



DRAFT FINAL EWG34 SUMMARY RECORD

The 34th Meeting of the APEC Energy Working Group (EWG) was held in Hong Kong, China from 3-7 September 2007. Mr John Griffiths, Acting Lead Shepherd, and Mr Stephen Chan Deputy Director, Electrical and Mechanical Services Department, Government of Hong Kong Special Administrative Region, co-chaired the meeting.

Delegates from Australia; Canada; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; New Zealand; Peru; Singapore; Chinese Taipei; United States and Viet Nam attended the meeting.

Representatives from the Asia Pacific Energy Research Centre (APEREC); Energy Business Network (EBN); APEC and EWG Secretariats; Expert Groups on Energy Data and Analysis (EGEDA), New and Renewable Energy Technologies (EGNRET), Clean Fossil Energy (EGCFE), Energy Efficiency and Conservation (EGEEC); Chair of the APEC Biofuels Task Force (BFTF) and the Energy Efficiency and Renewable Energy (EE & RE) Financing Task Force; and a representative from the Renewable Energy & Energy Efficiency Partnership (REEEP) also participated in the meeting. A list of participants is at **Attachment A**.

1. Opening Addresses by the Co-Chairs of the Meeting and Adoption of the Agenda

The Acting Lead Shepherd thanked Hong Kong, China and welcomed delegates to EWG34. He relayed apologies from Mr Ryan, EWG Lead Shepherd, who is involved in APEC Leaders Week activities, and introduced Mr Chan as Co-Chair.

The Co-chair welcomed the EWG to Hong Kong, China and provided a comprehensive address on notable energy developments, including Hong Kong, China's response to promoting cleaner energy.

The Acting Lead Shepherd thanked Mr Chan for his address and welcomed his support for the meeting. The Chair thanked economies for their efforts in preparing for the 8th Meeting of APEC Energy Ministers (EMM8) and noted that, this being the first EWG meeting since EMM8, members must strive to progress the EMM8 Darwin Declaration. The Acting Lead Shepherd outlined key instructions from the Darwin Declaration.

The Draft Agenda was adopted with minor modifications.

2. APEC Secretariat Report

The Acting Lead Shepherd noted that Mr Sun Tao had recently replaced Mr Tong as the Energy Program Director in the APEC Secretariat.

The APEC Secretariat reported on developments in APEC since EWG33 and highlighted the establishment of the APEC Project Management Unit (PMU) in June 2007 and the outcomes of BMC2. At BMC2 only 9 EWG project proposals were approved, with 14 returned for revision and possible resubmission. Concerning projects, the APEC Secretariat stated that the EWG had performed as well as any other Working Group and that the PMU had been especially rigorous in assessing the quality and relevance of projects submitted for funding. In

particular the EWG should consider gender and equity issues more thoroughly, noting that the APEC Secretariat would be happy to assist. BMC has agreed to accept resubmissions of the 9 ASF project proposals for intersessional consideration in October. A further 5 projects may be resubmitted to BMC2 in April 2008.

The APEC Secretariat noted that funding contributions from APEC member economies will increase by 30% from 2009. It was also noted that the proposal to establish an APEC Mining Taskforce has been endorsed by AMM19. This will involve the merging of the Non-Ferrous Metals Dialogue with the EWG's Expert Group on Minerals and Energy Exploration and Development (GEMEED). Members were advised that SOM had given support to the Australia–Japan proposal to establish an APEC Policy Support Unit to cover trade and investment liberalisation and facilitation, economic and structural reform and energy and related ECOTECH activities.

The APEC Secretariat highlighted the range of issues to be considered by APEC Ministers and Leaders at their meetings in September 2007, including multilateral trading agreements, climate change, regional economic integration, considerations of a Free Trade Area of the Asia Pacific (FTAAP) as a long term prospect and structural reform, noting that Australia has proposed to hold a ministerial meeting on structural reform issues in 2008. The APEC Secretariat also announced that APEC has developed a new logo.

