
EWG41 Summary Record

EWG41 was held in Vancouver, Canada from 9-13 May 2011. The meeting was co-chaired by the EWG Lead Shepherd Dr. Phyllis Yoshida, Deputy Assistant Secretary for Asia, Europe and the Americas in the Office of Policy and International Affairs, United States Department of Energy, and Ms. Kristi Varangu, Director, International Energy Division, Natural Resources Canada. Delegate(s) from Australia; Brunei Darussalam; Canada; Chile; Peoples' Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; New Zealand; Peru; Philippines; Russia; Singapore; Chinese Taipei; Thailand; United States; and Viet Nam attended the meeting.

Officials from the Asia Pacific Energy Research Centre (APERC); APEC Business Advisory Council (ABAC); APEC and EWG Secretariats; Expert Group Chairs on Clean Fossil Energy (EGCFE), Energy Data and Analysis (EGEDA), New and Renewable Energy Technologies (EGNRET), and Energy Efficiency and Conservation (EGEEC); and Chairs of the Biofuels Task Force (BTF), and Energy Trade and Investment Task Force (ETITF); and the Lead Shepherd and representatives from the APEC Transportation Working Group participated in the meeting.

1. OPENING ADDRESSES AND ADOPTION OF THE AGENDA

The EWG Lead Shepherd welcomed delegates and asked for a moment to reflect on the recent events in Japan. The Lead Shepherd introduced her co-chair Ms. Kristi Varangu, Director, International Energy Division, Natural Resources Canada.

The Co-Chair welcomed expert groups and delegates to Vancouver. The Co-Chair expressed thanks to the Lead Shepherd and EWG Secretariat for its work and to presenters for the workshops on the previous two days, highlighting the session on unconventional gas.

The Lead Shepherd thanked the Co-Chair for her kind welcome. The Lead Shepherd asked for comments and questions for the agenda. Chinese Taipei requested further discussion on agenda item 13a. The United States clarified that agenda item "Implementation of APEC Energy Security Initiative" should include agenda items 7-13 rather than 7-11. Without further comment, the EWG adopted the agenda.

2. POLICY DIALOGUE

2a. Dialogue Topic for EWG41: Energy and Transportation

Members discussed "Energy and Transportation." Economies stressed the topic's importance, noting transportation's share of the energy sector, technology developments, policy measures, promotional efforts, achievements, targets, and challenges for development and climate change. The APEC Transportation Working Group and Expert Groups provided an overview of the situation, focus areas,

and work conducted. The presentations were insightful and the discussions animated, but in line with EWG policy, no official record was kept of these discussions.

2b. Discussion of a topic for EWG42

Chinese Taipei proposed “Preparedness and Response of Energy Sector after Natural Disasters.” The Lead Shepherd suggested alternative wording: “Resiliency of the Energy Sector in the Face of Natural Disasters.” The EWG accepted the topic.

Actions Arising/Next Steps

The Policy Dialogue Topic for EWG42 will be “Resiliency of the Energy Sector in the Face of Natural Disasters.”

3. ENERGY WORKING GROUP MANAGEMENT AND DIRECTION

3a. EWG Medium-Term Work Plan

The EWG Secretariat asked for member comments to the EWG Medium-Term Work Plan. No comments were made.

3b. Report of APEC Secretariat on Project Procedures

APEC Secretariat, Mr. Luis Vertiz, presented the outcomes of the SOM and committee meetings held in Washington, D.C. in March 2011. He introduced and detailed criteria for pilot multi-year projects for APEC. He clarified that EWG projects including the APEC Peer Review on Energy Efficiency (PREE), APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS), and APEC Low Carbon Model Town (LCMT) Project could qualify for multi-year project funding from APEC. He reported that the deadline for pilot multi-year project proposals is August 1 of each calendar year.

He then informed the EWG about the APEC Budget Management Committee’s decisions on project funding and concept notes. The BMC has given final approval to fund eight EWG projects and has approved funding for five EWG projects in principle, assuming that concept notes are developed into satisfactory full project proposals. He then explained the details of deadlines for submission.

Projects endorsed by EWG for consideration in the first round of the 2011 APEC budget process, for which concept notes were approved funding provided, include:

- EWG 01 2011T – Engagement by APEC Economics in International “Smart Appliance” Standards for Air Conditioners and Other Appliances
- EWG 02 2011 – APEC Peer Review on Energy Efficiency (PREE), Phase 3
- EWG 03 2011A – APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS) Phase 3

- EWG 04 2011A – APEC Peer Review on Low-Carbon Energy Policies (PRLCE) Phase 1
- EWG 05 2011A – APEC Workshop on Energy and Green Transport Benefits of Electric Vehicles
- EWG 06 2011A – APEC Low-Carbon Model Town (LCMT) Forum
- EWG 07 2011A – Addressing Challenges of AMI Deployment in APEC
- EWG 09 2011A – Renewable Energy Resources in Electricity Markets: Goals and Conditions for Providing Sustainable Development

Projects endorsed by EWG for consideration in the second round of the 2011 APEC budget process, for which concept notes were approved and for which full scale proposals are needed, include:

- Operation of APEC Energy Database and Analysis
- Stock-take of Electric Vehicle Interface with Electricity and Smart Grids across APEC economies and the Potential for Harmonization
- APEC Unconventional Gas Census
- Workshop on Low-Emission Development Strategies (LEDS) for APEC Economies with a Focus on Energy and Transport
- Energy Performance Evaluation Methodology Development and Promotion in APEC Economies

Questions and Comments:

The Lead Shepherd noted the threshold for consideration of multi-year project proposals appears to be very high. She asked how many multi-year projects would be considered. The APEC Secretariat replied that two to three total pilot projects would be considered in any given calendar year. The Lead Shepherd responded that the EWG should probably choose one or two of the strongest proposals to submit for multi-year funding.

