
**ASIA PACIFIC ENERGY RESEARCH
CENTRE (APERC)**

REPORT ON APERC ACTIVITIES

**THE 48TH MEETING OF
THE APEC ENERGY WORKING GROUP (EWG-48)
PORT MORESBY, PAPUA NEW GUINEA
19-20, NOVEMBER 2014**

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I PROGRESS IN ON-GOING WORK

A. APERC ENERGY DEMAND AND SUPPLY OUTLOOK 6th EDITION

BACKGROUND

APERC has previously produced four *APEC Energy Demand and Supply Outlooks*, and the 5th Edition was published in February 2013.

The *Outlook* provides a long term (2010-2035 in the 5th Edition) perspective on APEC energy demand and supply. It consists of two volumes. Volume 1 discusses the APEC- wide situation sector-by-sector. Volume 2 has sections discussing each APEC economy.

OBJECTIVES

The key objectives of the *APEC Energy Demand and Supply Outlook* are to help facilitate APEC cooperation by providing policymakers with;

- a useful reference work on energy in the APEC region,
- a statistically-supported review of the challenges and opportunities facing the APEC economies individually and as a region,
- a source of ideas and approaches for dealing with these energy challenges and capitalizing on energy opportunities.

PROGRESS

APERC is working on the *Outlook 6th Edition*.

APERC will continue research activities appropriate for the preparation of *the Outlook 6th Edition*.

Work is finished on new models for macroeconomic projections, light vehicle transportation energy demand, electricity supply, and industrial energy demand.

In addition, projections –both business as usual (BAU) and high cases- for nuclear energy and renewable energy are nearly finished.

Topical studies on barriers to shale gas development, barriers to geothermal energy development, and the benefits of electricity interconnection in Northeast Asia are nearing completion.

Those topical studies will both inform *the Outlook 6th Edition* and result in reports to be released end of 2014/early 2015.

MILESTONE

APERC is planning to publish *the Outlook 6th Edition* in 2015.

B. APEC ENERGY OVERVIEW 2014

BACKGROUND

At the EGEDA 11th meeting held in March 2000, the project *APEC Energy Overview* was proposed by Australia, and it was approved at the EWG19 meeting in April 2000.

The *APEC Energy Overview* is an annual publication, which contains updated energy demand/supply data as well as a description of energy policies and notable energy developments in energy efficiency, infrastructure development, upstream development, energy source diversification, regulatory reform and environmental protection.

Energy demand/supply data are drawn from the APEC Energy Database. APERC is responsible for coordinating information gathered from member economies and preparing a draft *Overview* for EGEDA review. The *Overview* is published on both the APEC and APERC websites.

Since the inaugural issue in 2001, thirteen editions have been issued up to 2013. APERC completed the *APEC Energy Overview 2013* in March this year, which is now available at http://aperc.iecej.or.jp/publications/reports/energy_overview.php

OBJECTIVE

The objective of the *APEC Energy Overview* is to share information on government energy policies of member economies, and to provide useful information and insights to policy makers in the region.

PROGRESS

APERC has started the work on the *APEC Energy Overview 2014* in October 2014.

MILESTONE

APEC Energy Overview 2014 will be published in February 2015.

C. PEER REVIEW ON ENERGY EFFICIENCY (PREE)

BACKGROUND

The improvement of energy efficiency offers many cost-effective opportunities to achieve energy security, improve business productivity and mitigate greenhouse gas emissions. In the Sydney Declaration of September 2007, APEC Leaders agreed to start a peer review of energy efficiency policies through the voluntary APEC Energy Peer Review Mechanism.

At the EWG 35 meeting (Iquitos, March 2008), the APEC Peer Review on Energy Efficiency (PREE) was proposed by Japan as a concrete program and endorsed by EWG members.

