43rd Meeting

APEC Expert Group on Energy Efficiency & Conservation (EGEE&C 43)

10-11 April 2014  
Moana Surfrider Resort, Honolulu, Hawaii

Draft meeting summary

# Day 1

### Session 1: Opening Remarks from the Chair

Chair opened the day thanking the hosts and pointing out all the work and discussion that occurred earlier at the joint meeting with EGNRET.

### Session 2: Discussion: Impacts of Outcomes of Strategic Discussion

This session gave EGEE&C attendees an opportunity to voice comments and questions about the EWG strategic discussions held during the joint meeting with EGNRET.

The chair began discussing the increased level of project activity in recent years and highlighted that the proposed strategic plan is comprehensive and highlights the need to resource projects in a more coordinated fashion. This could be done by identifying gaps and priorities in the work plan and identifying economies that are willing to support work in the priority or gap areas.

Singapore expressed agreement with the relevance and significance of most of the areas in the strategic document, but would like to further explore the definition of the energy-water nexus topic.

Philippines provided feedback in a number of areas as follows:

* Supported the general renewable energy and energy efficiency points expressed in the documents and discussion of the previous day.
* As reported, Philippines already have a strong RE component, though they recognize the need to do more with their current efforts to expand its share.
* They have proposed two regions to carry out a Low Carbon Model Town project but have not been explored yet.
* One of the key areas of interest in the Philippines is on energy infrastructure resilience. Specially on improving risk assessment, management, and mitigation.
* Another area of concern is on the standardization of labelling programs. For example their LED program faces the challenge that given the long life of LED lighting systems, it is hard to test them accurately at an end-of-life stage.

The Chair commented on the experience with LEDs, that the fast development of chipset technology and the time it takes to test LEDs fully often meant that by the time the testing was done the next generation was ready to hit the market. This is an issue that S&L programs are facing in many jurisdictions, although the problem is diminishing as the technology matures.

The EWG Lead Shepherd commented on the fragmented nature of the work on resilience done to date and this has focused mainly on smart technologies uses such as smart grids and micro grids (example of Sendai)

To conclude discussions the Chair recommended attendees to think of concept notes early and send them early, not to wait or deadlines to increase the chance to get constructive feedback. Also, the Chair would like to see a greater linkage of new concept notes to the EWG strategic statement and not just the overall APEC statements.

### Session 3: Update on Energy Working Group & APEC strategic directives and priorities for energy and updates on other fora

***Energy Smart Communities Initiative (ESCI) (Dr Cary Bloyd)***

ESCI supports APEC Leaders’ goal to reduce energy intensity by 45% (on average across APEC economies) by 2030. It comprises four main pillars (Smart Transport, Smart Buildings, Smart Grid, and Smart Jobs & Consumers) and two cross-cutting initiatives (Knowledge Sharing Platform (KSP) and Low Carbon Model Town (LCMT)).

Cross-cutting initiatives:

1. **LCMT key new projects approved in 2013**

* APEC Low Carbon Model Town (LCMT) Promotion through Eco-Point Program (LCMT-EPP) (EWG 10 2013A) (Thailand) EWG
* APEC Low-Carbon Model Town Development Model and Tool Kit Study (LCMT-DMTK) (EWG 13 2013A) (China) EGNRET
* APEC Low Carbon Model Town Capacity Building Development (LCMT-CBD) (EWG 05 2013A) (China) EGNRET
* APEC Low Carbon Model Town (LCMT) Project Phase 4 (EWG 18 2013A) (Japan) EWG
* APEC Low-Carbon Model Town Energy Management System Development and Application Research (EWG 20 2013A) (China) EGNRET
* APEC Low Carbon Model Town Building Index System Research (EWG 23 2013A) (China) EGNRET
* District Energy Systems Development Roadmap Study in APEC Economies (EWG 24 2013A) (China) EGNRET
* APEC Low-Carbon Model Town Heating System Application Model and Best Practices (EWG 25 2013A) (China) EGNRET
* San Borja Peru has been selected for the next LCMT project.

1. **KSP latest news**

* Website now operational -<http://esci-ksp.org/>.