APEREC's President asked what type of additional requirements would have to be met by multi-year projects. The APEC Secretariat informed members that there are additional requirements in duration (at most 5 years), co-funding (50 percent by developing economies, 80 percent by developed economies), co-sponsoring (by half of all economies, and involvement of additional subfora (at one besides the EWG). The maximum amount of \$500,000 is cumulative for five years, but current ongoing projects' lifetime would not be counted towards the five year term.

The Lead Shepherd clarified that because multi-year project proposals needed to be submitted by 1 August, the EWG must make decisions soon on projects to submit for multi-year funding in 2011.

The United States suggested that the Energy Smart Communities Initiative could be considered as a multi-year project. EGEDA noted that its energy database could qualify as a multi-year project. APEC Secretariat reiterated that multi-year projects require another APEC group to co-sponsor.

The United States and APEC Secretariat clarified that there would be no extension for ranking projects submitted for the third round of funding in 2011, even though the EWG42 meeting will occur the same

week as the project ranking submission deadline. Consequently, the EWG will have to rank round three project submissions out of session.

Singapore commented that when submitting or going forward with projects that the APEC Secretariat considers the SOM priorities (such as Green Growth) when selecting projects.

Actions Arising/Next Steps

1. The EWG should consider and select one or two projects as a multi-year project.
2. The EWG must rank and submit proposals to the APEC Secretariat at least a week before EWG42 meeting.

3c. Report of the 26th Meeting of Expert Group and Task Force Chairs and APERC

The EWG Secretariat reported that the 26th Meeting of the Expert Group and Task Force Chairs and APERC met and discussed meetings, outcomes and ongoing and proposed projects.

3d. APERC President's Report

APERC President, Mr. Kenji Kobayashi, presented updates on APERC's publications, projects, and work program. He introduced APERC's research staff and expressed interest in hosting visiting researchers. He concluded with a request for continued support through funding or in-kind.

Questions and Comments:

Japan expressed its appreciation to APERC's work in PREE, CEEDS, PRLCE, and LCMT. Japan fully supports APERC and believes APERC's role will become more important. Japan requested member economies to continue to support APERC.

Philippines announced it will host the next PREE.

Actions Arising/Next Steps

The Philippines will host the next PREE.

3e. 2011 EWG Work Plan

The Lead Shepherd announced that she will accept comments from now until the end of the month on the EWG Work Plan. She clarified that the work plan for 2011 is largely similar to the one for 2010, but includes new projects and introduces the Energy Smart Communities Initiative.

3f. EWG Projects and the APEC Green Growth Initiative

The Lead Shepherd discussed APEC's Green Growth Initiative by APEC's Senior Officials. This includes energy intensity reduction targets, work on inefficient fossil fuel subsidies work, low emissions development strategy, making APEC economies more energy efficient, and greening electricity

generation. The Green Growth Initiative thus picks up nearly all of EWG's projects.

3g. Engagement with other Fora

The Lead Shepherd commented on the ongoing engagement with APEC's Transportation Working Group. This includes joint projects on transit-oriented development, bus rapid transit and energy efficient freight transport, as well as planning for a transport and energy ministerial conference.

EGEEEC Chair, Mr. Terry Collins, informed the EWG of its cooperation with the International Copper Association (ICA), which has sent representatives to EGEEEC and EWG meetings. ICA has expressed its willingness to assist financially and work cooperatively with EWG projects. ICA represents producers and miners of copper and has interest in high efficiency motors, equipment, and HVAC systems. The Lead Shepherd added that the ICA has approached ASEAN on supporting its projects and that EWG should consider working cooperatively with both organizations.

EGCFE Chair, Mr. Scott Smouse, stated that its project on CO2 emission reduction for fossil fuel installations would cooperate with the IEA. He added that work looking at efficiency of existing power plants, formerly of the APP Power Generation Task Force, is continuing under the Global Superior Energy Performance Partnership (GSEP). Further, work on CCS capacity building with Canada also includes the Global CCS Institute (GCCSI) and Asian Development Bank (ADB).

APEREC President, Mr. Kenji Kobayashi, highlighted ongoing cooperation with IEA on work on energy intensity reductions and fossil fuel subsidy reduction. He mentioned the potential to work with the World Bank and Asian Development Bank (ADB) on LCMT.

Singapore informed the EWG of a request to examine synergies and potential merger between the EWG and the Industrial Science and Technology Working Group (ISTWG). The Lead Shepherd explained that this was the outcome of Senior Officials' Meeting (SOM) attempts to streamline overlapping work, and that she was in contact with the Lead Shepherd of ISTWG. APEC Secretariat added that it would be a good opportunity to have joint projects.

