



**Asia-Pacific
Economic Cooperation**

2013/EWG45/031
Agenda Item: 13c

Summary Record of EWG44

Purpose: Information
Submitted by: EWG Secretariat



45th Energy Working Group Meeting
Koh Samui, Thailand
20–21 March 2013

EWG44 Summary Record

The Energy Working Group 44th Meeting was held in Washington, DC in the United States on 5-9 November 2012. The EWG's Lead Shepherd, Dr. Phyllis Yoshida, Deputy Assistant Secretary for Asia, Europe and the Americas, Office of Policy and International Affairs, U.S. Department of Energy, chaired the meeting. Participants included delegates from Australia; Brunei Darussalam; Canada; Chile; the Peoples' Republic of China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; New Zealand; Philippines; Russia; Singapore; Chinese Taipei; Thailand; the United States; and Viet Nam. In addition, representatives from the Asia Pacific Energy Research Centre (APEREC); APEC and EWG Secretariats; Expert Group chairs including the chair of the Expert Group on Clean Fossil Energy (EGCFE), Energy Data and Analysis (EGEDA), and New and Renewable Energy Technologies (EGNRET); and chairs of the Energy Trade and Investment Task Force (ETITF) and Low Carbon Model Towns Task Force (LCMTTF) participated in the meeting.

1. OPENING ADDRESSES AND ADOPTION OF THE AGENDA

Dr. Yoshida welcomed the participants to the EWG44 meetings. She outlined the accomplishments and goals for the year, including implementation of instructions from the Energy Ministers and Leaders. She noted the success as well as challenges in completing more projects than any other APEC working group. She also stressed the need to continue the high quality of the EWG-led projects and to remain focused on key goals to advance sustainable energy technologies across the APEC economies.

The Lead Shepherd opened the floor for comments and the meeting agenda was endorsed by all members.

On the second day, David Sandalow, Assistant Secretary of Policy and International Affairs and the Acting Under Secretary for the U.S. Department of Energy, was the guest speaker. Assistant Secretary Sandalow expressed his support for APEC and thanked the participants for attending the meeting in the United States during a hectic Presidential Election. He described the U.S. Presidential election process and the results while outlining the American democracy system and the peaceful transition of power. He noted that the DOE has played an important role for decades, funding and facilitating the shale gas production process and looking to the future, we see the benefits of those efforts today. He also highlighted that the United States is keen to working with partners- public and private- in developing and transitioning the transportation system to a lesser carbon intensive system via natural gas, electric vehicles, cellulosic ethanol, and hydrogen powered vehicles. He added that modernizing the electric grid via Smart Grid technology is a priority.

2. ENERGY WORKING GROUP MANAGEMENT AND DIRECTION

The APEC Secretariat reviewed the 2012 APEC Leaders' Declaration on "Strengthening APEC Energy Security; Continue to improve sustainability, efficiency, predictability and transparency of energy markets" APEC Priorities and tabled the full report. In the Declarations' Annex B APEC Leaders agreed in the following focus areas and objectives were highlighted in the presentation:

- Issued a declaration on *Strengthening APEC Energy Security: Continue to improve sustainability, efficiency, predictability and transparency of energy markets.*
- Need for joint actions to prevent the negative impact of carbon emissions and strengthen energy security by promoting cleaner energy sources.
- Promote low-emission energy supply, including carbon capture and storage, and biomass.
- Facilitate a transition to a lower energy economy.
- Increase share of natural gas in the energy mix.
- Evaluate production, trade potential and environmental impact of shale gas.
- Promote steady investment in energy infrastructure.
- Improve the response to oil and gas emergency situations.
- Safe and secure use of nuclear energy as a clean energy source in interested economies.
- Share expertise, best practices and coordinate emergency response and preparation.
- Implement the APEC Transportation & Energy Ministerial Conference goals for more efficiency in transportation: rail, more fuel efficiency vehicles, electric-drive vehicles.
- Rationalize and phase out inefficient fossil-fuel subsidies that encourage wasteful consumption and report annually using the voluntary reporting mechanism.
- Develop an action plan to reduce APEC collective energy intensity by 45 percent by 2035.
- Promote regional cooperation on trade and environmental matters.
- Support deployment of new technology.
- Improve safety and reduce traffic congestion and emissions. Continue to share updates on policy approaches.