Each of the main pillars groups a range of activities and participating economies

1. **Smart Transportation:**

* Energy-Efficient Urban Transport Network
  + CEEDS: Phase 3: Energy Efficient Transport for Smart Communities
* Energy-Efficient Freight Transport Network
* Electro-mobility Survey and Road Map

1. **Smart Buildings**

* Low Energy Buildings Network
  + EWG 14/2011T Energy Performance Evaluation Methodology Development and Promotion in APEC Economies (China)
  + EWG 12 2012A – APEC-ASEAN Harmonization of Energy Efficiency Standards for Air Conditioners: Phase 1 (Japan)
  + EWG 14 2012A – Workshop to support the development of national lighting design centers in the APEC (US)
* Materials Testing and Rating Centers
  + APEC Efficient Building Envelope Stakeholders Meeting and Workshop (US, Thailand)
* Cool Roof Demonstrations
* Low Energy Window Demonstrations
  + Energy Saving Window Thermal Performance Simulation Training (Thailand)

1. **Smart Grids**

* Interoperability Survey and Road Map
  + See ASGI Interoperability activities
* Smart Grid Test Bed Network
  + U.S. sponsored APEC-ISGAN Smart Grid Test Bed Network Workshop January 24-25, 2012 in Washington, DC
  + See additional ASGI smart grid test bed activities

1. **Smart Jobs and Consumers**

* Energy Efficiency Training Curricula
* Energy Efficiency School Curricula
* Sister Schools Program

More information on ESCI is available at: <http://www.ewg.apec.org/esci.html>.

***APEC Smart Grid Initiative (ASGI)***

The Fukui Declaration from the Ninth Energy Ministers Meeting (EMM-9), June 2010, states that “**smart grid technologies**, including advanced battery technologies for highly-efficient and cost-effective energy storage, can help to integrate intermittent renewable power sources and building control systems that let businesses and consumers use energy more efficiently, and they can also help to enhance the reliability of electricity supply, extend the useful life of power system components, and reduce system operating costs.”

EMM-9 instructed the Energy Working Group (EWG) “to start an **APEC Smart Grid Initiative (ASGI)** to evaluate the potential of smart grids to support the integration of intermittent renewable energies and energy management approaches in buildings and industry.”

ASGI has four key elements and there are activities under each of these:

1. **Survey of Smart Grid Status and Potential:**

* A recently completed report “Using Smart Grids to Enhance Use of Energy-Efficiency and Renewable- Energy Technologies” (EWG 01/2009S), evaluated the potential of smart grid technologies in APEC economies to enhance the use of renewable energy and energy efficient buildings, appliances and equipment
* A related project, “Addressing Grid-interconnection Issues to Maximize the Utilization of New and Renewable Energy Resources” (EWG 02/2009) was led by Japan and completed in late 2010
* Two new projects have been approved for 2012 and 2013:
  + Piloting smart/micro grid projects for insular and remote localities in APEC economies implemented by Russia
  + Small Hydro and Renewables Grid Integration Workshop implemented by Vietnam

1. **Smart Grid Roadmap**

* Organize workshops to elaborate a roadmap for advancing smart grid technologies in APEC
* Due to the wide range of electric grids in place, APEC members can work together to learn from others and develop suggested procedures that will be useful in developing economy specific road maps
* The roadmap process would be developed in coordination with the International Smart Grid Action Network (ISGAN)
* The roadmap process also supports the APEC Leaders endorsed Energy Smart Communities Initiative
* Six projects were implemented in 2013 and 2014
  + Urban Development Smart Grid Roadmap: Christchurch Recovery (EWG 08/2012 New Zealand)
  + Combined Heat and Power (CHP) Technologies for Distributed Energy Systems (EWG 9 2012A, China )
  + Research on the Application of Physical Energy Storage Technology to Enhance the Deployment of Renewable Energy in an APEC Low Carbon Town (EWG 16 2012A, China)
  + Promoting Stable and Consistent Renewable Energy Supply by Utilizing Suitable Energy Storage Systems (EWG 22 2012A, China)
  + Operation Technology of Solar Photovoltaic Power Station Roof and Policy Framework (EWG 24 2012A, China)
  + APEC Photovoltaic Application Roadmap and Model Study (PVARM) (EWG 11 2013A, China)
* One new project was proposed in 2014:
  + Capacity building for installers and system designers for solar PV rooftop installations (EWG 22 2013A, USA)

1. **Smart Grid Test Beds**

* Jeju Island, Korea
  + Begin in 2009 with the goal of becoming the world’s largest smart grid community that allows the testing of advanced technologies
  + Expected investment of US$ 50 million public funds matched by US$150 million private investment from 2009-2013
* Smart Grid Test Beds Activities: Distributed Energies Technology Laboratory (DETL) at Sandia National Laboratories
* One new project approved for implementation in 2013-2014:
  + APEC Smart DC Community Power Opportunity Assessment, proposed by Thailand