Australia stated it had participated in a joint IEA-ASEAN emergency preparedness exercise and reported that participants found this a very useful exercise..

EGEDA Chair, Ms. Jane Melanie, mentioned EGEDA's ongoing cooperation with the IEA and added that the group has joint efforts with the UN on harmonization of energy statistics and definitions.

EGNRET Chair, Mr. Tom Lee, noted cooperation with ISTWG on renewable energy technology.

4. EWG PROJECT FUNDING 2011 – PROCEDURAL ISSUES

4a. EWG Secretariat to report on status of project proposals

EWG Secretariat reminded delegates that full scale project proposals for 2011 are due by 3 June to the APEC Secretariat for projects that the Budget and Management Committee has approved in principle and must therefore be received earlier by the EWG Secretariat. For Session 3, concept notes must be submitted by 29 September and ranked by EWG between 3 and 13 October, with full-scale project proposals are due to APEC Secretariat by 18 November. EWG Secretariat will send reminders regarding due dates for submission of concept notes and full-scale proposals by e-mail.

APEC Secretariat noted the importance and ease of completing project monitoring reports.

Actions Arising/Next Steps

The EWG Secretariat will remind members of deadlines for submitting project proposals.

4b. Members and Expert Group/Task Force Chairs present new proposals

EGNRET's Chair presented a concept note on "Best Practices in Energy Efficiency and Renewable Energy Technologies in the Industrial Sector in the APEC Region." EWG endorsed the project.

Russia presented ideas for three projects: "Revising Reliability and Safety of Energy Generating Facilities: Scientific Approach," "Piloting Smart/Micro Grid Projects for Insular and Remote Localities in APEC Economies," and "Prospects for Marine Current Energy Generation in APEC."

EGEEC's Chair, Mr. Terry Collins, announced three projects: "Impact of Residential Energy Loads in APEC"; "Impact of Electric Vehicle Recharge"; and "Demand Response Protocols in Appliances."

Questions and Comments:

The Lead Shepherd and the United States requested that Russia's micro-grid project be included in the ESCI pillar on smart grid. Russia concurred. Russia will prepare revised concept notes that the EWG Secretariat will circulate for formal endorsement.

EGNRET's Chair added that it would support Russia's project on marine energy.

4c. Members to consider and endorse any self-funded EWG projects

Chinese Taipei announced a self-funded project: "Energy Smart Communities Knowledge Sharing Platform: Phase 1." Chinese Taipei stated that an initial contribution of \$300,000 will be allocated for two activities: 1) setting up a web-based knowledge management center and development of best practices and 2) host a seminar in Chinese Taipei to enhance understanding of ESCI tasks and

consider new tasks. Chinese Taipei added that it would continue to support the phases to follow.

Questions and Comments:

The United States and Japan both supported this proposal. EWG endorsed the project.

5. NOTABLE ENERGY DEVELOPMENTS SINCE EWG40

Australia announced its Australian Biofuels Research Institute, which will focus on next generation biofuels, non-traditional feedstocks, and biofuel economics. Australia also noted its Global Carbon Capture and Storage Institute (GCCSI), which had been established to meet G8 goals in the deployment of CCS demonstration projects and recently provided 27 million AUD to eight projects worldwide.

China announced a goal to have 15 percent of its energy come from non-fossil sources by 2020. China's energy planning and strategy includes reinforced government tariffs, domestic development, and international cooperation, including LCMT and ESCI. China also detailed its plans for developing hydropower, nuclear power, wind power, solar power, biofuels, geothermal, and marine energy, with rapid growth in natural gas use to displace generation from coal plants.

Hong Kong, China reported on successful legislation for building energy codes, the status of energy efficiency labeling schemes, maintenance of an energy end-use database, incentives for promotion of renewable energies, energy saving programs in the public and private sectors, development of energy consumption indicators and benchmarks, use of liquefied petroleum gas to replace diesel in taxis, promotion of electric vehicles, and a program to conduct carbon audits of buildings.

Indonesia announced the establishment of the Directorate General of New and Renewable Energy and Energy Conservation, noting the large potential for development of geothermal energy. It also announced an integrated effort for Reducing Emission from Fossil Fuel Burning (REFF-Burn), which will promote energy efficiency technology, clean coal technology, and carbon capture and storage. The effort includes energy efficiency standards for the industrial and building sectors, a labelling system for compact fluorescent lamps, and energy efficiency awareness and training programs.

New Zealand announced that renewable energy now accounts for more than 70 percent of its total electricity generation. IEA has completed an In-Depth Review of New Zealand's Energy Policies.

Peru announced plans for development of renewable energy, including new hydropower plants.

Chinese Taipei announced a Natural Gas Enterprise Law, focused on consumer protection, facility

safety and disaster prevention. It also announced a Renewable Energy Development Act, which provides feed-in tariffs to promote development of photovoltaic and geothermal technologies.

Malaysia announced a Renewable Energy Bill with feed-in tariffs for renewable energy sources.

Japan reported on its policies on new and renewable energies in transportation, including policies and targets, incentives and promotion, and demonstration projects.

Actions Arising/Next Steps

The Notable Energy Development reports to be posted on the EWG website.

6. OUTCOMES ON APEC ENERGY SMART COMMUNITIES INITIATIVE (ESCI)

The Lead Shepherd reintroduced the Energy Smart Communities Initiative (ESCI) and discussed the four pillars- Smart Transport, Smart Buildings, Smart Grid, and Smart Jobs/Consumers which include fourteen projects. She noted the need for leadership in several of the ESCI projects.

Questions and Comments:

Japan stated that ESCI is closely related to the APEC Growth Strategy and therefore supports ESCI and welcomes member participation. Chinese Taipei echoed Japan's comment.

Indonesia stated its interest and asked if it is able to participate even without strong expertise in the project areas. The Lead Shepherd replied that it would be welcome to do so, since the purpose of ESCI is to share learnings and best practices on the topics throughout the APEC region.

Chile stated its support for ESCI and announced its interest in the Low-Energy Buildings Network.

China stated its gratitude to the United States and Japan for ESCI and added its willingness to participate in LCMT and Smart Grid. China asked for its action plans for ESCI. The Lead Shepherd answered that the coordinator for each of the project areas will develop plans.

Singapore expressed great interest. ESCI will be discussed during the Singapore Energy Week.

Thailand stated its support for ESCI and announced its leadership role in hosting the Materials Testing and Ratings Center project in Bangkok from 1-4 June 2011.

The Lead Shepherd noted that ESCI had been developed to pull together the disparate energy activities in APEC economies under a unifying framework.

Actions Arising/Next Steps

Economies will further consider participation in ESCI and consider taking on leadership roles.

IMPLEMENTATION OF APEC ENERGY SECURITY INITIATIVE

7. SHORT-TERM ESI MEASURES

7a. Joint Organizations Data Initiative

EGEDA's Chair, Ms. Jane Melanie, presented the status of JODI, newly-named the Joint Organizations Data Initiative. In terms of APEC economies' data on oil, she explained that APEC economies' submission of data was good but timeliness and completeness were poor. She added that JODI data are to be expanded to include other areas, including natural gas and perhaps coal.

Questions and Comments:

Japan appreciated JODI's value and encourages members to support JODI's activities.

The United States asked how JODI had come to expand beyond oil data and when coal and biofuel data might be included. EGEDA's Chair replied that it had been expanded because of its success and the need to expand its original goal of increasing market transparency to new areas. It may take a couple of years to assess which coal data would be feasible to collect. In principle, the data questionnaire used by EGEDA could eventually be modified to include data for biofuels.

Thailand stated that development of biofuels in Asia may take some years. Mr. Shigeru Kimura of Institute of Energy Economics, Japan stated the possibility of doing capacity building for biofuels and noted the difficulties in obtaining complete and accurate biofuels stocks data.

Actions Arising/Next Steps

EGEDA and IEEJ to consider collecting data for coal and biofuels.

7b. Real Time Emergency Information Sharing System

Mr. Shigeru Kimura of the Institute of Energy Economics, Japan, reported on the update on reporting of weekly and monthly crude oil prices. He added that after the earthquake in Japan, the RTEIS was able to provide up-to-date information.

Questions and Comments:

Japan expressed support and appreciation for IEEJ's, especially after Japan's recent earthquake.

7c. Energy Emergency Response

Thailand presented on its First Regional Emergency Response Activity workshop for APEC and

ASEAN held in Bangkok on 2-3 May 2011. The workshop was organized in cooperation with the IEA. Participants discussed oil and gas security, supply, and contingency planning. Experts and officials from Australia, Japan, New Zealand, Thailand and the United States participated.

Canada presented on its energy emergency response activities. Canada's federal government works with the private sector and with provincial and territorial governments to ensure the integrity of critical energy facilities. It also works with the United States and Mexico to protect critical energy infrastructure and conduct emergency management. Canada's contingency planning for domestic disruptions, international disruptions, and severe shortages was described.

Question and Comments:

New Zealand stated that Thailand's emergency response exercise was a great success and had a high level of engagement and expressed appreciation to Thailand for hosting.

Japan expressed the view that this initiative was successful and stressed the importance of developing capacity of emergency response through close cooperation with the IEA

7d. Maritime Security

No comments were made on Maritime Security.

LONG-TERM ESI MEASURES

8. ENERGY TRADE AND INVESTMENT

8a. Report of the 5th Energy Trade and Investment Task Force (ETITF) Meeting

The 5th meeting of the Energy Trade and Investment Task Force was held in Vancouver on 9 May 2011. On behalf of the Energy Trade and Investment Task Force, Acting Chair Mr Andrew Scally, Australia, reported on ETITF activities since EWG40, noting that lack of harmonized standards is impeding trade for a variety of clean energy products. Members discussed the Task Force's project work to date, noting the need to undertake a review of its activities with a view to ensuring it is meeting APEC Energy Ministers and APEC Leaders directives and instructions. The Chair of the Task Force, Mr Vincent Hudson, will seek EWG members' input out-of-session to help define the goals of the Task Force and to develop project proposals for EWG funding. Members were advised they will be provided with a summary record of the 5th Task Force meeting out-of-session...

Questions and Comments:

The Lead Shepherd suggested that members should seriously consider the Task Force suggestions and projects for potential funding.

8b. Projects proposed by Subcommittee on Standards and Conformance (SCSC) to Promote Trade in Energy-related Environmental Goods

The United States informed EWG members of events in this area: Energy and Transport Ministerial Conference in San Francisco, Green Buildings event in Singapore, solar events on technology, policy, and standards development at SOM III. The United States and Chinese Taipei informed EWG members on PV workshops that will be held in Chinese Taipei prior to EWG42 on 12-14 October.

9. ENERGY EFFICIENCY

9a. Progress Report including project highlights (EGEEC)

New Zealand reported on EGEEC activities on behalf of the EGEEC chair. EGEEC held a joint meeting with EGRNET in Washington, DC during SOM-I. EGEEC is cooperating with SCSC on a smart grid event at SOM II. The International Copper Association (ICA) has outlined several joint projects for which it might provide financial support. The initial phase of the Cooperative Assessment of Standards and Testing (CAST) will focus on LED lighting, with support from the Super-efficient Equipment and Appliances Deployment (SEAD) initiative of the Clean Energy Ministerial.

9b. Reports on Peer Review of Energy Efficiency (PREE) and Cooperative Energy Efficiency Design for Sustainability (CEEDS) Activities

APERC's President announced forthcoming PREE in Indonesia (10 Oct 2011) and Singapore (later). He also announced that CEEDS Phase 3 will focus on energy-efficient urban passenger transport, with an initial workshop on 14-16 September following the Energy and Transport Ministerial Conference and a follow-up workshop in Singapore in March 2012.

PEER Review of Energy Efficiency in Peru

APERC President presented the PREE in Peru report. He reviewed the team members, APERC's energy efficiency research activities in Peru, domestic energy efficiency policy and data in Peru, and highlighted its 51 recommendations for policies, targets, and various sectors for Peru.

Questions and Comments:

Peru expressed its gratitude to APERC for its work. Peru outlined its efforts on energy efficiency policies and plans, including an Energy Efficiency Center, and stated the PREE recommendations would complement such activities. Peru added that it is working on several issues contained in the recommendations made by the team of peer review, such as designing a plan of action, issuing regulation for labelling, efficient lighting programs, conducting a study of energy plan of long run to be finished by next September, among others. Peru recognized it has several opportunities for improvement, will make its best effort to achieve the objectives, and would appreciate any offers of

cooperation from APEC economies to help it do so.

Japan welcomed the offer from the Philippines for becoming candidate for future PREE project and stated its support for PREE and CEEDS activities and encouraged economies to conduct PREEs and participate in CEEDS workshops

The United States inquired on Peru's interest in conducting a follow-up PREE. Peru replied it is already working on the recommendations made by the team of peer review. APERC appreciated Peru's openness and active energy efficiency activities. APERC added that it is open to conducting PREEs and follow-up PREE. Thailand is seriously considering PREE recommendations, especially in the transport sector and APERC hopes it is interested in attending the Transport and Energy Ministerial Conference and hosting a follow-up PREE. Thailand stated its interest in scheduling a follow-up PREE. Peru stated its intent to work hard to implement recommendations but needs help and national cooperation to implement recommendations.

APERC and Indonesia discussed some of the recommendations regarding energy goals, which had found constraints because of access issues for low-income people. Peru mentioned an example of efficiency measures focused on low-income people: the development of domestic biogas digesters in rural areas to generate gas from waste, for cooking or heating.

Peer Review of Energy Efficiency in Malaysia

APERC's President reported on the PREE in Malaysia and highlighted its 41 recommendations.

Questions and Comments:

Malaysia said their Minister had developed seven actions in response to the recommendations:

- 1) discuss transport sector efficiency improvements with the Ministry of Transportation;
- 2) strengthen the Energy Efficiency Ministry of Malaysia;
- 3) establish inter-ministry agency to promote energy efficiency;
- 4) create effective implementation and verification system to promote energy efficiency;
- 5) explore electricity generation efficiency;
- 6) establish inter-ministry committee on energy efficiency standards and low carbon standards;
- 7) retrofit government buildings, retrofit government center to develop low-carbon cities.

9c. Presentation on Collaborative Assessments of Standards and Testing (CAST),

Strengthening APEC Energy Standards Information System (APEC-ESIS)

The United States presented on the Collaborative Assessments of Standards and Testing (CAST) and the Energy Standards Information System (APEC-ESIS). The Cooperative Labeling and Appliance Standards Program (CLASP) will continue to systematically collect APEC-ESIS data on a new web

platform with funding from the Super Efficient Appliance Deployment (SEAD) initiative of the Clean Energy Ministerial. CAST will focus initially on light-emitting diodes (LEDs), cooperating with a project on LEDs approved for APEC funding and led by Australia. Future appliances for CAST will be selected in cooperation with SEAD so that APEC and global initiatives are synergistic.

Questions and Comments:

Japan stated that this work should be coordinated with EGEEEC and SCSC to be done efficiently. The United States confirmed that this has been the case so far and is certainly intended going forward.

9d. Progress on Energy Intensity Reduction Assessment

APERC's Vice President, Mr. Ralph Samuelson, presented progress on energy intensity reduction assessment. He discussed questions on how to define energy intensity, including whether it should be based on final demand or on primary energy demand, and proposed using a "final energy plus" definition, which would include final energy demand plus transformational losses from fossil fuel use. APERC models have projected reduction potentials between 2005 and 2030 of 38-40 percent for business as usual, 42-43 percent for cautious implementation of current pledges, and 47 percent to limit global average temperature rises to 2 degrees Celsius. Preliminary results indicate that potential reduction by 2035 (versus 2030) could exceed 50 percent in the last of these cases.

Questions and Comments:

The United States expressed its appreciation for the compromise on definition and development of 47 percent target and requested APERC examine the further intensity reductions that might be achieved, using the "final energy plus" definition, if coal were phased out more rapidly than in the IEA's 450 ppm case through the accelerated development of unconventional gas resources.

Chile expressed that before taking further decisions on this matter, it is necessary to know the methodological basis for the different scenarios in more detail. Furthermore, it will be important to develop a monitoring system for the different economies, as well as for APEC as a whole. Finally, Chile wondered if APEC members should decide on goals for individual economies or if we will maintain a regional goal".

Thailand stated that each economy has different levels of development and has the right to develop; therefore, Thailand stated it would be difficult to pledge to any number but would do its own best to improve energy efficiency. Thailand added that domestic policies were altered in response to the current 25 percent goal and asked how we know that the goal won't change again. The United States replied that because we could easily reach 25 percent, it is worth considering higher goal, but that a 50 percent goal seems as far as the APEC economies could go. APERC added that in its business-as-usual case, energy intensity reduction potential is 38 percent; so if member economies

feel they can go beyond business as usual, perhaps EWG should consider a higher goal. Thailand replied that APEC is a diverse group and should ask individual economies for its targets and then make an APEC wide target. The United States agreed that APERC should consider intensity reduction potential for individual economies as well as APEC wide. APERC noted that its “Pathways” report lists goals by each APEC economy which, if met, would result in achieving a 42-43 percent goal APEC-wide. APERC also stated that energy intensity is calculated as the ratio energy demand to GDP, which allows growth in developing economies.

EGEDA asked APERC to provide results region by region. APERC agreed.

China and Thailand asked for clarification on the definition of “final energy plus” and asked for help in understanding the assumptions. APERC stated that “final plus” does not consider efficiency losses from nuclear, geothermal and non-fossil sources, which models arbitrarily set at different levels. With the “final plus” definition, intensity reduction potential would be close to 50 percent.

Singapore, Indonesia, Philippines also expressed concern about whether reduction of energy intensity could impose limits on economic growth. APERC reiterated that energy intensity is calculated as the ratio of energy demand to GDP, which allows growth in developing economies.

EGNRET’s Chair suggested clarifying intensity vs. emission and definition of final energy demand.

New Zealand expressed appreciation for APERC’s analysis and agreed that the increased use of renewables should not adversely affect the calculation of improved energy intensity, as would happen if geothermal resources were assumed to have just 10 percent conversion efficiency.

Actions Arising/Next Steps

APERC will clarify definitions and assumptions in the “final energy plus” energy intensity reduction scenario and provide energy intensity reduction data and projections by region.

10. NEW AND RENEWABLE ENERGY

10a. Progress report including project highlights (EGNRET)

EGNRET’s Chair reported on the joint meeting with EGEEC on 28 February – 2 March. He then discussed new and renewable technology for transportation, specifically electric vehicles and alternative fuel vehicles, alternative fuel guidelines, and sustainable biofuel development. He offered an update on potential renewable energy cooperation with International Copper Association. Chinese Taipei will host the next EGNRET meeting, which will discuss advanced metering infrastructure and a conference on microalgae research. EGNRET recently completed projects on addressing interconnection issues in order to maximize new and renewable energy sources and on using smart

grid to enhance use of energy efficiency and renewable energy. A new project has been proposed to do a stock take of electric vehicle interface with electricity and smart grid.

10b. Report on APEC Low Carbon Model Town Task Force

Japan presented on the APEC Low Carbon Model Town (LCMT) Project. Two study groups will be developed: one to elaborate the LCMT concept, the other to perform policy review of the target town based on the technical analysis.

A representative from the Nikken Sekkei Research Institute presented the “APEC LCMT Project Feasibility Study Phase 1 at Tianjin Yujiapu Low-Carbon Commercial Business District.” He detailed the study’s objectives and scope of work, as well as key aspects of the low-carbon town concept such as carbon reduction, urban planning, and low-energy building design guidelines.

Questions and Comments:

Japan asked economies to nominate low-carbon cities for evaluation through the LCMT project.

APERC President stated the Task Force Japan is drafting a 1st Draft Concept of the Low-Carbon Town which will be distributed to LCMT Task Force members for comments. In the context of ESCI, APERC appreciates the work done to create information sharing network.

China expressed its appreciation to Japan and APERC for their efforts on LCMT. China added that local and regional governments, coordinators and liaisons for LCMT, university, industry, and researchers are involved and have interest in the project. China has selected nine cities for low carbon development. China expressed its interest in exploring the potential of cooperation with ESCI and complimented Chinese Taipei for sponsoring ESCI’s information sharing platform.

