



Energy Working Group

EWG 49
Gyeongju, Republic of Korea
22-26 June 2015

EWG49 Summary Record

The 49th meeting of the Energy Working Group (EWG) was held in Gyeongju, Korea, from 22-26 June 2015. EWG Lead Shepherd Dr. Phyllis Yoshida, Deputy Assistant Secretary for Asia and the Americas, U.S. Department of Energy, co-chaired the meeting with Mr. Joo Youngjoon, Director of Energy and Policy - Division, Ministry of Trade, Industry and Energy Delegates from Australia, Canada, Chile, Japan, Republic of Korea, Malaysia, New Zealand, the Philippines, Russia, Chinese Taipei, Thailand, and the United States attended the meeting. Additional participants included the APEC and EWG Secretariats; officials from the Asia Pacific Energy Research Centre (APEREC); APEC Sustainable Energy Research Center (APSEC) via phone; and Chairs, or their representatives, from the Expert Groups on Clean Fossil Energy (EGCFE), Energy Data and Analysis (EGEDA), Energy Efficiency and Conservation (EGEEC), New and Renewable Energy Technologies (EGNRET), and the Low-Carbon Model Town Task Force (LCMT TF).

1. Opening addresses and Adoption of the Agenda

Lead Shepherd Yoshida thanked Korea for their hospitality, introduced the new APEC Secretariat liaison, Ms. Penelope Howarth, and welcomed representatives from the International Energy Agency (IEA), who participated in the meeting as observers. Mr. Youngjoon welcomed the delegates and noted the important work of the EWG in responding to energy and climate change challenges including energy efficiency, renewable energy, low carbon development and other key areas. Mr. Youngjoon briefly described Korea's recently completed long-term plan for electricity supply and demand through 2029, including goals to decrease coal generation with an increased focus on renewable energy.

2. EWG Management and Direction

a. APEC Secretariat Report

Ms. Penelope Howarth, EWG Program Director at the APEC Secretariat, briefed on recent changes in the APEC project proposal process to be reflected in the revised Guidebook on APEC Projects (11th edition) to be released by the end of June. She reviewed changes in project funding, including a new sub-fund on mining and a sub-fund to support activities under a new initiative on urbanization established under the SOM Friends of the Chair.

Members noted that it would be important for the Urbanisation Friends of the Chair to take full account of the work on sustainable urbanization already underway in EWG.

The EWG had great success with 18 projects approved for funding in Session 1. Ms. Howarth stressed that concept notes should reflect how the project proposals support regional integration and build upon previous work.

b. EWG Secretariat Report

Ms. Karen Alozie, the EWG Secretariat, rolled out a new internal project proposal process that will increase the vigor of EWG proposal reviews through a two-step process. Concept notes will be submitted first through the relevant expert groups, and then reviewed by the full EWG membership and scored at EWG meetings. This process will help ensure that projects are aligned with the Ministers' and Leaders' goals and priorities and the EWG Strategic Plan. The new EWG project process is posted on the EWG website.

3. Notable Energy Developments since EWG48

- **Chinese Taipei** described its new energy savings and electric grid project with a budget of \$100M, encouraging local city governments to set their own energy savings benchmarks and targets to achieve energy efficiency savings.
- **Japan** noted that its draft power generation mix plan for 2030, the first published since the Fukushima disaster, is still undergoing public comment. The goals of the plan includes decreasing electricity costs, lowering greenhouse gases by 26 percent (from 2013 levels) and pursuing an energy mix of 20-22 percent nuclear, 22-24 percent renewable, 27 percent LNG, 26 percent coal, and 3 percent oil. Japan also noted the LNG Producer-Consumer Conference to be held on 16 September in Tokyo. Moreover, Japan introduced new APEC initiative for enhancing quality of electric power infrastructure which was launched June 2015.
- **Australia** described various developments in energy policy and markets with the release of a new energy white paper on 8 April. The plan aims to achieve competitively priced and diversified energy sources while keeping prices low. Australia also noted its national energy productivity plan that targets 40 percent improvement in energy productivity through energy efficiency measures, wide energy market reforms, and an increase in the renewable energy target from 13.5 percent in 2014 to 23 percent by 2030.
- **New Zealand** reported on its energy trends, noting that gas has been overtaken by geothermal and coal was overtaken by wind power—both without subsidies or incentives for renewable energy generation. New Zealand hosted the World Geothermal Congress held in April 2015, which showcased New Zealand's geothermal expertise. An Asia-Pacific Leaders Forum will be held in Wellington in March 2016 co-hosted by Business New Zealand and the World Energy Council focused on "Financing Resiliency in Energy Infrastructure."
- **The Philippines** described a number of efforts that contribute to the renewable energy goal, including 664 renewable energy projects awarded in 2015, increased solar installation targets, four new wind farms in operation in 2014, the launch of the Wind Energy Resource Atlas in collaboration with the US NREL and USAID Philippines, including a study on fuel energy mix policy to maintain renewables at 30 percent through 2030.