Two activities are undertaken as part of the PREE, namely:

- (1) Peer Review of volunteer member economies on the progress towards their goals in energy efficiency improvement (“Peer Review of volunteer member economies”) including following up of implementation of recommendations at former hosting economies of Peer Review (“Follow-up PREE”) since 2012
- (2) Compendium of energy efficiency policies/measures and action plans of APEC member economies under a common format (“Compendium”)

(1) PEER REVIEW

OBJECTIVES

The objectives of the APEC Peer Review of Energy Efficiency are to:

- share information on energy efficiency performance as well as policies and measures for improving energy efficiency among member economies,
- provide opportunities for learning from other member economies' experiences and for broadening communication among energy efficiency policy experts,
- explore how energy efficiency overall/sectorial goals and action plans could be effectively formulated in each APEC economy under review, taking into account the diversity of possible strategies to be used,
- monitor progress toward attaining Energy Efficiency goals on an overall and/or sectorial basis and toward implementing action plans,
- provide recommendations on how implementation of action plans could be improved with a view to achieving energy efficiency goals.

PROGRESS

Guidelines for the Peer Review were endorsed by EWG in late 2008.

The inaugural Peer Review for New Zealand was carried out during the period of 23-27 February 2009, with a review team comprised of experts from member economies and from APERC. This was followed by Peer Review for Chile during the period of 16-20 March 2009.

The Draft Review Reports of PREE for New Zealand and Chile were discussed and endorsed by EWG members at the EWG37 meeting in Santiago in April 2009.

The third Peer Review for Vietnam was conducted on 8-12 June 2009. The draft Review Report of PREE for Vietnam was discussed and endorsed by EWG members at the EWG38 meeting in Bali in November 2009.

The fourth Peer Review for Thailand was carried out on 9-13 November 2009. The draft Review Report of PREE for Thailand was discussed and endorsed by EWG members at the EWG39 meeting in Tokyo in March 2010.

The fifth Peer Review for Chinese Taipei was carried out on 23-27 August 2010. The Draft Review Report of PREE for Chinese Taipei was discussed and endorsed by EWG members at the EWG40 meeting in Brunei-Darussalam in November 2010.

The sixth Peer Review for Peru was carried out on 8-12 November 2010. The seventh Peer Review for Malaysia was carried out on 26 November-3 December 2010. The Draft Review Reports of PREE for Peru and Malaysia were discussed and endorsed by EWG members at EWG41.

The eighth PREE for Indonesia was carried out on 10-14 October 2011. The Draft Review Report of PREE for Indonesia was discussed and endorsed by EWG members at the EWG 43 meeting.

The ninth PREE for the Philippines was carried out on 6-10 February 2012. The Draft Review Report of PREE for the Philippines was discussed and endorsed by EWG members at the EWG 44 meeting.

The first Follow-up PREE activity, a training workshop on analytical methods to monitor the effectiveness of implementing energy efficiency measures, was carried out in Viet Nam on 27 February-2 March in 2012. The Summary Report was submitted to the EWG 44 meeting.

The tenth PREE for Brunei Darussalam was carried out on 11-15 June 2013. The Draft Review Report of PREE for Brunei Darussalam was discussed and endorsed by EWG members at the EWG 46 meeting.

The second Follow-up PREE for the Philippines was carried out on 15-19 September 2014. The Draft Review Report will be discussed and endorsed by EWG members at the EWG 48 meeting.

MILESTONE

Due to the tight budget of APEC Operational Fund, APERC is planning to switch the budget for PREE Phase 5 from APEC Operational Fund to APEC Support Fund by which only APEC travel eligible Economies (developing Economies) can benefit. APERC will apply APEC Support Fund for PREE Phase 5 at the first session of 2015 APEC funding process.

(2) COMPENDIUM

OBJECTIVES

The objective of the Compendium is to serve as a basis for information sharing on energy efficiency policies and measures, reflecting the diversity of approaches that could be adopted by member economies.

PROGRESS

APERC presented the draft common format for the Compendium at the APERC workshop and at EWG 36 in Manila in December 2008 where it was discussed and endorsed

APERC published the first Compendium of Energy Efficiency Policies of APEC Economies on the APERC website in April 2010 covering the year 2009.

Since its inauguration, APERC has published the 2010, 2011 and 2012 Compendia of Energy Efficiency Policies of APEC Economies on the APERC website.

As PREE Phase 5 budget was not approved in 2014 APEC funding process, the 2013 Compendium could not be compiled.

MILESTONE

APERC will request EWG members to provide APERC with updated relevant information for the 2014 version, if the APEC budget for PREE 5 is approved.

