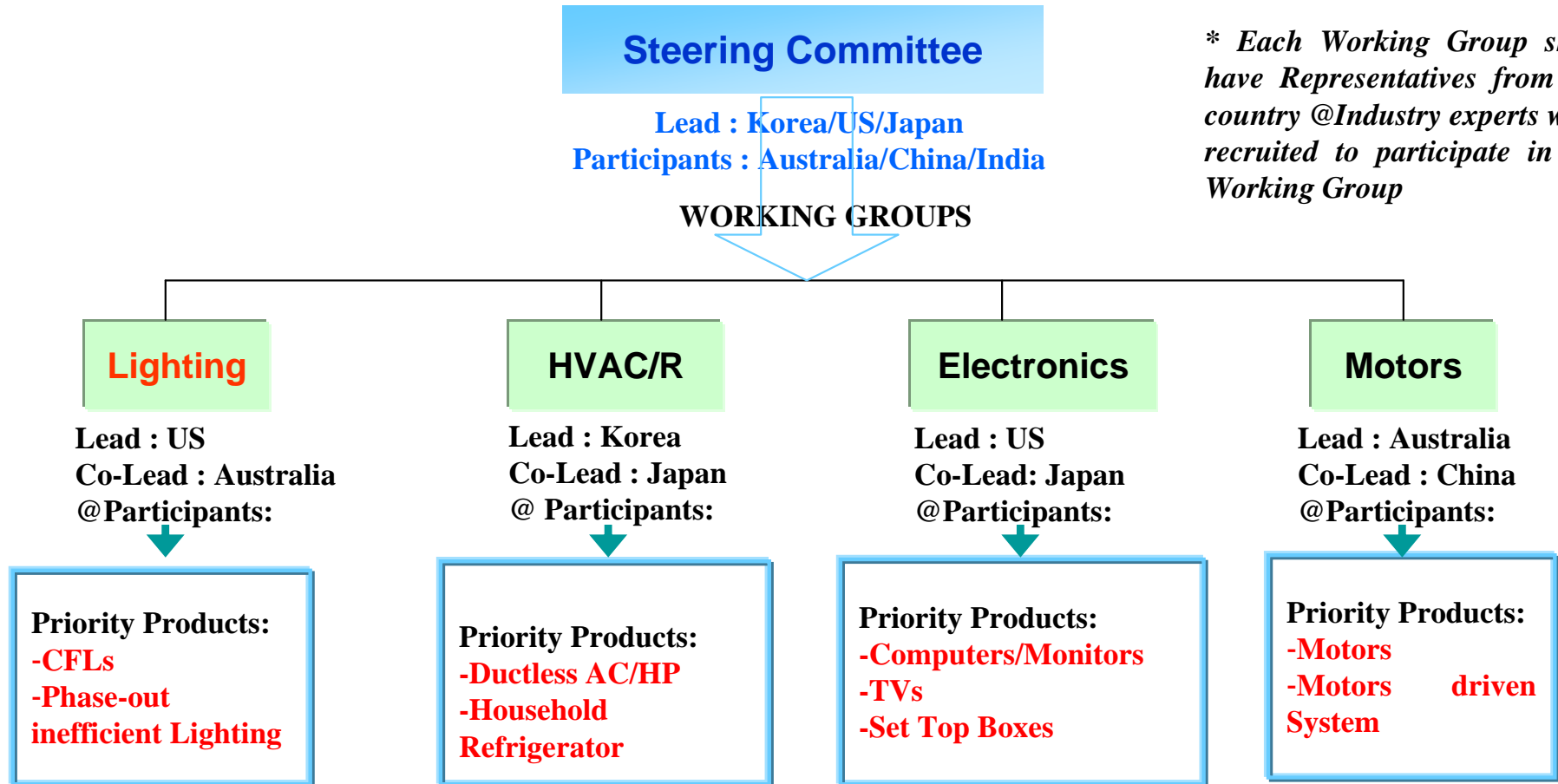
Theme Leader

Theme Summary

- **Theme Objective**
 - Develop methodology for arriving at test procedures that measure product energy efficiency and/or energy consumption that are harmonized among the participant countries and could be adopted by other countries
- **Theme Elements**
 - Four working groups
 - Motors, Lighting, HVAC/refrigeration, and Electronics
- **Outputs**
 - GHG emissions reductions: based on currently available (2006) country and world GDP figures, savings are estimated at approximately 1,200MtCO₂/year when 10 items (Motor, ACs & Heat pump, Lighting, TV etc) are fully implemented with 10% improvement across AP7 partner countries.