- **Thailand** described its oil and gas plans to reduce dependence on imports and increase efficient use of these resources; its energy efficiency development plan to reduce energy intensity by 30 percent by 2036 through the removal of subsidies; an alternative energy plan with a goal of reaching 20 percent renewables by 2036; and a power development plan including promotion of smart grids.
- **The United States** announced the release of the Quadrennial Energy Review in April that assessed U.S. energy transmission, storage and distribution infrastructure, with a roadmap for addressing challenges related to transformations in energy supply, markets, and patterns of end use; aging and capacity issues; impacts of climate change; and cyber and physical threats.

4. Policy Dialogue: Sharing Best Practices on Building Efficiency

- **Malaysia** presented on energy regulations and financial incentives that promote efficient utilization of energy. Examples include tax exemption on expenses incurred to obtain the Green Building Index (GBI) certification, policies for setting the temperature to 24°C in government buildings along with a mandatory 5 percent reduction in electricity, energy audits and retrofit projects, low energy and green energy office models, and guidelines on low and no cost measures to promote energy efficiency.
- **Korea** described tax exemptions to building owners for implementing efficiency measures and various policy measures to reduce energy use, including implementing building codes and standards; Korea also noted that 580,000 houses have been certified as eco-friendly since 2009.
- **The United States** described several ongoing efforts to improve energy efficiency in commercial and buildings, including the longstanding Better Business Alliance and Better Buildings Challenge, efforts to improve energy efficiency in data centers, promoting the ISO 50001 standard through the Superior Energy Performance™ (SEP) certification program, a the Better Buildings Residential Program and Home Performance with ENERGY STAR Program, and student programs that build the next generation of designers and engineers.
- **The Philippines** noted several efforts underway including a study conducted with Lawrence Berkeley National Laboratory on planning and design of energy efficient building codes, energy labelling for household appliances, energy audits, and various awards for substantial savings in energy consumption.
- **Canada** described federal measures for energy efficiency including the ecoEnergy Efficiency for Buildings program, the Federal Buildings Initiative with investments to improve energy efficiency, implement building codes, provide training and new guidelines for retrofitting buildings, and federal energy efficiency building upgrades.
- **Australia** noted its role as co-chair of the IPEEC Building Energy Efficiency Task Force, with projects including energy rating schemes and several opportunities for international collaboration on energy codes and efficiency metrics.

5. APEC Centers Activities and Data Analysis

a. APERC President's Report

APERC President Takato Ojimi provided an update on ongoing activities that support the goals of energy intensity reduction and doubling renewable energy by 2030. The 6th Edition of the APERC Energy Demand and Supply Outlook report will be published in the spring of 2016, along with topical studies on barriers to shale development, geothermal development and benefits of electricity interconnection in Northeast Asia are nearing completion. Mr. Ojimi highlighted the 30 cooperative programs conducted since 2007, with roughly five peer reviews and/or other activities under Low-Carbon Model Town Project and Oil and Gas Security Initiative each year.. APERC currently has 25 research staff, of which 16 are visiting researchers, and activities are fully funded by Japan. Mr. Ojimi made an appeal for financial assistance from other economies. Japan expressed its appreciation to APERC's efforts towards the APEC energy intensity goal and enhancing energy security, and to the continued support from all Member economies and the EWG Secretariat for their activities. Japan also encouraged Member economies to consider financial assistance for APERC. New Zealand suggested research on clean technologies that could help address the renewable energy goal, such as molten salt storage, linkages to transport and electric vehicle charging requirements. Mr. Ojimi noted the limitations of current funding and staff levels, and suggested that clean technologies could be a research area appropriate for the newly established APEC Sustainable Energy Center.