The Acting Lead Shepherd thanked the APEC Secretariat and reminded members that energy had never before been so prominent an issue during Leaders Week and drew attention to the need for EWG to be responsive to the outcomes of the Sydney APEC Leaders' Declaration on Climate Change, Energy Security and Clean Development.

Actions Arising/Next Steps

- The EWG Secretariat will liaise with the APEC Secretariat to assist project proposers in re-submitting their project proposals in October 2007 and April 2008.
- For the October 2007 intersessional consideration of ASF projects, project proponents are requested to re-submit their projects to the EWG Secretariat by the end of September.

3. Report from the Chair of the Energy Business Network (EBN)

The Acting Lead Shepherd noted the success of the APEC Energy Business Forum, held on 28 May 2007, as a prelude to the EMM8 plenary and noted that the EBN and ABAC were invited and attended the full-day plenary discussions.

The EBN Chair thanked Hong Kong, China and reported on outcomes of EBN17, held on 4 September. He noted that 12 economies participated at EBN17 with 9 sending business representation.

The EBN Chair expressed the disappointment of EBN members that its recommendations to Energy Ministers were not adequately included in the Darwin Declaration. The EBN is now aware of the longer lead times for the development of EMM declarations and has therefore asked members to note that its recommendations to EMM8 remain current and for EWG members to communicate the EBN's recommendations to Energy Ministers in preparation for EMM9.

The EBN Chair noted the importance of developing linkages with ABAC as an opportunity to convey energy messages and recommendations to APEC Leaders.

The EBN Chair advised members that a letter from the Australian Energy Alliance was tabled at EBN17 that proposed a review of the EBN Terms of Reference, including for the EBN to meet once per year in Singapore or in conjunction with the location of EMMs. No resolution was reached by EBN members and the EBN Chair would resolve this issue by a teleconference.

The EBN Chair reported that the EBN Business Forum was held in the afternoon of 4 September 2007 on the topic of *Clean and Sustainable Energy Futures - The Business Perspective* and the following presentations were given:

- A Sustainable Energy Scenario through 2020; Mr Man Onn Lim, Malaysia;
- Waste – a Clean and Sustainable Energy Source in Hong Kong; Mr Philip Siu, Hong Kong, China;
- Issues of Promoting Biofuels in Thailand; Dr Siwanan Na Nakorn, Thailand.
- Making Tomorrow's Electricity Technologies Commercial Today; Mr Alan Jenkins, New Zealand;
- The Nuclear Option for a Sustainable Energy Future; Mr Man Onn Lim, Malaysia.

The EBN Chair also noted the success of the APEC Energy Business Forum held during EMM8 and it was proposed that future EMM hosts should be encouraged to also hold an Energy Business Forum.

The Summary Record of EBN17 will be posted on the EWG website.

Actions Arising/Next Steps

- EWG Secretariat to post the EBN Business Forum papers to the EWG website.

4. Policy Dialogue

Members discussed the topic of *Energy Efficiency in Transport*. As previously agreed, no records of the discussion were taken.

The EWG35 policy dialogue will be *Policies and Programs to Promote Clean Transport Fuels in APEC Economies*.

5. Report from the 8th Meeting of APEC Energy Ministers (EMM8)

Australia reported on EMM8 and its outcomes and thanked members for their efforts towards developing the Darwin Declaration.

Actions Arising/Next Steps

- EWG members to progress recommendations from EMM8.

6. APEC Energy Security Initiative (ESI)

6.1 Overview

Members noted the *Eighth Report on Implementation of the Energy Security Initiative*, which incorporates the ESI Fact Sheets prepared by the EWG Secretariat.

Members noted the *Overview of APEC Energy Working Group Projects* report prepared for EMM8.

Actions Arising/Next Steps

- Members to provide any comments/updates on the ESI Fact Sheets to the EWG Secretariat as and when appropriate.

6.2 Short-term Measures

Joint Oil Data Initiative – The EGEDA Chair reported on the progress made by member economies in reporting energy data to the JODI and noted developments to the JODI website and database.

Actions Arising/Next Steps

- Japan encouraged economies to submit data to the JODI.