Structure of Theme 1



** Each Working Group should have Representatives from each country @Industry experts will be recruited to participate in each Working Group*



On going projects under Theme 1

Project Number	Title	Lead Country	Co-lead Country	Participation	Project Leader
BATF 06-01	Harmonization of Test Procedures for Electric Motors	Australia	China	India, Japan, Korea, USA	Melanie Slade
BATF 06-02	Harmonization of Test Procedures for Motor Systems	China	Australia	India, Japan, Korea, USA	Melanie Slade
BATF 06-03	Phase-out of Inefficient Lighting	Australia		China, India, Japan, Korea, USA	Melanie Slade
BATF 06-04	Harmonization of Test Procedures for HVAC	Korea		Australia, China, India, Japan, USA	Jun Y Choi
BATF 06-05	Harmonization of Test Procedures for Household Refrigerators	Japan		Australia, China, India, Japan, Korea, USA	Saito Kiyoshi
BATF 06-06	Harmonization of Test Procedures for Electronics	USA		Australia, China, India, Japan, Korea	Andrew Fanara
BATF 07-36	Quality Assurance Program and harmonization of CFLs*	Australia & USA	India		Melanie Slade Norman Barth
BATF 09-54	Harmonization of Test Procedures for ERV	Korea		Canada, Japan, USA	Jun Y. Choi



Project Status Update

- **Motor WG**

- **Project Number & Title :**

- BATF 06-01, Harmonization of Test Procedures for Electric Motors
- BATF 06-02, Harmonization of Test Procedures for Motor Systems

- **Lead Partner Country:** Australia/China , China/Australia

- **Project Manager :** Melanie Slade, Department of the Environment, Water, Heritage and the Arts of Australia

- **Participating Partner Countries and Organizations:** Australia, China, Korea (Japan, USA, India possible participants)

- **Milestones Reached**

- Three project workshops have been held so far - 10 June 2007 (Beijing), 10 December 2007 (Beijing) and 6 February 2009 (Sydney) to further progress this project.



- A motor testing round robin between Germany, Australia, China and Korea is in progress and is expected to be completed in 2009.

– **Actions and Deliverable Since Last Update:**

- A testing round robin of electric motors between Germany, Australia, China and Korea is underway and expected to be completed in 2009. The aim of this round robin is to provide input to the and APP partners on the new IEC test method standard, IEC 60034-2-1.
- Approximately 21 motors will be purchased in China and tested at the Shanghai Electrical Apparatus Research Institute (SEARI) test laboratory by mid 2009. These motors will be tested to three test methods listed in the new IEC test method standard to enable APP partners to assess the difference between the three test

– Next Steps

- Complete the motor testing round robin which is currently underway between Germany, Australia, China and Korea and provide the results to the IEC round robin.
- Purchase motors in China and test each of the motors using three test methods in the new international test method standard, IEC 60034-2-1, at the SEARI test laboratory in Shanghai, China.
- Set up an online forum for APP partners to share information about recent international motor system energy efficiency developments and work towards developing guides that could be taken to the international standards bodies to further develop and publish.

– Proposed Project End Date: June 2012

- **Other Information:** AUD 1,300, 000 from the Australian Government, In-kind and other support to be confirmed from other APP partners.



- **Lighting WG**

- **Project Number & Title :**

- BATF 06-03, Harmonization of Testing Procedures – Facilitation of Regional Phase-out of Inefficient Lamps Sub-Project

- **Lead Partner Country:** Australia

- **Project Manager :** Melanie Slade, and David Boughey, DEWHA, AU

- **Participating Partner Countries and Organizations**

- Australia, Korea

- **Milestones**

- Data has been collated to construct a coherent and achievable guide for phase-out action
- Roadmap for early phase-out action has been drafted.