D. COOPERATIVE ENERGY EFFICIENCY DESIGN FOR SUSTAINABILITY (CEEDS)

At the Eighth Meeting of APEC Energy Ministers in Darwin, Australia in May 2007, APEC Energy Ministers encouraged APEC economies to individually set goals and formulate action plans for improving energy efficiency on an overall and/or sector basis. Ministers also directed the EWG to compile best practices that can be used to help formulate and track progress towards such voluntary goals and action plans.

At the EWG 37 meeting in Chile, April 2009, the CEEDS project was proposed by Japan and endorsed by EWG members.

While PREE considers the whole range of energy efficiency policies and measures for one economy at a time, CEEDS considered specific high performance energy efficiency policies and measures for several economies in one sector at a time. Both PREE and CEEDS are designed to be multi-year activities, with PREE examining a continuing sequence of volunteer APEC economies, while CEEDS focused on a continuing sequence of sectors.

In order to streamline and prioritize APERC activities, APERC decided to integrate CEEDS with PREE and to hold “Energy Efficiency Policy (EEP) Workshop” once a year in cooperation with EGEE&C instead of CEEDS workshops. As the APEC budget for PREE Phase 5 including this new workshop was not approved in 2014, APERC will apply APEC Support Fund for PREE Phase 5 at the first session of 2015 APEC funding process and hope to launch the new workshop in 2015 or 2016. Meanwhile, APERC is planning to hold a trial “EEP Workshop” in conjunction with EGEE&C 45 in Singapore during the first half of 2015 as a Self-Fund project.

The Summary Reports on CEEDS Phase 1-4 have been published on APERC website.

E. PEER REVIEW ON LOW-CARBON ENERGY POLICIES (PRLCE)

BACKGROUND

In their Fukui Declaration in June 2010 on “Low-Carbon Paths to Energy Security: Cooperative Energy Solutions for a Sustainable APEC”, the APEC Energy Ministers instructed the EWG to “explore mechanisms to encourage economies to set individual goals and action plans for introducing low-emission power sources, building upon the success of the PREE, with assistance from APERC and relevant technology expert groups”

Modelled on the successful Peer Review of Energy Efficiency (PREE), PRLCE is planned to assist volunteer economies in developing policies that support energy security and environmental protection through promoting low-carbon energy supply (e.g. renewable energies).

PROGRESS

Guidelines for PRLCE were endorsed by EWG members in August 2011.

The first PRLCE, with a focus on renewable energy, was held in Thailand on 21-25 May 2012. The peer review was conducted by a team of 9 experts (from China, Japan, Malaysia, Chinese Taipei, U.S., Viet Nam, IRENA and APERC). The Draft Review Report of PRLCE in Thailand was discussed and endorsed by EWG members at the EWG 44 meeting.

The second PRLCE, with focus on the National Renewable Energy Program (including the Feed-in Tariff (FIT) system for renewable energy) was held in the Philippines on 19-23 November 2012. The peer review was conducted by a team of nine experts (from China, Japan, Malaysia, New Zealand, Thailand, IRENA and APERC). The Draft Review Report of PRLCE for the Philippines was discussed and endorsed by EWG members at the EWG 46 meeting.

The third PRLCE, with focus on Renewable Energy was held in Indonesia on 13-17 May 2013. The peer review was conducted by a team of eight experts (from China, Japan, Malaysia, Thailand, USA and APERC). The Draft Review Report of PRLCE for Indonesia was discussed and endorsed by EWG members at the EWG 46 meeting.

The fourth PRLCE for Malaysia was carried out in 9 -13 December 2013. The peer review was conducted by a team of nine experts (from Australia, China, Japan, New Zealand, Chinese Taipei, Thailand, APERC). The Draft Review Report of PRLCE for Malaysia was discussed and endorsed by EWG members at the EWG 47 meeting.

MILESTONE

The budget of PRLCE Phase 3 for the fifth peer review in Viet Nam was already approved. APERC has started to discuss with the Vietnamese Government on the planning of the peer review.

F. LOW CARBON MODEL TOWN (LCMT) PROJECT

BACKGROUND

This project directly responds to the declaration at the 9th APEC Energy Ministers Meeting, held in Fukui, Japan on 19 June 2010.