Maritime Security – The Acting Lead Shepherd referred to EMM8 instructions and encouraged members to nominate a representative to attend the Transportation Working Group (TPT-WG) meeting in either the Philippines (3–7 March 2008) or Peru (25–28 August 2008). Japan welcomed EWG liaison with the TPT-WG and also encouraged information sharing with the CTTF.

The United States suggested that it could be worth revisiting a previous APERC study and simulation exercise on sea lane security. APERC noted that energy transportation had increased and that maritime security was an important issue. APERC provided background on the simulation exercise on sea lane security and identified cost as an issue to producing a similar event.

Australia reported that the TPT-WG Secretariat would welcome an EWG representative briefing its Maritime Security Sub Group and noted that the EWG should also aim to be briefed by the TPT-WG in order that cross-cutting issues may be reported to EMM9, as instructed by Energy Ministers.

No decision was made on EWG attendance.

Actions Arising/Next Steps

- Members to consider appropriate representation at a TPT-WG meeting in 2008 out-of-session.

Real-time Emergency Information Sharing System (RTEIS) – Japan presented the progress of the RTEIS since EWG33. Japan reiterated the importance of the RTEIS system and encouraged broader participation by economies. It was noted that the development of the system requires additional funding from outside Japan. Furthermore, though Japan had been unable to contact the Russian Federation, it would seek to trial the RTEIS website at EWG35, including further developing information on the APEC Rapid Response Points of Contact Network for the Protection of Critical Energy Infrastructure. The Chair of EGNRET

cautioned members that it may be problematic for sensitive energy infrastructure data to be made publicly available.

The United States added that it may be appropriate to develop best practice principles for energy infrastructure protection and suggested that in view of how RTEIS was developing, it may be appropriate to provide it with a more general name (non 'real-time'), such as the APEC Energy Information System.

Actions Arising/Next Steps

- Japan to consider renaming the RTEIS and to develop the RTEIS website further.
- United States to consider the possibility for a workshop to develop best practice principles for energy infrastructure protection.

Energy Emergency Responses, including Oil Stocks – Noting its lack of indigenous energy resources, Hong Kong, China reported on its energy emergency response arrangements, highlighting changes to fuel mix diversity in the stationary energy sector, with less coal and more natural gas and renewable energy to be used for power generation. Hong Kong, China noted that energy efficiency and conservation is the most effective way for it to manage increasing energy demand and highlighted a range of energy efficiency initiatives. An overview of the Oil Supply Contingency Plan was given and additional discussions noted developments in the conversion of the diesel taxi fleet to LPG.

6.3 Long-term Measures

Energy Investment – The Chair of the EE & RE Financing Task Force tabled a progress report and reported on the Asia Clean Energy Forum, which APEC co-sponsored in Manila in June. The Chair also reported on development of a web-based information system on EE & RE financing mechanisms, including best practices, information sources and tools. The Chair discussed and tabled a project report on the development of financial intermediaries.

The REEEP (as an EWG Guest) presented on *Opportunities for Collaboration between REEEP and APEC EWG*. Future collaboration opportunities highlighted were through:

- the Renewable Energy Exchange (RE-EX), based in Singapore;
- a project in the Pacific to replace kerosene used for lighting with renewable energy; and
- a sustainable cities program in Indonesia, co-sponsored by REEEP, the International Council for Local Environmental Initiatives and Asialink.

Canada noted that REEEP's expertise in energy efficiency should be utilised to advance the EWG's work program and EGNRET expressed its interest in working with REEEP.

Members endorsed an Australian paper on the conduct of an APEC Energy Trade and Investment Study and Roundtable in response to instructions from EMM8. It was noted that a project steering committee would be established and that Australia will contact members out of session to seek nominations for membership.

The Acting Lead Shepherd referred to Energy Ministers' instructions to review the uptake and currency of the APEC Priorities for Financing Energy Infrastructure Projects within the APEC Region. No suggestions were received and the Chair asked the EWG Secretariat to progress out-of-session.