– **Actions and Deliverable Since Last Update:**

- Provided support for lighting efficiency workshops co-hosted with USAID's ECOAsia
- Clean Development and Climate Program, held in India (April 2009) which included information on the development and implementation of inefficient lighting testing and performance standards.
- Lighting efficiency workshops for manufacturing regions in China (May 2009) included information on the development and implementation of inefficient lighting testing and performance standards.
- Released draft Phase-out Guide for stakeholder comment prior to finalization.
- Commencement of support for Asia region delegates (National Lighting Test Centre (NLTC) China) to attend a number of International Electrotechnical Commission (IEC) meetings concerning the creation of international lighting testing and performance standards.
- Further development of test methodology and standards for performance testing of reflector incandescent lighting.



– Next Steps

- Support for lighting efficiency workshops co-hosted with USAID's ECOAsia
- Release of draft Phase-out Guide for stakeholder comment prior to finalization.

– **Proposed Project End Date:** 31 Jan 2011

– Other Information:

- Note that some activities in this project are closely related to and combined with activities in the joint U.S.-Australia project entitled “Harmonization of Testing Procedures and Quality Assurance – Compact Fluorescent Lamps Sub-Project Plan”.



- **Project Number & Title :**
 - **BATF 07-36, Harmonization of Testing Procedures and Quality Assurance – Compact Fluorescent Lamps Sub-Project Plan (Flagship Project)**
- **Lead Partner Country:** Australia, US
- **Project Manager :** Kevin Schwartz(US DOS), Melanie Slade(AU DEWHA)
- **Participating Partner Countries and Organizations**
 - Korea China, India
- **Milestones Reached**
 - Report on benchmark testing of compact fluorescent lamp (CFL) quality.
 - Further actions on the Manila Compact
 - CFL Conference conducted in April in New Delhi, and Chennai, India
 - Guide to phasing out inefficient lamps
 - Workshops on CFL quality in China

- Actions Since Last Update:

- Completed analysis of CFL testing
- Report on CFL standards in Asia released
- Cooperation with APEC
- Final CFL quality guidelines developed
- Outreach on international standards
- Creation of an independent regional body for CFL quality

- Deliverables Since Last Update:

- Adoption of industry-led quality guidelines for CFLs with three performance tiers, by the Asia Lighting Compact
- Incandescent lamp phase out workshops conducted in April in New Delhi and Chennai, India
- Workshops on CFL quality in China
- CFL finance workshop conducted in September in New Delhi, India



– Next Steps

- Report on CFL benchmark testing. The US and Australia will publish a report on CFL benchmark testing, covering results from testing of CFLs at laboratories in China and India. (Target: December 2009)
- Global Harmonised Performance Standards. Further work to develop global harmonised performance standards through the International Electrotechnical Commission (IEC). This work is likely to require further support to involve and fund the attendance of one or more Asian region countries at relevant IEC meetings, where the standards are being considered.

– **Proposed Project End Date: 31 Oct 2009**

– **Other Information:**

- **Proposed Project End Date: 31 Oct 2009**
- **Other Information:**



- **HVAC-R WG**

- **Project Number & Title:**

- BATF 06-04, Harmonization of Test Procedures for HVAC

- **Lead Partner Country:** Korea

- **Project Manager :** Junyoung Choi(KTL)

- **Participating Partner Countries and Organizations**

- Australia, India, Japan, USA, China(potentially)

- **Milestones Reached**

- Developing a new harmonization methodology for air-conditioner and heatpump, as well as testing and compliance of product performance including actual using condition of energy consumption.

- Circulate “Best practices with methodology with harmonization of test procedures” to standards-setting agency in APP member countries or by an international agency (ISO). Test procedures and rules may be published as formal standards by an economy’s standards-setting agency in APP member countries or by an international agency (ISO).
- All APP members agreed to analyse the energy efficiency and energy consumption of air-conditioner in each member countries, and the following actions should be required ;
 - To analyze the energy efficiency of air-conditioner each members should collect the market data of their economies with a given categories and a table, and submit them to a project leader before the next meeting.
 - For evaluating and estimating the energy efficiency of air-conditioners, they agreed to discuss the methodology to evaluate and estimate the energy efficiency and energy consumption with the market data of each member during the next meeting.