Ministers discussed low carbon paths to energy security, which provide cooperative energy solutions for a sustainable APEC as well as economic growth. They noted that the introduction of low-carbon technologies in city planning to boost energy efficiency and reduce fossil energy use is vital to manage rapidly growing energy consumption in the urban areas of APEC.

In this context, APEC Energy Ministers agreed to launch an “APEC Low-Carbon Model Town (LCMT) Project” to present successful models for coordinated usage of advanced low-carbon technologies. This project is considered as one of the priority projects for APEC.

OBJECTIVE

The key objectives of LCMT are:

- (1) To develop the “Concept of the Low-Carbon Town”, which is intended a guidebook on the principles and implementation of low-carbon urban design,
- (2) To assist in the implementation of the concepts in selected Low Carbon Model Towns by providing feasibility studies and policy reviews of these urban development projects,
- (3) To share the best practices and real-world experiences with low-carbon urban design with planners and policymakers throughout the APEC region.

PROGRESS

<LCMT Phase1: Tianjin, China>

Tianjin, China was selected as the case study for the LCMT Phase 1 Project. The feasibility study was conducted and completed by a private consulting company in November 2011.

“The Concept of Low Carbon Town in the APEC Region” was completed by the Low Carbon Model Town Task Force in October 2011.

The policy review for Tianjin, China was carried out on 30 August-1 September 2011.

<LCMT Phase2: Samui Island, Thailand>

Samui Island, Thailand, was selected as the case for the LCMT Phase 2 Project.

The refinement of “The Concept of Low Carbon Town” has been completed by Study Group-A assisted by APERC.

The feasibility study was carried out by qualified urban design consultants and a progress report was made at the LCMT Task Force meeting held in conjunction with the EWG 44 meeting.

The policy review for Samui Island, Thailand has been conducted by Study Group-B assisted by APERC on 24-28 September 2102.

<LCMT Phase3: Da Nang, Viet Nam>

Da Nang, Viet Nam, was selected as the case for the LCMT Phase 3 Project.

The refinement of “The Concept of Low Carbon Town” was considered by Study Group-A assisted by APERC, and its 3rd Edition was completed in January 2014..

The feasibility study was carried out by qualified urban design consultants.

A policy review was conducted by Study Group-B assisted by APERC on 4-6 December 2013. The policy review report will be presented at the LCMT Task Force meeting to be held in conjunction with the EWG 47 meeting.

<LCMT Phase4: San Borja, Peru>

San Borja, Peru, was selected as the case for the LCMT Phase 4 Project at the EWG 46 meeting.

MILESTONE

<LCMT Phase4: San Borja, Peru>

The refinement of “The Concept of Low Carbon Town” was considered by Study Group-A assisted by APERC, and its 4th Edition will be presented at the LCMT Task Force meeting to be held in conjunction with the EWG 48 meeting.

The feasibility study is being carried out by qualified urban design consultants and will be completed by the end of November 2014.

A policy review will be conducted by Study Group-B assisted by APERC on 19-21[TBC] January 2015. The policy review report will be presented at the LCMT Task Force meeting to be held in conjunction with the EWG 49 meeting, if possible.

G. OIL & GAS SECURITY INITIATIVE (OGSI)

BACKGROUND

APEC Energy Ministers, met in St. Petersburg, Russia on 24-25 June 2012, and encouraged the APEC Energy Working Group (EWG) and Asia Pacific Energy Research Centre (APERC) to work on activities to improve the response to oil and gas emergency situations, including emergency response workshops and exercises. EWG and APERC are expected to perform these activities in collaboration with the International Energy Agency (IEA) and the Association of Southeast Asian Nations (ASEAN).

This instruction by energy ministers was confirmed at the highest level: APEC leaders agreed to promote activities to improve the response to oil and gas emergency situations in the APEC region at Vladivostok, Russia on 8-9 September 2012.