In addition, the Secretariat reported on the concept notes approved in session 3 a few weeks prior to the EWG 44th meetings.

Nine out of the twelve project proposals highlighted in the presentation were sent and were, in principle, approved. Now project proponents are sending the full proposals to APEC secretariat for quality review to get APEC funds.

Additionally, dates are still being negotiated and are subject to change:

- Concept notes submission and notification: Feb. 15- March 21
- Full project proposals due April 15-22. Final dates TBD.

Mr. Jim Wallar of Nathan Associates has been retained by the APEC Senior Officials to work with the various working groups to develop strategic plans. He provided general information and a proposed structure to consider for developing a Strategic Plan for the WG. He focused on the need to make best use of resources and to identify key elements such as vision, mission, objectives, activities, SMART milestones and focused deliverables. EWG should form a focused team to draft plan/outline and circulate it to the membership for input.

2b – APERC PRESIDENTS’S REPORT - Takato Ojimi

Mr. Ojimi provided an update and outlook of APERC’s activities, and outlined the approach in three pillars:

- 1) Energy demand & supply outlook-5th edition is underway--expected to be published in Jan/Feb 2013.** *It provides a 25-year look-ahead (2010-2035). Last edition stopped at 2030.*
 - a. 2 parts – 1) APEC-wide projection for various sectors, 2) outlook for each economy
 - b. It will cover the business as usual scenario and 3 alternative scenarios: high gas (considering shale gas revolution and change of policies that allow for more production), better urban planning (different patterns of urban planning with efficient emissions and consumption), and virtual clean car race (electric cars, fuel cell electric vehicles, and technology to reduce energy consumption). These 3 scenarios should help future energy planning policies.
- 2) Annual event – APEC Energy Overview.** It’s an annual publication with updated energy and supply data and energy policy information with notable energy developments.
 - a. The 11th edition is currently available (2011).
 - b. 2012 editions will be published in March 2013.
- 3) Cooperative Projects: PREE, CEEDS, PRLCE & LCMT**
 - a. 2007 – Declaration to reduce energy intensity by 25% by 2030. Economy by economy approach and industry/sector by sector approach.
 - b. Regionally oriented projects started in 2010.
 - c. PREE-9 Philippines just completed.
 - d. Follow up PREE-1 – Viet Nam just completed the follow-up review.
 - e. PRLCE-1 – endorsement and approval process by Thailand.
 - f. LCMT-2 – Samui, Thailand
 - g. PRLCE-2 – Philippines
 - h. CEEDS Phase 4 – Thailand and Chinese-Taipei
 - i. CEEDS Phase 4 – Chinese Taipei

Japan noted that in order to achieve the goal of reducing energy intensity by 45% by 2035, APERC needs to further enhance energy efficiency work. Japan expects that the role of APERC will become more important and appreciates the continuing support by member economies and EWG. Currently Japan is the only economy providing funding for APERC but encourages other economies to consider providing financial support. Japan would like to consider a way to streamline APERC’s activities in

these limited financial and fiscally challenging times, and would appreciate a concrete proposal from the APEC EWG on this issue.

The current list of APERC staff includes researchers from 10 economies. APERC welcomes discussion other economies that might want to have researchers participate. APERC Budget – Japan (and Australia for a few years in the past) has given generous donations over the years. Strongly encourages financial donations.

The budget has suffered reductions going from \$700 million—highest budget in the past—to about half. EGEDA's meeting held last October identified the need for fair balance between research activities and cooperative projects, and the need of prioritizing and streamlining of APERC activities.

3: EWG PROJECTS:

Russia:

- Building Energy Smart Communities by Promoting Energy Cooperative Business Model—the challenges include the need to provide access to electricity for 1.6 billion people who don't have electricity.
- Access to electricity has two dimensions – energy infrastructure and economic ability (energy poverty).
- On the physical infrastructure end, energy poverty being high in the Far East (rural areas are 5 times poorer than urban centers) there is a need for government support and local government assistance.
- Cooperative viable business models to introduce advanced energy technologies such as renewable energy to remote areas are needed. In addition, since the U.S. is a leader in energy cooperatives so Russia would like to explore best practices from this U.S. business model.

