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

REPORT ON APERC ACTIVITIES

**THE 50TH MEETING OF
THE APEC ENERGY WORKING GROUP (EWG-50)
HONOLULU, THE UNITED STATES
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I. PROGRESS IN ON-GOING WORK

1. Activities Supporting Energy Efficiency Achievements and Other Policy Objectives

A. APERC ENERGY DEMAND AND SUPPLY OUTLOOK 6TH EDITION

BACKGROUND

APERC has previously produced five editions of the APEC Energy Demand and Supply Outlook, publishing the 5th Edition published in February 2013.

The Outlook 5th Edition provided a long term (2010-2035) perspective on APEC energy demand and supply. It consists of two volumes. Volume 1 discussed the APEC-wide energy demand and use by sector. Volume 2 had a chapter focusing on energy demand and supply in each APEC economy.

OBJECTIVES

The key objectives of the APEC Energy Demand and Supply Outlook are to 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; and
- a source of ideas and approaches for evaluating these energy challenges and identifying potential solutions and opportunities.

PROGRESS

APERC is currently working on the Outlook 6th Edition. Volume 1 will discuss the APEC-wide energy demand and supply under the reference Business as Usual (BAU) Scenario as well as three alternative scenarios, being the Improved Efficiency, High Renewables and Alternative Power Mix scenarios. Volume 2 will cover the outlook for each APEC economy in both the BAU and alternative scenarios.

APERC has completed research activities for the Outlook 6th Edition.

The first draft is completed. Volume 2 has been circulated for economy and expert review and Volume 1 is scheduled to be sent for economy and expert review in mid-December.

MILESTONE

APERC is planning to publish the Outlook 6th Edition in 2016.

B. TOPICAL STUDIES

BACKGROUND

Along with the Outlook, APERC has been conducting research on topics relevant to energy affairs and policies in the APEC region.

OBJECTIVE

The objective of the topical studies is to share information on member economies' energy policies, and to provide useful information and insights to policymakers in the region.

PROGRESS

Topical studies on barriers to shale gas development, smart community, and renewable energy policy, were completed and published.

Topical studies on barriers to geothermal energy development and the benefits of electricity interconnection in Northeast Asia, and gas markets are also near completion and to be published soon.

Natural gas will increase its importance in the energy mix due to the availability of unconventional gas resources and its lower environmental impact compared to other fossil fuels. Production and trade of natural gas will be one of the major research themes pursued. In order to gather first-hand information on natural gas, APERC has co-hosted the LNG Producer-Consumer Conference in Tokyo with the Japanese Ministry of Economy, Trade and Industry annually, beginning with the first conference in September 2012. The second, third and fourth conferences were held in September 2013, November 2014, and September 2015.

As APEC energy ministers instructed at their 11th meeting in September 2014 in Beijing, China, APERC began a research project on the energy and economic competitiveness of the APEC region. This project is beyond the scope of Outlook 6th Edition and the first Workshop was held on 11 June 2015.

Additionally the APEC energy ministers instructed APERC, at their 12th meeting in October 2015 in Cebu, the Philippines, to formulate a document of best practices to enhance the quality of electric power infrastructure in the Asia-Pacific region. APERC has started to survey best practices.

MILESTONE

APERC will continue to research the energy and economic competitiveness of the APEC region and the quality of electric power infrastructure in the region.

C. APEC ENERGY OVERVIEW 2015

BACKGROUND

At the EGEDA 11th meeting held in March 2000, the APEC Energy Overview was proposed by Australia, and 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, fourteen editions have been issued up to 2014.

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 drafting of the APEC Energy Overview 2015 in November this year

MILESTONE

APERC will complete the work on the APEC Energy Overview 2015 in April next year.

D. PEER REVIEW ON ENERGY EFFICIENCY (PREE)

BACKGROUND

Improving 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 EWG35 meeting (Iquitos, March 2008), the APEC Peer Review on Energy Efficiency (PREE) was proposed by Japan and endorsed by EWG members.