b. APSEC President's Report

Dr. Zhu Li, President of APEC Sustainable Energy Center (APSEC), participating by teleconference, presented developments of the newly created Center supported by the government of China. The vision of the center is "to become an internationally renowned think-tank in the field of energy with widespread and far-reaching influence on the sustainable development of Asia Pacific and the globe". Research areas will cover energy planning and strategy development, clean fossil fuel, energy saving and energy efficiency, new and renewable energy, smart grid and electric power development, and energy environment and climate change. The primary research programs for the first five years will focus on clean coal technology transfer and sustainable city development, with primary activities focused on developing a Strategic Partnership Program and a Knowledge Network on Sustainable Energy. Delegates congratulated China on setting up the center and focusing on issues such as clean coal technologies, but voiced some concern about possible duplication of activities with ongoing efforts under the Low Carbon Model Town Task Force, the Knowledge Sharing Platform, the Expert Group on Clean Fossil Energy, sustainable cities efforts under the Friends of the Chair, and other activities. APSEC will seek to complement ongoing work and plans to hold a workshop in September in Tianjin to discuss the work program and organization of the Center.

c. EGEDA Chair Report, including JODI

The EGEDA Chair, Mr. Shigeru Kimura, briefed on various data collection activities related to energy supply and demand, CO2 emissions, energy price data, renewable energy, energy efficiency, and other statistics. Mr. Kimura reviewed continued progress in implementing JODI, though he noted that two economies have not provided data on JODI Oil and JODI

Gas, and a few economies have provided incomplete data. EGEDA is providing energy statistics training to help build capacity in APEC economies. A long-term trainee from Brunei Darussalam will be arriving in August and the next EGEDA meeting will be hosted by Chinese Taipei in early September. Finally, Mr. Kimura announced his retirement. Member economies thanked Mr. Kimura for his excellent support to the EWG through his leadership in EGEDA.

6. Progress on Cross-Cutting APEC Energy Smart Communities Initiative (ESCI)

a. Progress on Knowledge Sharing Platform

Dr. Chern of Chinese Taipei and Alon Abramson of the University of Pennsylvania gave updates on the ESCI workshop and the ESCI Knowledge Sharing Platform (KSP) and encouraged all economies to submit information on relevant projects through the KSP website. They also announced the deadline for submissions to the 2015 Best Practice Awards by 31 July, 2015. Five finalists will be asked to submit a self-assessment by 20 September, and two winners will be selected for each category, which will be announced at the 50th meeting of the EWG.

b. Progress report on Low Carbon Model Town Task Force

Mr. Shobu Nagatani, Chair of the Low-Carbon Model Town Task Force (LCMT TF) briefed on LCMT activities, noting that feasibility studies for five cities have been conducted to date. He summarized the LCMT Phase 4 study for San Borja, Peru, and site visits to Australia, New Zealand and Chile as part of LCMT Phase 5 to help revise the Low Carbon Model (LCM) concept and help refine the LCM indicators. He mentioned that nominations of cities for Phase 6 of the project which eligible cities are low carbon development plans in cooperation with neighboring cities will open in July, and the final selection will be announced at the APEC Energy Ministerial Meeting in October 2015. Both the Philippines and Russia proposed cities in their economies for consideration under the Phase 6. He also noted that considering the progress of the LCMT Project so far, the current LCMT Project will be moved into a next stage in order to disseminate LCTs in the Asia-Pacific region by the end of next year.

7. Emergency Response

a. APEC Emergency Measures Progress Report (Japan)

Japan and APERC provided a progress report on emergency measures undertaken in the APEC Oil and Gas Security Initiative (OGSI), including an Oil and Gas Security Exercise (OGSE) to be held in the Philippines in December 2015, publication of a newsletter, and the 1st forum that was held in April 2015 under the Oil and Gas Security Network (OGSN). Various research topics under the Oil and Gas Security Studies (OGSS) will be published as well.

b. Energy Emergency Response in Host Economy (Korea)

Korea noted its heavy dependence on oil exports, particularly from the Middle East, and provided an overview of its Oil Stockpiling Policy with a public stockpiling goal for more than 60-days and private sector stockpiling for 30 days. The stockpiling strategy is shifting

from a static to a dynamic approach, to include fuel swaps, in order to reach this goal economically and efficiently.

