

**Minutes of**  
**APEC Expert Group on Energy Efficiency and Conservation Meeting 27**  
**16 – 17 September 2005, Moscow, Russia**

*Opening and Welcome Address*

Dr Robert Hu chaired the first day of the meeting in place of Dr Fanghei Tsau, who was attending to an emergency assignment in Japan. Dr Hu introduced the meeting Co-chair, Professor Garegin Aslanian of the host economy, Russia, who welcomed the participants to Moscow. The meeting was chaired by Dr Fanghei Tsau on the second day.

*Introductions*

The meeting was attended by representatives from Chile; People's Republic of China; Hong Kong, China; Japan; New Zealand; Russia; Chinese Taipei and USA, plus observers from New Zealand and Thailand. A full list is appended.

*Adoption of the Agenda*

The agenda as proposed by the Chair was adopted without change.

*Report on completed projects*

1 Sustainable Financing Systems for Energy Efficiency Projects [USA]

The project is one of a series on facilitating energy investment in the APEC region, and has had as its goal to strengthen institutions for financing energy efficiency projects in APEC member economies. The project is now completed. Its key findings were:

- The energy efficiency investment environment is similar in Mexico, Philippines and other developing economies;
- There are limited investments in energy efficiency despite of high energy costs, low borrowing costs, policy initiatives, capacity building, and energy efficiency/renewable energy bank financing programs;
- Financial markets are risk-adverse; banks rely on balance sheets and do not accept energy savings as collateral;
- ESCOs and engineering firms can provide technical services but not financing;
- Affordable EE financing requires closer collaboration between policy and financing initiatives, innovative financial engineering, creation of special financing intermediaries, standardized EE project finance documents and integration of international and local capital;
- National policy makers can make a contribution by facilitating dialogue between project developers and lenders, evaluating policy initiatives in light of these discussions, establishing special financial intermediaries or dedicated lenders, and reviewing and approving standardized transaction documents.

It is intended to follow up the project with one on financing green, high performance buildings and communities, and to hold a joint meeting with EGNRET to exchange information and develop new project ideas.

## 2 A Vision for Standards and Labelling Programmes

Dr Peter du Pont circulated a draft discussion paper on behalf of Australia. The project has collected experience from experts at a series of workshops to provide a roadmap for progressing MEPS and energy performance labelling programmes. It is intended to stimulate closer links, foster inter-regional cooperation, encourage best practice and highlight information needs.

Major findings are that MEPS and energy performance labelling are very cost-effective programmes, but that more urgency is needed to harmonise and align regulatory processes and reduce costs. Much information is available, but more international benchmarking would represent a powerful new tool. A start has been made on establishing “communities of practice” on compact fluorescent lamps, air conditioners and set-top boxes (decoders).

Comments on the draft discussion paper are invited by the end of October 2005. Initial comments from the meeting were:

- Interaction with manufacturers should probably be increased and a survey of manufacturers will be undertaken;
- Programmes need to be mandatory to ensure effectiveness;
- Harmonization needs to be undertaken in steps — first measurement method, then labelling grade levels, then MEPS, and last a common label;
- Government procurement may provide an easier path in facilitating the adoption of voluntary standards and labelling.

### *Report on current projects*

#### 1. Energy Standards and Labelling Information Network [Chinese Taipei, Canada, Australia and New Zealand, Self-Funded]

APEC ESIS serves as a clearinghouse for documents that specify aspects of energy efficiency, including test protocols, energy performance information and labelling, energy performance categories and minimum requirements and other energy performance requirements. It facilitates and stimulates harmonization through the Standards Notification Procedure, thereby promoting international cooperation and reducing barriers to trade in energy-efficient products. In 2005 the project is self-funded by Chinese Taipei, Australia and Canada. The project overseer is Chinese Taipei, and the project is jointly managed by Peter du Pont of DEM in Bangkok and David Cogan of New Zealand.