Three 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); and
3. Energy Efficiency Policy Workshop provides a capacity building opportunity for robust policy making development in APEC, succeeding Cooperative Energy Efficiency Design for Sustainability (CEEDS) workshops for the same purpose.

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 sectoral basis and toward implementing action plans; and
- 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 EWG43 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 EWG44 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 EWG44 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 EWG46 meeting.

The second Follow-up PREE for the Philippines, focusing on industrial sectors and commercial buildings was carried out on 15-19 September 2014. The Draft Review Report was discussed and endorsed by EWG members at the EWG48 meeting.

The third Follow-up PREE for Thailand focused on the transport sector. During 3-7 August 2015 six experts from Australia; Indonesia; Japan; the United States (two); and UNEP participated for the Follow-up Peer Review. In Thailand they heard from various transport and energy related government agencies and associated bodies, as well as visiting an inland container depot, a truck terminal and the Thailand Automotive Institute. During the visit the experts provided preliminary findings and recommendations which have been incorporated in the draft Follow-up PREE report. At the time of writing this President's Report, the draft Follow-up PREE report was being reviewed by the Thai government in preparation for EWG50.

MILESTONE

The report of the third Follow-up PREE for Thailand is drafted and to be discussed and endorsed by EWG members at the EWG50 meeting.

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 EWG36 in Manila in December 2008 where it was discussed and endorsed

APERC published the first Compendium of Energy Efficiency Policies of APEC economies on its 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 has started the work on the 2015 Compendium in September this year and request EWG members to provide APERC with updated relevant information for the 2015 version.

3. ENERGY EFFICIENCY POLICY (EEP) WORKSHOP

OBJECTIVES

In order to streamline and prioritise APERC activities, APERC decided to integrate the Cooperative Energy Efficiency Design for Sustainability (CEEDS) project into PREE as a forum to further discuss key issues in the previous PREEs and to hold an 'Energy Efficiency Policy (EEP) Workshop' once a year in cooperation with EGEE&C instead of CEEDS workshops.

PROGRESS

A trial 'EEP Workshop' in conjunction with EGEE&C45 in Singapore was held on 23 March 2015 as a Self-Funded project. The focus was on the fundamentals of energy efficiency policy making and the development of stable funding mechanisms for agencies and programmes.

MILESTONE

The first 'EEP Workshop' will be held in conjunction with EGEE&C47 as part of PREE Phase 5, focusing on energy efficiency policy evaluation practice and capability..

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 assists volunteer economies to develop 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 focused on renewable energy and was held in Thailand on 21-25 May 2012. The peer review was conducted by a team of nine 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 EWG44 meeting.

The second PRLCE focused on the National Renewable Energy Program (including the Feed-in Tariff (FIT) system for renewable energy) and 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 EWG46 meeting.

The third PRLCE focused on renewable energy and 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 EWG46 meeting.

The fourth PRLCE for Malaysia focused on renewable energy and 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 EWG47 meeting.

MILESTONE

The budget of PRLCE Phase 3 for the fifth peer review in Viet Nam was already approved. APERC is preparing for the peer review in Viet Nam in 18-22 January 2016.

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.

APEC Energy Ministers therefore 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 a priority project 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; and
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 EWG44 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 EWG47 meeting.

LCMT Phase4: San Borja, Peru

San Borja, Peru, was selected as the case for the LCMT Phase 4 Project at the EWG46 meeting.

The refinement of 'The Concept of Low Carbon Town' was considered by Study Group-A assisted by APERC, and its 4th Edition was presented at the LCMT Task Force meeting held in conjunction with the EWG48 meeting. APEC Low-Carbon Town Indicator (LCT-I) System was drafted and presented at the said meeting too.

The feasibility study for the case of San Borja was carried out by qualified urban design consultants and reported to the LCMT Task Force meeting.