1. **Development of Smart Grid Interoperability Standards:**

* Workshop on Regulatory Approaches to Smart Grid Investment/Deployment
  + Participants included central and sub-central regulatory authorities, and officials from ministries responsible for technology, trade, and import policy as well as private sector representatives
  + Workshop included panels on Interoperability Standards and the Role of Energy Regulators and International Standards Development
* ARCAM dialogue on Electric Vehicle standards
  + Will build on discussions and recommendations from the 2011 ARCAM Smart Grid Interoperability Standards Dialogue

***APEC Subcommittee on Standards and Conformance (SCSC)* [[1]](#footnote-1) (Dr. Cary Bloyd)**

Due to the nature of the SCSC group there is activity in a number of areas. Of key relevance to this meeting is their contribution to the ESCI work program on interoperability and a multi-year project on standards and conformity assessment to enhance commercial building performance. The project will consist of a study on the use of building codes and green codes in the APEC region and a number of workshops, and an assessment of metrics in 2015.

Dr. Bloyd’s presentation concentrated on the Multiyear Green Building Project. So far this project has had two workshops:

* Workshop 1: Sharing Experiences in the Design and Implementation of Green Building Codes (March 2013, Peru):
  + A joint APEC – ASEAN workshop , developed and implemented in collaborative partnership with Peru
  + Informed by:
    - **Peru survey** - “Sharing Experiences in the Design and Implementation of Green Building Codes in the APEC Economies” ***Status: complete***
    - **U.S. study** – “Building Codes and Green Codes in the APEC Economies” ***Status: complete, published August 2013***
  + Sharing of information, experiences, and best practices among APEC and ASEAN economies
* Workshop 2: How Building Information Modeling (BIM) Standards Can Improve Building Performance June 2013 in Indonesia:
  + Joint APEC-ASEAN event
  + Current status of BIM standards development
  + Benefits of BIM to policymakers, architects and designers, construction industry actors, building owners, and others
  + Case study success stories showing the practical implementation of BIM projects
  + Concrete steps that can be taken by economies to increase BIM usage toward improving building performance
* CTI 27 2013 A – Aligning Energy Efficiency Regulations for ICT Products – Implementing A Strategic Approach
  + First project under the newly formed ICT Global Energy Efficiency Convergence Forum
  + Workshop and Inaugural Meeting of ICT GEEC Forum at SOM III in Beijing, China - August 2014
  + Progress
    - Completed Economy survey on utilization of IEC62623 for EE testing of personal computers
    - Preparing for implement of pilot projects to examine applicability of IEC E3 program for transportability of EE test data

For more details on the project please refer to the presentation from the meeting.

**APERC Update on the future of the Cooperative Energy Efficiency Design for Sustainability (CEEDS) and Peer Review on Energy Efficiency (PREE) (Mr. Kazumoto Irie)**

Mr. Irie provided an overview of APERC’s cooperative activities. These activities mainly involve expert peer reviews and capacity building workshops. The Peer Review on Energy Efficiency (PREE) initiative and the Cooperative Energy Efficiency Design for Sustainability (CEEDS) program are the key examples of cooperative activities.

The CEEDS initiative aims to promote high performance energy efficiency policy measures by assisting developing economies with the design of policy and measures in specified sectors. Some of the key activities include the analysis of energy saving potential and the provision of workshops to provide expertise on implementation of EE policy measures.

The PREE gathers experts (largely from the APEC region) to visit a host economy to review its energy situation and policies, and develop a set of recommendations along a number of categories to improve energy efficiency.

However, Mr Irie indicated that APERC is increasingly asked to carry out more activities increasing the works load but with a limited amount of resources. As such APERC has suggested rationalizing these two programs and change in the format to reduce the overall load.

The suggestion is that starting from 2014 APERC decrease from two PREE events (one PREE and one follow up PREE) to a single PREE per year, the Philippines has agreed to host the 3rd Follow-Up PREE with a topic on Transport. Similarly CEEDS currently has two yearly events which are complex to organize due to the number of experts and topics being discussed. Furthermore not many economies are able to attend two yearly workshops on top of the other international commitments. The proposal for CEEDS is for the initiative to be turned into a single workshop called “Energy Efficiency Policy Workshop” that is open to all economies and the topic is to be chosen from issues highlighted in previous PREEs. The first workshop is aimed at being held in conjunction with EGEE&C44 or 45.

APERC updated in the latest publication of the Compendium and indicated that while the publication was completed in October 2013. However, a number of economies did not update their information including: Canada, China, Indonesia, Japan, Korea, Malaysia, Papua New Guinea, The Philippines, Russia, Singapore, Chinese Taipei, US, Viet Nam.

**Comments and Questions**

The EGEE&C Chair supported the presented notion in principle though discussion is needed around the details.