The APEC ESIS website is now hosted in Chinese Taipei and linked with the CLASP website through the sponsorship agreement, giving users access to information on more than 50 economies worldwide. Standards coordination activities include regular notification of key contacts and updating of technical information on the APEC ESIS site and activities that foster the development of aligned energy efficiency standards. The benchmarking section of the website has coverage of air-conditioners and electric motors, with CFLs in preparation.

In the coming year it is hoped to continue the Standards Notification Procedure while broadening the scope of energy efficiency standards and similar documents covered and the networks and influence. The latter would include working with REEEP and the UK Market Transformation Programme, as well as CLASP.

Japan commented that it has been a cooperative and active participant in the APEC ESIS activities, including the Standards Notification Procedure. Furthermore, Japan has been trying to support the self-funded APEC ESIS project over the years, although it is not an easy circumstance since Japan has been making already significant contributions to APEC activities through the TILF funding and others. However, considering the progress of the APEC ESIS project and the necessity of its continued financial support, Japan considers making a contribution in its Financial Year 2005. In order to facilitate the contribution authorised by the Japanese Government, the APEC ESIS team needs to draw up a statement of work document describing expected expenditures for the contribution from Japan. The APEC ESIS team agreed to send Japan the statement of work document after the meeting. The Expert Group acknowledged this positive development of the APEC ESIS project.

Chinese Taipei confirmed that the project is valuable, and that Chinese Taipei is prepared to continue to support the project for the next year, including the addition of material on indicators and other activities.

## 2. Energy Efficiency Indicators Workshop [Russia]

The workshop was held in Moscow from 12<sup>th</sup> to 15<sup>th</sup> September prior to the Expert Group meeting.

The importance of energy efficiency is increasing due to oil and gas price rises, while the establishment of carbon emission trading means that proven savings due to energy efficiency measures have a significant and tangible value. Therefore it is necessary to have sound information on energy efficiency potentials and on the savings attributable to energy efficiency projects. However, energy efficiency is difficult to ascertain and measure, and so the correct use of energy efficiency indicators at economy, sector and project level is necessary to provide the required information and to justify energy efficiency projects and programmes.

The workshop identified a number of gaps, including the need for clearer definitions of energy efficiency and energy efficiency indicators, the lack of consistency of other definitions and methods, the lack of links between the project and sector levels, and the optimum measurement approach for different purposes.

The workshop recommended the following future activities be considered:

- Periodic workshops to exchange methods and results;
- An inventory of current best practices on energy indicators;
- Make results of workshop and economy specific summary and/or benchmarks available, e.g. on APEC-ESIS and/or EGEEC website;
- Use a given sector (e.g. the public sector) to demonstrate use and value of indicators;

- Establish an institutional framework or programme of activities, in particular to foster stronger links with EGEDA, APERC, and possibly IEA and IAEA;
- Produce regional aggregates for specific comparisons.

Chinese Taipei pointed out that the IEA has made comparisons of the IEA countries plus India and so APEC could adopt some of their practices. However, the level for which the comparison is being made must be stated clearly. Moreover, the public sector is probably the most complicated so it may not be a good example for demonstration.

Comments on the workshop report are to be sent to the project consultant by 7<sup>th</sup> October, after which an updated version of the workshop report will be produced.

3. Australian & Korean Air-conditioner Round Robin Using the ISO standard [Australia & Korea, self-funded]

The purpose of this project is to check whether there are differences in testing techniques between test laboratories in the two economies, as different test results from laboratories in different economies will likely result in non-acceptance by an importing economy. Two units have now been tested in two laboratories in Korea and the same units are currently under test in Australia. A comparison between test results is expected to be available in the later part of September.

4. Cooperation on CFL Standards and Labelling Collaboration [Australia; PRC and Hong Kong, China]

There are five international technical standards for CFLs: U.S., China, EU, Australia and ELI (Efficient Lighting Initiative). At a workshop attached to the Right Lights 6 conference in Shanghai in May 2005 the importance of CFL standards harmonization was highlighted. As a result of agreement reached at the workshop, development of a harmonization process for CFL energy performance standards and test procedure is now underway, and the ELI labelling scheme and technical documents are being reviewed and revised.