A policy review for San Borja was conducted by Study Group-B assisted by APERC in January 2015. The policy review report is currently being reviewed by the Peruvian side and to be published soon.

MILESTONE

LCMT Phase5: Bitung City, Indonesia

‘The Concept of Low Carbon Town’s’ refinement is being considered with a focus on Low-Carbon Measures. In order to finalise and create the guidelines for the APEC LCT-I System, several trials including the previous LCMT case towns will be undertaken. The project will also attempt to introduce the APEC LCT-I system into the global standard of International Organization for Standardization (ISO). The 5th Edition will be presented at the LCMT Task Force meeting to be held in conjunction with the EWG50 meeting.

The Feasibility Study for Bitung City, North Sulawesi Province, Indonesia was carried out by a qualified urban design consultant.

A policy review was conducted by Study Group-B assisted by APERC in early December 2015. Six experts from the APEC member economies, namely Australia, Korea, New Zealand, Philippines, Russia, and Thailand was formed to review the existing and planned policies and regulations in developing ‘Low Carbon Town’ in Bitung City, particularly the Bitung Special Economic Zone. The policy review report will be presented at the LCMT Task Force meeting to be held in conjunction with the EWG51 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 EWG and 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 part of the APEC Oil & Gas Security Exercises (OGSE), APERC organised 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 the 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 EWG47 meeting.

In reporting the result of OGSE to EWG47, 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 a scheduled basis, 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.

OGSI was endorsed as an APEC Self-Funded project at the EWG48 meeting.

PROGRESS

The Philippines volunteered to undertake the third APEC Oil and Gas Security Exercise (OGSE) which focused on oil and gas supply emergency. The OGSE in the Philippines was held in Manila

from 7 to 9 December 2015. This OGSE was also the first case to apply and test the implementation of the APEC Oil and Gas Security Exercise Model Procedure (EMP). The Expert Review Team was composed of 11 experts from international and regional energy organisations, and three from APEC member economies (Japan, Korea, and United States).

The OGS Newsletter for the OGSN is being produced and circulated on bi-monthly since December 2014. Six OGS Newsletters were released to date.

The first OGSN Forum was held in Kitakyushu City, Japan in 23-24 April 2015 and the initial results of the OGSS as well as EMP were presented.

The OGSS reports on the impact on oil distribution, petroleum product trading and security as well as melting of the Arctic sea ice have already been published.

The OGSS reports on oil supply security and emergency policy in the APEC region, the energy reform in Mexico and prospects and compromise points of the Arab Spring will soon be published.

MILESTONE

The report of OGSE in the Philippines will be compiled with the contribution of review experts and the Government of the Philippines.

The OGS Newsletter will continue to be published every other month and the seventh issue is scheduled to be published before end of this month.

The second OGSN Forum will be held in Kagoshima City, Japan in March 2016.

New topics for the OGSS have been chosen and research activities are already underway: ISIS and its risk for APEC; fuel supply in possible emergency situation; and APEC's energy security challenge: assessment and remedies.

2. Accepting Trainees and Dispatching Experts

BACKGROUND

APERC accepts energy modelling trainees, chiefly from developing economies in the APEC region. These trainees learn about developing and applying energy data, preparing energy demand and supply outlooks, and related matters.

APERC also sends experts to APEC economies to help develop energy data and prepare energy demand and supply outlooks, including experts on modelling techniques such as data management, energy balance preparation, macroeconomic modelling, and energy supply planning.

OBJECTIVE

To build the capacity of APEC economies in energy data management and projecting energy demand and supply.

PROGRESS

Three seminars were conducted in Tokyo in 2015. One was the 22nd Seminar on Energy Supply and Demand Outlook, which was held from August 17-21. In addition to this multi-economy seminar, small focused seminars were conducted twice. One was for a Thai official from August 10 through 21 and another was from November 18-24 for three researchers/officials from Mexico; Chinese Taipei; and Viet Nam in collaboration with the EGEDA Training Program on Energy Statistics.