**UL –** Will the events be concentrated on single topic?

**A –** yes within a sector approach, such as building policy.

**UL** thought it would be difficult to explore a policy topic in detail in half a day and suggests possibly a whole day.

**Singapore** has indicated that they will be compliance with compendium and will ensure that the APERC contact person is up to date.

The Chair indicated that APERC could use alternative channels of communications such as the contact lists from EGEE&C and EWG to improve results.

**Chinese Taipei** – Is there a resource where all the PREE results have been aggregated and summarized to share information and facilitate access?

**EWG** – Suggested the use of graduate students to analyze PREE results.

**Answer –** The PREE is quite bulky at the moment, but in future the workshop will be more condensed**.**

**China –** Who is the contact person as we would like to ensure response to the compendium?

APERC to follow up offline

### Session 4: Project Updates

**There are three projects currently progressing through EGEE&C.**

* **EWG 08 2012** Urban Development Smart Grid Roadmap: Christchurch Recovery Project *(New Zealand) (with EGNRET)*
  + **New Zealand provided an update during the joint meeting; please refer to the joint meeting summary for details.**
* **EWG 03/2013A –** Green building code harmonization in Energy Smart Communities*(China)*

The project aims to host 2 workshops, one on Net Zero Energy Buildings and the other still to be confirmed. The key areas of interest include:

* Net Zero Energy Definition, technology roadmap and pilot projects among APEC economies.
* Building Energy Codes upgrading Potential in the future.
* Technology Integration in Energy Smart Community.
* Building energy codes harmonization in energy smart community.

The first workshop on Net Zero Energy Buildings was held in October in Beijing, China. The workshop has attended by 52 attendees from 12 economies.

The second workshop will be held in China in conjunction with one of 2014’s APEC meetings.

For more details please refer to the EGEE&C website. The presentations will be posted as they become available.

* **EWG 12/2013A** – Catalysing Monitoring, Verification & Enforcement Best Practices Exchange and Building Compliance Capacity in the APEC Region *(Australia)*
  + **This project was updated during session 10 of this meeting. Refer to this section for details.**

**Green building code harmonization**

**Question about which APEC meeting in 2014 will the workshop be aligned with.**

### Session 5: Economy Updates

**Japan**

The industry sector in Japan is the largest consumer of energy, though the earthquake of 2011 has caused significant disruption on supply and demand. There has been significant expansion of electricity generation capacity to cope with decrease in supply, and energy efficiency has been used to manage growth. Examples of this include: the top runner program, conservation campaign with commercial entities.

Residential transport energy has been decreasing since around 2000 due decreasing population and efficiency programs. Freight transport energy demand has remained flat since the 90s following the economic crisis.

In recent years there has been a strong focus on managing peak electricity through demand side management to reduce peaks.

For more details please refer to the slides.

**Questions**

APERC – 2011 was an abnormal demand year, has there been a bounce back in 2012. Answer – The government made large efforts in energy saving in large commercial buildings following the earthquake to cope with supply disruptions and while the rules have relaxed but many savings efforts have been maintained.

New Zealand – What is the form of new electricity generation?

Answer – Largely natural gas with some coal and oil. This has caused an increase in the demand of natural gas causing price increases.

Philippines – How is japan coping with closure of nuclear plants?

Answer – Stringent conservation efforts requested from commercial sectors have been successful and an EE center with education/information campaigns coupled with the expansion of quick build generation such as gas. There is some potential to restart some idling nuclear capacity.

New Zealand commented that Australia and New Zealand have recently developed a detailed chilled cabinets MEPS cost benefit analysis and recommends that japan may look at this.

Chinese Taipei – There is a lot of argument in Chinese Taipei regarding nuclear power and soon there will be a referendum on a fourth plant. In this light please tell me your opinion if Japan would be able to shut down all of its nuclear.

Answer – The Japan delegate indicated she not the right person to answer the question but provided opinion indicating that the answer could be made from different angles: economic, environmental, etc. for example, Japan relies on manufacturing for economic security and they rely on low cost energy so it would be difficult to shut down all nuclear.

**Hong Kong, China**

Hong Kong has an energy efficiency policy that focuses on the buildings and appliances largely driven by efforts to combat climate change.

The key policy is the mandatory implementation of the Building Energy Code that resulted from the Building Energy Efficiency Ordinance enacted in 2010. Minimum energy efficiency standards and requirements have been set for 4 key types of building services installations, covering: air-conditioning, electrical, lighting and lift & escalator.

A funding scheme has been set up to enable building owners to meet the new requirements. This program provides a subsidy for 50% of expenditure and so far 1100 project have been approved with an estimated saving of around 180 kWh.