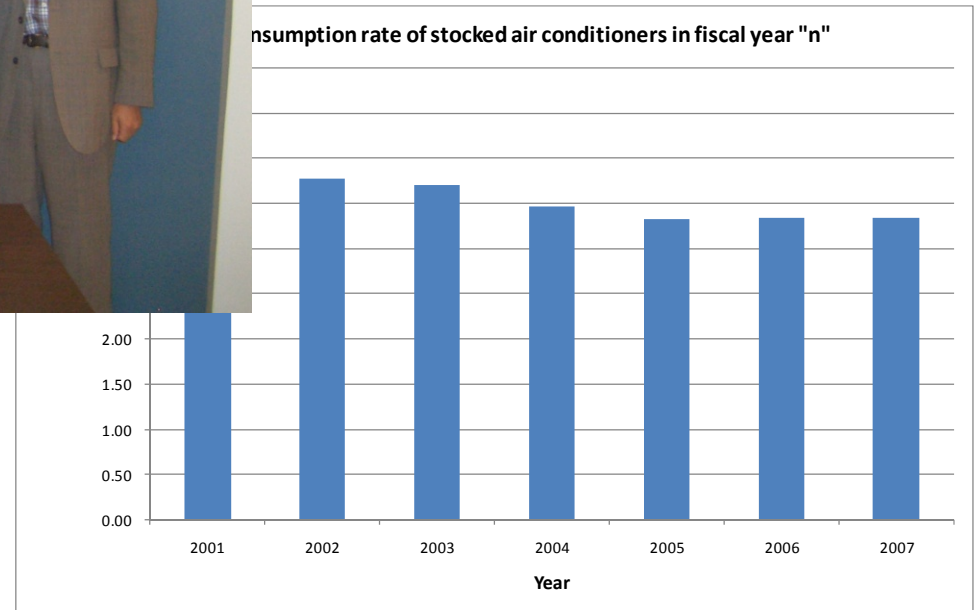
– Actions and Deliverable Since Last Update:

- One project meeting has been held so far – Arlington, US, 11 September 2009 to further progress this project.
- All members agreed to analyse the following topics of Air Conditioning sector profile
 - Energy Efficiency analysis for AC products sold in each counties
 - Establish an average or typical usage pattern for the product
 - Define products and subcategories (classes)
 - Survey manufacturers and/or local trade associations regarding number of products sold each year
 - Evaluating and Estimating the Energy Efficiency of Air-conditioners
- All members agreed to have a round-robin test for the comparative performance with an existing test procedure as follows ;
 - Test sample : Single split heat-pump (not determined the capacity yet, the project leader will provide the detail specification soon)
 - Test method and conditions : ISO 5151, T1 and H1 if it is available
 - The detail schedule will be circulated to all members.

- All members discussed the topics of harmonization of test procedures in the Air-conditioning sectors
 - Australia, India, Japan, and Korea delivered ;
 - ✓ Energy Efficiency goal for products in the AC sectors
 - ✓ Political Management of relation between Standard & Labelling and test procedures in the AC sectors
- All members discussed the items arising from ISO meeting
 - Discussion for test methods need to reflect actual usage to allow evaluation of energy savings (correct ranking in actual use is also important for labels)
 - Test points ; two/three test points
 - Cooling seasonal performance factor (*CSPF*) & Calculation of cooling seasonal energy consumption (*CSEC*)
 - Heating seasonal performance factor (*HSPF*) & Calculation of heating seasonal energy consumption (*HSEC*)
 - Occurring period of time which requires heating during heating seasons



Consumption rate of stocked air conditioners in fiscal year "n"



– Next Steps

- 5th Project meeting will be scheduled in Orlando, US, 18 Jan 2010 before ISO TC86 SC6 WG1.
- Support a new test method of reflecting of actual use with harmonizing APP countries when ISO develop
- ISO WD(Working Draft) including APF(Annual Performance Factor) will be completed within 2009, and move to next stage CD (Committee Stage)

– **Proposed Project End Date:** Oct 2012

– **Other Information:**



- **Project Number & Title:**
 - BATF 06-05, Harmonization of Test Procedures for Household Refrigerator
- **Lead Partner Country:** Japan
- **Project Manager :**Lloyd Harrington (AU), Hiroshi Sasaki(Japan)
- **Participating Partner Countries and Organizations**
 - Australia, Korea, USA, India(potentially), China(potentially), Canada(potentially)
- **Milestones Reached**
 - Developing a new harmonization methodology and/or categories regarding rationale of classification for different cooling method for household refrigerator, as well as testing and compliance of product performance including actual using condition of energy consumption.