In the expert dispatch program of 2015, workshops of actual energy model building were held for the following economies: Thailand (February); Mexico (March); the Philippines (July); Peru (September); Chinese Taipei (October); Indonesia (December); and Thailand (December).

3. Building Energy Data Management Networks

BACKGROUND

APERC has built an online communication network with energy organisations in APEC member economies. The network allows uniform management of energy data submitted by the APEC economies and the preparation of energy balance tables based on this energy data.

APERC is also the coordinating agency for the APEC Expert Group on Energy Data and Analysis (EGEDA) that meets each year.

APERC supplies data provided by APEC member economies to the JODI (Oil, Gas) database of the Joint Organisations Data Initiative (JODI) and works to improve data quality.

In addition, in order to upgrade Energy Data Management Networks, APERC started to accept energy statistics trainees from developing APEC member economies. APERC also started to send experts to APEC economies to help improve the quality of their energy statistics.

OBJECTIVES

To contribute toward improving the quality of energy policies and decision-making in APEC member economies and to increase the efficiency of the regional energy market by improving the quality, availability and accessibility of energy data.

1. To improve the availability and consistency of energy data and to develop an up-to-date and consistent APEC Energy Database, principally covering energy demand and supply data.
2. To construct an APEC energy data collection and dissemination network and to develop an on-line system for this purpose.
3. To collect 'Monthly Oil, Gas and Annual Capacity and Reserve Data' from APEC economies in support of 'Joint Organisation Data Initiative', as a joint activity of APEC, EUROSTAT, GECF, IEA, IEFS, OLADE, OPEC and UNSD.
4. To collect Energy Efficiency Indicators in support of the 'Energy Security Initiatives' cooperating with the Expert Group on Energy Efficiency and Conservation.
5. To increase the capacity of energy statisticians in APEC economies

PROGRESS

In April 2015, APERC established the internal Energy Statistics & Training Office (ESTO) to ensure efficient progress with activities described under points 2 and 3 above.

APERC collected the 2013 annual energy supply and demand data from 20 of the 21 member economies (Viet Nam was unable to submit its 2013 annual data at the time of drafting this reporting). And so, the APEC Energy Statistics 2013 does not currently include Viet Nam's 2013 energy balance table.

APERC has to estimate some of Papua New Guinea's and Singapore's data to be able to complete the 2013 energy balances. For Papua New Guinea, APERC conducted online research on the oil, gas and geothermal energy production of the economy. The JODI Oil and JODI Gas data that were submitted by the economy in 2013 were very useful in estimating the energy balance. For Singapore, APERC estimated refinery intake and output as well as the demand for individual petroleum products as the economy was not able to provide disaggregated data.

The EGEDA Training Program on Energy Statistics is now on its second year. APERC held a short-term course and a middle-term course for six trainees this year. The four trainees that participated in the short-term course from 17 to 28 August 2015 were from Malaysia, Papua New Guinea, Russia and Viet Nam. APERC provided classroom lectures and hands-on exercises in filling-out the APERC monthly and annual data reporting formats during the training course.

The two trainees in the middle-term course were from Mexico and Viet Nam. The training format was an internship. The trainees were asked to review their own economies' data in the APEC Energy Database to identify errors and make revisions or give suggestions on how the data could be improved. After finishing with their own economies, the trainees were also asked to review other economies data to identify inconsistencies. The trainees were also asked to help in the proofreading of the draft APEC Energy Statistics 2013 and APEC Energy Handbook 2013 publications. In addition to desk work, the trainees attended classroom lectures in energy model building.

APERC published the APEC Energy Statistics 2013 and APEC Energy Handbook 2013 on November 2015.

MILESTONE

APERC will published the APEC Energy Statistics 2014 and APEC Energy Handbook 2014 before EWG52.