The other key initiative is the Mandatory Energy Efficiency Labelling Scheme (MEELS) which started in 2009 and has provided estimated savings of 150 million kWh per year,

For more information please see the slides or the website: [www.emsd.gov.hk](http://www.emsd.gov.hk)

**Questions**

Chinese Taipei – Can you tell me more about the Energy Efficiency Building Registration Scheme?

Answer – This one was voluntary and has been in place for 10 years. Buildings in this scheme get a certificate and government promotion, but no subsidy.

**Singapore**

Singapore’s energy policy follows the Trilemma approach that looks at three critical aspects of energy supply: economic competitiveness, energy security, and environmental sustainability. Singapore does this in the contexts of their challenges to derive policy responses. The key challenges faced by Singapore are a natural resource disadvantage causes them to be an energy importer for most of their needs, and the small urbanized geography limits the fuel sources they can use.

The current policy has an overall goal to reduce energy intensity by 35% by 2030 from 2005 levels. The efforts involve addressing sector specific barriers with tailored solutions. Some of the key initiatives include:

* Fuel switching in power generation
* MEPS and labelling for key household appliances
* Green mark certification for new and retrofitted buildings.
* Achieve a 70% share of public transport
* EE financing schemes for business.

So far they have achieved a 22% intensity improvement compared to 2005 and they are still looking at developments in PV (350MW by 2020), cleantech deployment (smart billing), and demand response.

For more information please see the slides or refer to the website: <http://app.e2singapore.gov.sg/>

**Questions**

From the Chair – The solar PV target seems quite ambitious, is it aspirational?

Answer – not really, but there is a lot of R and D into integrating solar, with schemes such as leasing rooftop etc.

New Zealand – The share of PT target is 70%, what is the current level?

Answer – 59% currently.

Japan – In terms of promoting green buildings, what is the average age of the building stock? As old buildings can be hard to retrofit. Can what are the key measured that Singapore can use for this.

Answer – Delegate not best person for this answer, but one of the key efforts is in relationships with the building owners to ensure that there is a continuous effort to improve the building stock.

Chinese Taipei – Commented that they had a recent exercise of target review and rationalization. A key finding is that the existing targets are very difficult, and all of the identified options have a number of difficulties.

**New Zealand**

New Zealand has seen energy demand flat since the early 2000s due to a number of factors include progress in energy efficiency. The government’s energy policy document is The New Zealand Energy Strategy published in 2011 that established the priorities for energy and energy efficiency.

The 4 key areas of influence are transport, business, households, and products. For the each of these areas, a number of tools addressing different barriers are developed including information, grants, pilot projects, and regulation.

However, government has signaled a move away from grant based programs, to focus more on the formation of partnerships, and the influence through information. To do this, there is a process under way to rationalize resources and refocus our efforts.

For more details please see the slides.

The website for the Energy Efficiency and Conservation Authority is: [www.eeca.govt.nz](http://www.eeca.govt.nz)

**Questions**

Chinese Taipei – Is there a minimal energy performance for cars? Chinese Taipei is having registration problems for used cars (same for vending machines in Chinese Taipei).

Answer – New Zealand does not have a MEP, but has fuel economy label. Even has compliance from online sellers.

Comments from the Chair: There are issues with second hand vehicles, but began with database of cars.

United Stated – US has experience with vending machines, ie EE&C measures, lowering temp at night etc.

Japan: What are the economic benefits from insulation in housing?

Answer – The benefits go beyond energy and take into account health benefits. A greater proportion of housing that is properly insulated will have less cold-related illness or morbidity, less costs to health system, and less loss of work hours through sickness and associated issues. In some cases insulation is prescribed to treat patients.

**Philippines**

The Philippines showed a video that summarized and highlighted a lighting program funded by the Asia Development Bank and the Asian Clean Energy Fund.

The video can be viewed here: [Philippines Energy Efficient Lighting Project](http://www.dailymotion.com/video/k623Jwrke3CDay77QoP)

Some of the key lessons expressed by the Philippines are that two years is not enough time to deploy programs of this magnitude. Similarly the programs should be scheduled to match political cycles to ensure continued support through the life of the program.

**United States**

In the US there are two key ways for establishing federal standards. Through rules within the powers afforded to the Department of Energy or other relevant bodies, or through congress passing a legislation requiring the development and/or establishment of a standard. The estimated savings all of this activities is around 3% of all energy consumption in the US.