ELI is now a self-sustaining global, fee-based labelling certification service for lighting products. The ELI global labeling programme is now operated by CECP, China, and it is considered a good platform to promote the harmonized standards and test procedure. CECP has already engaged four international experts to seek partners in Asia and Latin America.

*Overview of the US Energy Act and its impacts on energy efficiency*

The US Energy Policy Act (2005) was signed on the 8th of August 2005. The act covers conventional supply, renewable sources of energy, tax benefits, and research, development and demonstration of new technologies as well as energy efficiency. Energy Efficiency Provisions in the Act include changes to the appliance standards regime, a requirement for government energy efficiency, authorization of Energy Star and updating of test methods for automobile efficiency standards. A number of programmes are authorized but do not yet have money appropriated for them.

## *2006-2007 EGEE&C operation*

### 1. Selection of Expert Group chair

China (Li Tienan) and New Zealand (Peter Watt) expressed their interests to serve as Chair of EGEE&C for the next term. After discussion and consultation with the economies present at the meeting and between the two interested economies, it was decided that, subject to EWG approval, China will be Chair of EGEE&C starting 2006. New Zealand will be Vice-chair, and will perform some of the out-of-meeting duties for the Chair — details to be decided by the Chair and Vice-chair. The meeting also noted that it has been a practice within the Expert Group for the Vice-chair to become the next Chair when the occasion arises.

### 2. New Project Proposal Format to Comply with APEC Requirements

The Chair reminded the meeting of the streamlined procedure for producing project proposals. This requires an initial synopsis that is sufficient for EWG to use to rank the projects. Those proposals that the EWG selects to submit to BMC then have full project proposals written (in accordance with APEC project guidelines). APEC BMC usually meets in July or early August, and completed proposals are required two months in advance, because the EWG will also need a lead time of about a month to review the completed proposals. The EWG Secretariat will notify project overseers of the actual deadline when it is set.

*Open Forum (1. Current situations and new developments in your economy; 2. Subjects of particular relevance & interest to your economy)*

#### **Chile**

Chile is beginning a National Energy Efficiency Programme (PPEE), an item in next year's budget. The PPEE includes a mandatory labelling programme. The initial focus will be on refrigerators and lamps. A study investigating the possible introduction of mandatory minimum energy performance standards will also be undertaken. International exchange of experiences and information, as occurs at APEC meetings, is considered valuable for the development of such programmes.

#### **People's Republic of China**

The new information label for air-conditioners and refrigerating appliances is now fully mandatory since 1<sup>st</sup> September. 95% of products in shops carry the label. The label results in enhancing the energy efficiency of products and influencing consumer choice. Next year, clothes washers will also be required to carry a label. Cars are expected to be labelled within three years. MEPS will follow the labelling requirements. The label design is similar to the European label but with five grades.

China would like to see progress towards the harmonization of test procedures, followed by harmonization of performance levels, then of MEPS, and lastly (possibly) harmonization of the label.

#### **Hong Kong, China**

*Mandatory Energy Efficiency Labelling Scheme*

As part of ongoing efforts to promote the efficient use and conservation of energy, Hong Kong, China is consulting the public on the proposed introduction of a mandatory energy efficiency labelling scheme in order to

- (a) increase public awareness of the importance of using energy efficient products;
- (b) provide consumers with more energy-efficient products; and
- (c) provide an incentive to product suppliers to market more energy-efficient products.