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 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 is now directly responsible to EWG. 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. Activities to Support the Achievement of Energy Efficiency and Other Policy Objectives

A. APEC ENERGY DEMAND AND SUPPLY OUTLOOK 6TH EDITION

APERC is working on the APEC Energy Demand and Supply Outlook 6th Edition and is planning to publish the Outlook 6th Edition in 2016.

After the completion of the Outlook 6th Edition, APERC will start disseminating its results, including a special session at the IEEJ 50th/APERC 20th Anniversary Joint Symposium to be held on 26-27 May 2016 in Tokyo.

B. TOPICAL STUDIES

APERC will continue to research on the energy and economic competitiveness of the APEC region and the quality of electric power infrastructure in the region.

In addition, after the completion the Outlook 6th Edition, APERC will encourage its researchers to conduct research on energy affairs and policies in the APEC region for the interest of APEC economies as well as for the preparation of the Outlook 7th Edition.

The LNG Producer-Consumer Conference 2016 is scheduled to be held in November in Tokyo.

C. PREE

In PREE Phase 5, the report of the Follow-up PREE in Thailand on the transport sector will be published after endorsement from the EWG.

APERC will complete Compendium in early 2016.

APERC will hold the first 'Energy Efficiency Policy (EEP) Workshop' in cooperation with EGEE&C47 as a part of PREE Phase 5.

D. PRLCE

The PRLCE will be a very important instrument to achieve the APEC aspirational goal to double the share of renewable energy in energy (or power) mix in the APEC region. PRLCE Phase 3 for the fifth peer review in Viet Nam will be carried out in January 2016.

E. LOW CARBON MODEL TOWN (LCMT) PROJECT

APERC will assist Study Group-A to revise the 'Concept of the Low-Carbon Town' and Study Group-B to draft the 'Policy Review' report in Phase 5 of the LCMT project. The draft APEC Low-Carbon Town Indicator System will be finalised by EWG51.

APERC will start to prepare for the mission trip for Study Group-A.

F. OIL & GAS SECURITY INITIATIVE (OGSI)

The results of OGSE in the Philippines in December 2015 will be compiled into a report and presented to EWG51 if possible.

APERC will invite other APEC economies to host the next OGSE.

APERC will continue activities for OGSI including issuing OGS Newsletter, convening OGSN Forum and publishing results of OGSS.

2. Accepting Trainees and Dispatching Experts

APERC will dispatch experts to hold the short-term seminars on energy model building in early 2016 to Mexico and APEC island economies using their own data in cooperation with the activities of EGEDA Training activities on energy statistics. The expert dispatch in the middle to late 2016 is under consideration for other economies. The Tokyo seminar will be held in the second quarter of 2016.

APERC will establish a cooperation course on 'Energy Issues in Asia-Pacific Region' at the Graduate School of Asia-Pacific Studies, Waseda University in 2016, in commemoration of the 20th anniversary of APERC. For the time being, the course will continue for three years from 2016 to 2018. As a part of its training activities, APERC will enhance 'energy literacy' of future leaders of Asia-Pacific region in general and invite candidates of energy experts to further energy studies particular, through this cooperation course.

3. Building Energy Data Management Networks

The following are the plans for 2016:

- Set the deadline for submitting the 2014 annual energy demand and supply data on end of January and process data immediately upon receipt from member economies;
- Hold the APEC Workshop on Energy Statistics on 23-25 February;
- Publish APEC Energy Statistics 2014 and APEC Energy Handbook 2014 before EWG52;
- Organise the 28th EGEDA Meeting in Malaysia in the 4th quarter of 2016;
- Participate in international cooperation on energy statistics such as the Energy Statistics Working Group (ESWG) of IEA, JODI, International Energy Statistics (InterEnerStat) meetings, etc.; and
- Run the third EGEDA Training Program on Energy Statistics, APERC will hold the short-term course on energy statistics in July 2016, a month earlier than 2015. The middle-term training course will be held from October to November 2016.