Some of the key recent activity in the US includes:

* Standards development for energy using equipment
* Better Building initiative, which is a PPP to improve building stock.
* Energy Efficiency Standardization Coordination Collaborative (EESCC). How can ensure targets are being built and one working group to look at capacity building.
* State level policies to drive energy efficiency

**Thailand**

Thailand has a comprehensive overarching energy efficiency policy and plan in place aimed to deliver a 25% reduction in the projected energy demand in 2030 and reduce 130 million tons of carbon emissions. The plan targets four key groups: transport, industrial sector, commercial buildings, small business and residential buildings.

The base of the plan is a three pronged initiative consisting of financial support funded through a levy, social interaction, and strong law and regulation. All of these are supported by a strong knowledge base to back decision making.

For more details please refers to the presentation.

**Chinese Taipei**

Chinese Taipei have a range of mandatory and voluntary energy efficiency programs, specially the Minimum Energy Performance Standards (MEPS). These were first introduced in the 1980s and currently include 44 product classes. Aside from MEPS there is also an efficiency ranking labelling to inform consumers at the point of purchase. This program has been very successful in increasing the share of high ranking products in the internal market.

In terms of Transport, light vehicles and motorcycles have to comply with MEPS and display the ranking label in the internal market. Vehicles that do not comply are excluded from the market.

A point to note is that MEPS in Chinese Taipei are based on the weight of the vehicles, and upon testing it was found that manufacturers were adding weight to the vehicles to ensure they would pass the tests. Currently, this is being changed to a displacement based method, which coincides with registration costs and fuel taxes fees.

In 2008 a policy was set with a target to improve energy efficiency of vehicles by 25% by 2015.

### Session 6: Economy Updates (continued)

Special Presentation from Hawai’i Energy **(Ray Starling, Director Leidos)**

This was a presentation on the energy efficiency program of the state of Hawai’i which is managed by Leidos, a company contracted to deliver the benefits.

The presentation started stating the problem indicating that Hawai’i is a state comprised of several small islands separated by big water presenting a number of issues for supply. Also, the key entities in charge of delivering energy efficiency are companies that were very good at trying to sell electricity, not saving it.

The supply problem was compounded with the increase in the price of oil, causing electricity prices to be the highest in the US by a factor of 3.

The key fix was presented as Negawatts – Saved kilowatts. The company is able to save energy at a rate of 2.3 cents per kWh, compared to the 33-44 cents paid by households. This presents a large opportunity.

The Hawai’i Energy program delivers these benefits in a quasi-ESCO type of arrangements in which the Public Utilities Commissions will pay Leidos for delivered services and will hold back certain amount to be paid only if performance levels are achieved.

The program claims very high performance and provides a range of services in a number of areas. The presentation can be viewed in the website and is highly recommended.

**Questions**

Chinese Taipei – In Chinese Taipei we found that people would abuse the scheme and buy 2 fridges so it would not work. Can you indicate as to the cost effectiveness of providing a rebate as well as a recycling option for Fridges?

Answer – Yes it is highly cost effective as often fridges are largest load in the household. Also, the difficulty to dispose of an old fridge meant that turning in an old fridge provided a good opportunity get older fridges off the market.

The United States suggested that the Hawaii experience in this regard could be the subject of a project for EGEEC.

United States – Has there been work with another country to duplicate the programs that have been done in Hawaii?

Answer – Yes, Leidos has worked with China and the Philippines and is ready to expand on that.

### Session 7: ESIS and CAST Update

Ms Nicole Kearney from the Collaborative Labeling and Appliance Standards Program (CLASP) updated the group on key developments relating to ESIS and CAST. CLASP manages the ESIS database and CAST initiative on EGEE&C’s behalf and is a SEAD[[2]](#footnote-2) operating agent.

APEC ESIS is an energy efficiency standards and labeling database for APEC economies which is integrated into CLASP’s global standards and labeling database is available from the following link (<http://www.apec-esis.org/>).

It was noted that CLASP has now completed the APEC economy updates. CLASP has also added non-APEC economies with new S&L programs to the database including Bangladesh, Kenya, Iran, Israel, Jordan, Nigeria, Pakistan, and Turkey. The database now covers 48 economies, which collectively account for 91% of world energy consumption.

CLASP reminded the group of the ESIS funding, which is currently covered through the Super-efficient Equipment and Appliance Deployment (SEAD) initiative of the clean energy ministerial. This funding covers the hosting and maintenance of the webpage, economy updates to the database, and CLASP’s role as ESIS secretariat and attendance to APEC meetings.

The 2014 update of the database is now under way and it is expected to be completed by September 2014.

The CLASP secretariat requires your assistance to provide active and responsive contact person who can provide current and updated S&L program information for your economy.

The CAST primary objectives are:

* Promote harmonized test procedures
* Support development of aligned energy efficiency standards and labels (S&L) in APEC economies
* Fund one or more projects each year over a 5 year period.