Action Arising/Next Steps

- Australia to advance its proposal to conduct the APEC Energy Trade & Investment Study & Roundtable.
- EWG Secretariat to approach members on reviewing the uptake and currency of the APEC Priorities for Financing Energy Infrastructure Projects within the APEC Region out-of-session.

Natural Gas Trade – Chinese Taipei reported on progress with the LNG Public Education and Communication Information Sharing Initiative and elaborated upon the construction of the Initiative's website. A case study on LNG was discussed and similar case studies will be used to facilitate information sharing. Chinese Taipei requested members' support in completing the LNG Information Checklist and Timeframe and returning it to Chinese Taipei by 21 September 2007.

A representative of the EGCFE Chair reported that the APEC LNG Public Education Workshop and LNG terminal tour has been rescheduled for 5–7 November in Guangzhou, China. A report of this Workshop and the recently conducted APEC Natural Gas Utilisation Workshop will be provided at EWG35.

The Chair of EGEDA reported on the trial collection of monthly natural gas data and called on members to assist with improving the timeliness and accuracy of data submitted.

The Acting Lead Shepherd referred to Energy Ministers' instructions to review the uptake and currency of APEC Best Practice Principles on Accelerating Investment in Natural Gas Supplies, Infrastructure and Trading Networks in the APEC Region and on Facilitating the Development of LNG Trade in the APEC Region. No suggestions were received and the Chair proposed that guidance be sought from the Chair of EGCFE out-of-session.

Actions Arising/Next Steps

- Members to complete and return the LNG Information Checklist and Timeframe to Chinese Taipei by 21 September 2007.
- EWG Secretariat to liaise with the EGCFE Chair on ways to review the natural gas related best practice principles from the Darwin Declaration.

Energy Efficiency – Members noted reports under the first component of the Pledge and Review Program, being annual economy reports on a common agreed topic. The Chair requested members to submit further reports out-of-session.

The Chair of EGEEC tabled a progress report and reported on recent activities, noting the Energy Indicators Workshop being held in Singapore, 17–22 September, with training provided by the IEA among others.

The United States reminded delegates to submit survey information on transportation efficiency policies in their economies using the proforma previously circulated.

Japan noted the instructions of APEC Energy Ministers from EMM8 to improve energy efficiency and to develop a voluntary APEC Energy Peer Review Mechanism, with an initial focus on progress toward attaining energy efficiency goals. Japan reported to members on its submission for discussion on the APEC Peer Review on Energy Efficiency (PREE) and called on members to comment.

There was a wide-ranging discussion. Members were generally supportive of the development of the PREE, although some concerns were expressed on its scope and review criteria. Members welcomed Japan's agreement to review its proposal for circulation and endorsement out-of-session. This would be based on members' comments, including:

- members were supportive that, where possible, the energy efficiency chapters of IEA and non-IEA member In-depth Reviews would be open to presentation and discussion;
- it was noted that energy efficiency and peer review may be an important component of the Sydney Declaration, on top of the instructions from the Darwin Declaration. It was therefore acknowledged that the development of the PREE would need to take into account the outcomes of the Sydney Declaration;
- active participation of the EGEEC in the PREE process was envisaged by members and REEEP expressed its interest in cooperating with the PREE process;
- some members stressed the need for more detailed analysis of specific energy efficiency policies and measures, including case studies, that could have a wider relevance to many economies as well as providing for more comprehensive coverage of an economy's energy efficiency policies;
- some members called for further consultation on the scope and criteria of the reviews to avoid excessive duplication with the work of other fora;
- some members asked Japan to consider various operational aspects of PREE, including a possible 3-year timescale for updating the Compendium (of energy efficiency policies of APEC member economies), the process by which a review team would be convened and organised, including any possible role for the EWG Secretariat, and how PREE follow-up activities would be implemented;
- funding, manpower and timing implications, especially concerning the proposed role of APERC towards conducting PREE and compiling the energy efficiency policies of member economies, should be considered.