III. RESEARCH MANAGEMENT

1. APERC Annual Conference

The APERC Annual Conference is held to gather expert input to help APERC's research activities. In 2015, it was held on 9-10 June in Tokyo and focused on the 6th Edition of the APEC Energy Supply and Demand Outlook. APERC invited experts from around the world to discuss:

- the preliminary results of the Outlook's business as usual;
- opportunities and barriers to improve energy intensity;
- how to achieve APEC's renewable energy doubling goal; and
- the design of electricity generation in APEC Economies, focusing on cleaner coal, natural gas and nuclear energy.

Next year, in addition to the APERC Annual Conference, the IEEJ 50th/APERC 20th Anniversary Joint Symposium will be held on 26-27 May in Tokyo to commemorate the important milestone of IEEJ's 50th and APERC's 20th foundation anniversaries respectively. APERC will report the final results of the 6th Edition of the APEC Energy Supply and Demand Outlook. The focus of discussions in the APERC Annual Conference will be dissemination strategies of the 6th Edition and the research topics for the 7th Edition.

2. APERC Advisory Board

Establishing the APERC Advisory Board was endorsed by the EWG16 meeting in Cairns, Australia, in August 1998. The Terms of Reference were endorsed by the EWG17 meeting in Oakland, the United States, in April 1999.

The Advisory Board is a group of representatives of major research institutions located in the APEC region, who help to facilitate the conduct of APERC's cooperative research. Its primary role is to give professional advice on APERC's on-going and proposed research, such as methodologies, approaches, databases, and information sources, as well as relevant experts to be involved. APERC carefully considers the advice provided by its Advisory Board members in proposing its research plan to the EWG.

In 2015, the Advisory Board Meeting was held on 11 June 2015 in conjunction with the APERC Annual Conference.

IV. APERC RESEARCH STAFF

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 to the researchers: 1) living allowance; 2) furnished housing in Tokyo; 3) family, education, commuting and moving allowances; and 4) health insurance.

As of 4th December 2015, APERC had a total of 25 research staff, of which 15 are Visiting Researchers from APEC economies.

Table 1: APERC Research Staff

Name
Takato Ojimi (President)
Kazutomo Irie (General Manager)
Cecilia Tam (Deputy Vice President)*
Masazumi Hirono (Deputy General Manager)
Hooman Peimani*
Edito Barcelona
Goichi Komori
Elvira Torres Gelindon
Chrisnawan Anditya*
Michael Ochoada Sinocruz*
Luis Enrique Camacho Beas*
Takuya Miyagawa
Choong Jong Oh*
Juan Roberto Lozano Maya*
Naomi Sarah Wynn*
Atit Tippichai*
Tran Thi Lien Phuong*
Takashi Otsuki
Martin Miguel Brown-Santirso*
Muhamad Izham ABD. Shukor*
Alexey Kabalinskiy*
Atikah Ismail*
Fang-Chia Lee*
Yuko Tanaka
Takako Hannon

* Visiting Researchers from APEC economies.

V. 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.

Unit: million yen

Fiscal Year	1996 9mns	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 (plan)
Revenue from:																				
Japanese Government	374	626	681	729	619	634	594	547	525	528	498	446	447	418	409	425	494	580	657	635
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	657	635
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	432	436
Oil & Gas Security																		107	68	108
Know-How Transfer Programmes	54	65	65	58	58	60	53	59	53	46	41	31	28	20	17	14	24	21	32	30
Energy Data Network Service	93	118	122	121	106	105	107	98	101	113	88	77	79	80	77	80	62	47	68	61
Total of Expenses	374	626	681	729	619	634	594	547	533	536	506	446	447	418	409	402	411	500	600	635

Table 2: APERC Revenues and Expenses