The APERC Workshop

Progress on Peer Review Mechanisms

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Asia-Pacific
Economic Cooperation

Background on APEC Energy Peer Review Mechanism

- *2007 Sydney APEC Leaders' Declaration on Climate Change, Energy Security and Clean Development –*
  - "Agree to work towards achieving **an APEC-wide regional aspirational goal of a reduction in energy intensity of at least 25 per cent by 2030 (with 2005 as the base year)"**

- *2007 Darwin EMM8 Declaration on Achieving Energy Security and Sustainable Development Though Efficiency, Conservation, and Diversity –*
  - "We direct EWG to develop a voluntary **Energy Peer Review Mechanism, with initial focus on progress toward attaining energy efficiency goals**"

- *APEC **Peer Review on Energy Efficiency (PREE)*** is the first step being designed to review and share information on effective EE policies/measures, identify approaches and provide **recommendations** for voluntary EE implementation in APEC economies .

Current Energy Peer Review Mechanism (Compendium, PREE, CEEDS)

Currently, there are three activities under **APEC Energy Peer Review Mechanism**

- **Compendium** of EE goals, action plans and policy measures of APEC economies, under a common format.
- **Peer Review on Energy Efficiency (PREE)** in *volunteer* economies on the progress toward their goals in achieving EE improvement and implementation.
  - PREE considers the whole range of EE policies and measures in various sectors for one economy at a time.
- **APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS)**
  - CEEDS supplements the progress of PREE by considering specific best/high performance EE policies and measures for several economies in one sector at a time.
  - Endorsed by EWG 37 in Chile in 2009

❖ *"PREE examines a continuing sequence of volunteer APEC economies, while CEEDS supplements the results by focusing on a continuing sequence of sectors."*

Progress – Compendium, PREE

Compendium

- APERC prepared the **Summary Table of the Compendium and Detailed Compendium** for 21 APEC economies.
- After EWG's endorsement at EWG 39 meeting, the **Summary Table of the Compendium and Detailed Compendium will be posted on the APERC website with links from EWG and APEC Secretariat websites.**

Next: APERC should periodically update the Compendium by confirming official updates from economies and cover all economies by requesting more information from PNG.

PREE

- **The first 3 PREE reports on PREE in NZ, Chile and Viet Nam were completed and published on the APERC website**, i.e.
  - NZ and Chile in early 2009 (endorsed by EWG37 in Chile) and Viet Nam in mid 2009 (endorsed by EWG38 in Bali).

Next: The draft **Report on PREE in Thailand** (in Nov 2009) **is to be discussed at EWG39**. After the discussion and endorsement at EWG the endorsed report will be published **on** the APERC website..

Peru and ***Chinese, Taipei*** announced to host the next PREEs in 2010.

Progress - CEEDS

CEEDS (*Collaborative Energy Efficiency Design for Sustainability)* **:**

- The **1st CEEDS Workshop** (Oct 2009 in Chinese Taipei) developed **proposals** for advancing "***Appliance EE Standards and Labeling*** **(AEES&L**)" programs for the 6 participating economies: Chile, China, Malaysia, The Philippines, Thailand and Viet Nam, and worked together with experts from ASE, CLASP, IEEJ and LBNL.
- The **2nd CEEDS Workshop** in Tokyo in 1-2 March 2010 has fine-tuned these **proposals with recommendations on how the effective implementation of AEES&L should be advanced in the 6 participating economies.**
- APERC carried out **Energy Saving Potential Study in the area of AEES&L for the 6 participating economies.**

Next**:** Preliminary findings of the two CEEDS workshops will be reported to EWG39 on 11-12 Mar 2010.

Thailand and ***Hong Kong, China*** announced to host the next CEEDS workshops on ***Building Energy Codes***.

Findings – Compendium (1)

Main task: APERC compiled EE goals, action plans and policy measures for overall economy and various sector in 20 APEC economies in the Compendium.