At present, the Energy Efficiency Labelling Scheme is operated under a voluntary mechanism, and covers 11 types of household appliances (refrigerators, room coolers, washing machines, electric clothes dryers, compact fluorescent lamps, electric storage water heaters, electric rice cookers, dehumidifiers, televisions, electronic ballasts, and domestic gas instantaneous water heaters) 5 types of office equipment (photocopiers, multifunction devices, laser printers, LCD monitors and computers) and 1 type of vehicle,

In the initial phase of the proposed mandatory mechanism the aim is to adopt mandatory labelling requirements for three types of household appliances, namely refrigerators, room coolers, and compact fluorescent lamps. These three appliances together account for some 70% of the energy consumption in the residential sector, and they are all currently under a voluntary labelling scheme with high participation rate.

The consultation will last until the end of October 2005.

#### *Energy Saving Promotion Campaign*

Over the last couple of years, the Government has launched a series of activities to further promote energy saving and energy efficiency in the public and private sector. It started with the introduction of a four year energy saving target of 6% for all government departments, i.e. 1.5% each year using the energy consumption of 2002/03 as the baseline. In October 2003, the Hong Kong Awards for EE&C in Government was launched to encourage all government departments to take part in the energy saving drive. Such drive was further extended to the private sector through the launching, in October 2004, of the Hong Kong Energy Efficiency Awards in two of the private sectors, namely property management and schools. The energy saving competition for government is now completed, while the competition for the private sector is still on-going.

With the aim of achieving significant energy saving, all government departments have been requested to set their air-conditioning systems at 25.5°C in summer months since last year. In June 2005, the government has further promoted this temperature setting to the public through a series of activities to celebrate the World Environment Day (WED) 005. “Fresh Air, Cool City” was the local theme for WED 2005, and with the “cool city” theme, the public is recommended to set their air-conditioning systems to 25.5°C to save energy and protect the environment.

#### **Japan**

The Japanese government launched the Top Runner Program to encourage the widespread use of appliances and vehicles that are highly energy-efficient. It is based on the amended Energy Conservation Law of 1999, under which standards are set based on the efficiency level of the most efficient product commercially available in a given category. For each manufacturer, the weighted average efficiency of all units shipped within the same category

must meet the standards for that category by the time established for each category. The program also applies to importers of goods in the same categories.

On launching the Top Runner Program in April 1999, nine products were originally designated as covered by the program, with two more products following in December 1999. Then along with the further amendment of the Energy Conservation Law, seven more products were added to the Program in December 2002. Accordingly, a total of 18 products are currently designated for the Program. The expected energy conservation effects are indicated by the percentage of improvement in energy consumption efficiency in the target fiscal year in comparison with that in the base fiscal year for each product. Energy conservation effects naturally vary according to differences in model and size for each type of equipment.

In the Energy Conservation Law, it is stipulated that designated machinery and equipment must meet the following 3 requirements in principle:

1. Be widely used in Japan,
2. Require significant amounts of energy when in use; and
3. Require intensive improvement in energy consumption efficiency.

In considering the addition and expansion of designated products in the future, it is regarded as appropriate to consider types of machinery and equipment that have a significant impact on Japan's energy consumption. Therefore we place priority on products that consume the highest amounts of energy.

As a result of the recent review and discussion in the Energy Efficiency Standards Subcommittee under METI's Advisory Committee, it was advised that three more products should be added to the program since all of them meet the three principal requirements for designation. The three additional products are rice cookers, liquid crystal and plasma televisions, and digital video disc (DVD) recorders.

The Top Runner Standard is the requirement imposed on manufacturers of machinery and equipment. Thus, as long as manufacturers make an effort to meet these requirements, energy conservation will advance through replacement of machinery and equipment by consumers. Acknowledging current conditions in Japan, technical progress has been substantial for targeted machinery and equipment, and consumers are highly interested in equipment functionality. Steady progress is currently being made in the shift to products with higher efficiency.

On the other hand, due to technical advances in machinery and equipment, there may be cases in which products not targeted at the time the standards were established because they were not on the market or only on the market in extremely limited numbers crowd out conventional products and take a large market share. Standard reviews are usually required to deal with such cases.