Members thanked Japan for its efforts to make a substantial and credible start towards developing a PREE and for Japan's offer to commence proceedings with a PREE of Japan at EWG35. Members recognised that this is the start of a process of determining the scope and operation of the PREE and that lessons learned during the conduct of reviews would be used to strengthen the operation of the mechanism. This process would be further advanced through encouraging APEC economies to individually set goals and formulate action plans and strengthen energy efficiency policies and measures.

Actions Arising/Next Steps

- Japan to revise and circulate its PREE proposal out-of-session – initially in consultation with EGEEC, APERC and the EWG Secretariat – and then to circulate a revised proposal to all member economies for comment and then endorsement prior to EWG35.
- Subject to endorsement, Japan will present the Energy Efficiency chapter of its 2007 IEA In-depth Review at EWG35, as an example of PREE to other member economies.
- Interested member economies to volunteer for PREE at EWG36 and subsequent EWG meetings.
- Members to submit survey information on transportation efficiency policies using the proforma previously provided by the United States.

Renewable Energy – The Chair of EGNRET tabled a progress report and informed members on current activities. The Chair announced that the next EGNRET meeting will be held in Bangkok, Thailand on the 22–23 October jointly with a workshop for the Thailand-led EGNRET project for the Development of Biofuels Standards in APEC Member Economies

and also with a meeting of the APEC Biofuels Task Force. An update on other EGNRET projects under the APEC 21st Century Renewable Energy Development Initiative was provided.

Clean Fossil Energy – A representative of the EGCFE Chair tabled a progress report and informed members on the status of EGCFE projects. It was noted that the next EGCFE meeting is planned for October 2007 in Xi'an, China.

Alternative Transportation Fuels – The Chair of the APEC Biofuels Task Force tabled a progress report and informed members of current 2007 projects and projects planned for 2008. The Task Force will next meet in Bangkok, Thailand on 25–26 October.

Nuclear Energy – Australia reported on an informal meeting of senior energy officials from interested member economies, held 26–28 June 2007 in Sydney, to discuss the possible establishment of an Asia-Pacific safeguards association. Australia reported that the safeguards officials had agreed that any nuclear safeguards association should be established outside of the APEC framework considering the nature of APEC as an economic forum.

Actions Arising/Next Steps

- Recommendations from the meeting of regional nuclear safeguards experts are to be communicated to EMM9.

Hydrogen and Fuel Cells – The Chair of EGNRET reported to members on consultation with the International Partnership for the Hydrogen Economy, noting that international progress was being made. Further developments in hydrogen and fuel cells in the United States and Japan were noted.

Methane Hydrates – The Chair of EGNRET, including on behalf of the EGCFE, reported to members on methane hydrates and highlighted current activities and programs being conducted in this area. It was noted that methane hydrate science has advanced in the past five years and that Canada, China, Japan and the Republic of Korea are conducting significant work in this area.

Petroleum Infrastructure and Crude Oil and Refined Products – The United States suggested, and members agreed, that the Australian proposal to conduct an APEC Energy Trade and Investment Study and Roundtable provides an opportunity to respond to the Darwin Declaration's instructions to facilitate investment and trade in downstream and upstream oil markets.

7. Report of the Meeting of Expert Group and Task Force Chairs and APERC

Australia (as Chair) reported to members on the 19th Meeting of EWG Expert Group and Task Force Chairs and APERC, held on 3 September 2007.

Noting that the Expert Group and Task Force Chairs and the APEC Secretariat had already tabled their progress reports, the Chair reported on discussions concerning the assessment and

scoring of EWG projects by BMC2 and the APEC Secretariat reminded members about procedures for resubmission of projects.

The Chair noted that a volunteer was sought for the position of Chair of the EE & RE Financing Task Force, including for reasons of equity in more fairly distributing the work of the EWG Task Forces across a 21 member organisation. The work of this Task Force is cross-cutting, with scope for much activity.

The Chair noted that Australia will progress the *Overview of APEC Energy Working Group Projects* report prepared for EMM8. Australia reported that discussions will be held with Expert Group and Task Force Chairs with a view to furthering this project and that feedback would be provided to members at a later date.

Actions/Next Steps

- Expert Group and Task Force progress reports will be posted on the EWG website.
- EWG Secretariat will approach members out-of-session to canvass interest in the position of Chair of the Energy Efficiency and Renewable Energy Financing Task Force.

8. APERC President's Report

The APERC President reported to members on APERC's current activities, including its four research projects:

- Energy Efficiency in the APEC region;
- Economy Review of China;
- Understanding International Energy Initiatives – Phase 2; and
- Urban Transport Energy Use in the APEC Region – Phase 2.

A mid-year workshop is planned for 29–30 November in Tokyo.

9. Statements on Notable Energy Developments since EWG33

The Acting Lead Shepherd thanked Australia; Canada; Hong Kong, China; Japan; Republic of Korea; Malaysia; New Zealand; Mexico; Chinese Taipei; United States and Vietnam for their Statements on Notable Energy Developments. Members who tabled statements at EWG34 were requested to e-mail electronic copies to the EWG Secretariat for posting on the EWG website. Other members were encouraged to submit reports.

Action Arising/Next Steps

- Members who tabled their statements at EWG34 to e-mail electronic versions to the EWG Secretariat. Other members are encouraged to submit statements.

10. Engagement with other Fora

The EWG Secretariat reported to members on the cross-fora activity taking place.

Members noted their support for continuing engagement between the EWG and other international fora, in particular IEA–EWG collaboration.

The Acting Lead Shepherd noted that a request had been received from the Energy Charter Secretariat for Guest status in the EWG and for reciprocal arrangements to be made for EWG representation in the Energy Charter. Members endorsed Guest status in EWG. Concerning EWG representation in the Energy Charter, Singapore asked for greater clarification on how the Energy Charter could contribute to the EWG. Japan noted that the APEC Energy Trade & Investment Study & Roundtable would benefit from Energy Charter Secretariat attendance.

The Chair noted that Energy Ministers await advice from the EWG on potential areas of cooperation with the Asia-Pacific Partnership on Clean Development and Climate (APP) and invited suggestions on potential areas of cooperation. APERC noted that certain APP Task Forces and EWG Expert Groups undertake similar activities and cooperation would thus avoid duplication of effort. Japan, the United States and Australia supported collaboration between the EWG and the APP, while China discussed concerns regarding APP collaboration.

Actions Arising/Next Steps

- EWG Lead Shepherd to communicate to the APEC Secretariat that the EWG approves Guests status to the Energy Charter Secretariat.
- It was agreed that APP Task Force members be able to attend meetings of EWG Expert Groups after being granted Guest status to discuss potential areas of cooperation.

11. EWG Work Plan to EMM9

The Acting Lead Shepherd tabled the EWG Work Plan to EMM9 (2007–2009). Members endorsed the Work Plan on the proviso that it be revised to reflect the energy outcomes of APEC Leaders Week. Members also discussed the requirement for a revised EWG Future Directions Strategic Plan and concluded that this was not necessary.

Actions Arising/Next Steps

- EWG Secretariat to incorporate relevant energy outcomes of the Sydney Declaration into the EWG Work Plan and to circulate to members for comment out-of-session.

12. Review of EWG Lead Shepherd and Secretariat Arrangements

The Acting Lead Shepherd noted the APEC guidelines concerning the rotation system for the position of Lead Shepherd, noting that Australia had exceeded the permitted maximum of two consecutive two year periods. The Acting Lead Shepherd invited nominations from members for the positions of Chair and Secretariat. As no nominations were received, Australia announced that it will continue to provide the Lead Shepherd and Secretariat on the basis that this review becomes a standing item at each EWG meeting while Australia is Chair.

Actions Arising/Next Steps

- The EWG Lead Shepherd and Secretariat arrangements should be reviewed at each EWG meeting when an economy exceeds the maximum permitted period.

13. Date for Next Meeting(s)

Peru advised members that it will host EWG35 during the first week of March 2008 and agreed to provide further details to members. Members noted the Peru 2008 promotional DVD with interest.

Actions Arising/Next Steps

- EWG Secretariat to assist Peru with organisational arrangements and to distribute information on EWG35.

14. Other Business

The APEC Secretariat clarified that members should submit revised project proposals through the AIMP Projects Database. CDs were distributed with guidelines on how to do this.

15. Document Access

Members decided on classification of documents from EWG34.

Action Arising/Next Steps

- Members to provide the EWG Secretariat with electronic copies of all documents tabled at the meeting.

The Chair closed the meeting and thanked the hosts, including Ms April Li and the Hong Kong Productivity Council, for their excellent organisation of the meeting.

* * * * *

LIST OF PARTICIPANTS

Co-Chairs

John Griffiths (Australia) Department of Industry, Tourism and Resources
Stephen Chan (Hong Kong, China) Electrical and Mechanical Services Department

Australia

Gary Walker Department of Industry, Tourism and Resources

Canada

Steve Dandzurovski Natural Resources Canada
Peter Sharp Department of Foreign Affairs and International Trade

People's Republic of China

Xu Jilin National Development and Reform Commission
Xu Ziming National Development and Reform Commission

Hong Kong, China

Richard Chan Electrical and Mechanical Services Department
Welman Leung Electrical and Mechanical Services Department
Henman Sun Electrical and Mechanical Services Department
Wong Sek Cheung Electrical and Mechanical Services Department

Indonesia

Maritje Hutapea Ministry of Energy and Mineral Resources
Evy Sri Febriantiny Directorate General of Oil and Gas, Indonesia
Mohammad Hidayat Directorate General of Oil and Gas, Indonesia
Lidya Hardini Ministry of Energy and Mineral Resources
Setyorini Tri Hutami Ministry of Energy and Mineral Resources
Benny Facius Dictus Research and Development Centre

Japan

Jun Arima Ministry of Economy, Trade and Industry
Masaki Nakatsuka Ministry of Economy, Trade and Industry
Yukinori Seki Ministry of Economy, Trade and Industry
Koichi Murakami Ministry of Foreign Affairs
Shigeru Kimura Institute of Energy Economics, Japan

Republic of Korea

Youchon Oh Ministry of Commerce, Industry and Energy
Dong-Sik Shin Korea Energy Management Corporation
Jeong Gue Jae Korea Energy Economics Institute
Lee Young Soo Korea Gas Corporation
Sun Hyunkoo Korea Gas Corporation
Park Seung Man Korea National Oil Corporation

Malaysia

Mohammed Shaharin Umar Ministry of Energy, Water and Communications
Wong Tin Song Ministry of Energy, Water and Communications

New Zealand

Nichola Bennett Ministry of Economic Development

Peru

Jorge Aguinaga Diaz

Ministry of Energy and Mines

Singapore

Wong Siew Kwong

Algernon Tie

Tan Huai Tze

Energy Market Authority

Energy Market Authority

Ministry of Trade & Industry

Chinese Taipei

Jui-Hsiang Yao

Chia-ling Lee

Feng-Shuo Yang

Julie Wang

Bureau of Energy

Bureau of Energy

TIER

TIER

United States of America

Jeffrey Skeer

Stephen Gallogly

Department of Energy

Department of State

Viet Nam

Vu Van Thai

Ministry of Industry

APEC Secretariat

Sun Tao

Director (Program)

EWG Secretariat

Stacey Matthews

Brett Duane

Department of Industry, Tourism and Resources

Department of Industry, Tourism and Resources

Expert Group and Task Force Chairs

Kenichi Matsui

Li Tienan

Cary Bloyd

Jeffrey Skeer

Energy Data and Analysis

Energy Efficiency and Conservation

New and Renewable Energy Technologies

Energy Efficiency and Renewable Energy Financing

Task Force; APEC Biofuels Task Force; and

representative for Clean Fossil Energy

Asia Pacific Energy Research Center (APEREC)

Kotaro Kimura

Yonghun Jung

Naoko Doi

Sergey Popov

Satoshi Nakanishi

David Fedor

Kenny Wan

Guest

David Crossley

Renewable Energy and Energy Efficiency Partnership

* * * * *