8. Energy Efficiency

a. EGEEC Progress Report

A representative for the new EGEEC Co-Chair, Mr. Li Pengcheng, provided an update on the recent meetings of the expert group, leadership changes, ongoing projects, and upcoming activities to promote energy efficiency. New projects include efforts on lighting design centers, regional capacity building on implementing the ISO 50001 standard, and a nearly net zero energy building project.

b. Report on Peer Review of Energy Efficiency (PREE) Activities

APEREC presented a summary of activities related to Peer Review in Energy Efficiency (PREE). A trial Energy Efficiency Policy workshop was conducted in March 2015 in conjunction with EGEEC 45 in Singapore and a follow on workshop will be held at the first meeting of EGEEC in 2016. A follow-up PREE is planned for August 2015 for Thailand focusing on the transport sector. Japan expresses his appreciation to Thailand for accepting the Follow-up PREE and encouraged member economies to continue to actively participate in future activities.

c. Progress Toward Energy Intensity Reduction Goal

Dr. Yoshida noted that Energy Ministers will seek a progress update on the status toward meeting the 45 percent energy intensity reduction goal by 2035, and encouraged expert groups to do gaps assessments for achieving this goal. She also encouraged EWG Members to propose relevant projects, coordinated with through the expert groups, focused on achieving this goal. EGEEC will seek to conduct a gaps assessment of energy efficiency activities at the next EGEEC meeting in Cebu in early September. APERC is also continuing its studies on reaching this goal, and noted that the 6th edition of the Outlook report will highlight options, measures and policies needed to reach this reduction goal.

9. New and Renewable Energy

a. EGNRET Progress Report

Mr. Keng-Tung Wu, EGNRET Secretariat, provided an overview of the recent group meetings, ongoing projects, and new proposals on new and renewable energy. Noting that solar photovoltaic (PV) systems will key in meeting the Leaders' renewable energy goal, the April EGNRET meeting focused on a "Strategy and Roadmap for PV Systems in Each APEC Economy." A representative from IRENA also attended the meeting. EGNRET has completed 16 projects since 2013 and has 4 ongoing projects. In addition, 7 EGNRET concept notes were approved in-principle for Project Session 1 of 2015. New proposals include a long-term reliability study of PV systems on islands, best practices for developing green energy smart farms, a strategy for large-scale implementation of biogas capture from palm oil mill effluent and reuse for renewable electricity generation, and a workshop on the establishment of a cooperative network of sustainable cities.

Chinese Taipei proposed a new “Green Energy Finance Initiative” to be included in the Energy Ministerial Declaration to support progress toward the energy efficiency and renewable energy goals. While several economies support the idea, Dr. Yoshida noted that a literature search should be conducted to gather information in this area as there are a number of initiatives already underway.

b. Report on Peer Review of Low Carbon Energy Policies (PRLCE)

APEREC gave a brief update on the Peer Review on Low Carbon Energy Policies (PRLCE) program, noting that Phase 3 of the review will be completed in Viet Nam in September or October 2015. Japan expressed his appreciation to Viet Nam for its efforts toward undertaking the PRLCE and invited other member economies to participate in the project to advance low-carbon energy policies in the APEC region

c. Next Steps Toward Achieving Renewable Energy Goal

Members discussed steps for reaching the Leaders’ goal of doubling renewable energy by 2030. EGNRET noted the lack of a common definition for renewable energy across organizations, particularly regarding traditional biomass and large hydro. EGNRET plans to develop a roadmap in collaboration with other APEC subgroups, IRENA and other organizations to help fill the gaps for reaching the renewable goal. The roadmap should help promote renewable energy in APEC economies with different renewable energy capacities. In addition, a monitoring system and reporting mechanism needs to be developed to help track progress toward this goal. EGNRET will continue to share best practices, will consider the U.S.-proposed work plan for collaboration between APEC and IRENA, and will discuss other measures at the next EGNRET meeting.

10. Clean Fossil Energy

a. EGCFE Progress Report

Dr. Scott Smouse, Chair of EGCFE, provided an overview of the recent activities related to clean and fossil energy. He noted that clean coal technologies and policies were reviewed for Indonesia and Thailand, and reviews for Philippines and Vietnam are being considered. A recent workshop held in Mexico reviewed CO₂ for enhanced oil recovery, carbon capture and storage capacity building, and coal-fired power plants efficiency. Dr. Smouse also noted an ongoing energy-water nexus project for the coal power sector, with the next phase of the project to include a workshop on energy-water nexus issues. Japan mentioned that the EGCFE seminars have not been held since the 18th seminar on February 2012 although host economies for the 19th and 20th seminars were already decided and Japan would like to cooperate with EGCFE members to hold the seminars smoothly.