Chinese Taipei stated it is encouraging to see APEC’s energy cooperation, especially with LCMT and ESCI, highly supports Tianjin Yujapu LCMT project, and plans to host LCMT seminar for sharing the outcomes at EWG42.

The United States suggested that after developing details on the aspects of buildings, transport and smart grids in low carbon model towns, APERC should create a screening questionnaire for potential low carbon model towns that economies nominate and compile a list of such towns.

Thailand asked if after selecting a potential low carbon model town, must Thailand use Japanese consultants or can it select outside consultant? Japan replied that the Nikken Sekkei was chosen after it had competed with others in an international open tender in accordance with the rules and procedure described in the Guidebook on APEC Projects. Thailand’s choice would also depend on an open

tender. The APEC Secretariat reiterated that all APEC projects above \$50,000 go to open bidding by the Secretariat.

The Co-Chair added that cooperation between ESCI and LCMT is helpful and promising.

10c. Presentation on APEC Smart Grid Initiative

The United States presented on the APEC Smart Grid Initiative's survey results. The United States detailed the four elements for the initiative: survey of smart grid potential, roadmap, test bed, and smart grid interoperability standards. The United States then described the results of the survey and related smart grid projects and activities in APEC, including its inclusion as ESCI projects.

The United States then presented the results of the recently completed self-funded study on "Using Smart Grids to Enhance Use of Energy Efficiency and Renewable Energy Technologies." The report is based on survey responses by 16 economies. The project survey asked economies about their familiarity with the concept, technologies, standards, institutional and policy questions. The report discusses challenges to smart grid deployment and identifies five areas of potential activities related to policy goals, education, roadmap, interoperability, and methods and workshops.

Questions and Comments:

Thailand asked what the difference is between the APEC Smart Grid Initiative and ESCI. The United States responded that the ESCI smart grid activity is growing out of the smart grid initiative.

11. ALTERNATIVE TRANSPORT FUELS

11a. Progress report including project highlights (Biofuels Task Force)

The Biofuels Task Force Chair presented a brief update on the Task Force activity. A study on transportation infrastructure options is approaching completion by late May 2011. A study of algal biofuel resource potential has gotten underway, and an outreach workshop is being planned.

Questions and Comments:

Japan stated support for Task Force work on second generation biofuels from non-food sources.

11b. Joint Meeting of High-Level Energy and Transport Officials

The United States presented an update on plans for the Transport and Energy Ministerial Conference. Proposed themes include the transportation vision for the future, energy-efficient urban passenger transport, energy-efficient freight transport, and alternative transport fuels. Comments on the agenda, background paper and action items were requested within two weeks.

Questions and Comments:

The Co-Chair, Ms. Kristi Varangu, requested more information on the other meetings surrounding the Energy and Transport meeting. The United States replied that by next month finalized agendas should be distributed.

Actions Arising/Next Steps

The United States will send out meeting information and invitations to economies.

12. CLEAN FOSSIL ENERGY

12a. Progress report including project highlights (EGCFE)

EGCFE Chair, Mr. Scott Smouse, presented on EGCFE activities since EWG40. He presented a completed project on study of improving efficiency of existing power plants. He then presented on ongoing projects on case studies for public education, implementation of CO2 emissions reduction technologies, CCS capacity building, and permitting issues on CCS for power plants in developing APEC economies. He outlined potential topics on for the APEC Unconventional Gas Census project, including survey of economies' gas resources and regulations and a workshop to present results.

Questions and Comments:

Chinese Taipei expressed its appreciation for the EGCFE's case studies on public education on LNG.

Japan stated its belief that coal will continue to play an important role in electricity generation, so EWG should encourage cleaner use of coal and CCS.

12b. Report on Unconventional Gas Development

Canada summarized the Unconventional Gas Workshop earlier in the week, which focused on North American, and global shale gas potential, natural gas regulation in the Canadian province of British Columbia, gas developments in Indonesia, and LNG in Australia.

12c. Presentation and Discussion on Fossil Fuel Subsidy Reduction

New Zealand explained the importance of work to understand fossil fuel subsidies and ways to reduce them. New Zealand presented four initiatives on the topic:

- 1) EWG work to identify best practices in APEC economies for phasing out inefficient fossil fuel subsidies while protecting the poor, in response to APEC Leaders' directive;
- 2) EWG/IEA research project on the economic benefits of eliminating fossil fuel subsidies, to add assessments for APEC economies that were not included in work already carried out in the G20;
- 3) Senior Official policy dialogue on reducing and eliminating inefficient fossil fuel subsidies at SOM III in San Francisco in September 2011; and

4) technical workshop on margins of EWG42 in October 2011 to discuss research results. New Zealand proposed a voluntary mechanism for reporting measures to reduce or income-focus fossil fuel subsidies through the EWG and developing recommendations for the Senior Officials Meeting and expressed interest on economies' comments on the paper distributed.

Questions and Comments:

Thailand expressed its gratitude to New Zealand for its presentation. Thailand stated it uses natural gas and fossil fuel subsidies but that subsidy is a tool for energy security for certain sectors.