Project Rationale:

- 1) Limited access to energy in remote areas and islands with abundance of unexplored renewables stress local (off-grid, decentralized) energy development
- 2) Distributed energy
- 3) Engage local communities

Project Objectives:

- 1) Share best practices
- 2) Understand energy cooperative as a smart business model
- 3) Pilot projects of local community-based cooperatives
- 4) Contribute to the APEC Energy Smart Communities Initiative

Chinese Taipei:

Renewable Energy Options for Reducing Carbon Emissions: a proposal to exchange information and promote geothermal energy.

- 1) Two-day workshop in Taipei – exploration, engineering, energy conversion of geothermal systems.
- 2) Side tour – understand local capabilities and possibility of collaboration on exploring geothermal energy
- 3) There are 4 cosponsoring economies.

3c. APEC Transportation Working Group (Canada)

- The goal of transportation activities is to achieve liberalization, and facilitate transportation and trade across the Asia-Pacific region. Therefore, cross-collaboration is important and reaching out to other working groups and committees is a big priority. The EWG is one of the stakeholders with which the Transportation Working Group is actively seeking for information sharing and collaboration opportunities.

Key areas:

- 1) Strengthen transport's role in a clean future – emphasis on APEC green growth initiative, and the action agenda from Transportation and Energy Ministerial Conference. Could form a subgroup on intermodal and intelligent transportation.
- 2) Continue collaboration on transport and energy issues:
 - a. three new transportation working group projects approved: 1) air traffic management emissions reduction, 2) energy efficiency – air/water, and 3) international shipping. These topics can lead to further collaboration.
 - b. Research project in Canada on energy and transportation – estimate emissions capacities for ocean going vessels. Will seek views and endorsements from APEC.
 - c. Developed an implementation work plan (a living document).
- 3) Power low carbon future.
- 4) Create a green supply chain for freight.

The EWG acknowledges the need to do more in many fronts and the Expert Group on Energy Efficiency is also working with the Committee on Trade and Investment; this is a good example of cross-collaboration.

Canada:

Canada is interested in a joint project between EWG & the Transportation Working Group entitled: *Developing a Common Methodology for Ocean-Going Vessels* – Angelina Ermakov.

Background/justification:

This proposal is in direct support of the APEC Transportation and Energy Ministerial Conference Action Agenda to Strengthen Transportation's Role in a Clean-Energy Future; to power low-carbon transport; and to green the supply chain- energy efficient freight transportation.

Current Context:

- The methodology is to measure carbon emissions intensity of commercial routes in the Asia Pacific.
- Proposal seeks to hold workshops, link energy use and emissions in transportation, develop emissions and energy use allocation criteria, and test the methodology. It is not designed to set up a new data collection process, but will only use data from a sample of ocean going-vessels on a specific pilot route. The choice of the route will be decided in the workshops.

Key outcome:

- Improve shippers' ability to measure vessels' energy and emission intensity, and find opportunities to improve both and to reduce fuel costs.

Main outputs:

- Two workshops with various stakeholders-identify methodology, assess emissions intensities, publish a final report to APEC Transportation Working Group and Energy Working Group.

Proposed Approach and Timeline:

- Asking for EWG endorsement—Canada will in early 2013 submit the proposal to the APEC Budget and Management Committee.

Chinese Taipei noted concerns about the potential impact on trade if the cost of transport increases as a result of emissions control and the desire to reduce carbon footprint in the region. Canada explained that this effort was not aimed at setting up a new emissions control area (like the one established last year in North America). Canada is not trying to promote or establish regulations to confine shippers to use one type of fuel either. Rather it is looking at current emissions in current routes and to identify more efficient ways to load ships, route ships and save fuel. At the end of the day, the shippers will benefit from reduced use of fuel.

The goal is to finish the project by December 2014. It could, however, expand to include more links of the supply chain after they have done the first part. It could look at the complete supply chain from manufacture to customer in the future. Canada decided to go with ocean going vessels because 9 out of the 10 busiest ports in the world are in the Asian Pacific region. Marine shipping is very important to the region.

It was also noted that although the WG has looked at transportation, smart grid, buildings and work force issues – 4 major energy efficiency areas, they have yet to look at the freight area as much as the Transportation Working Group. The EWG acknowledged that the project provides a good opportunity to collaborate and had no objections to the proposal.