As APEC Oil & Gas Security Exercises (OGSE), APERC organized two fora and two exercises. The first Security Forum, a kick-off meeting, was held on 18-19 April 2013 in Tokyo. Scenarios for the security Case Study Exercises were developed by APERC with the cooperation of outside experts. The first Exercise was a joint exercise by Southeast Asian APEC economies in 17-19 September 2013, held in Bangkok, Thailand. The second Exercise was carried out for Indonesia in 22-24 October 2013 in Jakarta. At last, APERC hosted the second Security Forum, a wrap-up meeting, on 25 March 2014 in Tokyo. The reports of two Exercises and APERC's surveys were drafted and discussed at the second Forum. They were compiled into a Final Report which was presented to the EWG 47 meeting.

In reporting the result of OGSE to EWG 47, APERC proposed APEC Oil & Gas Security Initiative (OGSI), a new project which will succeed OGSE. OGSI consists of three pillars: Oil & Gas Security Exercise (OGSE) on voluntary basis and not on schedule, Oil & Gas Security Network (OGSN) by officials in charge of oil and gas security policy in each Economy, and Oil & Gas Security Studies (OGSS) on research topics related to oil and gas security in the APEC region.

PROGRESS

APERC will apply the approval of APEC Self-Fund project to OGSI.

MILESTONE

After the approval as a APEC Self-Fund project, APERC will start activities for OGSI including preparation for the first issue of OGSN Newsletter, the first OGSN Forum to be held in Kitakyushu City, Japan in April 2015 and publishing the initial results of OGSS.

II FUTURE WORK PLAN

APERC's Future Work Plan is designed to assist EWG in responding to the instructions by APEC Energy Ministers for coming years as described in the preceding Part I.

APERC conducts research activities, particularly producing the *APEC Energy Demand and Supply Outlook*. In addition, APERC, as the designated executants, assists project overseers by carrying out APEC projects, on the condition that budget from the APEC fund is approved for those projects by the APEC BMC.

As agreed in EWG47, APERC will be directly responsible to EWG, just like newly born APEC Sustainable Energy Centre (APSEC). APERC would like to confirm the new procedure by revising the chapter of "Procedure for identifying APERC Activities" in its Terms of Reference as attached. Of course, APERC will keep close cooperation with Expert Group of Energy Data and Analysis (EGEDA) as well as other expert groups under EWG in planning and implementing its activities.

1. APEC Energy Demand and Supply Outlook 6th Edition

(a) APERC is working on the *APEC Energy Demand and Supply Outlook 6th Edition*. The *Outlook 6th Edition* is targeted for completion in 2015.

(b) APERC will continue research activities appropriate for the preparation of the *Outlook 6th Edition*.

Topical studies on petroleum trade, smart grid, renewable energy policy, energy connectivity (gas and electric grid), coal supply and demand are under way or will be launched .

Reports on several topics being investigated for the *Outlook 6th Edition* will be published during 2014 and onwards.

(c) In particular, as natural gas will continue to increase its importance in the energy mix due to the availability of unconventional gas resources and its relative cleanliness compared to other fossil fuels, production and trade of natural gas will be one of major research themes to be pursued.

In order to gather first-hand information on natural gas, APERC co-hosted the LNG Producer-Consumer Conference 2014 with the Japanese Ministry of Economy, Trade and Industry in November 2014 in Tokyo, as a follow-up to the 1st and 2nd LNG Producer-Consumer Conferences held in September 2012 and September 2013 respectively, both in Tokyo. APERC will co-host the LNG Producer-Consumer Conference 2015 in 2015 to acquire the latest information.

(d) In addition, as APEC energy ministers instructed at their 11th meeting in September 2014 in Beijing, China, APERC will start the specific research on the energy and economic competitiveness of the APEC region, the result of which might be beyond the scope of *Outlook 6th Edition*.

2. PREE

(a) APERC will apply APEC Support Fund for PREE Phase 5 at the first session of 2015 APEC funding process.

(b) Thailand has been showing its interest to host Follow-up PREE in transportation sector. If APEC Support Fund is allocated to PREE Phase 5, APERC will discuss with the Thai Government how to realize the third Follow-up PREE.

(c) If approved, APERC will launch ““Energy Efficiency Policy (EEP) Workshop” once a year in cooperation with EGEE&C in order to replace CEEDS workshops as a part of PREE Phase 5.

3. PRLCE

PRLCE will be very important instrument to achieve an aspirational goal to double the share of renewable energy in energy (or power) mix in the APEC region. Therefore, after completing PRLCE Phase 3 for the fifth peer review in Viet Nam in 2015, APERC will apply APEC budget to PRLCE Phase 4 for the sixth peer review.