EGCFE noted that bidding for the best practices work would close on 20 May 2011. The objective will be to develop case studies on efforts to reduce subsidies or focus them on the poor.

Chinese Taipei asked for a quantitative definition of inefficient fossil fuel subsidy.

China expressed its gratitude to New Zealand. While China does not intend to eliminate subsidies for development of new green energy such as LCMT and smart grid, it hopes to phase out inefficient fossil fuel subsidies that encourage wasteful consumption and carbon emissions.

Canada asked what kind of delegates the United States was seeking for the fossil fuel subsidy meeting in San Francisco. The United States replied that it would be informational for SOM delegates and would be designed as a high-level educational and policy discussion.

13. OTHER LONG-TERM MEASURES

13a. Nuclear Energy

The United States presented a brief update on the Nuclear Power Emissions Reduction Potential Study (NUPERPS) to examine the potential of nuclear power to reduce carbon emissions.

Japan presented an update on the aftermath of the nuclear accident in Fukushima. Japan discussed the damage caused by the earthquake and subsequent tsunami, the status of the nuclear reactors in Fukushima, key challenges in cooling down the reactors, containing the spread of radioactivity, the roadmap towards restoration, and provisions for rigorous and intensive monitoring.

Chinese Taipei expressed its admiration for Japan's courage and thanks for its help in 1999 during its earthquake. Chinese Taipei introduced the APEC Nuclear Safety and Nuclear Disaster Prevention Initiative. Chinese Taipei detailed nuclear safety's prominence, APEC's existing and important responsibility, proposed suggestions to promote cooperation in nuclear safety within APEC and with other organizations, and next steps if suggestions are accepted.

Questions and Comments:

APEC Secretariat stated to have more cooperation between working groups with the Emergency Preparedness Working Group would be helpful.

Russia stated the importance of nuclear energy to its economy and added the disaster is not a reason to abandon nuclear power but to reassure technologically and safety.

Korea supported Chinese Taipei's proposal.

Indonesia stated that emergency preparedness should not just affect nuclear but oil and gas, coal mining and asked to seek cooperation with other APEC organizations. New Zealand and Philippines echoed Indonesia's concern and stated if it is able to cooperate with other organizations.

Singapore stated that it should not duplicate work from other organizations and seemed incredible for APEC EWG to not mention anything in statement for leaders and perhaps come together to support IAEA work.

The United States expressed support for IAEA's work and possible EWG cooperation with the IAEA.

The Lead Shepherd added that the EWG does not have the technical competency to address the issue as an APEC initiative, but EWG should be aware of it and work with IAEA as appropriate.

Actions Arising/Next Steps

1. Chinese Taipei will discuss the potential to cooperate with other organizations.
2. The Lead Shepherd will talk to IAEA to discuss potential cooperative activities.

13b. Hydrogen and Fuel Cells

No presentations were made.

13c. Methane Hydrates

No presentations were made.

13d. Petroleum Infrastructure

No presentations were made.

13e. Offshore Oil and Gas

Australia presented a brief overview of the industry, discussion response, commission of inquiry report, and government response of the Montara Incident.

Members were informed that in response to this event, and the need to promote energy security and environmental benefits, the Australian Government is sponsoring an international offshore petroleum regulators and operators summit which will be held from 10-11 August 2011, in Perth Western Australia. The summit will seek to promote international collaboration on best practice regulatory arrangements, incident response and environmental management. The summit will also seek information from industry on R&D innovation and industry culture/leadership

Registration for the summit is at www.ret.gov.au/iop

Full documentation from the Australian Montara Incident and subsequent inquiry are available at: www.ret.gov.au/montarainquiryresponse

The United States presented on oil spill that occurred in the Gulf of Mexico in 2010, focusing on causes, aftermath, results, and policy changes.

Questions and Comments:

Thailand stated that it supports Australia's recommendations.

13f. Natural Gas Trade

EGEDA's Chair presented an update on progress in collecting APEC gas data. For the most part the timeliness and completeness of gas data from APEC economies are good and continue to improve.

14. CONCLUDING BUSINESS

The Lead Shepherd announced the document access will be published on the web and the summary record will be distributed soon after the meeting.

Chinese Taipei announced EWG42 will be held at Kaohsiung, Chinese Taipei, at the Ambassador Hotel Kaohsiung from 17-21 October 2011. EWG42 will be immediately preceded by LED lighting and PV workshops in Taipei, Chinese Taipei, from 12-14 October 2011.

Hong Kong, China expressed its gratitude to Chinese Taipei for hosting EWG42 and added that the APEC Workshop on Energy and Green transport Benefits of Electric Vehicles would be organized in Hong Kong on 24-25 October 2011.

The Lead Shepherd, in accordance with SOM rules, proposed Russia as the Deputy Lead Shepherd. Russia expressed its gratitude and announced that it will host the tenth APEC Energy Ministers Meeting (EMM-10) in Saint Petersburg, Russia in June 2012.

The Lead Shepherd thanked Canada for hosting. The Co-chair expressed gratitude to members attending and looked forward to EWG42 in Chinese Taipei. The meeting was then adjourned.