4. APEC LEADERS MEETING

The update was provided by Ryan MacFarlane - U.S. Department of State who discussed the meetings hosted by Russia in early September, including the Leaders' Meeting. The main themes of the Leaders' Meeting were:

- 1) regional economic integration trade and investment facilitation
- 2) food security
- 3) reliable supply chains
- 4) fostering innovative growth

Some of the specific outcomes included:

- A list of environmental goods to reduce their tariffs by 5% or less by 2015 was developed and agreed upon in 2012. Some of the goods include: renewable and clean energy technology, air pollution control, solid and hazardous waste, environmental monitoring and assessment equipment, and water pollution technology.
- Next generation trade issues - continue to work on innovation policy and a 2013 set of implementation guidelines and practices in terms of non-discriminatory and market based innovation policy.
- 2012 new innovation – model transparency and due process in policy across the region, discuss possible ways to promote job creation to enhance and not distort trade, establish reliable supply chains. This is a more holistic approach to address choke points.
- No export restrictions on food which can distort international market prices. Confirmed fair and open markets – policy partnership on food security.
- Innovative growth – Russia led an effort to increase engagement with the private sector. The Innovation, Science and Policy Working Group to intensify scientific and technology cooperation.
- Women in the economy— APEC is losing up to \$40B in collective GDP because of social barriers that hinder women's access to capital, markets, leadership skills and capacity building.

In terms of energy specific items, it called for:

- 1) Promoting an innovation technology dialogue on nanotechnology in energy efficiency and policy steps to promote the use of nanotechnology — science and education policy, access to equipment and expertise, intellectual property, and information exchange.
- 2) Strengthening APEC energy security.
 - a. Continue work on sustainability, efficiency, predictability and transparency in existing markets.
 - b. Increase use of natural gas.
 - c. Assess the impacts of shale gas.
 - d. Identify natural gas liquefaction facilities.
 - e. Promote safe and secure use of nuclear power, and coordinate emergency response.

- f. Promote CCS and renewable energy sources.
- g. Address energy efficiency and sustainable transport – rail, fuel, electric vehicles.
- h. Phase-out inefficient fossil fuel subsidies that encourage wasteful practices and support a voluntary reporting mechanism.
- i. Develop an Action Plan to achieve aggregate energy use reduction of 45% by 2035.

It was noted that these directions can help APEC economies formulate future proposals.

Russia added that the Declaration adopted at the conclusion of the summit touched upon energy. The Russian chairmanship did not identify energy as one of the key priorities, but the issue was discussed early in the year as a cross-sector issue. APEC energy security is in the latest APEC declaration.

In early September, at the APEC Foreign Ministers meeting, they underlined the importance of improving energy efficiency. Ministers also noted the importance of the sustainable use of natural resources and cross border pollution, renewable energy use, and mitigation of climate change.

5. RESULTS OF THE 10th APEC ENERGY MINISTERS MEETING (EMM-10) IN RUSSIA

APEC Energy Ministerial Meeting, June 2012: St. Petersburg Declaration – Energy Security: Challenges and Strategic Choices (available on the APEC official website). The key topics included:

- Energy security is a major concern. Encourage the EWG and APERC to work in collaboration with the International Energy Agency and the Association of the Southeast Asian Nations on activities to improve the response to oil and gas emergency situations in the APEC region, including emergency response workshops and exercises.
- Be aware of Annex B – Strengthening APEC Energy Security – in the APEC Economic Leaders' Declaration, Sept 2012
- APEC Leaders agree to promote activities to improve the response to oil and gas emergency situations in the APEC region.
- The 1st APEC Oil and Gas Security Forum will be held in February 2013 in Tokyo. It includes a security exercise (case study) with 2-3 economies. The 2nd APEC Oil and Gas Security Forum will be held in Spring 2014.

6. POLICY DIALOGUE:

A Policy Dialogue was held on Natural Gas. The discussion began with a presentation titled “US Natural Gas Import/Export Regulatory Process, Exporting LNG: Permitting & Economic Analysis” by the U.S. Department of Energy. Other economies conveyed their views on the global situation for natural gas trade, especially the need to develop a way to deal with emergency shortages, its role as

a cleaner transition fuel, its importance for industrial production, and possible changes in pricing mechanisms.