CAST has now published a call for projects for the 2014/2015 year. The deadline for submissions is in June, but it is encouraged to get in touch as soon as possible if you have a project idea to be able to explore and polish the proposal. If you are interested please contact Ms Kearney at CLASP (nkearney@clasponline.org)

There is one APEC – CAST project currently in progress:

1. Evaluation and proposal for internationally aligned test methods and performance requirements for televisions. This project was proposed by Australia and the development process has just begun.

And two APEC – CAST projects that have been recently completed:

1. Study of repair best practices and energy efficiency improvement potential through repair of electric motors. Proposed by the China National Institute of Standardization. Task 1 has been completed and the task 2 is now in progress. Final report will be available soon.
2. Evaluation and initial draft of harmonizes test methods and level definitions for heat pump water heaters. Proposed by the Australia Department of Climate Change and Energy Efficiency (DCCEE). The final report has been published in the CLASP website: <http://www.clasponline.org/RFPsPartnerships/RFPs/ClosedRFPs/2012/RFP12-12>

For further details on these projects please refer to the slides from the presentation.

### Session 8: Electric Motor Repair Research Presentation.

This session was dedicated to a more detailed presentation of the results of the APEC-CAST Motor Repair research project. Below is a brief summary. For more details please see the presentation slides or the final report will be available soon from the CLASP website.

This project was put together to better understand the practices used in motor repair to promote the use of best practice. This will lengthen the life of the motor and improve the operation efficiency.

Three main tasks were carried out through the project:

Task 1 – Existing and Best Motor Repair Practices

Survey developed to collect data on repair practices used by repair shops and on motor failure and repair market

Task 2 – Market Overview

Data from Task 1 fed into this task, to establish characteristics of motor failure and repair in the selected economies

Task 3 – Potential for Energy Efficiency Improvement in Motor Winding and Repair

Findings from Tasks 1 and 2 used to inform this task to estimate energy savings resulting from employing best practices to repair motors and from replacing aluminum rotors with copper rotors

The findings include:

* Most common poor practices:
  + Removing windings using hand tools and mechanical stripping by cold process
  + Stator lamination repair – visual inspections, ignoring defects
  + Use of inappropriate tools and equipment
* Stator winding failure is leading reason for motor repairs in most economies, but China faces many rotor failures
* Most motor failures repaired rather than replaced
* Potential average annual savings potential between 8GWh and 3,800 GWh in the five economies (less for NZ, more for China)
* Energy efficiency degradation can be avoided with best practices, with a payback period of two years
* Not enough take up of copper rotors – which can result in significant savings (mainly in US and China). If all aluminum rotors replaced with copper in 2015, potential energy savings estimated at 31,100 GWh and 15,900 GWh for China and US respectively (NZ – 180 GWh savings)

For next steps and recommendations please see the slides.

### End of Day 1

# Day 2

### Session 9: MV&E Project Presentation

This session was used to present the initial results of the project EWG12 2013A: Catalyzing Monitoring, Verification & Enforcement Best Practices Exchange and Building Compliance Capacity in the APEC Region.

The key objective of the project is to identify best practices for verification testing and create a MV&E Network in the Asia-Pacific region to facilitate continuous information sharing and partnership development

As part of the project, the research looked that previous examples of such cooperation with EU experience being a primary example. The presentation examined briefly the key market surveillance actions in the EU and the identified areas the work well and drew comparisons to APEC and what could it be done to move forward. The following graphic was presented as a proposed action plan:

**Step1**

**Step 2**

**Step 3**

**Step 4**

For more details please refer to the document provided on the EGEE&C 43 website in the following [link](http://www.egeec.apec.org/event-holder/43rd-meeting-apec-expert-grooup-on-energy-efficiency-and-conservation/)

**Comments Questions**

ICA mentioned that the specific look at the EU was due to strong interests demonstrated in the past.

UL – Is there data in the cost effectiveness of ECOpliant or Prosafe.

Answer – While there is no final data on cost effectiveness, there are clear signs that this is working as manufacturers are involved in the process and are aware of surveillance and keep on the right side.

UL – Do you have compliance rates? Is there proof that compliance rates have improved as a result of this process? NEED answer from Nicole.

CLASP commented about the targeted nature of the testing to make better use of the funds, based on the processes (such as complaint mechanisms, or history)

APERC asked about the validity of this type of initiative in APEC as unlike APEC, the EU formed a single market before joint enforcement action.

Answer – Indicated that the aim of the project is to form an intelligence network rather than an enforcement and compliance project. China supports this.

Further comment from the chair indicated that this is of specific value to developing economies that have limited budgets for testing, as getting information from tests in other markets would provide benefits.