- Developing a new harmonization methodology and/or categories regarding rationale of classification for different cooling method for household refrigerator, as well as testing and compliance of product performance including actual using condition of energy consumption.
- Circulate “Best practices with methodology with harmonization of test procedures” to standards-setting agency in APP member countries or by an international agency (IEC). Test procedures and rules may be published as formal standards by an economy’s standards-setting agency in APP member countries or by an international agency (IEC).
- Developing the “The estimation method for the total electricity consumption and identify the energy saving potential of household refrigerator”.
- Evaluated regarding the total electricity consumption of household refrigerators and the energy saving potential for residential sector in APP Member Countries.



- Actions and Deliverable Since Last Update:

- One project workshops have been held so far – Kista, Sweden on 6 July 2009 before IEC TC59 WG12
- Making of comparison table regarding energy efficiency regulation of household refrigerator in APP countries.
- Concept for a “New energy consumption measurement test method”
 - The APP member decided a new test method - to provide input on options for simulated door opening and food loads to more closely align with actual use - based on the proposal of JP with AU/NZ
- Prepare a report estimating the total electricity consumption of Household refrigerators and evaluation of the energy saving potential for residential sector in JP, KR, AU/NZ market



– Next Steps

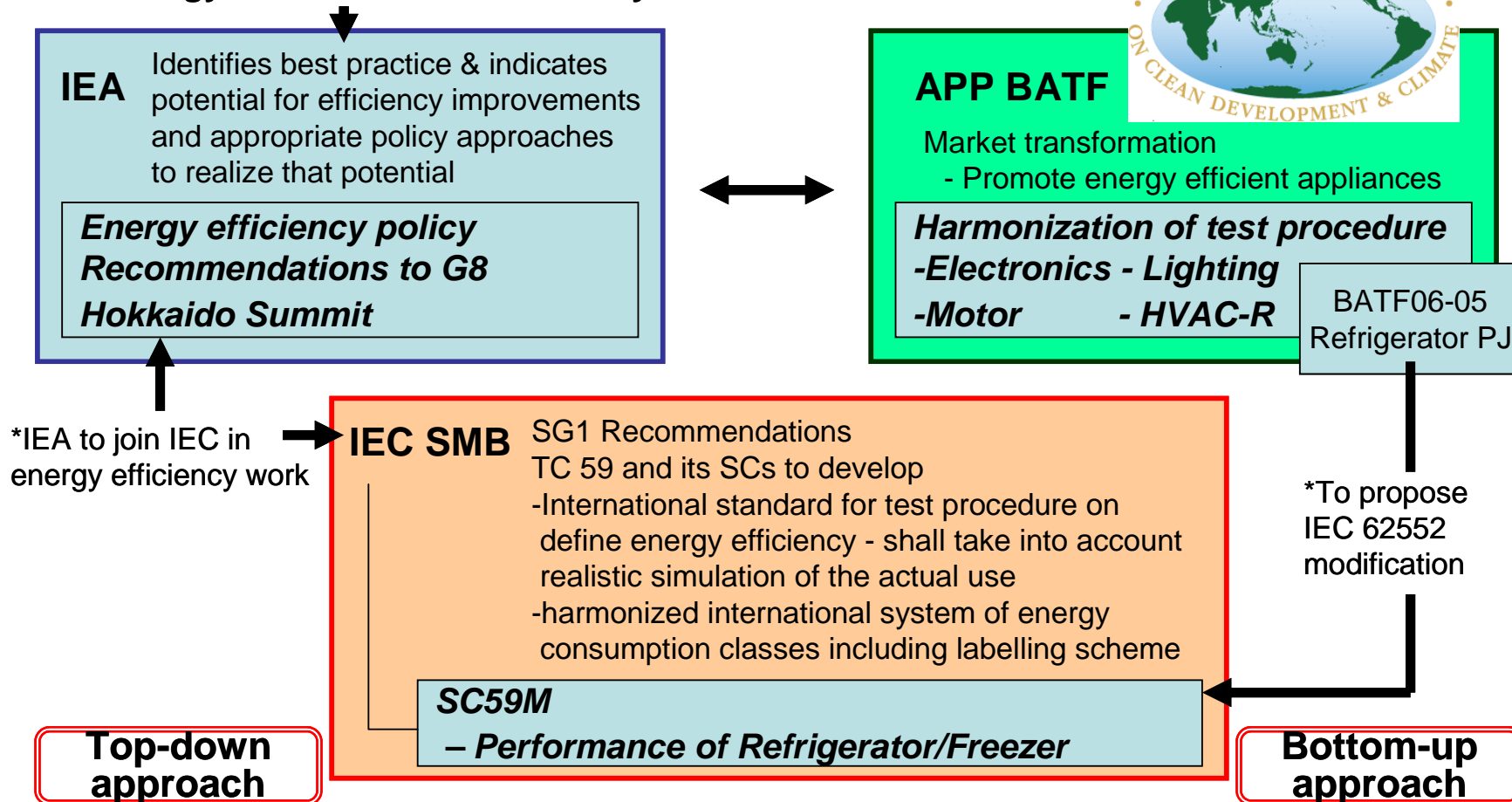
- Next meeting is scheduled 7th Dec. 2009 before IEC TC59 SC59M meeting