Additional Discussion:

The Russian Federation gave a presentation on “*Global Trend: Electric Power System Integration.*” It focused on the possible benefits of greater integration such as while Russia faces power deficits in winter, China faces power deficits in summer. There is a potential to export/import power from respective economies to minimize deficits when loads are low/high. There are also day/night benefits such as a busy day in Russia with high power demand, while it is night in China with low power demand. Additional benefits include more reliable power supply, lower electricity costs to consumers, and reduced environmental impacts. Russia proposed a project focusing on case studies that could provide recommendations for developing a more integrated power grid, including appropriate regulations.

Chinese Taipei gave an update on the Energy Smart Community Initiative (ESCI) and its Knowledge Sharing Platform (KSP). Launched in November 2010 by U.S. President Obama and Japanese Prime Minister Kan, it has four pillars: smart buildings, smart transportation, smart grid and smart jobs, and a cross-cutting initiative on low carbon model towns. KSP is a central repository for case studies and technology related to the 4 pillars and low carbon model towns, and a useful tool designed to inspire collaboration between economies. ESCI will support actions that will contribute to APEC’s policy of 45% reduction of energy intensity from a 2005 base by 2035.

Japan and Thailand gave a progress report on the Low Carbon Model Towns Task Force that was agreed upon by Ministers in June 2010. The detailed feasibility study for Samui Island, Thailand was presented. The next study will be of Da Nang City, which is 1 of the 5 biggest cities in Vietnam, population 950,000.

United States gave a presentation on the U.S. Energy Emergency Response Program which includes two emergency response programs: 1) a strategic petroleum reserve (est. 1975, 727 million barrels), and 2) a northeast home heating oil reserve. The mission of the SPR is to help ensure energy security by reducing impacts of potential disruption in U.S. petroleum supply. The presentation included many details about the reserve itself, distribution, appropriate use, and other facts.

7. STATEMENTS ON NOTABLE DEVELOPMENTS

APEC member economies submitted statements on notable developments since the Energy Ministers’ Meeting in Russia. These were: Thailand presented its SPR policy and ethanol promotion;

Singapore released its most recent energy statistics; China reported on progress on the Low Model Carbon Town in Tianjian, China; Hong Kong presented its work on electric vehicles and charging stations; New Zealand on geothermal technology; Chinese Taipei on its new guidelines for its energy mix of natural gas, renewables, nuclear, coal, and higher EE standards; Japan presented its newly released a report on “Innovative Strategy for Energy and Environment”; Australia talked about its carbon pricing mechanism; Indonesia its feed-in tariff; and Malaysia its rooftop solar initiative and its new amended energy efficiency regulations.

9. SHORT –TERM ESI MEASURES:

9a. EGEDA:

EGEDA reported on its activities and progress on APEC energy data collection including:

- The 24th EGEDA annual meeting was held on 10-12 October 2012 at Jeju Island, Korea
- Capacity building workshops were held in Korea; Hong Kong, China and Chinese Taipei
- Regular publications such as the APEC Energy Statistics 2010 and APEC Energy Handbook 2012 were released
- The 11th APEC energy statistics workshop will be held in January 2013

JODI data collection

- Oil- 20/21 economies submitted data
- Gas- 18/21 economies submitted data
- There are still issues on confidentiality and incomplete monthly data submissions from several economies.

Review of JODI events

- The 13th International Energy Forum was held on 13-14 March 2012 in Kuwait City, Kuwait
- The 2nd Gas Data Transparency Conference was held on 22-23 May 2012 in Doha, Qatar
- The revised JODI oil manual was released through the IEF website.

Next JODI event scheduled

- The 3rd Gas Data Conference will be held in May or June 2013, location TBD, possibly in Bali and will include the evaluation of Beta version of global gas data.

9b. Real Time Emergency Information Sharing System (RTEIS)

It includes data on oil prices and the newsletter:

- Weekly- WTI, Brent, Tokyo-Dubai
- Monthly- crude oil prices/ several petroleum products
- Newsletter- May, July, September 2012 were released.