- The survey aims to review that best/high EE policies and plans are *fully and extensively* implemented toward the goals.
- The survey found that most EE best/high performance practices were in place. Apparently several economies have set their own goal *higher* than the APEC-wide goal e.g. Korea, Singapore, Chinese Taipei.

Next:

- APERC has identified **15 Best/High Performance EE Practices** in consultation with *expert groups* and carefully considering internationally-recognized best/high EE practices including IEA's 25 EE recommendations to strengthen the rate of full implementation of these best/ high performance practices toward achieving the goal *or beyond*.

15 Best/High Performance Energy Efficiency (EE) Practices

Proposed 15 best/high performance EE Practices
Cross-sectoral
1. Set energy efficiency **goals and action plans** for overall economy and various sectors
2. Increase investment, facilitate **private sector involvement** and encourage financial institutions' participation in energy efficiency
3. **Monitor,** enforce and evaluate energy efficiency measures for successful implementation
Industry
4. Collect energy efficiency data for industry e.g. **end use data** for various sub-sectors
5. Assist in developing **energy management capability** and encourage or require the implementation of these practices by **major** industrial energy users
6. Develop policies and measures to promote energy efficiency in small and medium-sized enterprises **(SMEs)**.
7. Introduce minimum/high energy performance standards for **motors**
Transport
8. Set mandatory/high **fuel efficiency standards** for light-duty and heavy-duty vehicles and **labels**
9. Encourage **Eco-driving**
Residential, Commercial and Public
10. Set and update mandatory **building codes** for new buildings and establish standards to promote energy efficiency in existing buildings
11. Encourage the construction of **highly energy efficiency buildings** such as Passive Energy Houses and Net-Zero Energy Buildings
12. Encourage the introduction and update of **building certification** systems
Appliances and Equipment
13. Adopt and update **mandatory/high energy performance standards** and **labels**
14. Adopt **international measurement standards,** where appropriate, to aid in benchmarking and comparison of traded products and reduce compliance costs, as well as standard **harmonization.**
15. **Phase-out incandescent bulbs** and introduce higher efficiency lighting systems

Findings – Compendium (2)

- Building on the Compendium survey, APERC compared current EE practices occurred in APEC economies (as the result of review mechanisms) with these 15 best/high performance EE practices in consultation with EGEEC, reflecting action gap and areas of improvement.

➢ APERC would like to urge all APEC Member Economies to fully and extensively implement these 15 best/high performance energy efficiency practices in their economies and sectors to move our EE improvement toward APEC-wide goal and beyond as well as put APEC region a more secure and sustainable future path.

- **Significant Progress** in APEC EE policies have been made. Many recent EE improvements have also taken place in APEC member economies.
- The next tables shows
  - **Comparison of 15 best /high EE practices against current practices in APEC economies** (i.e. **I** - *implement (fully or partly)*, **U** - *underway / plan,* ***N*** - *need more information)*
  - **Summary of Strengths and Progress of EE policy in APEC Economies** against 15 proposed best/high performance EE practices