– Proposed Project End Date: Dec 2010

– Other Information:

- Need to assign the expert member: addition and confirmation
 - Canada
 - China and India (Need to make sure that both aspects are covered – APP and IEC meeting.)
- Need to follow up other Climate Policy: Energy efficiency policy recommendations to G8 Hokkaido Summit from IEA
- Political linkage for Energy efficient appliances-Harmonization of test procedure

G8 Energy Efficient & Climate Policy



– **Project Number & Title:**

- BATF 09-54, Harmonization of Test Procedures for Energy Recovery Ventilator

– **Lead Partner Country:** Korea

– **Project Manager :**Junyoung Choi(KTL)

– **Participating Partner Countries and Organizations**

- Canada(CSA), Japan (JRAIA), USA(AHRI)

– **Milestones Reached**

- To develop a process for arriving at methodology for test procedure of *energy recovery ventilator* that measure product energy efficiency and/or energy consumption that are harmonized among the participant countries, recognized as such by manufacturers, and could be adopted by other countries interested in developing labeling, regulatory standards or voluntary levels for these products – termed the Communities of Practice model;

- To share the developed new methodology, and to recommend the formal standards by an economy's standards-setting agency or by an international agency such as the International Standards Organisation (ISO)
- To amass testing results using the test procedure and potentially existing test procedures for these priority products
- To develop a process for establishing a base on which mutual acceptance of accreditation of energy efficiency testing facilities and the results of test performed at these facilities can be achieved

– **Actions and Deliverable Since Last Update:**

- None

– **Next Steps**

- It will be arranged to have the first project meeting in Geneva, Switzerland, 12 Oct 2009 in conjunction with ISO WG10 meeting.

– **Proposed Project End Date: Oct 2012**

– **Other Information:**

• **Electronics WG**

- **Project Number:** BATF 06-06, Harmonization of Test Procedures for Electronics
- **Lead Partner Country:** US/Japan
- **Project Manager :** Andrew Fanara(US EPA)
- **Participating Partner Countries and Organizations**
 - Australia, China, India, Korea
- **Milestones reached**
 - To develop a process for arriving at methodology for test procedure of Electronic that measure product energy efficiency and/or energy consumption that are harmonized among the participant countries, recognized as such by manufacturers, and could be adopted by other countries interested in developing labeling, regulatory standards or voluntary levels for these products – termed the Communities of Practice model;

– Actions and Deliverable Since Last Update:

- While APP activity for this project has been limited, test procedure harmonization continues to be coordinated through ENERGY STAR, IEA, and other efforts

– Next Steps

- TBD

– Proposed Project End Date: TBD

– Other Information:

