2012 Achievement Report

International Project for the Development of Measures for Rationalizing Energy Use
Project on Human Resources Development for Energy Conservation
(Project for the Promotion of Energy Conservation in ASEAN Countries)

Achievement Report

March 2013

The Energy Conservation Center, Japan

Contents

Overview of the Project

The various countries in the ASEAN region are continuing their rapid economic growth, and their energy consumption amounts are also expected to dramatically increase in the coming years. It will increasingly be necessary to give consideration to measures for efficient energy utilization and global warming prevention. As one aspect of these measures, activities following the ASEAN Plan of Action for Energy Cooperation (APAEC), which received the approval of the ASEAN Ministers of Energy Meeting (AMEM), are being implemented by the ASEAN member countries.
As a "Capacity Building" project in the Energy Efficiency and Conservation Program, a key activity field in the APAEC, there is the PROMEEC (Promotion of Energy Efficiency and Conservation) Project which was set and implemented under a cooperative framework between Japan and ASEAN. In the current fiscal year, human resource development was carried out by implementing the newly recreated AJEEP (ASEAN-Japan Energy Efficiency Partnership) Project instead of this PROMEEC Project.
With regard to the implementation of this project, the annual activity plan of the APAEC including the AJEEP Project was certified at the ASEAN Ministers of Energy Meeting (AMEM) that is held one time each year with participation by representatives of the Japanese Ministry of Economy, Trade and Industry (METI) including the Minister. Following these implementation plans the activities described below were implemented targeting persons related to the governments of each country, implementing organizations, and private industry groups.

AJEEP Scheme 1: Continuation of activities based on the PROMEEC Project results carried out by ASEAN countries themselves

AJEEP Scheme 2: Formulation of projects for developing energy conservation business in countries in the ASEAN region which have an advanced energy conservation promotion infrastructure (policies and legal systems), and development of the human resources required for promoting these projects

AJEEP Scheme 3: Development of the energy conservation human resources required for minimizing the differences in energy conservation promotion infrastructure (policies and systems development) between the countries in the ASEAN region. This will be implemented specifically for the CLM countries (Cambodia, Lao PDR, and Myanmar).

The activities relating to the Schemes described above were implemented by experts who were dispatched from Japan to the ASEAN member countries, and in addition training was carried out in Japan targeting the persons responsible for formulating the measures. The development of these human resources contributed to the promotion of energy conservation in the ASEAN region.

The new AJEEP activities which were started in the current fiscal year were implemented under the following program.

(1) Preparations for Implementing the AJEEP Project

- The AJEEP Project Basic Plan was discussed and formulated at the EE&C-SSN (Energy Efficiency and Conservation Sub-Sector Network) Annual Meeting.
- Approval was received at the SOME-METI Meeting (Senior Officials Meeting on Energy - METI). (ECCJ participated in the meeting as an observer.)
- The EE&C-SSN Focal Points from each country were invited to ECAP1 (invited training held in Japan). During the Workshop, explanations of the three Schemes were given and the opinions of each country were collected.

- An Inception Workshop was held in the Philippines. Out of the three Schemes, ECCJ developed proposed implementation plans particularly with regard to Schemes 2 and 3 based on the proposals from each country. At this Workshop, the plans were discussed and finalized, including the schedules.

(2) Specific Activities in Scheme 2 and Scheme 3

After approval of the implementation plans described above, preparations were made following these plans in each country and additionally inside Japan, and implementation was carried out as energy conservation human resource development activities. The specific activities are summarized below.

Scheme	Implementing Country	Activity Details
Scheme 2	Indonesia	Energy conservation diagnosis investigation in a cement plant, and human resource development activities using a Workshop
	Philippines	Energy conservation diagnosis investigation in a shopping mall, and human resource development activities using a Workshop
Scheme 3	Myanmar, Cambodia and Lao PDR	Workshop for building energy conservation policies and systems, and human resource development activities using on-site training

Finally, in implementing this project, we could obtain the full cooperation of ACE and the related organizations in each country, together with representatives of related businesses. We would hereby like to take this opportunity to express our sincere appreciation for all their efforts.

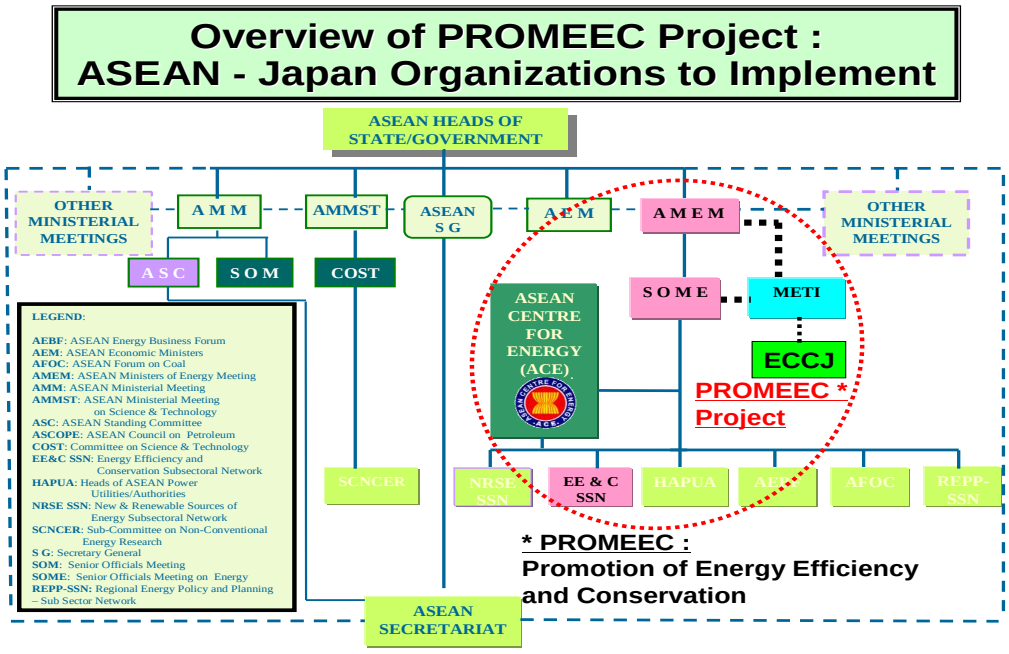
1. Energy Conservation Human Resource Development Project in the ASEAN Region

The ASEAN countries are formulating the ASEAN Plan of Action for Energy Cooperation (APAEC) in 5-year levels, and in the current fiscal year activities are being implemented according to the APAEC 2010-2015. Among these activities, with regard to the energy conservation field, human resource development was carried out by implementing the newly recreated ASEAN-Japan Energy Efficiency Partnership (AJEEP) Project in place of the PROMEEC (Promotion of Energy Efficiency and Conservation) Project that had been implemented over a 12-year period. Concerning the change to the new project, discussions were held about the Basic Plan and the plan was developed together with our counterparts, comprising the representatives in charge of energy conservation policy at energy-related government agencies in the 10 ASEAN countries (known as the Focal Points) at the Annual Meeting of the EE&C-SSN (Energy Efficiency and Conservation Sub-Sector Network) held in May. This Basic Plan was discussed at the meeting known as the SOME-METI that is held between senior officials of energy-related government agencies in the ASEAN countries (Senior Officials Meeting on Energy (SOME)) and the Japanese Ministry of Economy, Trade and Industry (METI). Finally it was taken up at the ASEAN Ministers of Energy Meeting (AMEM), where approval was received.

Following this receipt of approval, the specific activity details of the AJEEP Project to be implemented in the current fiscal year were discussed with the EE&C-SSN Focal Points described above at an Inception Workshop held in November. Detailed plans were determined, and these were implemented in five countries including Indonesia.

APAEC 2010-2015 expresses a target of an 8% reduction in regional energy intensity by 2015 compared to the 2005 figures, and the plan indicates the human resource development (persons required for policy planning and implementation and for the practical implementation of energy management in the industries and buildings sectors) and the energy management tool formulation required to achieve this target. Working towards the future, the importance of “human resource development” in particular is clearly reflected in the policies, and this project forms an important pillar for realizing these policies.

Fig. 1 PROMEEC Project Implementing Organizations



Regarding the implementation, the ASEAN Centre for Energy (ACE), which was established as the implementing organization of the ASEAN Governing Council, carried out the project coordination. The implementing structure between ASEAN and Japan with regard to the PROMEEC Project is shown in Fig. 1.

2. Overall Perspective of the AJEEP Project

2.1 The Three Schemes of the AJEEP Project

The PROMEEC (Promotion of Energy Efficiency and Conservation) Project was successfully completed, and it was decided to enter into a cooperation based on the three Schemes described below which were agreed at the SOME-METI Meeting held in July 2012 as the new ASEAN-Japan Energy Efficiency Partnership (AJEEP) Project. (Refer to Fig. 2 and Fig. 3.)

AJEEP Scheme 1: Continuation of activities based on the PROMEEC Project results carried out by ASEAN countries themselves

Operation development of the energy conservation promotion infrastructure will be carried out by ASEAN countries making use of the results of the PROMEEC Project. Each ASEAN country will make practical use of the framework and database for energy conservation promotion that has been built up in the PROMEEC Project until now. Regarding the application situation, in addition to utilization for carrying out information provision activities in the activity locations of each of the Scheme 2 and Scheme 3 countries, responses will be made in the case where there are suggestions or requests.

AJEEP Scheme 2: Formulation of projects for developing energy conservation business in countries in the ASEAN region which have an advanced energy conservation promotion infrastructure (policies and legal systems), and development of the human resources required for promoting these projects (Refer to Fig. 4.)

The fiscal year 2012 activity policy is to achieve the following objectives on the theme of "enhancing the energy conservation project development promotion in the industries and buildings sectors due to participation by the private sector".

ECCJ experts will participate as advisors (there is also participation by experts from Japanese private companies), who will give guidance to ASEAN energy managers and experts to act as a bridge to business development by formulating the energy conservation projects.

Through formulating the projects, the energy conservation project experts (energy managers with experience in energy conservation improvement projects) from the countries concerned will be developed into human resources who are fully familiar with Japanese energy conservation technologies.

Due to the participation by advisors from Japanese companies and ASEAN experts with the objective of project formulation, it will be possible to plan to realize the matching of Japanese energy conservation technology seeds with the needs on the ASEAN side. In addition, it is aimed to develop activity details that will contribute to the project development of ECCJ in the future. Details will be discussed and determined at an Inception Workshop.

AJEEP Scheme 3: Development of the energy conservation human resources required for minimizing the differences in energy conservation promotion infrastructure (policies and systems development) between the countries in the ASEAN region (Refer to Fig. 5.)

The subject countries of this scheme are specifically set as the CLM countries (Cambodia, Lao

PDR, and Myanmar). The policies and systems formulation for introducing and promoting energy management systems that match the national situation in the countries concerned, or the activities to support the development of human resources for formulating energy conservation regulations, will achieve the following objectives.

Concerning the objective of having each of the CLM countries possess the ability to conduct energy conservation policy formulation and energy conservation law implementation including the introduction and promotion of energy management systems, the feasibility will be enhanced by developing the human resources who will determine the specific implementation methods.

This process has already been experienced by ASEAN countries that are advanced in energy conservation promotion, and it is aimed to achieve effective implementation by encouraging the participation and communication of experiences by these advanced countries.

Fig. 2 The Three Schemes of the AJEEP Project

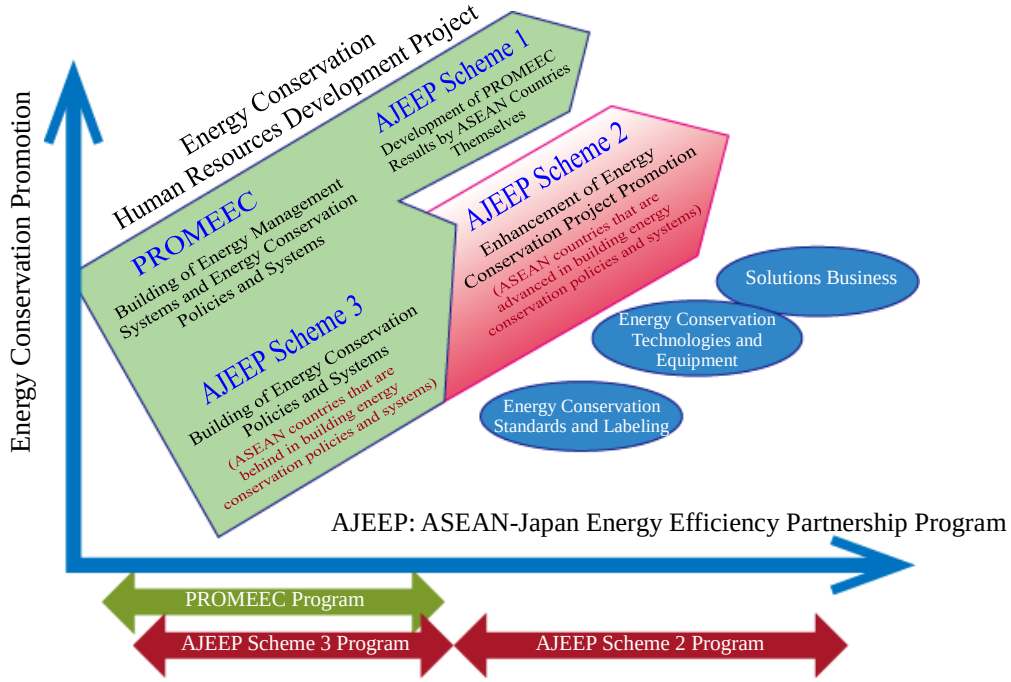
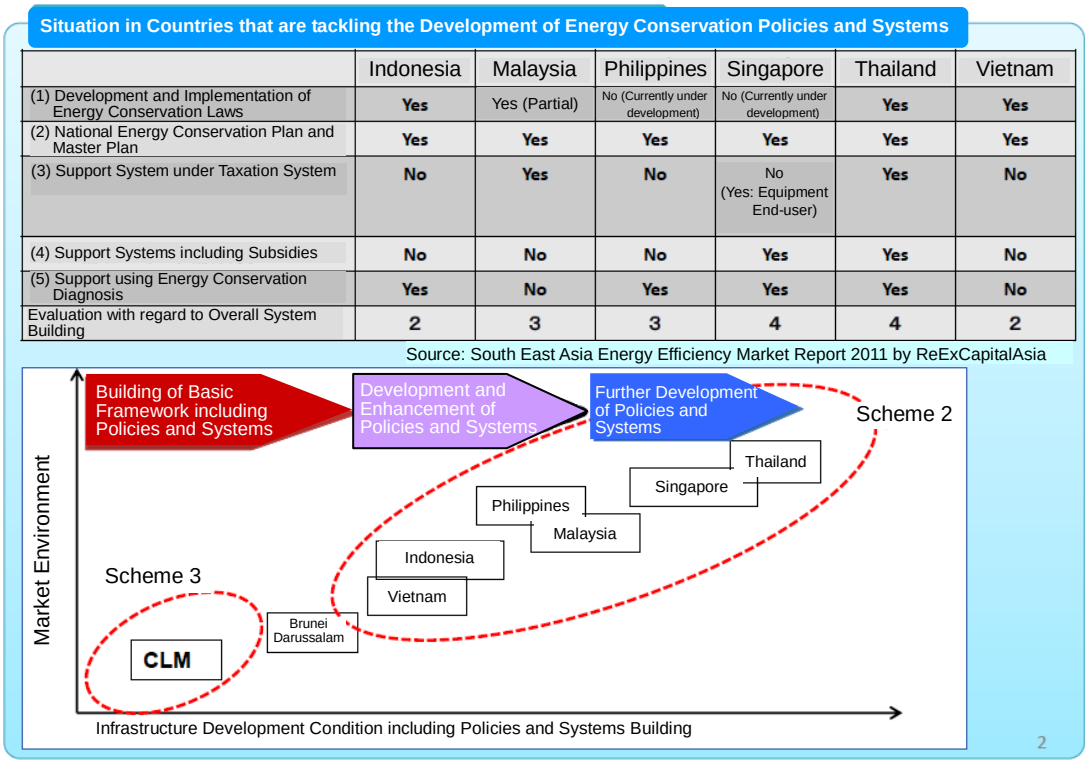
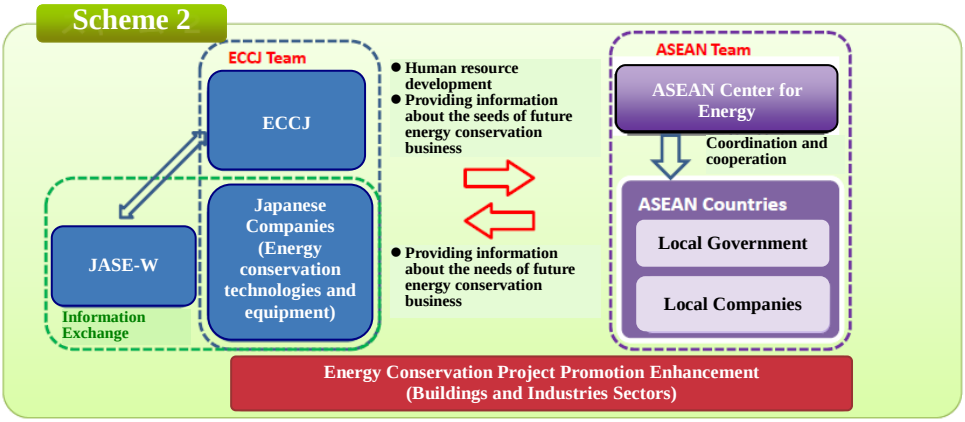


Fig. 3 Situation of Building Energy Conservation Policies and Systems in Each ASEAN Country, and the AJEEP Schemes



	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
(1) Development and Implementation of Energy Conservation Laws	Yes	Yes (Partial)	No (Currently under development)	No (Currently under development)	Yes	Yes
(2) National Energy Conservation Plan and Master Plan	Yes	Yes	Yes	Yes	Yes	Yes
(3) Support System under Taxation System	No	Yes	No	No (Yes: Equipment End-user)	Yes	No
(4) Support Systems including Subsidies	No	No	No	Yes	Yes	No
(5) Support using Energy Conservation Diagnosis	Yes	No	Yes	Yes	Yes	No
Evaluation with regard to Overall System Building	2	3	3	4	4	2

Fig. 4 AJEEP Scheme 2



Basic Process for Implementation

(1) Project proposals (themes and outlines) will be provided from each ASEAN member country. (Aiming for three project proposals from each country)

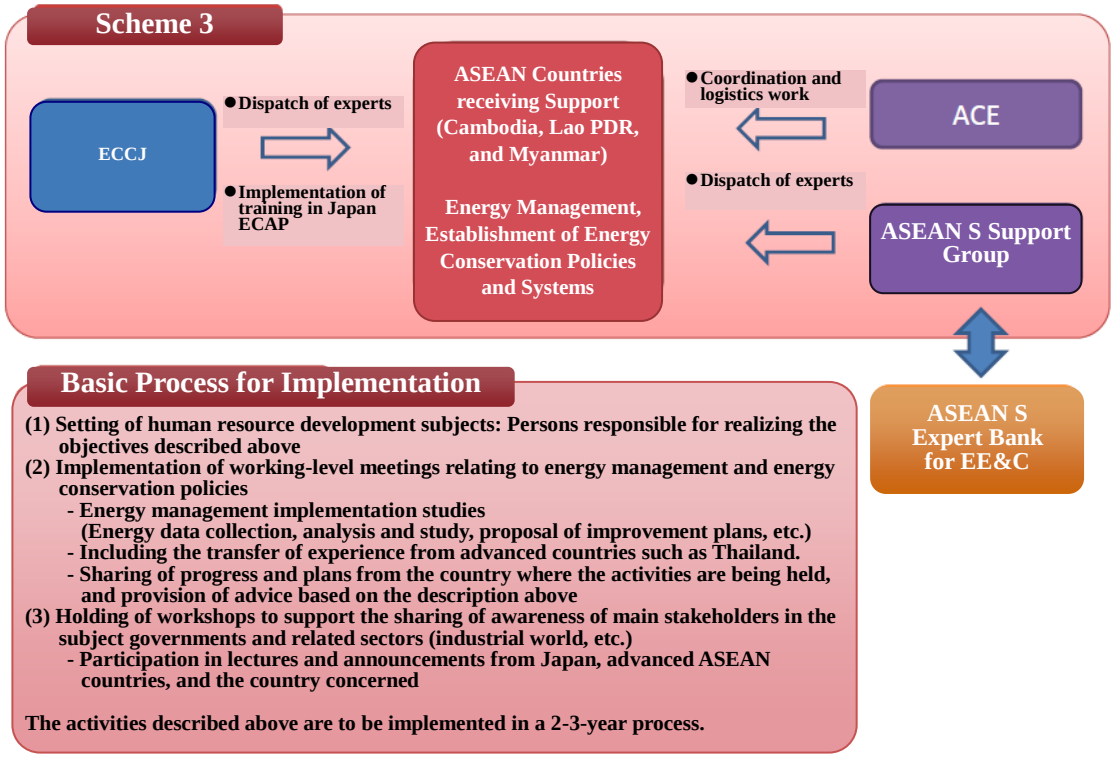
(2) Concerning the subject project themes, the sounding-out of Japanese companies with regard to participation and the narrowing-down to themes in which participation is possible will be carried out (maximum of three themes in fiscal year 2012). The sounding-out with regard to participation and the narrowing-down will be carried out in cooperation with JASE-W (particularly the Energy Conservation Solutions Working Group).

(3) Regarding the selected project themes, the participating Japanese companies will prepare proposals and will implement on-site investigations.
The site representatives, Japanese companies (advisors), ASEAN (development subject energy conservation project technical experts), and ECCJ will participate.

(4) Based on the investigations, the energy conservation project seeds will be identified in consideration of the local needs, and the proposals will be revised and submitted.

(5) Through carrying out processes (3) and (4), it will be possible to train, evaluate, and register ASEAN experts who will be knowledgeable about Japanese energy conservation technology and equipment and will have experience in energy conservation project development.

Fig. 5 AJEEP Scheme 3



2.2 Activities implemented in Fiscal Year 2012

AJEEP activities in the ASEAN region were implemented as follows.

(1) Preparations

As preparations for the AJEEP Project implementation, the following items were implemented.

- At the EE&C-SSN Annual Meeting, the AJEEP Project Basic Plan was discussed and formulated.
- At the SOME-METI Meeting, approval was obtained. (ECCJ attended this meeting as an observer.)
- The EE&C-SSN Focal Points from each country were invited to ECAP1 (invited training held in Japan). At the workshop, explanations of the three schemes were given, and the opinions from each country were collected.
- An Inception Workshop was held in the Philippines. Out of the three schemes, ECCJ developed proposed implementation plans particularly with regard to Schemes 2 and 3 based on the proposals from each country. At this Workshop the plans were discussed and finalized, including the schedules.

(2) Specific Activities of Scheme 2 and Scheme 3

After approval of the implementation plans described above, preparations were carried out in each country and in Japan following the plans, and were implemented in each of the following sectors.

Scheme 2: Energy conservation human resource development activities in Indonesia (Industries sector: Energy conservation diagnosis investigation in a cement factory and holding of a Workshop) and the Philippines (Buildings sector: Energy conservation diagnosis investigation in a shopping mall and holding of a Seminar)

Scheme 3: Energy conservation human resource development activities by holding a Workshop and on-site training for building energy conservation policies and systems in Myanmar, Cambodia, and Lao PDR

The above activities were successfully completed. The details are reported below.

3. Preparations towards the AJEEP Project Implementation

3.1 AJEEP Project Basic Plan Determination at the ASEAN EE&C-SSN Meeting

ECCJ attended the ASEAN EE&C-SSN Meeting, and carried out reporting of the results of the PROMEEC Project, which was implemented over a 12-year period. In addition, discussions were carried out with the ASEAN member country Focal Points regarding the Basic Plan of the new ASEAN-Japan Energy Efficiency Partnership (later named the AJEEP Project), and basic proposals were determined in order to acquire approval at the SOME-METI Meeting.

(1) Overview of Visit

An overview of the visit for attending this Meeting is indicated below.

- Dispatched Expert: Mr. Yoshitaka Ushio, General Manager, Technical Cooperation Department, International Cooperation Division
- Country Visited: Brunei Darussalam
- Purpose of Visit: Reporting the results of the previous fiscal year's PROMEEC Project (METI commissioned project: ASEAN energy conservation cooperation), confirmation of the project policies for the current fiscal year and beyond relating to the ASEAN-Japan energy conservation human resource development cooperation (cooperation policies following the PROMEEC Project), and gathering of information relating to ASEAN energy conservation policies and the activities of other donor organizations such as the EU with regard to the ASEAN region
- Visit Period and Work Schedule: From May 23 to May 26, 2012 (4-day period)

Schedule		Work Details
May 23	(Wed.)	Depart Narita Airport -> Hong Kong -> Arrive Bandar Seri Begawan Airport
May 24	(Thu.)	Observation of the Board of Judges meeting (BOJ) of the ASEAN Energy Awards (Energy Conservation Buildings Category), meetings with the ASEAN Centre for Energy (ACE) and the Focal Points (FP) of ASEAN member countries, etc.
May 25	(Fri.)	Attendance at EE&C-SSN Meeting
May 26	(Sat.)	Depart Bandar Seri Begawan Airport -> Hong Kong -> Arrive Narita Airport

(2) ASEAN EE&C-SSN Annual Meeting

This meeting is an important working-level meeting for confirming the progress of the energy conservation cooperation activities in the ASEAN region according to the APAEC (ASEAN Plan of Action for Energy Cooperation), discussing the 2012-2013 year plan, planning the SOME (Senior Official Meeting on Energy), and obtaining agreement at the AMEM (ASEAN Minister of Energy Meeting). At the meeting this time, working towards the implementation of the third year of the 5-year APAEC Plan (2010-2015), confirmation was carried out of the previous year's project implementation situation and the results, and discussions were held regarding the implementation plan for the current fiscal year's project.

Note that this report only describes the details of the discussions concerning the AJEEP Project.

(3) Discussions for Establishing the AJEEP Project Basic Plan held at the ASEAN EE&C-SSN Annual Meeting

Details Reported from ECCJ

- Results and successful completion of the PROMEEC Project (implemented over a 12-year period) and the MTPEC Project (implemented over a 7-year period), which are projects related to energy conservation human resource development in the ASEAN region
- Implementation report of the 2011-2012 year PROMEEC Project (Three projects: Major Industries sector, Buildings sector, and Energy Management)
- Comments relating to the three Schemes described below which were proposed by ASEAN

concerning the ASEAN-Japan energy conservation cooperations that are to start from the current fiscal year.

Scheme1: Raising the level of the activity contents that were implemented in the PROMEEC Project, and their continued implementation. The ASEAN countries will carry out the continuation themselves, but if required, advice can be obtained from Japan.

Scheme 2: Carrying out promotion of energy conservation business, and building up a platform that encourages the participation of private companies. With regard to Japan, ASEAN will request cooperation including the supply of information relating to energy conservation technologies and equipment.

Scheme 3: Building of a human resource development system in order to reduce the differences in levels of the energy conservation policies and systems building inside the ASEAN region. Japanese cooperation will be requested for projects in which support is given by ASEAN countries advanced in energy conservation to countries that are behind.

Comments from Representatives of Each ASEAN Country regarding the Report

Brunei Darussalam: We are satisfied with the PROMEEC activities that were held in Brunei Darussalam in the previous fiscal year. We also have no objections regarding the new Schemes.

Cambodia: We approve the contents of the report.

Indonesia: We have no objections regarding the previous fiscal year's results. Concerning the new Schemes, although we think that the circumstances will differ depending on each country, Indonesia gives its approval.

Lao PDR: Regarding the new Schemes, we give our support.

Malaysia: In order to achieve the target of reducing the ASEAN overall energy intensity, we support both Scheme 2, which promotes participation by private companies, and Scheme 3, which reduces the level differences between the ASEAN member countries.

Myanmar: Concerning energy management, we are behind compared to other ASEAN countries so we would like to participate in the new Schemes to allow us to catch up. We support the new Schemes.

Philippines: We have no objections to last year's activity results. We support the new Schemes proposed by ASEAN.

Singapore: In order to achieve the ASEAN energy conservation target of reducing the GDP energy intensity by 8% by 2015, and also to realize even longer-term targets, it will be necessary to improve the energy conservation promotion ability levels in all the ASEAN member countries. We therefore support the ASEAN proposal. As the next step, we would like ACE to indicate the specific activity details to the ASEAN member countries.

Thailand: Regarding the PROMEEC activities, we are grateful for all the hard work of the Japanese experts. Concerning the new Schemes, we support them and offer our cooperation

Comments from ECCJ and ACE

ECCJ: From the Japan side, we have no special objections to the ASEAN proposals. Regarding specific activities, we would like to hold mutual discussions in the future based on the proposals from ASEAN, then proceed with the implementation after obtaining confirmation from METI.

ACE: We would also like to receive specific proposals from ECCJ, then hold mutual discussions to decide the details. An Inception Workshop will be held in the latter half of July, where we would like to confirm the specific activity details for the current fiscal year.

(4) Specific Proposals for the Confirmation and Implementation of the Proposed Basic Plan of the New ASEAN-Japan Energy Efficiency Partnership (AJEEP)

The report of the results of the discussions at this meeting will be prepared by ACE, and the discussion details will be submitted as a report to SOME after obtaining the approval of the Focal Points in each country. Regarding the New ASEAN-Japan Energy Efficiency Partnership (AJEEP),

reporting was carried out as described below.

- The successful completion of the PROMEEC Project was confirmed.
- Concerning the cooperation in the current fiscal year and beyond, comments were made regarding the basic Schemes proposed by the ASEAN side, and the meeting gave its approval.
- Regarding the detailed activity contents in the current fiscal year, discussions will be held with ACE and METI (ECCJ), and activities will be finalized at the Inception Workshop in July.

A meeting was held separately with ACE, and discussions were carried out concerning the specific activity proposals described below.

- Concerning Scheme 1

  Advice will be given regarding the further development and improvement of the systems and tools for energy management that were created and developed in the PROMEEC Project. (To be implemented during Scheme 2 and Scheme 3 activities)
- Concerning Scheme 2

  Seminars and Workshops will be implemented at events such as exhibitions and forums relating to energy conservation that are planned in the ASEAN region, and the latest energy conservation technologies and equipment will be introduced there. Popularization will also be carried out of the case studies receiving awards at the ASEAN Energy Awards (energy conservation buildings, and energy management) which were built up in the PROMEEC Project. In the human resources development for ESCO company promotion, instruction (OTJ) will be implemented for local technical experts in the energy conservation diagnosis of buildings and factories that are planned to undergo improvements, and proposals for the introduction of highly efficient equipment (from Japanese companies) will be carried out. The results of these activities will be announced at the Workshops.
- Concerning Scheme 3

  Technical experts (qualified persons for energy management and diagnostic consultants) will be dispatched from ASEAN countries which are advanced in building energy conservation promotion infrastructures (Thailand, Malaysia, Singapore, and the Philippines) to carry out energy conservation diagnosis OTJ and energy management training in ASEAN countries that are lagging behind (Cambodia, Lao PDR, and Myanmar). Support will be provided by dispatching experts from Japan to assist with these unique ASEAN energy conservation human resources development activities.

- Human resources development for the purpose of building common high efficiency improvement standards (energy conservation standards and labeling systems) for home electronic appliances in the ASEAN region.

  Regarding the formulation of common efficiency standards (energy conservation labeling system) for home electronic appliances that is being proposed by the ICA (International Copper Association) and the UNEP (United Nations Environment Programme) with the support of the EU, some of the ASEAN countries are independently carrying out standards formulation work, and it is believed that this implementation will be difficult at the current point in time. Here we have a proposal regarding how it would be if the human resource development for the common standards building for all the ASEAN countries in the future was to be carried out under a multinational framework. Due to this cooperation, Japan would be able to take the leading role in this sector. Further, by implementing this human resources development project, it is believed that it could also contribute to the standards formulation that is being promoted in each country.

Regarding the specific activity details, these were to be determined by ACE and ECCJ during June, the approval of METI was to be obtained, and acknowledgment was to be received from the Focal Points of each ASEAN country at the Inception Workshop to be held in the latter half of July (this was actually held in the latter half of November) before being implemented.

(5) Results of Attendance at the ASEAN EE&C-SSN Meeting

This time, we attended the Annual Meeting held by the ASEAN Energy Efficiency and Conservation Sub-Sector Network (ASEAN EE&C-SSN). Regarding the ASEAN-Japan energy conservation cooperation, we reported the results of the PROMEEC Project, and we confirmed the facts that the PROMEEC Project had been successfully completed and that the future cooperation Schemes proposed by ASEAN had been approved. Further, in addition to determining the energy conservation promotion condition of each ASEAN member country, we could also gain a clear understanding of the activity situations of the other donors.

3.2 Attendance at the ASEAN+3 Related Meetings

(1) Overview of Visit

- Dispatched Expert: Mr. Yoshitaka Ushio, General Manager, Technical Cooperation Department, International Cooperation Division
  (Accompanying person) Mr. Shinichi Kihara, International Affairs Office Director, Policy Planning Division, Energy Conservation and Renewable Energy Department, Agency for Natural Resources and Energy
  Mr. Xxxx Washimi, International Natural Resource Energy Technical Expert, International Affairs Division, Director-General's Secretariat, Agency for Natural Resources and Energy
  Other organizations: Representatives of related organizations including IEEJ and NEF
- Country (City) Visited: Cambodia (Phnom Penh)
- Purposes of Visit:
  <1> To attend the 8th ASEAN+3(*1) NRE (New & Renewable Energy) and EE&C (Energy Efficiency & Conservation) Forum to report the results of the fiscal year 2011 PROMEEC Project, the completion of the PROMEEC Project, and the future ASEAN-Japan energy conservation cooperation policies.
  <2> To attend the SOME-METI(*2&3) Meeting as an observer.
  <3> To attend the 11th SOME+3-EPGG(*4) (Energy Policy Governing Group) Meeting and carry out reporting regarding the PROMEEC Project (Reporting a summary of the previous day's speech contents).
  <4> To carry out reporting regarding the activities of the Asia Energy Efficiency and Conservation Collaboration Center (AEEC) at the 17th EAS ECTF(*5) Meeting, and obtain confirmation from the East Asian countries (the ASEAN+3 described above, together with Australia, New Zealand, India, the United States, and the Russian Federation) regarding the continuation of activities by the above Center.

Work schedule: From July 2 to July 6, 2012 (5-day period)

Schedule	Work Details
July 2 (Mon.)	Travel: Narita Airport -> Phnom Penh
July 3 (Tue.)	Attendance at 8th ASEAN+3 NRE and EE&C Forum (Working-level meeting) (Gave speech)
July 4 (Wed.)	(Morning) Attendance at SOME-METI Meeting (As an observer) (Afternoon) Attendance at 11th SOME+3-EPGG Meeting (Reported a summary of the speech details given on the previous day)
July 5 (Thu.)	Attendance at 17th EAS ECTF Meeting, then after meeting finished, travel: Phnom Penh -> (Overnight flight)
July 6 (Fri.)	Travel: (Overnight flight) -> Narita Airport

[Explanatory Notes]

Note 1: ASEAN+3: Consists of the 10 ASEAN member countries together with the 3 countries of Japan, China, and South Korea.

Note 2: SOME (Senior Officers Meeting on Energy): Meeting of energy division vice ministers of each ASEAN country

Note 3: SOME-METI: Meeting between energy division vice-ministers of each ASEAN country and Japanese (METI) representatives

Note 4: SOME+3-EPPG: Meeting relating to energy policies between energy division vice-ministers of each ASEAN country and Japanese, Chinese, and South Korean representatives

Note 5: EAS ECTF: This is the "East Asia Summit Energy Cooperation Task Force" that was established based on the Cebu Declaration relating to the assurance of energy security which was agreed by the leaders of each of the East Asian countries in 2007. ECCJ is cooperating with this project by sharing information through AEEC.

Note 6: All of the meetings were held in the Hotel Cambodiana.

(2) AJEEP-related Discussions held at the 13th SOME-METI Meeting

The AJEEP Project Basic Plan of the New ASEAN-Japan Energy Efficiency Partnership was discussed, and was approved at this Meeting. The details were reported as the contents of the reporting and proposals from ASEAN regarding the ECCJ-related projects (PROMEEC and MTPEC) which were reported and discussed at the Summary & Post Workshop held in March (the meeting participated in by the Focal Points of the ASEAN member countries, ACE, and ECCJ, at which the results of the 2011-2012 activities were reported and confirmed, and the 2012-2013 activity policies were discussed).

In addition, reporting was made of the results over the 12-year period of the PROMEEC Project and the 7-year period of the MTPEC Project, and it was confirmed that these projects had contributed to energy conservation promotion in the ASEAN countries.

The three new Schemes (the same as the schemes announced by ECCJ at the previous day's Forum) of the cooperation projects that are to be implemented from the current year to develop both these cooperation projects were also introduced, and specific activity details were proposed for each of the Schemes.

- Scheme 1: Raising the level and conducting continuous implementation of the activity contents that have been implemented in the PROMEEC Project (to be implemented by the ASEAN countries themselves)
- Scheme 2:
  - <1> Human resource development to popularize ESCO
  - <2> Promotion and popularization of the energy conservation-related Awards System that is currently being implemented (energy-efficient buildings and energy management), and building of a new Awards System (Energy efficient products: Japan Energy Conservation Grand Prize)
  - <3> Human resource development for formulating unified ASEAN energy conservation standards for home electronic products
- Scheme 3: Building of a human resource development system by ASEAN countries which are advanced in energy conservation for ASEAN countries that are lagging behind (By building an ASEAN human resource bank, ASEAN experts can be discovered, and Japan will provide support for the building of the system for dispatching experts.)

Q&As (ECCJ-related projects)

Proposals and comments from ASEAN countries

Thailand: Concerning the specific programs, we would like to request the cooperation of Japan in upgrading the ASEAN energy conservation standards. Rather than formulating general standards for all of the ASEAN countries, it will be necessary to formulate standards that match the technical level of each country and then raise the levels. For example, considering the example of energy conservation efficiency standards for electrical equipment, we would require cooperation for creating standards for each of the CLM countries (Cambodia, Laos, and Myanmar) that match the technical level of the country concerned.

Cambodia: There are differences in levels with regard to energy conservation technologies in each of the ASEAN countries. Particularly with regard to CLM countries, it will be necessary to reduce these differences, and we would like to plan to equalize the levels with Japan's cooperation.

Malaysia: The formulation of minimum energy conservation standards for ASEAN overall will be required.

Indonesia: In the scope of the new Schemes in the PROMEEC Project, in addition to energy conservation we would like to request the inclusion of NRE (New and Renewable Energy) capacity building which has recently been increasing in importance.

Responses from METI

- Japanese cooperation will be possible regarding the human resource development project for formulating energy conservation standards that match the technical level of each country, and increasing the levels. Specifically, we will gather together the persons related to ASEAN energy conservation standards formulation and create a table that allows comparison of each country's energy conservation standards formulation situation, standards level, and implementation condition. This will allow countries to understand their own level, enabling creation of Action Plans for each country based on this information, and these plans will be implemented. Implementation will be possible using these kinds of PROMEEC and MTPEC cooperation methods.
- Regarding the inclusion of NRE in the new PROMEEC Project and MTPEC Project, we will investigate this after we return to Japan.

(3) ECCJ Future Support

Regarding the MTPEC Project, we will carry out training that focuses on capacity building for formulating and raising the levels of the energy conservation standards. For the cooperation in implementing the action plans created in this training (standards formulation guidance, Seminars/Workshops for sharing information within the ASEAN region, etc.), support will be provided by dispatching experts.

Regarding the matter of including NRE in the scope of the new PROMEEC Project, ECCJ will investigate the range over which implementation will be possible while receiving advice from IEEJ and the New Energy Foundation. After obtaining the approval of METI, discussions will be held with ACE and the ASEAN Focal Points to decide the activities.

In addition, regarding the specific activity proposals for the current year in the new Schemes in the New PROMEEC Project proposed by ACE, discussions will be held with ACE and the Focal Points of each ASEAN country. After obtaining the approval of METI, the activities will be decided at the Inception Workshop that is planned to be held in August.

(4) Attendance at Other Forums and Meetings

As indicated in "Purposes" in the Overview of Visit, we attended two other Forums and Meetings as speakers, in which we reported the results of the PROMEEC Project and MTPEC Project, and introduced the AJEEP Project as Japan and ASEAN's new energy conservation human resource development project that is to start from the current fiscal year. In addition, we attended the 17th EAS ECTF(*5) Meeting to give a report regarding the activities carried out by the Asia Energy Efficiency and Conservation Collaboration Center (AEEC), and we obtained confirmation from each East Asian country (the ASEAN+3 described above, together with Australia, New Zealand, India, the United States, and the Russian Federation) concerning the continuation of the same center's activities.

(5) Results of Attendance at the ASEAN+3 Related Meeting

This was the first time for ECCJ to participate in the ASEAN+3 related meetings together with METI. Appeal was generated among the senior level persons from energy-related ministries and agencies in the ASEAN member countries for the results of the energy conservation human resource development projects (PROMEEC and MTPEC) being implemented by ECCJ, together with the Basic Plan of the AJEEP Project that is newly starting from fiscal year 2012. By gaining the full understanding of these persons, it is planned to realize smooth implementation of future projects.

We could obtain a real feeling that the PROMEEC and MTPEC Projects are being highly evaluated

among energy conservation-related persons in the ASEAN region.
Regarding the speech by ECCJ, many comments and questions were received. In addition, by carrying out exchanges of information with ASEAN energy conservation-related persons on occasions other than the meetings, it was possible to obtain valuable information concerning the support expected from the Japanese government by the ASEAN side with regard to the development of specific activity plans for the AJEEP Project which is to newly start. As examples, there are the requests for introductions of the NRE field and the energy conservation efficiency standards and labeling fields.

3.3 Invited Training in Japan

Invited training in Japan as part of the AJEEP Project, known as ECAP1 (Energy Conservation Training Course under AJEEP-1), was conducted for the first time. The Focal Points of each EE&C-SSN ASEAN country (9 countries apart from Brunei Darussalam) or their representatives were invited, and a Workshop was implemented. The results of the implementation are reported below.

3.3.1 ECAP1 Implementation Results

(1) Implementation Overview

Implementation Period	November 9 to November 16, 2012 (6-day period) *Activity breakdown: Announcements and discussions: 3 days, lectures: 2 days, visits and tours: 1 day
Invitees	No. of trainees: 19 persons (Subjects: Focal Points or their representatives from the 10 ASEAN countries, together with working-level officials from divisions relating to standards certification) Cambodia: 2 persons, Indonesia: 2 persons, Lao PDR: 2 persons, Malaysia: 2 persons, Myanmar: 2 persons, Philippines: 2 persons, Singapore: 2 persons, Thailand: 2 persons, Vietnam: 2 persons, ACE (re-commissioned destination counterpart) person in charge of implementing training: 1 person
Objectives of Training	- Activity plan formulation regarding the AJEEP basic activity program - Relating to the above, taking the household electrical appliance energy consumption efficiency standardization promotion in each country as the theme, plan to develop human resources for this purpose
Key Contents	- Promotion of energy conservation standards and labeling systems - Promotion of energy consumption efficiency standards

(2) Training Details

Situation Reporting	Reporting was carried out by each participating country of the energy consumption efficiency standards current situation, issues, and solution strategies
Lectures	- Keynote speech: Japan's energy conservation policies and measures - Japan's Top Runner Program and labeling system - Situation of implementing energy conservation standards and labeling systems in the various Asian countries - Measures in Japan for LED lighting popularization, and linking with the various Asian countries in the future - Actual situation and trends of air conditioner energy consumption efficiency standards in Japan - Actual situation and trends of refrigerator energy consumption efficiency standards in Japan
Discussions and announcements	- Mid-term report regarding the activity plan formation relating to the AJEEP basic activity program - Household electric appliance energy consumption efficiency standardization promotion plans for each ASEAN country
Tour Visits	- Tour visits regarding air conditioner energy consumption efficiency standards - Tour visits regarding refrigerator energy consumption efficiency standards

(3) Evaluation of Implementation

Trainees (Evaluation sheet)	In response to the question of "Was the training content useful for your current work?" the evaluation averaged 4.8 points (out of a maximum of 5 points). In response to the question of "Was the training as you expected?" the evaluation averaged 3.9 points.
Main Lecturers	<1> The training was jointly held for the Focal Points (FPs) together with the persons in charge of the energy conservation standards and labeling systems, and it is believed that the training formed a valuable location for a wide range of information exchanges for each country. <2> Because the progress situation relating to energy conservation standards, etc. greatly differ in each country, group activities for each country were implemented this time. It is believed that the case studies of ASEAN countries where promotion is advanced was also a beneficial information supply for countries where promotion is still developing. These included the case of Thailand, which combines the MEPS (Minimum Energy Performance Standard) mainly comprising the securing of safety standards that match the country's situation with the HEPS (High Energy Performance Standard) that is based on Japan's Top Runner Program, the cases of Malaysia and Singapore, which are devising activity promotion systems and methods, and the case of the Philippines, where a plan has been developed that further tries to make a balance between the progress of MEPS and HEPS.
Training Cooperation Unit (Secretariat)	Due to the exchanges of information between each ASEAN country, we believe this provided a good opportunity to promote a spontaneous framework to realize mutual education among the participants. We would anticipate that the participants will make use of these experiences after returning to their countries. We believe that the number of participants from METI and ECCJ for the report announcing and the discussion result announcement should be increased, and that this effort will also still be required in the future.

(4) Training Schedule

Date	Morning Portion (9:30-12:30)	Afternoon Portion (14:00-17:00)
November 9 (Fri.) [Day 1]	Orientation Program Guidance Explanation of Group Work Opening Ceremony Lecture: Japanese Energy Conservation Policies and Measures	Trainee report announcement: ASEAN member country energy consumption efficiency standards current situation, problems, issues, and solution strategies, etc.
November 10 (Sat.)	Day off	Day off
November 11 (Sun.)	Day off	Day off
November 12 (Mon.) [Day 2]	Lecture: - Japan's Top Runner Program and labeling systems	Lectures: - Harmonizing the energy conservation examination method standards with the various Asian countries - Measures in Japan for LED lighting popularization, and linking with the various Asian countries in the future Opinion Exchanges Current situation of standardization and labeling systems in ASEAN countries
November 13 (Tue.) [Day 3]	Lecture: Actual situation and trends of air conditioner energy consumption efficiency standards in Japan	Lecture: Actual situation and trends of refrigerator energy consumption efficiency standards in Japan
November 14 (Wed.) [Day 4]	Tour visit regarding air conditioner energy consumption efficiency standards (Research facility)	Tour visit regarding refrigerator energy consumption efficiency standards (Research facility)
November 15 (Thu.) [Day 5]	Group Work: Discussions for formulating activity plans	Group Work: Activity plan announcement preparation
November 16 (Fri.) [Day 6]	Activity plan announcement	Activity plan announcement Overall discussion/Guidance and summing-up by chief lecturer Closing Ceremony

3.3.2 Requests from ASEAN Countries relating to the AJEEP Project

During the 5-day ECAP1 training period (November 9-16), a Workshop was implemented during a one and a half day period inviting the Focal Points of the EE&C-SSN ASEAN member countries (9 countries apart from Brunei Darussalam) or their representatives. As well as deepening their understanding regarding the AJEEP Project objectives and activity details, their opinions including specific proposals were sought concerning the activity details. The following tables show the information and opinions received from the ASEAN side regarding Scheme 2 and Scheme 3.

(1) Information and Opinions relating to Scheme 2

Country	Policies anticipated from the AJEEP activities, background, etc.
Indonesia	Background: In all sectors, an energy conservation target of 17% by 2025 has been set. (Particularly in the cement industry, an annual 2% energy conservation target has been set.) Regarding government buildings, a 10% energy conservation target has been set, and it is planned to implement human resource development for ISO 50001 certification. Proposed activity theme: Promotion of energy conservation projects in the Industries sector (Boilers, chillers, etc.)
Malaysia	Background: Regarding government buildings, a 10% energy conservation target has been set. We are investigating EPC (ESCO agreement) stipulations for ESCO company promotion.
Philippines	Background: We are promoting ISO 50001. Regarding government buildings, a 10% energy conservation target has been set due to carrying out improvement work. Concerning lighting, improvements have already been completed, and we are intending to improve air conditioning in the future. Proposed activity theme: Energy conservation projects in government buildings (Air conditioning equipment, promotion of BEMS, etc.)
Singapore	Background: Various kinds of energy conservation measures are being implemented. The promotion of private company participation, financial support measures, and energy conservation diagnoses for ESCO company promotion is also being implemented.
Thailand	Background: Regarding 800 designated government buildings, a 15% energy conservation target has been set. A Seminar is proposed at the ESCO Fair that is to be held in January 2013
Vietnam	Background: An 8% energy conservation target has been set over a 5-year period. In industries including the cement industry we would like to implement an energy conservation human resource development project.

(2) Activity Proposals in Each Country relating to Scheme 3

Implementation Country	Activity Details	Cooperating Country
Cambodia	Creation of draft standards and regulations in energy management systems Energy conservation diagnosis for promoting energy management systems	Malaysia Singapore Thailand
Lao PDR	Creation of draft standards and regulations for energy conservation promotion Practical training for introducing energy management systems	Philippines Thailand Vietnam
Myanmar	Formulation of energy conservation policies Creation of draft standards and regulations for energy conservation promotion (Particularly for energy management systems) Practical training for introducing energy management systems	Indonesia Malaysia Philippines Thailand

3.4 Implementation of the Inception Workshop

(1) Overview of Visit

- Dispatched Experts: Mr. Akira Ishihara, General Manager, International Cooperation Division
  Mr. Yoshitaka Ushio, General Manager, Technical Cooperation Department
- Location: Manila (Philippines)
- Purpose of Visit:

Representatives of the ASEAN countries were to gather together to hold a Workshop to formulate specific activity implementation plans for fiscal year 2012 for the ASEAN-Japan Energy Efficiency

Partnership Program (AJEEP), the energy conservation human resource development which had been agreed at the meeting between the ASEAN vice-ministerial level Senior Officials Meeting on Energy (SOME) and METI held in Cambodia in July. At the Workshop, the ASEAN energy conservation department (EE&C-SSN) representatives (the Focal Points or their representatives) from the 10 ASEAN countries and ACE (ASEAN Centre for Energy) were to participate to determine the implementation plans.

・Work Schedule and Visit Period: November 28 to December 1, 2012 (4-day period)

Schedule		Work Details
November 28	(Wed.)	Narita Airport -> Manila Meeting with ACE (Confirmation of preparations for Meeting)
November 29	(Thu.)	9:00-16:30 Workshop Day 1
November 30	(Fri.)	9:00-12:00 Workshop Day 2
December 1	(Sat.)	Manila -> Narita Airport

(2) Specific Activity Details for Scheme 2 in Fiscal Year 2012
An explanation was given by ECCJ of proposed specific activities for Scheme 2 in fiscal year 2012, and the details were confirmed for each of the countries subject to this scheme regarding the implementation proposals for Scheme 2 projects received from each country.

Implementation Projects for Scheme 2 in Fiscal Year 2012
The proposals submitted at the meeting by countries subject to Scheme 2 are shown in section (3), but in the discussions it was confirmed that the proposals described below were to be implemented in the current fiscal year. Regarding the proposals, agreement was obtained from METI, and implementation plans were developed.

<1> Industries Sector: Indonesia (Approximately 1 week from February 18, 2013)
Cement Plant
[Reason for Selection]
Cement plant projects were proposed by Indonesia and Malaysia. Following the recent economic development in the ASEAN region, a construction boom is causing the cement manufacturing amount to greatly increase. The cement industry consumes large amounts of energy, and we judged that it would be necessary to respond to the request that it should be taken as a Scheme 2 subject. In particular, as a government policy, Indonesia is making great efforts to improve energy conservation in the cement industry.
In the food industry, there was a proposal relating to a sugar manufacturing factory from the Philippines. However, because this also included a waste product (biomass) power generation element in addition to the energy conservation, we decided not to implement it this time. (Regarding this project, we will introduce it to the Business Alliance Support for EE&C Department.)

<2> Buildings Sector: Philippines (Approximately 1 week from February 4, 2013)
Hospital
[Reason for Selection]
This was the only proposal in the Buildings sector. Further, considering that hospitals have large energy intensities and a high energy conservation potential, we added this proposal as a subject in the current fiscal year. (Note that this was changed to a shopping mall at a later date.)

(3) Details of Proposals received from Countries subject to Scheme 2
The proposals for this Scheme received from each of the ASEAN countries that are subject to Scheme 2 are described below.

Country	Proposal Details
Brunei Darussalam	No proposals. They are considering participation in the next fiscal year.
Indonesia	(1) Factory Name: Cement Plant 1 Manufactured product: Portland cement Scope (Manufactured amount): 1.2 million tons/year Equipment subject to Investigation: Crushers, raw mills, kilns, finish mills, packers Proposed improvements: Improvement of operation modes, electric power reduction of approximately 10 million kWh/year through the introduction of inverters, etc. Other: A FS has been carried out. Agreement has already been obtained from the factory owner regarding participation in these activities.
	(2) Factory Name: Cement Plant 2 Manufactured product: Portland cement Scope (Manufactured amount): 3.4 million tons/year Equipment subject to Investigation: Kiln boilers, de-dusting chambers, condensing steam turbines, generators, etc. Proposed improvements: Waste heat recovery equipment Other: A FS has been carried out. Agreement has already been obtained from the factory owner regarding the participation in these activities.
Malaysia	(1) Factory Name: Cement Plant Manufactured product: Portland cement Scope (Manufactured amount): 3.17 million tons/year Equipment subject to Investigation: Boilers, generators, pre-heaters, kilns Proposed improvements: Waste heat recovery Other: A FS has been carried out. Agreement has not yet been obtained from the factory owner.
	(2) Factory Name: Chemicals Plant Product: Stretch Film (Film for wrapping use) Scope: Energy consumption 7,946,554 kWh Subject Equipment: Chillers (refrigerators), inverters, etc. Improvement Proposal: Replacement of chillers, introduction of inverters Other: A FS has been carried out. Agreement has not yet been obtained from the factory owner.
Philippines	(1) Factory: Sugar-manufacturing plant (One company out of six companies) Subject Equipment: Equipment centered on cogeneration (biomass) Improvement Proposal: Energy management centered on the improvement of cogeneration in a sugar manufacturing factory. Other: A FS has been carried out. This is a government project.
	(2) Building Name: Hospital Subject Equipment: Air conditioning equipment Improvement Proposal: Project of removing window-mounted type air conditioning, and improving to a district heating and cooling supply system. The DOE is in the process of establishing an ESCO company as an ESCO project. Other: A FS has been carried out. This is a government project.
Singapore	No specific proposals were submitted. They are not interested in participating in the Buildings sector and General Industries sector. There is a possibility that they will participate in the Electric Power Supply sector.
Thailand	No proposals were submitted this year. They are intending to participate in the next fiscal year.
Vietnam	There were no proposals relating to separate businesses. They will participate in the AJEEP Project on the themes of energy conservation standards and labeling of equipment including industrial equipment. They would appreciate support from Japan regarding these themes.

Proposals were only obtained from the three countries of Indonesia, Malaysia, and the Philippines.

(4) On-site Activity Plans for Scheme 3

Confirmation was carried out of the proposal details for Cambodia, Lao PDR, and Myanmar, and discussions were held regarding the activity plans shown below.

Subject Country (Period)	Activity Details	ASEAN Supporting Country
Cambodia 5-day period (January 14-18)	Workshop on developing draft energy conservation policies, regulations, and standards (2 days) Energy management training using the Energy Management Handbook (1 day) On-site practical training in energy management (Data administration, report preparation, etc.) (1 day) Activity locations: Phnom Penh (January 14-15), Siem Reap (January 16-18)	Malaysia Singapore Thailand
Lao PDR 5-day period (January 28-February 1)	Workshop on developing draft regulations and standards for energy conservation promotion (2 days) Energy management training using the Energy Management Handbook (1 day) Factory visit and advice for energy management popularization (2 days) Industry: Jiplai Fan Factory Building: MEM Building (Government building 6 stories) Activity location: Vientiane	Philippines: Building and housing Thailand: Legal systems and labeling Vietnam: Industry sector
Myanmar 4-day period (January 7-10)	Workshop on developing draft energy conservation policies, regulations, and standards (Working level: 2 days) Workshop on developing draft energy conservation policies, regulations, and standards (Government senior official level: 1 day) Energy management training using the Energy Management Handbook (1 day) Location: Nay Pyi Taw	Indonesia Malaysia Philippines Thailand

Note 1: Myanmar strongly requested that a Senior Official Level Workshop should be included in the contents. The reason for this is that Myanmar is still at the initial stages regarding industrial policies, so that also concerning energy conservation, Myanmar wishes to start by gaining awareness among high level officials.

Note 2: Preparations for the implementation: Each CLM country contacted each of the ASEAN supporting countries regarding the specific themes that they wished to gain advice on in the activities. The supporting countries selected experts based on the requests from each of the CLM countries and then carried out the preparations for the Workshop.

(5) Results

Because the ASEAN EE&C-SSN Focal Points or their representatives from all 10 ASEAN countries participated in these Workshops, the basic policies for implementing the new ASEAN-Japan Energy Efficiency Partnership (AJEEP Project) could be shared among all the government persons related to energy conservation.

Due to the lively discussions during the 2-day Workshop, the AJEEP specific activity details for fiscal year 2012 were confirmed, and preparations for their implementation could be started.

4. AJEEP Project Scheme 2

4.1 Dispatch of Experts

Concerning the AJEEP Scheme 2 Projects, Japanese experts were dispatched and the activities were implemented in Indonesia and the Philippines. As mentioned previously, these projects were implemented in the countries in the ASEAN region that are advanced in implementing the energy conservation promotion infrastructure (policies and legal systems) in order to formulate projects for developing energy conservation business and developing the human resources necessary for its promotion. The fiscal year 2012 activity plan was implemented under the theme of "Enhancing the Promotion of Energy Conservation Project Formulation in the Industry and Buildings Sectors through the Participation of the Private Sector".

4.2 Activity Overview

(1) Activity Overview

Item	Indonesia	Philippines
City where Implemented	Makassar (Sulawesi Island)	Angeles City in the outskirts of Manila
Schedule	February 18-22, 2013	February 25 to March 1, 2013
Dispatched Experts	<1> Mr. Tsutomu Okamoto (ECCJ Technical Cooperation Department General Manager): Leader (Project overall planning and progress, and industries sector energy conservation overall) <2> Mr. Jiro Kitagawa (ECCJ Technical Cooperation Department Technical Expert): Cement and process technologies <3> Mr. Kazuhide Kunitoku (ECCJ Technical Cooperation Department Technical Expert): Electrical energy <4> Mr. Daniel Pintado (JFE Engineering Corp., Singapore Branch Technical Sales): Waste heat recovery power generation <> Mr. Hirofumi Hamayotsu (JFE Engineering Corp., Overseas Business Division Southeast Asian Office): Waste heat recovery power generation	Mr. Yoshitaka Ushio (ECCJ Technical Cooperation Department General Manager): Leader (Project overall planning and progress, and buildings sector energy conservation overall) Mr. Shuichi Kitamura (ECCJ Buildings Energy Conservation Department General Manager) Sub-leader (Diagnosis investigation planning and implementation leader, air conditioning technologies) Mr. Toshihiko Sudo (Nikken Sekkei Research Institute): Building facilities design and district heating supply Mr. Tatsuya Hayashi (Hokuriku Electric Power Company): Energy conservation diagnosis (Measurement and analysis) Mr. Munehiro Shaura (Hokuriku Electric Power Company): Energy conservation diagnosis (Measurement and analysis)
Details	Holding of a Workshop with the main themes of energy conservation diagnosis investigations and waste heat recovery power generation equipment introduction FS investigations and cement plant energy conservation and the latest technologies for energy conservation project formulation in a cement plant.	Holding of a Workshop with the themes of energy conservation diagnosis investigations and energy conservation improvement proposals and energy conservation technologies (air conditioning systems) for energy conservation project formulation in a shopping mall on the outskirts of Manila.

(2) Activity Schedule

- Activity Details in Indonesia and Schedules of Each Expert

Schedule	Work Details
February 15 (Fri.)	Travel (Mr. Kunitoku): Kumamoto -> Narita Airport (Stay at Narita)
February 16 (Sat.)	Travel (Mr. Okamoto, Mr. Kitagawa, Mr. Kunitoku): Narita Airport -> Jakarta -> Makassar
February 17 (Sun.)	Travel (Mr. Daniel Pintado): Singapore -> Jakarta -> Makassar Advance meeting Travel (All persons): Makassar -> Pangkep

February 18 (Mon.)	Activities first day Morning: Kick Off Meeting by working-level persons Afternoon: Kick Off Meeting with attendance by executives
February 19 (Tue.)	Morning: Plant 5 on-site investigation Afternoon: Q&As at the Plant 4 control room
February 20 (Wed.)	As necessary, data collection and data analysis at the site and in the control room
February 21 (Thu.)	Morning: Report preparation and announcement rehearsal Afternoon: Reporting to plant executives Travel (All persons): Pangkep -> Makassar
February 22 (Fri.)	Holding of Energy Conservation Workshop (in Makassar) for Indonesian Ministry of Energy and Mineral Resources and energy conservation related persons and local factories After completion of the Workshop, Mr. Daniel Pintado returned to Singapore via Jakarta.
February 23 (Sat.)	Travel (Mr. Okamoto, Mr. Kitagawa, Mr. Kunitoku) Makassar -> Jakarta -> Singapore -> (Overnight flight)
February 24 (Sun.)	Travel (Mr. Okamoto, Mr. Kitagawa, Mr. Kunitoku): (Overnight flight) -> Narita Airport Travel (Mr. Kunitoku): Narita Airport -> Kumamoto

- Activity Details in the Philippines and Schedules of Each Expert

Schedule	Work Details
February 23 (Sat.)	Travel (Mr. Ushio, Mr. Kitamura): Narita Airport -> Manila
February 24 (Sun.)	Travel (Mr. Sudo, Mr. Hayashi, Mr. Shaura): Narita Airport -> Manila Morning: Meeting with DOE and ACE regarding the activities (Mr. Ushio, Mr. Kitamura) Afternoon: Preparation for diagnosis activities (Mr. Ushio, Mr. Kitamura)
February 25 (Mon.)	Travel: Manila -> Angeles City (Leave hotel at 07:00) Kick-off Meeting (9:30-12:30) Introduction to AJEEP Project and explanation of the week's activity schedule AJEEP Building overview and energy management Explanation of details of recently implemented diagnosis report Q&As: Confirmation of details of responses to a question sheet that participants had been asked to complete beforehand, and request for the supply of information necessary for the diagnosis. Energy conservation diagnosis (13:30-17:00) Drawing confirmation and content understanding Walkthrough survey (Air conditioning machine room (Chillers, AHU), cooling towers, electric room, etc.) Measuring equipment installation (Continuous measurement of chiller operation condition, room temperatures, humidity, CO_2 concentration, cooling tower surrounding environment) Travel: Angeles -> Manila (17:00-20:00)
February 26 (Tue.)	Travel: Manila -> Angeles City (Leave hotel at 07:00) Energy conservation diagnosis (9:30-17:00) Measurement equipment additional installation (Continuous measurement of electric power amounts) Information acquisition and its analysis Identification of improvement proposal contents Travel: Angeles -> Manila (17:00-19:30)
February 27 (Wed.)	Travel: Manila -> Angeles City (Leave hotel at 07:00) Energy conservation diagnosis (9:30-17:00) Improvement of installed measurement equipment, and data abstraction Acquisition of insufficient information, analysis of information, detailed investigation of improvement proposal contents, and calculation of energy

	conservation effect Investigation with on-site engineers relating to the supplied information analysis report and improvement proposals. Travel: Angeles -> Manila (17:30-20:00)
February 28 (Thu.)	Report preparation at the Department of Energy (DOE) (9:30-14:00) Greetings to related persons Preparation of diagnosis report materials (PowerPoint) for the building owner Diagnosis result reporting (15:00-16:30)
March 1 (Fri.)	Workshop relating to "Buildings Energy Conservation Technologies (Focused on air conditioning)" for a gathering of government-related institutions and local companies (9:00-16:30)
March 2 (Sat.)	Travel: (Mr. Ushio, Mr. Kitamura, Mr. Sudo, Mr. Hayashi, Mr. Shaura): Manila -> Narita Airport

Note: DOE stands for the Philippines Department of Energy

4.3 Energy Conservation Project Formation using Energy Conservation Diagnosis Investigations (Industries Sector in Indonesia)

(1) Situation of Subject Factory (Cement Plant)

In the cement plant concerned, each one plant is owned by one company. In the cement manufacturing line, there are 4 groups consisting of Plants 2 and 3, Plant 4, and Plant 5, and 2,400 persons are employed. Each plant's manufacturing capacity and number of years since the start of operations is summarized in the following table.

Group	Cement damping capacity (Ton/D)	Average electric power consumption (MW)	No. of years since start of operations
Plant 2	1,900	25	33
Plant 3	1,900	25	27
Plant 4	7,800	37	17
Plant 5	7,800	42	In preparation for trial operation

The clinker manufacturing amount of Plant 4, which was the investigation subject, is 2.3 million tons annually (average of 290 tons per hour), the electric power consumption is 240 GWh annually (average of 30 MWh), and the coal consumption amount is 460,000 tons annually (average of 60 tons/hour). Considering the cement plant overall, when Plant 5, which is 1.5 times larger than the above-mentioned Plant 4, is operating at full capacity, the current manufacturing capacity will become 2.5 times larger, making it a large plant. When moving between each plants, the large size of the site where the four cement plants are located requires workers to utilize motorbikes, while executives and visitors use automobiles.

Further, for the supply of electric power to this plant, in addition to the power purchased from the electric power company, the plant is also reliant on its own power generating facility located on the coast 14 km away. Two 25 MW coal-fired power generating facilities are currently operating, and an additional two more 35 MW power generating facilities are currently under construction. The boilers for these have been ordered from Kawasaki Heavy Industries, Ltd., and are currently being constructed.

From 2013, Plant 4 is to have its cement manufacturing capability increased under a 3-year plan from the current amount of 7,800 tons/D to 8,500 tons/D, and there is a plan to enhance the coal mill to supply powdered coal to Plant 5 and Plants 2 and 3. Therefore, several years from now the form of Plant 4 will be different from the current condition and also from the time when the waste heat recovery power generation equipment FS was carried out in 2009. Because the waste gas amounts will increase after the capacity enhancement, the possibility of introducing waste heat recovery power generation equipment will increase, and we can presume that valuable information was acquired by JFE Engineering, who participated in the activities.

(2) Overall Activities

Although the subject of the FS Review was Plant 4, problems had occurred just before our visit, and it had just been shut down. Due to the condition where work to start up the plant was to begin from the third day of our stay on the 20th, the on-site confirmation was implemented instead at Plant 5, which was undergoing preparations for trial operation. However, Plant 5 was also undergoing measures following the occurrence of problems, and was in a condition where it was only partially operating. Accordingly, the on-site measurements were abandoned, and the investigation was carried out using past data. The data was available in digital form and was plentiful, so that with the cooperation of the employees we could collect a large amount of data. The site was in the middle of the rainy season, so that there were occasional torrential downpours and rainy weather, but the rain stopped while we were implementing the on-site investigation so that the activities were not adversely affected.

(3) Briefing Session to Plant

- Date: February 21 (Thursday) 15:00
- Location: Headquarters building 3F Meeting Room
- Participants: Total of 18 persons, comprising persons related to the cement plant (8 persons), Indonesian government-related persons (3 persons), ACE (2 persons), and ECCJ (5 persons)
- Details: Following the Briefing Session opening greetings from the cement plant and from ECCJ, <1> JFE spoke on the waste heat recovery power generation equipment introduction project, <2> the results were given of the analysis of the cement plant's energy intensity, and <3> Expert Mr. Kitagawa announced the energy conservation analysis results.

<1> Waste Heat Recovery Power Generation Equipment Introduction Project

The announced details of the waste heat recovery power generation equipment from JFE and the data of the FS implemented in 2009 received from the cement plant is summarized in the table below.

Investigating and Reporting Company		Chinese Company	JFE Engineering Corp.	
Operation Condition		2009 FS Conditions		2013 Conditions
Suspension Preheater Boiler				
Waste Gas Flow Rate	Nm3/h	500,000	->	435,188
Waste Gas Temperature (Boiler Inlet)	℃	390	->	401
Waste Gas Temperature (Boiler Outlet)	℃	255	->	Free
Air Quenching Cooler Boiler				
Waste Gas Flow Rate	Nm3/h	172,000	->	362,749
Waste Gas Temperature (Boiler Inlet)	℃	360	->	310
Waste Gas Temperature (Boiler Outlet)	℃	85	Free	Free
Power Generation Amount				
Rated Output/Gross	kW		11,200	11,000
Rated Output/Net	kW	8,000	10,390	10,200
Equipment Investment Cost and Evaluation				
Equipment Investment Cost	Million RP	133,855		230,000
Equipment Investment Cost	Hundred million yen	15.9		27.3
IRR	%	24		36
Simple Investment Return Period	Years	4.1		2.0

Note: Calculation was carried out at an exchange rate of 1 yen = 84.37 Rp

Under the same conditions as the FS conducted in 2009, JFE's net power generation amount was 10.39 MW, a 30% larger amount than the 8 MW indicated by the Chinese company. However, in the situation of assuming the same conditions as the current operating conditions, the equipment cost shown was 2.73 billion yen, a 1.7 times higher amount. Although the judging will be different depending on how the inflation rate from 2009 to the current situation is viewed, the

result showed that the Japanese products were considerably more expensive. However, since the power generation amount was 30% higher, realizing a large energy conservation effect and waste heat recovery rate, we presume that this is an attractive proposal.
In addition, regarding the waste heat recovery power generation under the current operating conditions, the net power generation amount was 10.2 MW, equipment investment amount was 2.73 billion yen, IRR was 36%, and investment recovery of 2.0 years was proposed. The reason why the IRR was so high is because the evaluation electricity cost utilized the highest rate of 1,380 Rp/kWh (¥16/kW).

<2> Result of Analysis relating to the Cement Plant Energy Intensity
ECCJ Expert Mr. Kunitoku analyzed and explained the changes in the consumption intensity of Plant 4 with regard to the 3-year period of electric power and the coal used as fuel. Although there were many fluctuating factors including the construction of Plant 5 and the change to using cheaper low quality coal, guidance was given so that it can be utilized as an energy management method in the future.

<3> Energy Conservation Analysis of Plant 4
Although the plant was undergoing measures after the occurrence of problems which meant it was not possible to investigate the normal operating conditions, based on past data and taking into account previous experiences in cement plants including measures to prevent plant air mixing, ECCJ Expert Mr. Kitagawa reported the results of his analysis.
We clearly noted that many of the cement plant employees made notes particularly with regard to ECCJ Expert Mr. Kitagawa's energy conservation analysis. We felt that their actions indicated a willingness to study many points from the Japanese expert's explanation.

(4) Energy Conservation Workshop held jointly by MEMR, ECCJ, and ACE
- Date: February 22 (Friday) 09:00-16:30
- Location: Grand Clarion Hotel Seminar Room
- Participants: [DGREEC (Director General of New and Renewable Energy and Energy Conservation), MEMR] Ms. Maritje Hutapea, Director for EC, Ms. Andriah Feby Misna, Head Division, and subordinates (14 persons), cement plant (15 persons), ACE (2 persons), ECCJ (4 persons), and 16 other persons, making a total of 51 persons.
- Details: Following the Meeting agenda, Mr. Zamora of ACE acted as the MC.
  Welcoming greetings by Ms. Maritje Hutapea, Director for EC, DGREEC, and announcement of the Indonesian government's EC policies (Energy consumption trends, energy policies, energy conservation possibilities to reduce 6,000TOE or more consumption in 81 organizations, qualified persons for energy management and diagnostic consultants, labeling systems, etc.)

Regarding the speeches made after those described above, the speakers and overview of their speeches are summarized in the table below.

Speaker	Details of Speech
ACE	Overview explanation of the AJEEP Project
ECCJ	Japanese energy consumption situation, world energy intensity, Japanese Energy Conservation Act, introduction to AEEC website with relation to viewing the energy conservation excellent case studies, introduction to JASE-W website with regard to Japanese high efficiency products, etc.
ECCJ	Explanation of measurement equipment for energy diagnosis, and explanation as the cement plant energy intensity management case study using the materials reported to the plant executives on the previous day after deleting the specific figures.
ECCJ	Explanation as the cement plant energy conservation diagnosis result using the materials reported to the plant executives on the previous day after deleting the specific figures.
Cement Plant	Overview of company, and explanation of situation in which the cement waste heat

	recovery power generation equipment (8.5 MW) that was implemented as a NEDO model business from 2009 has been operating satisfactorily from June 2011.
JFE	Overview of company, and explanation of latest waste heat recovery power generation technologies and actual implementation results. In the implementation results, particularly emphasized the company's 28 years of operation experience and the continued ordering of products by its customers.
JFE	With regard to geothermal power generation, gave an explanation of the world geothermal distribution, latest geothermal usage trends, and geothermal power generation technologies and implementation results.
ECCJ	Explanation of countermeasure methods against the chlorine included in waste matter when increasing the amount of waste matter utilized as a cement fuel, and explanation of latest program control methods utilizing materials received from Taiheiyo Cement Corporation that had been edited.

Q&A sessions were prepared three times in a format where questions were accepted when the speakers gathered at the front row. Each speaker answered the questions received from Mr. Zamora of ACE and from the participants. Although there were places where answers were given in Indonesian which we could not understand, overall the Q&A sessions were lively. Regarding a question to our organization from Mr. Zamora asking "From conducting these activities, do you have any suggestions relating to Indonesia's future energy conservation laws?" we regret the fact that we gave a general response due to considering the energy conservation laws. In our response, we should have said that "Regarding energy conservation in the cement industry, the introduction of waste heat power generation equipment is highly significant. On the other hand, because Indonesia has a high rainfall, the introduction of waste heat recovery power generation equipment is difficult due to general economic reasons. We therefore believe that financial support measures such as the provision of tax assistance and equipment funding assistance by the government will be required". We would like to speak about this matter at the Post Workshop which we believe is the next opportunity when the Focal Points from each ASEAN country will gather.

Photographs (1): Activities in Indonesia

Workshop participants

Energy conservation diagnosis investigation: Explanatory meeting for plant executives

4.4 Energy Conservation Project Formation using Energy Conservation Diagnosis Investigations (Buildings Sector in the Philippines)

(1) Overview of Subject Building (Large-scale commercial institution)

An energy conservation analysis investigation was carried out and energy conservation improvement proposals were made based on the analysis results for a large-scale commercial institution located in Angeles City, Pampanga State (previously known as the location of the former United States Air Force Clark Air Base), approximately 2 hours by car from Manila.

a. Overview of Building
- Building use: Shopping mall
- Total floor area: 58,756.67 m^2 (Out of this, car parking area: 4,499 m^2)
- Air conditioned area: 54,102 m^2 (92.1%)
- Rented area: 38,043 m^2 (64.7%)
- 3 stories above ground
- Electric facilities (Received electricity amount): 6,744 kVA (3φ-133,000 V) Lighting facilities
- Mainly uses fluorescent lights (Direct type and compact type). Metal halide lamps are used for high ceilings.
- Among the lamps used for advertising, some LEDs are used.
- Air conditioning facilities: (Air conditioning system: Simple duct system)

b. Turbo Chillers: 560USRT x 5 units, open-type cooling towers 700USRT x 5 units
Chilled water primary pump 37 kW x 5 units, chilled water secondary pump 22 kW (INV) x 5 units, cooling water pump 37 kW x 5 units, air handling unit (with outside air intake fan) x 33 units

c. Energy Consumption Amount
- Annual energy consumption amount: 14,859,374 kWh (Note: Including diesel consumption for electric power generators)
- Annual electric power consumption: 14,473,200 kWh
- Energy intensity: 252 kWh/m^2/year (Japanese commercial institutions have an average of 358 kWh/m^2/year)

Note: Conversion value: 1 kWh = 9.76 MJ

d. Energy Conservation Measures that are currently being Implemented
This commercial institution received an award in the Energy Management category of the fiscal 2012 ASEAN Energy Awards, and is considered as a model for buildings energy management in the Philippines. The energy conservation measures that are currently being implemented by this commercial institution are shown below.
- Construction design that effectively utilizes the outside environment to reduce the air conditioned area.
- Construction design that reduces the illumination load by positively incorporating natural light (using skylights).
- Reduction of chilled water conveying effort through inverter control of chilled water secondary pumps.
- Control of escalators and entry/exit doors by motion sensors.
- Location plan that makes it convenient to access the institution using public transport facilities.
- Securing of high efficiency chiller operation by preventing impurities in the chiller condenser tube by implementing water quality management of the cooling water.
- Improvement of the chiller efficiency by changing the chilled water outlet temperature of the chiller from 6.7-7.8°C to 8.9°C.
- Reduction of illumination electric power by using LED lighting.
- Reduction of air conditioning load through implementing high heat insulation of the outside walls.

e. Future energy conservation measures that are being planned at the site
In an energy conservation diagnosis recently carried out by an ESCO company (Philippines Integrated Energy Solution Inc. (PhilEnergy)) (with investment also by Mitsubishi Corporation), part of the Ayala Land Group which owns this commercial institution, it was proposed that a 9% improvement in the air conditioning system energy efficiency could be realized by implementing the improvements described below. This report was used as reference materials for the activities carried out this time.
- Improvement of the main air conditioners

- System reexamination
- Introduction of automatic control
- Integration of the monitoring and control of the air conditioning facilities by upgrading the central monitoring equipment (BMS)

(2) Energy Conservation Diagnosis Investigation

In advance of the on-site diagnosis investigation this time, the report of the previously mentioned energy diagnosis of this commercial institution that had been recently implemented was obtained, together with the materials explaining the energy management actual situation that were submitted when submitting the entry to the fiscal year 2012 ASEAN Energy Awards, and the contents were carefully inspected in preparation for the investigation. At the Kick-off Meeting, explanations were given about these two reports by the Property Manager (person responsible for the building management) and by Ms. Lenny Marie Fredeluces of the ESCO company under the umbrella of the Ayala Land Group that implemented the previously mentioned energy diagnosis, and a Q&A session was held regarding the contents. In addition, a Q&A session was held concerning the energy consumption related information that had been received beforehand, and then the diagnosis investigation was started. Two persons from the DOE, 5 persons from this commercial institution, and 4 persons from PhilEnergy participated in the diagnosis.

All of the persons related to this institution were extremely enthusiastic about energy conservation promotion, and we could receive their full cooperation concerning the supply of data. The diagnosis investigation details are described below.

- Overview of building structures, and audit investigation of the facility contents
- Walkthrough confirmation of building interior
- Confirmation of building interior environment and chiller operation condition using measuring equipment
- Analysis of the investigation and measurement results

(3) Reporting of Diagnosis Results to the Building Owner

- Date: March 1 (Thursday) 15:00
- Location: Headquarters building 3F Meeting Room
- Participants: APMC (1 person), commercial institution (3 persons), PhilEnergy (4 persons), DOE (2 persons), ACE (2 persons), and ECCJ (5 persons), making a total of 17 persons
- Report details: Reporting of the following contents in an approximately 1-hour long PowerPoint presentation, and a roughly 20-minute Q&A session were held.
    a. Analysis results of the investigation and measurement results
    b. Electric power consumption (Changes over the last 3 years)
    c. Energy intensity (total floor area) (Comparison with building distribution investigated in Japan)
    d. Energy consumption structure
    e. Correlation between the outside air conditions and the energy consumption
    f. Correlation between the number of visitors and the electric power consumption amount
    g. Changes in interior air CO_2 concentrations over one day
    h. Electric power load for each time band (February 26-27)
    i. Interior temperature distributions in this building
    j. Chiller loading and operation conditions

- Energy Conservation Proposals (Energy conservation improvement measures and energy conservation effects)

	Improvement Proposals	Energy Conservation Amount (kWh)	Cost Reduction (php)
No Investment	1. Control of the outside air introduced amount. The interior CO_2 concentration is low at 600 ppm, which means that the outside air introduced amount is large. The outside air introduction fan should be controlled to reduce the outside air amount by 30%.	193,280	1,546,240
	2. The Machine Room (Chiller Room) air conditioner setting temperature should be raised from 25°C to 32°C. A small room should be created for CP use, and only this should be kept at 25°C.	15,200	121,600
	3. The number of operating cooling towers should be increased, and the cooling water temperature should be lowered.	162,453	1,299,620
Medium Investment Amount	4. Inverters should be installed in the air conditioner system (heat source) pumps (cooling water pumps and main chilled water pumps).	301,242	2,409,938
	5. Chiller tube cleaning (mounting of equipment) and cooling tower cleaning should be carried out.	32,482	26,700
Sub-total		705,017 (4.96%)	5,404,098
Large Investment Amount	6. One of the five chiller units should be replaced with a high-efficiency Japanese chiller with an inverter.	982,800	7,862,405
Grand Total		1,687,817 (11.6%)	13,266,503

Note: 1 php = ¥2.5 Electric power rate: 8 php/kWh The figures in brackets show the percentage with regard to the annual power consumption.

Concerning the measures described above, the person responsible for the mall building management commented that they would like to implement the improvement proposals starting from those that do not require investment. In addition, the building owner stated that the analysis investigation this time gave them an opportunity to acquire information relating to Japanese energy conservation diagnosis technology and the latest energy conservation technologies, which will be extremely useful for human resource development, and asked that similar investigations should be carried out on the group's other facilities.

In the future, we would like to develop this activity into energy conservation business matching activities through JASE-W.

(4) DOE/ECCJ/ACE Joint Energy Conservation Workshop

- Date: March 1 (Friday) 9:00-16:30
- Location: Grand Clarion Hotel Seminar Room
- Participants: DOE (8 persons), Building Group (17 persons), other real estate companies (building management), ESCO companies, architects, hotels, construction companies (24 persons), ACE (2 persons), and ECCJ (5 persons), making a total of 54 persons.
- Details: Following the agenda, Ms. Almonares of DOE acted as the MC.
  Welcoming greetings by Ms. Loreta G. Ayson/Undersecretary of DOE
  Opening greetings by Mr. Ushio of ECCJ and Mr. Zamora of ACE
  Taking of commemorative group photographs

- The speakers and speech overviews are summarized below.

Speaker	Organization	Speech Overview
Mr. Zamora	ACE	Overview explanation of AJEEP Project
Mr. Artemio P. Habitan	DOE	Explanation about the national energy conservation policies that are being planned and implemented by the Philippines government (DOE) from the viewpoint of energy conservation business promotion.
Mr. Yoshitaka Ushio	ECCJ	Introduction of the Top Runner Program, ZEB development, and the Smart Community verification testing as government policies for improving energy conservation technologies in the Japanese private sector, and introduction to the JASE-W website from which cooperation is being received for the activities this time.
Ms. Genevieve L. Almonares	DOE	Reporting of an overview of the energy conservation diagnosis investigation activities that have been carried out in the shopping mail in the Philippines this time
Mr. Emmanuel C. Marquez	PhilEnergy	Introduction of two actual examples of district cooling systems (DCS) that are being constructed in Manila, the <1> Ayala Center DCS Project (new construction) and <2> Alanang Town Center Project (improvement). Both projects are planning to realize energy conservation by utilizing DCS.
Mr. Benjamin Borja III	APMC	Introduction of DCS in the UP (University of Philippines) Ayala Land Techno Hub that was developed by the Ayala Land Group. This project received an award at the fiscal 2012 ASEAN Energy Awards (in the buildings energy conservation category).
Mr. Toshihiko Sudo	Nikken Sekkei Research Institute	Introduction to the district heating and cooling supply systems (DHC) that were introduced in the Harumi Triton Square and Tokyo Skytree buildings. Detailed descriptions were given particularly concerning the advanced energy management systems and their operation.
Mr. Tatsuya Hayashi	Hokuriku Electric Power Company	Explanation based on Manila's weather data and the designed heat loading of the air conditioner system which is resulting in partial loading of the chiller, and how a large energy conservation effect can be planned by introducing a chiller with inverter.
Mr. Shuichi Kitamura	ECCJ	Explanation of details of the latest Japanese heat pump technologies and heat storage systems, and their implementation examples (each type of air conditioning system).

At the Seminar and Workshop, details were announced on the themes of district cooling and heating supply systems and air conditioning systems, and there were lively Q&A sessions. Because the attendees included many ESCO company and building management technical experts, many of the questions asked were highly specialized. From requests including the wish expressed by the real estate development director of the Ayala Land Group that this type of seminar specializing in technical aspects should be implemented again, we believe that the Seminar held at this time to introduce and popularize the latest Japanese energy conservation technologies in the Philippines achieved its initial targets.

・Photographs: Activities in the Philippines

Seminar/Workshop attendees

Energy conservation diagnosis investigation

4.5 Activity Results in Indonesia

(1) Overall Results

In the industrial world that is consuming 39% of Indonesia's overall energy, it is estimated that the EC potential of the cement industry is 15-22%. A FS Review and energy conservation diagnosis had been implemented for a project to introduce waste heat recovery power generation equipment, which is the first EC measure to be implemented in cement plants. By obtaining the FS Report, it was possible to show the superiority of JFE's technology in the FS Review. Concerning the energy conservation diagnosis, in spite of the fact that the plant was very busy responding to problems, the plant personnel kindly gave their support so that we could submit significant proposals and give guidance in energy management methods.

In her Seminar closing address at the Seminar/Workshop, Ms. Maritje Hutapea, Director for EC at MEMR, highly evaluated this project and expressed a hope that it would also continue in the future. As a case study from Indonesia, JFE Engineering/JFE spoke about cement waste heat recovery power generation technologies and actual implementation examples with regard to the waste heat recovery power generation equipment implemented by JFE as a NEDO model project in the Indonesian company PT Semen Padang, and about geothermal power generation, while ECCJ explained problem points when utilizing waste matter in cement manufacture and the methods of resolving these problems. This provided the Indonesian side with topics that they showed great interest in.

During the holding of the Inception Workshop, because appropriate Q&As were created and responded to, the point that the subject project was specifically discussed and selected can be highly evaluated.

(2) Results regarding Human Resource Development

Subjects of human resource development in the cement plant: These consisted of the workers in the plant concerned, 3 government-related persons, and 1 consultant. These persons acquired the energy intensity analysis method as an energy management method, which they will be able to make use of in their future activities. However, the plant workers were very busy responding to problems, so that it was unfortunately not possible to give them on-site guidance in energy conservation diagnosis.

Subjects of human resource development at the Seminar/Workshop: These consisted of 45 people, including 15 persons from the cement company, persons from MEMR, local companies, and university professors. Attendees learned about cement waste heat recovery power generation equipment inside and outside Indonesia, geothermal power generation, cautions when utilizing waste matter in cement manufacture, and energy management methods using intensity.

(3) Results regarding the Participating Japanese Companies

For JFE, because the FS Review indicated a superior power generation amount, they could show the superiority of their technology. They could also understand the current situation in the cement plant and could hear about future plans, so it is presumed that it will become easier for them to develop response strategies for the plant in the future.

4.6 Activity Results in the Philippines

(1) Overall Results

The GDP growth rate in the Philippines in the last fiscal year was 6.6%. This return to satisfactory growth in the Philippines is conspicuous in view of the slow growth in China and India. One of the factors driving this growth rate is construction investment, and in the capital, Manila, development of many groups of large-sized building is proceeding. An energy conservation analysis was carried out in

a building owned by a major Philippines financial group which is positively promoting these building developments. Although the analysis was only carried out over a short period, it was possible to make energy conservation improvement proposals for this building that the building side persons had hoped for. By doing this, it was possible to show the high level of Japanese energy management technologies including energy conservation diagnosis technology. We could create opportunities for selling technologies from Japanese private companies in the building developments that are being planned by this group in the future through building up networks including personal connections using activities such as JASE-W.

In the Seminar/Workshop, the latest Japanese air conditioning technologies including district heating and cooling supply systems (DCH) were introduced, and in addition the Philippines side also gave introductions in particular to successful case studies concerning district cooling systems (DCS) and to the government's energy conservation promotion policies. Many questions were asked by participants both on the Japanese and Philippines sides, creating a valuable opportunity for information and human resource exchanges. In particular, there was a large participation by local private companies including the 17 members of the group's real estate development company, ESCO company, and consultants, so that an opportunity was provided for sharing information to allow development of the buildings sector energy conservation business in the Philippines by Japanese private companies.