### **New Zealand**

The Energy Efficiency and Conservation Authority (EECA) has recently started the task of reviewing the National Energy Efficiency and Conservation Strategy. The initial work is

focused on a review of work undertaken since the strategy went live in 2001 and it is intended to recommend to the Government later this year that a new strategy be developed.

The New Zealand Electricity Commission (EC), established in March 2004, includes in its mandate the promotion and facilitation of electricity efficiency and conservation. Funding of the EC's electricity efficiency programmes is derived from a consumer paid electricity levy and it is anticipated that over the next 3 years the Commission will invest NZ\$20 million in this programme.

Pilot programmes initiated by the EC include:

- *residential energy efficiency lamps*
- *residential refrigeration*
- *industrial electrical motors efficiency*
- *compressed air*

In progressing its electricity efficiency programme the EC will work closely with EECA and in this regard a Memorandum of Understanding has recently been signed by the two organizations.

### **Chinese Taipei**

Chinese Taipei reported on new development on energy efficiency and emphasized that, with the Kyoto Protocol becoming effective February 16, 2005, Chinese Taipei held its second National Energy Conference on June 20 to reach for a concerted response, even though Chinese Taipei is not a signatory economy on Annex 1 of the Kyoto Protocol. The consensus reached at the National Energy Conference is the establishment of long term prospects on Energy Policies, with more aggressive strategies and strengthened consolidation and enhancement measures on the supply side (new and renewable energy), and the demand side to further improve energy efficiency and energy conservation.

### **USA**

The United States representatives provided a brief update on several recent developments in the US concerning energy efficiency, in addition to the earlier detailed presentation on the recently enacted "Energy Policy Act of 2005."

The presentation summarized recent and ongoing activities in four areas:

1. Asia-Pacific Partnership
2. UN Commission on Sustainable Development (CSD-14)
3. State government initiatives for energy efficiency and renewables
4. Water & energy security

A set of descriptive hand-outs and a list of web sites were provided, for those interested in more detailed information.



*EWG Secretariat Report of Key Outcomes of EWG 30 [Chair]*

1. EWG 30 Summary Record Highlights

— Status of 2006 APEC-Funded EGEE&C Projects

The Expert Group has three projects endorsed by BMC:

- (a) Information Sharing on Financing Public Sector Energy Efficiency and Renewable Energy Projects (joint project with EGNRET)— \$50,000
- (b) Harmonization of Standards and Labeling for Compact Fluorescent Lamps in Order to Reduce Trade Barriers in APEC Economies — \$50,000
- (c) Government Sector Energy Management: Best-Practices Inventory and Comparative Analysis to Reduce Government Market Trade Barriers in APEC Economies — \$75,000

There are now three APEC funding sources: operational, TILF and APEC Support Fund (ASF — funded by Australia). On TILF and ASF projects, the donating economies have strong influence on whether a project is appropriate for the respective funding sources. Criteria for ASF funding are available from APEC Secretariat or EWG Secretariat. The initial amount is thought to be about A\$1,000,000 for three years.

— Facilitating EWG Pledge & Review Process

The EWG Secretariat has drawn up guidelines and a format for Pledge & Review based on suggestions from EGEE&C26, and these were endorsed by EWG. The format is basically: name of programme; the objectives; the targeted sector or sectors; the stakeholders; the source of financing; the progress; challenges and lessons learnt; and the performance indicators used. In the future, the EWG Secretariat will ask EGEE&C for comments on Pledge & Review reports before producing the consolidated report. The Guidelines and reporting format are available on [www.egeec.apec.org](http://www.egeec.apec.org).