10. ENERGY TRADE AND INVESTMENT

- Australia, as head of the Task Force, presented information on the APEC list of environmental (green) goods and services, agreed upon at the Leaders' Meeting. It produced a list of 54 goods and services that will have no more than a 5% tariff. The purpose is to:
 1. Reduce barriers
 2. Increase transparency
 3. Need for predictability of energy policies
 4. What is/will be the policies for green technology

Chinese Taipei presented background information on LED lighting workshop Taipei hosted in October 2012

- They are confident that LED is important for efficiency, and want to share LED best practices with APEC and refine an LED strategy for standardizing products.
- Need to set international standards of LED testing and measurement to help strengthen consumers confidence, reduce costs, and to reduce trade barriers.

Malaysia noted that plans and projections for renewables will not be effective if there are high tariffs, and Thailand added that tariff barriers inhibit standardization. The United States expressed support for the development of international standards which will facilitate innovation and competition.

12. NEW AND RENEWABLE ENERGY

12a. Progress Report Including Project Highlights (EGNRET)

The Chair of EGNRET reported that the EGNRET has met once since EWG43. The EGNRET 38th meeting was held on June 18 to 20, 2012 in Wellington, New Zealand. In addition to the meeting, the APEC Electric Vehicle Connectivity Workshop 2012 was held alongside the meeting on June 20, 2012 at Te Papa Tongarewa Museum of New Zealand, Wellington. Financial Incentives for Promoting New and Renewable Energy in APEC Member Economies was discussed in the meeting, because after the nuclear accident in Japan, accelerating the promotion of renewable energy is one of the most important tasks in APEC Economies. Current financial incentives, e.g., Feed-In Tariffs (FITs), Renewable Portfolio Standards (RPS), Tax Credits, Loan Guarantees, etc., may have changed to support the new promotion target of new and renewable energy.

Also, the upcoming EGNRET 39 meeting will be held in Shanghai, China from December 11 to 14, 2012. In addition to EGNRET 39, an APEC project workshop on distributed energy will be held alongside the meeting on December 13 -14 with a 1-day site visit. The elections will be also held at EGNRET 39 for the positions of Chair and Vice-Chair for 2013-2014 term.

The EGNRET Chair noted that the EGNRET has a variety of projects underway to facilitate use of renewable energy technologies in the APEC region. Currently the EGNRET is implementing 8 projects on AMI (advanced metering infrastructure), electric vehicle (EVs), smart/micro grid, marine current energy, physical energy storage and re key technologies for low carbon town, etc. For funding in Session 3, 2012, 5 new projects were in-principle approved by BMC, and full project are being developed. A self-funded project "2013 APEC Workshop on Geothermal Technology" led by Chinese Taipei was submitted for endorsement (see Agenda Item 3: EWG PROJECTS).

The EGNRET Chair also summarized the EGNRET Works in 2012. During 2012, the EGNRET was focus more on smart grid, AMI, and EVs, which are directly related to the APEC ASGI. The EGNRET was also strengthen collaboration with APEC other fora, e.g., LCMT Task Force, Biofuel Task Force

(BTF), EGEEC, Industrial Science and Technology Working Group (ISTWG), and some projects, e.g., Peer Review on Low-Carbon Energy Supply (PRLCE) and PREE supported by APEC Asia-Pacific Energy Research Centre (APEREC). According to suggestion by the Lead Shepherd at EWG 43, 3 EGNRET members were invited to join the review team of the first PRLCE event in Thailand In May, 2012. Moreover, collaborated with EGEEC, a roadmap for the successful implementation of new and renewable energy and energy efficiency system in the industrial sector of the APEC region is expected to be established by end of this year.

12b. Progress within APEC's Smart Grid Initiative. – The United States presented the status of the survey of smart grid status, test beds, standards, roadmaps led by United States, Korea, and Chinese Taipei, and the recently released a report on potential of smart grid in APEC economies. Roadmap development is underway working with ISGAN and ESCI.

12c. Peer Review Report on Low Carbon Energy

- The objective of the PRLCE is to assist APEC economies in promoting low-emission power sources (RE, nuclear, CCS) by providing recommendations from APEC experts. Thailand hosted PRLCE in May 2012 with a focus on alternative energy development plan on solar, wind, biomass/biogas. The review team provided policy recommendations on: accreditation for engineers, consistencies among policies especially those that encourage clean development projects. The final report including these recommendations was approved.
- The Philippines will host 2nd PRLC November 2012, with a focus on feed-in tariffs for renewables.
- The workplan for PRLCE Phase 2 includes plans to assist two additional economies develop low carbon energy supplies. Economies are invited to host, and to actively participate.