4. Low Carbon Model Town (LCMT) Project

APERC will assist Study Group A and Study Group B in revising the “Concept of the Low-Carbon Town” and in drafting “Policy Reviews” in the next Phase 5 of the LCMT project.

5. Oil & Gas Security Initiative (OGSI)

APERC will continue activities for OGSI including issuing OGSN Newsletter, convening OGSN Forum and publishing results of OGSS. In addition, APERC will seek a voluntary Economy for next OGSE in which Exercise Model Procedure now under development as one of research topic of OGSS will be used.

III APERC RESEARCHERS

APERC researchers are generally drawn from energy research organisations, both government and non-government, in APEC member economies. The minimum term of researchers supported by APERC's budget is one year, which may be extended subject to consultations with the relevant organisations in member economies.

APERC would like to invite all economies to nominate researchers to serve at APERC. In principle, APERC accepts one researcher from each APEC member economy.

APERC offers living expenses, housing in Tokyo, transportation, moving expenses and health insurance to the researchers.

As of 7th November 2014, APERC had a total of 18 researchers, of which 12 are Visiting Researchers from APEC Economies.

Table 1: APERC Researchers

Name
Takato Ojimi (President)
Brantley Thomas Liddle (Vice President)
Kazutomo Irie (General Manager)
Hooman Peimani
Goichi Komori
Elvira T. Gelindon
Yeong-Chuan Lin
Chrisnawan Anditya
Michael Ochoada Sinocruz
Luis Enrique Camacho Beas
Dmitry Sokolov
Juan Roberto Lozano Maya
Naomi Sarah Wynn
Atit Tippichai
Tran Thi Lien Phuong
Takashi Otsuki

Martin Miguel Brown-Santirso

Yuko Tanaka

IV REVENUE AND EXPENSES

Since its inception, APERC's budget has been provided by the Japanese government and, in fiscal 2004, 2005 and 2006, also by the Australian government.

This budget has been used to facilitate research activities, cooperative efforts, know-how transfer programmes to the member governments, and the energy data network service.

The table below is a summary of annual financial statements since APERC was established in July 1996.

Table 2: APERC Revenues and Expenses

Unit: million yen

Fiscal Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	9mns																		(plan)
Revenue from:																			
Japanese Government	374	626	681	729	619	634	594	547	525	528	498	446	447	418	409	425	494	580	585
Australian Government									8	8	8								
Total of Revenue	374	626	681	729	619	634	594	547	533	536	506	446	447	418	409	425	494	580	585
Expenses:																			
Energy Efficiency / APEC Energy Demand & Supply Outlook / Related Research Programmes	227	443	494	550	455	469	434	390	379	377	377	338	339	318	315	308	325	325	346
Oil & Gas Security																		107	108
Know-How Transfer Programmes	54	65	65	58	58	60	53	59	53	46	41	31	28	20	17	14	24	21	30
Energy Data Network Service	93	118	122	121	106	105	107	98	101	113	88	77	79	80	77	80	62	47	101
Total of Expenses	374	626	681	729	619	634	594	547	533	536	506	446	447	418	409	402	411	500	585

<Attachment>

(DRAFT)

“Procedure for Identifying APERC Activities”

in Asia Pacific Energy Research Centre’s Terms of Reference

- (1) The President of APERC shall prepare a draft proposal of its activities for the forthcoming fiscal year and submit to the Energy Working Group (EWG) ~~the Expert Group on Energy Data and Analysis (EGEDA).~~
- (2) In making the above proposal, APERC shall seek for advises from the APERC Advisory Board.
- ~~(3) The EGEDA shall examine the proposal and submit the result of the examination to the Energy Working Group (EWG).~~
- ~~(4)~~(3) The EWG shall discuss and approve APERC’s activities.
- ~~(5)~~(4) The President shall report the progress and the result of the activities to ~~the EGEDA,~~ the Advisory Board and the EWG.
- (5) *In planning and implementing APERC’s activities, APERC shall maintain close cooperation with the Expert Group on Energy Data and Analysis (EGEDA) and other expert groups under the EWG. (New article)*