ICA mentioned that in APEC there is that focus safety that has developed, and that it can be a natural progression into EE testing as well.

The Chair indicated that the origin of this project is at a previous EGEE&C meeting in which a show of hands largely demonstrated the lack of communication in the areas, yet demonstrated a desire to have increased level of data and information.

ICA has indicated that they believe that this is an important project, and that stating the benefits clearly can help move the project forward. They suggested that a small related project with limited scope can be carried out to demonstrate the value, and possibly build it from there.

Chair – This APEC project is a little different as it aims to create a living network, and does not have a discrete life span. This project can morph into an outcome desired by the members and the will be able to have their say. The proviso is that members will get out of this project what they put in.

The chair provided an example of information received from another economy that recently tested insulation products. The information demonstrated a high failure rate on a number of products. For New Zealand this was of high value as we did not need to test the products and helped us manage the risks associated with the possible use of the products in New Zealand.

It was highlighted that while the process is on step one now, step 2 is critical and without meaningful participation the whole process will not be possible.

Philippines expressed concerns that while this initiative is very good, there is the risk of ‘one size fits all’ approach and those individual situations within economies in terms of politics, economics, climate, etc need to be considered. Philippines need to explore this initiative more before committing, maybe develop a pilot project to demonstrate the benefits.

The chair highlighted the modularity of this project indicating that some areas of use to some economies but not to all, so economies can take what is useful to them, while providing information that may be of use to others.

CLASP highlighted the step by step nature of the project, starting with getting to know each other rather than dictating a testing program. So the early stages are all about relationship.

### Session 10: CN Presentations

**Thailand**

The Thai representative presented a Concept Note that aims to assess the benefits of compact heat-pump water heaters in commercial environments. The concept note is available from the EGEE&C website.

The Chair would like the wording of the proposal to be clearer on the objectives to facilitate the assessments process.

UL suggested another clarification from instantaneous heater or point of use.

**China**

The Chinese delegate presented on the refrigeration testing standards project that was submitted during funding session 1 this year. The delegate still looking for co-sponsors.

Chinese Taipei agreed to co-sponsor this project.

### Session 11: EGEDA

The Expert Group on Energy Data and Analysis provided a summary of their energy data collection activities and their advancement on energy efficiency statistics.

One of the key issues raised by EGEDA is regarding the robustness of the data when broken down, and often just the sheer lack of available data to provide granular energy efficiency indicators.

They have made some progress using estimation techniques, but this has some drawbacks.

### Questions

Singapore – in the last EGEDA Workshop was there concerns about the data being presented this way? Estimation like this has issues with assumptions.

Chair indicated that it is understood that there are issues and holes in this approach but it is important to get started and for economies that are able to present this type of data to share experience for the others that can’t or have not to date

UL asked about developing best a practice guide and the ICA commented that they have tried but there has been difficulty in getting uniform methodology.

### Session 12: Upcoming Events

During this session the item of the next EGEEC meetings was discussed briefly.

There was an expression of interest from Philippines to host EGEE&C 44 in the second half of 2014 and from Singapore to host EGEE&C 45 in the first half of 2015. The economies however still need to get approval from their home offices before this can be confirmed.

A couple of other events linked with the next EGEEC meetings include the APERC Policy Workshop and a workshop for the MV&E project. Please note that the hosting economy is not expected to incur in any costs associated with the hosting of these workshops.

### Session 14: EGEE&C Presidency vote (EGEE&C Secretariat)

This session was used carry out an election for Chair and Co-chair as there has been some time since the previous election.

The chair indicated the value of having this process to ensure that the leadership of the group is active have the ability to continue work if one of the leadership members cannot carry on.

Nomination for New Zealand to carry on this duty was made by the Unites States delegate and seconded by Chinese Taipei.

The election for chair was unchallenged and New Zealand accepted the role.

New Zealand nominated Chinese Taipei for the role of Co-Chair, but it was declined.

Chinese Taipei nominated Singapore for Co-Chair and was seconded by US. Singapore indicated that they require checking with home office before accepting the role.

A vote for Singapore to be co-chair was unchallenged and unanimous, subject to clearance.

### Sessions 15: Summary Session for Day Two

Martin Brown-Santirso indicated that this was his last meeting as Secretariat and thanked the group for the positive participation in the meetings and events.

### Close of EGEE&C 43

1. The SCSC is convened under the APEC Committee on Trade and Investment (CTI) [↑](#footnote-ref-1)
2. Super-Efficient Appliance Deployment (SEAD) is a US-led initiative under the Clean Energy Ministerial. [↑](#footnote-ref-2)