13. ALTERNATIVE TRANSPORT FUELS

No report.

14. CLEAN FOSSIL FUEL

The Chair of the Expert Group on Clean Fossil Energy presented a progress report that included:

- i. CCS capacity building is still needed for industry and government officials. Workshops covering cradle-to-grave information are needed.
- ii. CCUS. The “U” for “use” is important. CCS is expensive, but if CO₂ is used in EOR to increase production of oil/gas, it lowers cost of CCS, brings oil to market, and provides a storage option for CO₂.
- iii. China is running a project to maximize the energy efficiency and clean utilization of low rank coal (high ash and moisture content), and find efficiencies in transport.

- iv. The Unconventional Gas Census is evaluating potential for unconventional gas (shale, tight, CBM), and China will host an unconventional gas expert workshop probably in early 2013.
- v. A clean fossil energy technology and policy seminar is scheduled for May 2013 in Kuala Lumpur, Malaysia.

15. OTHER LONG-TERM MEASURES

- i. **Inefficient Fossil Fuel Subsidy Reduction:** New Zealand discussed benefits of inefficient fossil fuel subsidy reduction (energy security, climate change, and economic impact). It is important to improve transparency around subsidy support mechanisms and to give a sense of which support mechanism will be eliminated. The Voluntary Report tabled by New Zealand covers: OECD inventory producer support, consumer and general support, historical reform of CNG/LPG policies, evolution of the oil and gas mining tax regime, and lessons learned from reform. Thailand summarized its report. It is only subsidizing LPG. It noted that if a subsidy were provided for too long, it would create market distortion and be heavy burden for the government. Canada summarized its developments: it eliminated tax preferences for producers as reported to the G20. Subsidy reduction began in 2011, will phase out in 2015. Vietnam provides subsidies for electricity producers but is recommending restructuring these State-Owned Enterprises. The United States provided a list of subsidies and noted that consumer subsidies are targeted to aid low income households to cover essential energy services needed to be protected. Brunei reported on its electricity tariff. It has changed tariffs to be more progressive, penalizing those who use a lot of electricity but protecting low income households. The Lead Shepherd thanked those economies that reported and urged the others to do so also at future meetings. There will be another workshop and possibly a new opportunity for interested economies to get assistance in updating or doing their inefficient fossil fuel subsidies assessments.
- ii. **Nuclear Energy:** Chinese Taipei has begun a nuclear disaster prevention initiative. It is grateful for APEC's support.
- iii. **Hydrogen and Fuel Cells:** The United States reported significant progress is being made in fuel cell technology. DOE funded R&D has demonstrated a reduction cost of fuel cells from \$275 per kWh to \$41 (more than 80% reduction) in less than 10 years.
- iv. **Methane Hydrates:** The United States is collaborating with many countries. One project is with Japan onshore in Alaska.

16. OTHER BUSINESS

The EWG 45 meeting will be held on Samui Island, Thailand March 18-22, 2013.

A new sequence for who hosts future EWG meetings is needed as the previous one is almost done. The beginning of the new list for future meetings is below. As usual, an economy is welcome to trade hosting if a particular meeting for which it is scheduled will not work or an economy wants to host earlier in the schedule.

EWG45	March 2013	Thailand
EWG46	Second Semester 2013	Vietnam
EWG47	First Semester 2014	Mexico
EWG48	Second Semester	Papua New Guinea
EWG49	First Semester 2015	Republic of Korea
EWG50	Second Semester	People's Republic of China
EWG51	First Semester 2016	Australia
EWG52	Second Semester	Russia Federation
EWG53	First Semester 2017	Singapore
EWG54	Second Semester	New Zealand
EWG55	First Semester 2018	Hong Kong, China
EWG56	Second Semester	Peru
EWG57	First Semester 2019	Philippines
EWG58	Second Semester	Chile
EWG59	First Semester 2020	Indonesia
EWG60	Second Semester	Japan
EWG61	First Semester 2021	Brunei Darussalam
EWG62	Second Semester	Canada
EWG63	First Semester 2022	Chinese Taipei
EWG64	Second Semester	Malaysia
EWG65	First Semester 2023	United States
EWG66	Second Semester	Thailand
EWG67	First Semester 2024	Vietnam