— Key ESI Progress Related to EGEE&C

- 1) A study by Australia and Thailand, “High Oil Price Impacts on APEC Member Economies” started in June in response to high oil prices. The results will be reported to APEC Committee on Trade, Investment and Economics and to EMM7. There are some comments from other member economies on the assumptions and methods used. However, time constraints may prevent full consideration of these comments. Scenarios examined are: 1) reference case, where oil prices will return to \$55 per barrel; 2) another 30% increase on the current oil prices to 2010, and then reduce to reference case by 2015; 3) another 60% increase in oil price to 2010 and then reduce to reference case. The effects will be aggregated for high-, middle- and low-income economies. This affects EGEE&C as energy prices have an effect on the incentive to increase efficiency on the demand side. The study concentrates on oil, and does not take natural gas prices into consideration.

- 2) The project “APEC Foresighting Future Fuels Technologies” under the Industrial Science and Technology Working Group had conducted its second technology roadmapping workshop in Chinese Taipei in August. The last workshop will be held in Chiang Mai, Thailand on 3<sup>rd</sup> and 4<sup>th</sup> November. Interested economies can go to [www.egeec.apec.org/fuels](http://www.egeec.apec.org/fuels) for workshop materials.

It was suggested that EGEE&C could be looking at the effects of, and responses to, high oil prices on energy efficiency and related infrastructure, including energy subsidies. This could be the Open Forum topic for EGEE&C28.

- Recent Progress of EWG Energy Efficiency and Renewable Energy Financing Task Force

This is an EWG activity, and reported to Expert Groups via the Chairs’ participation at EWG. A notable development was to produce an “announceable” EMM7 to promote high performance buildings, looking for specific examples or projects involving single buildings or small building complexes. Next year there will be a workshop on training local financiers and cooperative agencies on the financing of energy efficiency and renewable energy projects; the workshop may be in Mexico.

2. The 3rd SCM of EMM7 Meeting Highlights and Possible Contributions from EGEE&C
  - Items for EMM7 may be passed via EG Chairs or via economy EWG representatives.

#### *Other EWG long-term energy security activities [Co-chair – Russia]*

APEC Workshop on Roadmapping Future Fuels Technologies (Chinese Taipei, self-funded) was held in Ping-Tung, Chinese Taipei on 10<sup>th</sup> to 12<sup>th</sup> August. The workshop was a joint EWG and ISTWG activity. Experts from 9 member economies attended plus speakers from EBN, APERC and EGNRET, with a total of 49 participants. Subjects included biofuels, hydrogen/fuel cells and unconventional hydrocarbons. Efforts were made to identify synergies between the three fuel types as well. Examples of technology road maps and timescales are available on the EGEE&C website. Observations from experts were that:

1. All economies will have an integrated mixed-fuel strategy and the mixture will vary;
2. Governments may be energized by public attitudes and special interests, energy price, perceived threats to health and safety and security of supply;
3. Distribution infrastructure is costly and will be developed only for major fuels; it may be most cost effective to adapt new fuels to use existing infrastructure.

Interim roadmaps will be finalized and synergies will be emphasised at the Chiangmai workshop, e.g. an integrated multi-path research strategy will be recommended, instead of putting all eggs in one basket.

#### *2007 New Project Submission and Next Meetings [Chair]*

Project ideas at this stage include:

- Russia — Efficient small-scale heat and hot water supply
- Russia — Follow-up indicators workshop
- USA — Financing new green buildings and communities

USA — High performance buildings/zero net energy buildings (perhaps in conjunction with Green Buildings Council)

China has offered to host one of the two EGEE&C meetings in 2006, subject to confirmation. One of the 2006 meetings may be held in conjunction with a meeting of EGNRET. Chair and USA are to coordinate with EGNRET chair over timing. If the joint meeting can only be held in May 2006, after EWG31, Japan, New Zealand and USA will look into the possibility of hosting EGEE&C28 in February/March time frame.

*Review and Acceptance of the Minutes*

The minutes were reviewed and accepted.

*Adjourn*

The session ended at approximately 4:46 p.m. The Chair thanked the representatives and observers for coming to Moscow, Russia for the EGEE&C 27 meeting and declared the meeting closed.

## Appendix — List of Participants at EGEE&C 27 Meeting

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