COMPARISON TABLE
15 best/high performance EE Practices

implement (fully/partly) - I, *underway /plan* - U,
need more information - N

23/02/10

	AUS	BD	CDA	CHL	PRC	HKC	INA	JPN	ROK	MAS	MEX	NZ	PNG	PE	RP	RUS	SIN	CT	THA	US	VN
Cross -sectoral																					
1. Setting Goal and/or Action Plan	I	I	I	I	I	I	I	I	I	I	I	I	N	I	I	I	I	I	I	I	I
2. Private sector participation for EE Investment	I	I	I	I	I	I	I	I	I	I	I	I	N	I	I	U	I	I	I	I	I
3. Monitoring mechanism	I	U	I	I	I	I	I	I	I	I	I	I	N	I	I	I	I	I	I	I	I
Industry																					
4. End Use Data collection	I	I	I	I	I	I	I	I	I	I	I	I	N	I	I	U	I	I	I	I	I
5. Energy management by major industries	I	I	I	I	I	I	I	I	I	I	I	I	N	I	I	N	I	I	I	I	I
6. Promotion of energy efficiency in SMEs	I	I	I	I	U	I	I	I	I	I	I	I	N	I	N	N	I	I	U	I	I
7. Minimum/high energy performance standards for motors	I	N	I	U	I	I	U	I	I	I	I	I	N	I	I	N	U	I	I	I	I
Transport																					
8. Fuel efficiency standards / labeling	I	U	I	U	I	U	U	I	I	N	U	I	N	N	U	N	I	I	U	I	U
9. Eco driving	I	U	I	I	I	I	I	I	I	U	I	I	N	U	N	U	I	I	I	I	N
Residential, commercial and public																					
10. Mandatory building codes for new buildings	I	U	I	I	I	I	I	I	I	I	I	I	N	U	I	I	I	I	I	I	I
11. Encourage construction of highly energy efficient buildings including passive energy houses and net-zero energy buildings	I	I	I	I	I	I	I	I	I	I	I	I	N	I	I	N	I	I	I	I	I
12. Building certification systems	I	N	I	U	I	I	U	I	I	I	I	I	N	U	I	I	I	I	I	I	U
Appliances and Equipment																					
13. MEPS / HEPS and labeling	I	U	I	U	I	I	I	I	I	I	I	I	N	U	I	I	I	I	I	I	U
14. International measurement standard for comparison of traded products	I	I	I	I	I	I	I	N	I	I	I	I	N	I	I	I	I	I	I	I	U
15. Phase out of incandescent bulbs and introduction of more efficient lighting	I	U	I	I	I	I	I	I	I	I	I	I	N	I	I	I	I	I	I	I	I

Findings – Compendium (3)

Summary of Strengths and Progress of EE policy in APEC Economies against 15 proposed best/high performance EE practices

Cross sectoral

- Almost all APEC economies have some degree of national EE goal, strategy / action plan.
- Many economies are developing policies to address *barriers* to EE investment. Innovative financial instruments are being created, e.g. USA, China, Thailand, Singapore.

Industry

- Coverage of industrial energy *statistics and data collection* are improving in almost all APEC economies , e.g. USA and Canada. Almost all economies promoted energy management by major industries.
- Various economies created clearer policies and measures to promote EE in SMEs.
- Well-developed EE policies for industrial electric motors exist in most APEC economies. Such policies in Singapore, Chile and Indonesia are underway.

Transport

- Some APEC economies are implementing *fuel efficiency standards* and/or *vehicle fuel labeling* policies, e.g. Australia, Canada, China, Japan, Korea, NZ , Singapore, Chinese Taipei, USA, while fuel efficiency standards particularly for *heavy-duty* vehicles are in place in Japan. Korea sets regulatory vehicle standards on both fuel efficiency and GHG emissions.
- *Eco-Drive* policies are active in most APEC economies with an extensive policy , e.g. in Japan, Australia, Singapore , Canada.

Findings – Compendium (4)

Summary of strengths and progress of EE policy in APEC Economies against 15 proposed best/high performance EE practices

Building

- Almost all APEC economies have mandatory EE requirements for buildings with strong building codes for *new* buildings in place.
- Most economies have policies promoting passive energy houses and net-zero-energy building, e.g. Japan and Malaysia.
- Policies for *existing* buildings exist in many economies. *Building certification* is currently in place in most economies while Brunei, Chile, Indonesia, Peru, and Viet Nam are planning for their building certification scheme.

Appliances

- Most APEC economies have active minimum energy performance standards (MEPS) / high energy performance standards (HEPS) and associated *labeling* . Brunei, Chile and Peru are planning for MEPS and labeling schemes, while Viet Nam's labeling awaits EE&C law in June 2010.
- Most economies support the development of international test procedures and measurement standards.

Lighting

- Nearly all APEC economies have policies to increase EE in the lighting sector
- Nearly all economies are currently implementing policies to *phase out* conventional incandescent lamps while introducing more efficient lighting systems e.g. Korea with LED lights target at 30% by 2015.

Findings - CEEDS

The common findings found at **1st CEEDs Workshop in Chinese Taipei** in 2009 including

- Need for **policy-maker** support for **mandatory labels**, minimum energy performance standards (**MEPS**) and harmonization;
- Inadequate **program staff** (including market inspection) and **budgets**;
- Limited availability of high quality, **economy-specific end-use & sales data**;
- Need to strengthen **test-lab capabilities**, **certification** procedures;
- Need for **staff training** (ongoing, due to staff turnover)

To response these challenges, ***high priority*** for increased regional cooperation are

- ***Networking for Information-Sharing and Advice*** *(*e.g. CLASP website);
- ***Test Standard Harmonization*** *(*e.g. links with *APEC Subcommittee on Standards and Conformance* (**SCSC**) who works on alignment of standards under the *Committee on Trade and Investment* - CTI);
- ***Regional Cooperation* on *Ener*gy Testing Facilities** (e.g. test lab regional MRA's, test lab staff training and lab certification, ***round-robin* testing**, possibly through cooperation with the *Asia-Pacific Laboratory Accreditation Cooperation* - **APLAC**).

Preliminary Findings - CEEDS

The preliminary findings found at **2st CEEDs Workshop in Tokyo** in 2010 including

- **Data and analysis**: estimates energy saving potential data through BUENAS and PAMS
- **Adding products, setting higher levels for MEPS** , **& updating**: energy savings and cost-effectiveness, Regional/global benchmarking (Best Practice), Stakeholder participation, Test lab capabilities, export markets, incandescent phase-out
- **Phased-in MEPS**: e.g. voluntary label ⇒ mandatory label ⇒ MEPS ⇒ Categorical standards
- Importance of **"top end" performance level** e.g., Thailand HEPS, EnergyStar, TopTen, Recognition (award, label, etc.), Incentives (consumers, manufacturers)
- **Capacity-building:** Data gathering & analysis, priority-setting, Test lab personnel, Setting/updating MEPS levels, Evaluating impacts ⇒Tailor large-economy strategies for smaller economies, Hands-on training, one economy at a time or in clusters, E-learning,
- ***Supply-chain relationships to advance S&L***: Will global exporters support harmonized testing (and MEPS)?, Can large firms (or coalitions) drive B-to-B buyer demand for efficient/labeled products?
- ***CEEDS Phase 2****:* on Building Energy Codes & Construction Product Certification in **Thailand** and **Hong Kong, China**

Findings – PREE (1)

The review team expert has provided *policy recommendations* on:

- Energy Efficiency and Conservation Strategy (NZEECS) - 2009, energy labeling and MEPS with new products including vehicle fuel labeling in **New Zealand**;

- Implementation of EE policy and programs through the National EE Program (PPEE) including Action Plan on EE 2010-2020 and EE Standard Action Plan in **Chile**;

Findings – PREE (2)

- Implementation of National EE Program 2006-2015 (pending EE&C Law by May 2010), EE improvement program in electricity supply infrastructure including DSM program and promotion of EE&C in SMEs in **Viet Nam**; and

- Aggressive implementation of public awareness campaigns, creation of incentive programs, setting up of standards and labeling for energy-consuming equipment and material (HEPS, MEPS) and policy actions through existing Energy Conservation Promotion Law & Fund (Revolving Fund and ESCO Fund) under *ENCON Program Phase 3* in **Thailand**.

Findings – PREE (3)

- The review team found that **transport sector** policies stand out as having less substantial implementation – although, economies have realized the necessity of ***fuel economy standards policy*** imposed on vehicle manufacture or sale
- This policy is still at a planning stage in Thailand, Viet Nam and Chile while New Zealand has national program on vehicle fuel labeling for both new and used vehicles.

➢ **O**verall, the survey found that all 4 economies (NZ, Chile, Viet Nam, Thailand) have looked into the urgent need to expand their implementation of national EE policies as well as development of *incentives* to promote financial instruments to encourage EE investment.

Findings – PREE (4)

The review team also indentified *common barriers,* including

- Lack of ***access* to capital** for EE investments
- **Perceived risk** in EE projects that limit EE investment.
- Lack of **Human Resource in some areas** such as *end-use data collection, standard setting and testing* to ensure full implementation of high performance EE policies
- **Insufficient information, externality costs** that still are not reflected in energy prices and **political will** and support as influential and prominent factors to the success of EE implementation in those economies.

➢ Overcoming the barriers to bridge the gaps requires a *further concerted effort* among APEC economies, in particular **a *follow-up capacity building and technical assistance program* .**

➢ All APEC economies are urged to continue the development or enactment of overarching energy policies that impact our EE policy development to achieve APEC-wide goal or beyond.

Based on Peer Review Mechanism, Next Steps (1)

First, it is recommended for the EWG to bring into the attention of the APEC Energy Ministers to

- **Reaffirm the Leaders' Agreement to facilitate progress through *APEC Energy Peer Review Mechanism;***
- **Encourage all APEC economies to fully and extensively implement the 15 best/high performance energy efficiency practices in their economies and sectors through *continuing PREE and CEEDS* to cover remaining APEC economies and sectors**

- to bridge the action gap and to ensure that energy efficiency best/high performance practices are fully implemented towards APEC-wide goal or beyond.

Next Steps (2)

Second, the findings of PREE identified several essential conditions for successful implementation of best/high EE practices: e.g. *capacity building, technical assistance, funding, information dissemination and campaign, adequet regulatory framework, marketing and private sector/ financial institutions' participation.* To support full and effective implementation of high performance EE practices, it is recommended for the EWG to bring into the attention of the APEC Energy Ministers to

- **Support EWG and APERC to start a *follow-up capacity building and technical assistance program* to ensure full implementation of best/high performance EE practices in consultation with relevant APEC expert groups (i.e. EGEEC, EGEDA, EGNRET) .**

- to enhance PREE Mechanism and create *value-added* to APEC current activities.

Next Steps (3)

Third, APEC Energy Demand and Supply Outlook showed that APEC-wide EE goal will be met in the *business-as-usual* case and this BAU is unsustainable. It was also found that several APEC economies have set their own goal higher than the APEC-wide goal and most EE best practices were in place and expected to be fully implemented.

It is recommended for EWG to bring into the attention of the APEC Energy Ministers and APEC Leaders to

- ***review* and *revise* the 2007 APEC-wide aspirational EE goals for a more secure and sustainable energy future.**

Next Steps (4)

Fourth, for a more secure and sustainable energy future, deployment of Low Carbon Solutions in addition to achieving APEC-wide EE goal is essential, though *fossil fuels* still continue to play an important role. Based on

- Darwin 2007 EMM8 Declaration on the improvement of EE and deployment of cleaner and more efficient energy technologies particularly on the importance of progress in the uptake of new and renewable energy, Sydney 2007 Leaders' Declaration through APEC Action Agenda on alternative and low carbon energy uses and Singapore 2009 Leaders' Declaration on Sustainable Growth and the role of Renewable Energy in reducing emission clearly call for urgent responsive goal and action plans for developing and deploying Low Carbon Energies.

- **It is recommended for EWG to address a clear message on reasonable APEC-wide goal toward low-carbon society i.e. through *APEC Peer Review Mechanism.***

Call for further APEC Cooperation

- Promote and implement *more* best / high performance EE policy measures and practices through continuing PREE and CEEDS for interested APEC economies.
- Start a *follow-up capacity building and technical assistance program* to ensure full implementation of best/high performance EE practices in some relevant areas, e.g. *end-use data collection, standard setting and testing method harmonization* to enhance PREE Mechanism.
- Recommend to *review and revise 2007* APEC-wide EE goals.
- Recommend to address a reasonable APEC-wide goal toward low-carbon society i.e. through *APEC Peer Review Mechanism* for more secure and sustainable future in APEC.

Thank you