

EXPERT GROUP ON CLEAN FOSSIL ENERGY (EGCFE) PROGRESS REPORT TO THE 50th MEETING OF THE APEC ENERGY WORKING GROUP (EWG 50)

A summary of administrative and project activities undertaken by the EGCFE since the EWG49 Meeting is provided by the EGCFE Chair, Mr. Scott Smouse (USA).

ADMINISTRATIVE

The EGCFE's web site <www.egcfe.ewg.apec.org> has been maintained by USDOE's National Energy Technology Laboratory (NETL). A major review of the website was completed in mid-2015 with the aim to revamp the site by year's end. However, following relocation of the EGCFE Chair from NETL to DOE HQ, the update has been delayed pending securing adequate resources.

EGCFE Secretariat

Ms. Toshiko Fujita of JCOAL-JAPAC is the EGCFE Secretariat.

Support Contractor

Technical support to the EGCFE Chair is provided by Dr. Ian Torrens (USA) through a USDOE site-support contract, for preparation of APEC project concept notes, full project proposals, project monitoring and completion reports, EGCFE progress reports to the EWG, development of technical programs for EGCFE seminars and workshops, and other ad hoc tasks related to EGCFE and EWG activities as required.

Planning Activities

EGCFE business meetings are typically held in conjunction with the annual Clean Fossil Energy Technology and Policy Seminar. The last meeting was held on 21 February 2012 in Gold Coast, Australia. However, owing to travel limitations by the EGCFE Chair, the annual EGCFE seminar and associated business meeting were not held in 2013 and 2014. The next business/planning meeting will be held in conjunction with the next annual Seminar, which is has been proposed for May 2016 in Kuala Lumpur, pending approval of the Malaysian government.

PROJECT STATUS

(1) Coal-Based Power Generation and Conversion - Saving Water (EWG 08 2014A)

Most energy production and conversion methods need large amounts of water, and most methods of producing fresh water require energy. Policy-makers need to understand the links and trade-offs between water and energy, termed the nexus. An APEC project covering these issues, ***Water-Energy Nexus: Coal-Based Power Generation and Conversion - Saving Water*** (EWG 08 2014A) is now getting underway. It will collect and share information on developments to make coal-based energy generation more efficient and less water-intensive, on recovery and reuse of water from coal-based energy production, and on policy and regulatory developments in APEC member economies related to the water-energy nexus for coal-based energy production.

The project is being carried out by Det Norske Veritas (DNV-GL), which was competitively selected from six contractor proposals received in response to an APEC RFP. The end product will be a report containing information on the latest developments to make coal-based energy systems, including power generation and production of SNG and chemicals, more efficient and less water-intensive. The report will describe the nature and magnitude of the water-energy nexus, drawing from practical examples in regions where water is scarce, and highlight the technical, economic and institutional issues faced by power generation in such regions. A number of case studies will describe how specific power generating plants in such arid regions manage their water needs. The report will synthesize information from these case studies and other recent sources, to summarize the latest developments for recovery and reuse of water from coal-based energy production, including use of

alternative sources of water and coproduction of water with carbon capture, utilization and storage. Policy and regulatory developments related to the water-energy nexus will be highlighted.

(5) APEC Water-Energy Nexus Expert Workshop (EWG 07 2015A)

This expert workshop will build on information generated and lessons learned in the water-energy nexus project described above. The objectives will be:

- To discuss and evaluate the priorities identified in EWG 08 2014A project findings, and to share up-to-date knowledge and experience.
- To discuss future work in this area and develop recommendations, including capacity building needed on technologies, on the economics of measures addressing water-energy nexus issues, and on needed policy/regulatory structures.

The target speakers and audience are expected to include:

- Key government officials at the policy level, with relevant technical and economic expertise, which are involved in decision-making on freshwater resources management (production, transportation, and distribution), particularly with regard to the use of water for fossil energy-based industry; and on the environmental and regulatory issues specific to the water-energy nexus.
- Institutes and academia involved in economic and policy analysis in this area, such as the World Resources Institute, the World Policy Institute, the Pacific Institute, and the Schlumberger SBC Energy Institute.
- Representatives of relevant industry sectors with interests in this topic.
- Other international fora active in this topic area (e.g., IEA/OECD, UNESCO).

The workshop structure, content and selection of speakers will reflect a special focus on the needs of developing economies.

The project will be conducted by a consultant, who will be responsible for suggesting an appropriate APEC host economy and workshop location, developing the workshop program, organizing the event, and preparing a report on the workshop for publication by APEC. The report will summarize the workshop, including presentations, briefing papers, and other relevant information. It will contain suggestions for follow-on work by APEC on water-energy nexus issues, formulated with input from the workshop participants.

Close coordination between this project and the above water-energy nexus project will aid in identifying invited speakers who are not only knowledgeable in this field of activity, but also capable of identifying critical future directions of research and analyses needed within the APEC region on the water-energy nexus field of activities from technology through policy to regulations.

EGCFE CLEAN FOSSIL ENERGY TECHNICAL AND POLICY SEMINAR

The next annual EGCFE Seminar and business meeting are being planned for Kuala Lumpur, Malaysia, tentatively in early June 2015. The Ministry of Energy, Green Technology and Water will host the event. The seminar will be scheduled as soon as the EGCFE Chair can confirm U.S. DOE financial support for the Seminar.

Chinese Taipei has expressed interest in hosting the following Seminar.