The Lead Shepherd indicated that EWG (including all of its sub-fora) would need to make greater efforts to disseminate information about its activities and achievements publically, with POs and Expert Group Chairs particularly requested to prepare inputs for publicity materials upon the conclusion of major reports in future

Chinese Taipei announced its LNG Trade Facilitation Workshop to be held in July, which is the first meeting since the Leaders' endorsed this initiative.

b. Progress on Inefficient Fossil Fuel Subsidy (FFS) Reduction Activities

Han Wenke, Professor of the Energy Research Institute, NDRC, China reported on the results of New Zealand's peer review completed in March 2015. Of the 8 measures reviewed, 4 relate to the supply of oil and natural gas in the form of an off-shore drilling tax exemption, tax provisions for petroleum-mining expenditures, a petroleum tax and royalty regime, and R&D funding for the oil industry. Of the 4 remaining measures, two relate to assistance to the State-owned Solid Energy with financial restructuring and indemnity for mining and land rehabilitation; and the other two measures relate to fossil fuel consumption through a motor spirit excise duty refund and funding for oil stockpiles under international treaty obligations. The team of experts did not consider any of the eight measures to be inefficient subsidies that encourage wasteful consumption; however, the team provided recommendations for the government to periodically monitor certain measures.

New Zealand briefed on the process of undergoing the peer review and highlighted the objectives and benefits of the review, including increasing transparency and accountability, facilitating a policy dialogue to share experiences and policy tools related to fossil fuel subsidies, the opportunity to seek external expert advice and evaluating the efficiency of these measures, highlighting good practices, and building political awareness of issues around reform. Key lessons learned for future peer reviews included ensuring broad stakeholder engagement early on, and allowing sufficient time to collect relevant technical data for the expert team with sufficient time for their review. New Zealand plans to present the findings of their review to Ministers.

c. Updates on Domestic Fossil Fuel Subsidy Reform

- **The Philippines** announced that it will host a fossil fuel subsidy peer review the last week of October 2015 and welcomed expert volunteers among EWG Member economies.
- **Chinese Taipei** mentioned that it seriously considering volunteering for a peer review in the near future.
- **New Zealand** noted the Fossil Fuel Subsidy Reform (FFSR) Communiqué being circulated by the Friends of FFSR in the lead up to COP21 in Paris and proposed that APEC consider including endorsement of the Communiqué as part of the Energy Ministerial Declaration in October.
- **Thailand** in an update noted that it is still subsidizing ethanol.
- **The United States** in an update reported that their President continues to propose the elimination of U.S. fossil fuel production subsidies in the form of tax preferences through his annual budget proposal, noting that their elimination requires Congressional legislation to repeal the provisions within the U.S. tax code.

11. Discussion of 2015 APEC Energy Ministerial

As APEC host, the Philippines briefed on its planning for the 12th Energy Ministerial Meeting (EMM-12) to be held in Cebu, Philippines in October. The theme of the meeting is “*Towards an Energy Resilient APEC Community*” with subthemes focused on climate-proofing energy infrastructure, cutting-edge energy efficiency technologies, energy access to poverty stricken areas, and improving energy trade and investment. The Philippines also tabled a draft of the Cebu Declaration for initial review and comment by EWG members by July 15. . Japan emphasized that in order to ensure quality of energy infrastructure, not only resilience to disaster, which is the main theme of the EMM-12, but also lifecycle cost and environmental impacts should be taken into account and the EWG should play a leading role in advancing quality of electric infrastructure development in the APEC region

Lead Shepherd Yoshida emphasized the importance of sharing success stories to demonstrate the range of accomplishments of the EWG efforts to date, particularly in this 25th anniversary year, and encouraged Expert Groups and EWG Members to submit more success stories for the Ministerial meeting.

12. Other Issues

a. Energy Resilience

Related to the Ministerial theme on energy resiliency, the Philippines has asked the IEA to consider ways to collaborate with the APEC EWG on this topic and requested the IEA’s Misako Takahashi to give a presentation on energy sector resilience. Ms. Takahashi described some of the IEA’s activities and capabilities for assessing natural disasters and emergency response preparedness activities related to oil and gas security. She welcomed collaboration with APEC and proposed sharing IEA’s expertise and best practices with APEC economies. Given the variety of efforts related to energy resiliency and the importance

of this issue for the APEC region, the Lead Shepherd proposed the establishment of a new Task Force on Energy Resiliency to help bring these ideas together in a meaningful way. One economy proposed that the Philippines take the lead of this task force.

b. Date and Location of Next Meeting

The Lead Shepherd noted that Mexico will be unable to host the 50th meeting of the EWG and sought volunteers among Member economies to consider hosting the next meeting. Updates on the dates and location will be provided once a new host is secured.

Dr. Yoshida thanked Korea for their hospitality and for organizing a very productive meeting. The meeting was adjourned.