(2) Results regarding Human Resource Development

Subjects of energy conservation diagnosis human resource development: Four persons in charge of the building's energy management, 4 persons from the ESCO company under the group's umbrella (financed 30% by Mitsubishi Corporation), and 2 persons from DOE participated in the energy conservation diagnosis. Training was carried out through participation in our work using the Japanese type energy conservation diagnosis methods described below and by discussions at the briefing session that was held to announce the results.

- Measurement methods: Types of measuring instruments that are convenient for implementing diagnoses, and their methods of use
- Data analysis: Information and data that should be collected in the diagnosis
- Creation of improvement proposals: Methods of calculating the energy conservation amounts

At the Seminar/Workshop, introductions were made to the latest Japanese energy conservation technologies including DHC (district heating and cooling supply systems), heat pumps, heat storage equipment, and chillers with inverters, and introductions to the Philippines DCS (district cooling systems). For the participants, this was the type of content that they had been hoping for, and they could learn about the latest information relating to air conditioning technologies in the buildings sector.

(3) Results regarding the Participating Japanese Companies

Nikken Sekkei Research Institute: The Philippines are achieving the highest GDP growth after China, and are currently in a construction boom. Although the company does not have business in the Philippines at the moment, based on the activity results this time they intend to develop sales strategies for design projects in the country in the future. DHC and DCS are particular strong points of Nikken Sekkei Research Institute.

Hokuriku Electric Power Company: In the activities this time, the energy conservation analyses that effectively used the measuring equipment were highly regarded, and a network was formed with the local ESCO company.

The activities this time were carried out with cooperation on technical matters from the JASE-W Business Equipment sub-working group, and we could provide this SWG with useful energy conservation business information.

5. AJEEP Project Scheme 3

5.1 Dispatch of Experts

The AJEEP Scheme 3 Project was implemented by dispatching Japanese experts to Myanmar, Cambodia, and Lao PDR. As explained previously, this project is an energy conservation human resource development project for reducing the differences between countries in the ASEAN region with regard to their energy conservation promotion infrastructure (policies and systems development). Specifically, the CLM countries (Cambodia, Lao PDR, and Myanmar) are the project subjects, and the main purpose is to achieve the following objectives by formulating policies and systems for introducing and promoting energy management systems or formulating energy conservation regulations that match the national situation of the countries concerned.
Concerning the targets for each of the CLM countries of formulating energy conservation policies including the introduction and promotion of energy management systems and enforcement of energy conservation laws, the practicality will be enhanced by determining specific implementation methods together with the human resources necessary for implementing them.
The process described above has already been experienced by ASEAN countries which are advanced in energy conservation promotion, so that effective implementation is being aimed for by encouraging the participation of these advanced countries and having them convey their experiences.

5.2 Activity Overview

(1) Participating Experts and Activity Details

Item	Myanmar	Cambodia	Lao PDR
City where Implemented	Nay Pyi Taw	Siem Reap	Vientiane
Activity Period	January 8-11, 2013 (4-day period)	January 14-18, 2013 (5-day period)	January 28 to February 1, 2013 (5-day period)
Participating Experts (Visit periods)	Mr. Yutaka Ogura (Leader) Mr. Hiroshi Shibuya (Legal Systems) Mr. Fumio Ogawa (Energy Management)	Mr. Yoshitaka Ushio (1/13-1/20) (Leader) Mr. Hiroshi Shibuya (1/13-1/16) (Legal Systems) Mr. Fumio Ogawa (1/13-1/18) (Energy Management) Mr. Shuichi Kitamura (1/15-1/20) (Buildings Energy Conservation) Mr. Shinji Kosaka (1/15-1/20) (Buildings Energy Conservation)	Mr. Tsutomu Okamoto (Leader) Mr. Hiroshi Shibuya (Legal Systems) Mr. Hitoshi Kaji (Energy Management, Buildings and Factories Energy Conservation Guidance)
Activity Details	Workshop for formulating energy conservation policies and legal systems (Working level and senior official level) Energy management training (Energy Management Handbook and management manual creation)	Workshop for formulating energy conservation policies and legal systems (Working level) Same as description at left On-site energy management and energy conservation diagnosis practical training (Hotel)	Same as description at left Same as description at left On-site energy management practical training (Hospital and home electronics plant)

(2) Activity Schedule in Myanmar and Work Details

Date	Work Details
January 6 (Sun.)	Travel (Mr. Ogura, Mr. Shibuya, Mr. Ogawa): Narita Airport -> Via Hanoi -> Yangon (Myanmar)
January 7 (Mon.)	Land travel (Mr. Ogura, Mr. Shibuya, Mr. Ogawa): Yangon -> Nay Pyi Taw capital city
January 8 (Tue.)	Workshop (working level) for building energy conservation legal systems Overall introduction to the AJEEP Project, objectives and detailed explanation of Scheme 3 Project in Myanmar this time, current situation of building energy conservation legal systems in Myanmar, approach for developing energy conservation laws, introduction to Japanese and Indonesian energy conservation legal systems and management manual.
January 9 (Wed.)	Workshop (working level) for building energy conservation legal systems Introduction to Japanese judging standards, confirmation of the energy conservation situation in Myanmar, panel discussion on building energy conservation legal systems, and group activities (discussions) to create a 3-year action plan of draft measures to realize this.
January 10 (Thu.)	Workshop (working level and senior official level) for building energy conservation legal systems Creation of reports of group activities to develop 3-year action plans, overview explanation of energy conservation legal systems for senior officials at the related ministries, and group activity result reporting and discussions.
January 11 (Fri.)	Energy management training (working level) Explanation of contents of the Energy Management Handbook, which had been translated into the Myanmar language by the Myanmar Focal Points. Afterwards, ECCJ gave guidance through group activities of specific usage methods of the Energy Management Handbook using excellent case studies from the current fiscal year ASEAN Awards.
January 12 (Sat.)	Land travel (Mr. Ogura, Mr. Shibuya, Mr. Ogawa): Nay Pyi Taw -> Yangon Travel (Mr. Ogura): Yangon -> Via Hanoi -> (Overnight flight)
January 13 (Sun.)	Travel (Mr. Ogura): (Overnight flight) -> Arrive Narita Airport (Mr. Shibuya, Mr. Ogawa): Yangon -> Via Bangkok -> Siem Reap (Cambodia) (Meeting-up on-site with Mr. Yoshitaka Ushio)

(3) Activity Schedule in Cambodia and Work Details

Date	Work Details	Persons in charge
January 13 (Sun.)	Travel (Mr. Shibuya, Mr. Ogawa): Myanmar -> Siem Reap (Cambodia) (Mr. Ushio): Narita Airport -> Siem Reap (Cambodia)	
January 14 (Mon.)	Workshop (working level) for draft creation of energy conservation policies, regulations, and standards Reporting of Cambodia's current situation, introduction to developments in energy conservation related legal system building and details of systems from Japan, Singapore, and Thailand, and discussions among all participants.	Mr. Ushio, Mr. Shibuya, Mr. Ogawa
January 15 (Tue.)	Workshop (working level) for draft creation of energy conservation policies, regulations, and standards Introduction concerning energy conservation related legal system building from Malaysia, and discussions among all participants. As group activities, creation of basic proposals for 3-year implementation plans for legal development to realize energy conservation promotion by the Cambodian team.	Mr. Ushio, Mr. Shibuya, Mr. Ogawa
	Travel Mr. Shibuya (Cambodia -> Narita Airport) (Mr. Kitamura, Mr. Kosaka): Narita Airport -> Siem Reap (Cambodia)	
January 16 (Wed.)	Energy management training Lectures relating to the Energy Management Handbook (EMHB) that had been translated to the Khmer language and methods of proceeding with energy management based on the Japanese Energy Conservation Act. As	Mr. Ushio, Mr. Ogawa

	group activities, discussions and training on energy management methods using excellent case studies from the ASEAN Energy Management Awards (Japanese-affiliated companies) as the materials.	
	Buildings energy management practical training (Preparations) Acquisition and confirmation of information and data, and walkthrough investigation of facilities.	Mr. Kitamura, Mr. Kosaka
January 17 (Thu.)	Buildings energy management practical training Lectures relating to buildings energy management (<1> Energy conservation diagnosis (Mr. Ushio), <2> Energy conservation in hotels (Mr. Kitamura), <3> Buildings energy conservation target management tools (ECTT) (Mr. Kosaka)) Energy management practical training (<1> Measurement and equipment (lighting) understanding, <2> Intensity understanding (floor area calculation), <3> Inverter introduction investigations, etc.)	Mr. Ushio, Mr. Kitamura, Mr. Kosaka
	Travel Mr. Ogawa (Cambodia -> Narita Airport)	
January 18 (Fri.)	Buildings energy management practical training Energy management practical training (<1> Measurement and equipment (lighting) understanding, <2> Intensity understanding (floor area calculation), <3> Inverter introduction investigations, etc.) Walkthrough diagnosis Summary of practical training (Q&A session)	Mr. Ushio, Mr. Kitamura, Mr. Kosaka
January 19 (Sat.)	Travel Mr. Ushio, Mr. Kitamura, Mr. Kosaka (Cambodia -> (Overnight flight))	
January 20 (Sun.)	(Overnight flight) -> Arrive Narita Airport	

(4) Activity Schedule in Lao PDR and Work Details

Date	Work Details
January 27 (Sun.)	Travel (All members): Narita Airport -> Hanoi It was originally intended to travel to Vientiane during the 27th, but due to aircraft instrument problems when leaving Narita Airport, our arrival at Hanoi was delayed by approximately 4 hours. We could not catch our onward flight, and changed our schedule to stay in Hanoi.
January 28 (Mon.)	Morning: Travel (All members): Hanoi -> Vientiane In the morning, in the absence of the ECCJ members, there were speeches by the persons invited from Thailand and Vietnam Afternoon: Workshop (working level) for draft creation of energy conservation policies, regulations, and standards, reporting of Lao PDR current situation, introduction to developments in energy conservation related legal system building and details of systems from Japan, and discussions among all participants.
January 29 (Tue.)	Workshop (working level) for draft creation of energy conservation policies, regulations, and standards As group activities, creation of basic proposals for 3-year implementation plans for legal development to realize energy conservation promotion by the Lao PDR team.
January 30 (Wed.)	Energy management training Lectures relating to the Energy Management Handbook (EMHB) that had been translated to the Lao language and the methods of proceeding with energy management based on the Japanese Energy Conservation Act. As group activities, discussions and training on energy management methods using excellent case studies from the ASEAN Energy Management Awards (Japanese-affiliated companies) as the materials.
January 31 (Thu.)	Building (hospital) energy management practical training Lectures relating to building energy management, and energy management practical training (<1> Measurement and equipment (lighting) understanding, and <2> Intensity understanding)

	Factory energy conservation diagnosis: Following the strong request from the tobacco manufacturing plant that participated in the previous day's training, we hastily visited the plant at 16:00. After exchanging greetings with the company president, we inspected the facilities in service, including the boilers, air compressors, and chilled water circulation inside the plant, and made energy conservation proposals.
February 1 (Fri.)	Factory energy management practical training Energy management practical training (<1> Boiler energy conservation, <2> Intensity understanding), walkthrough diagnosis and Q&A session After activity completion, travel (All members): Vientiane -> Hanoi -> (Overnight flight)
February 2 (Sat.)	Travel (All members): (Overnight flight) -> Narita Airport

5.3 Workshop for Energy Conservation Policies and Legal System Preparations

5.3.1 Myanmar

(1) Attendees
- Myanmar: 14 persons (There were 14 representatives from 9 related ministries and 3 institutions in Myanmar including the Ministry of Industry, and 11 senior official level persons attended the briefing session for senior level officials)
- ASEAN supporting countries: 1 person (Indonesia) It was initially intended that there would be participants from Indonesia, Malaysia, Thailand and the Philippines, but because Myanmar was chosen as the first AJEEP Scheme 3 activity subject country, the preparation coordination in the related countries was not ready in time, so that there was only participation by Indonesia.
- ACE: 1 person
- ECCJ: 3 persons

(2) Number of Speakers at the Workshop and Main Speech Details
- Japan: 7 speeches (Guidance to activities and lectures relating to the Japanese Energy Conservation Act)
- Myanmar: 1 speech (Preparation condition for building energy conservation legal systems in Myanmar)
- ASEAN supporting countries (Indonesia): 1 speech (Energy situation, and developments and activity situation for building energy policies and energy conservation legal systems, etc.)
- ACE: 1 speech (Explanation of AJEEP Project, and objectives and details of the activities this time)

(3) Group Work

Participants were divided into 2 groups, discussions were carried out in each group, and then each group created draft proposals for 3-year implementation plans. These draft proposals were announced at the senior official level briefing session.

(4) Reporting to Senior Official Level
- Reporting of the contents of the 3-year implementation plans (2 groups) that were created in the group work.
- Lecture from ECCJ about energy conservation overall, lecture from Indonesia with the same contents that were presented at the working level Workshop.

(5) Other
- There was an announcement in Myanmar on January 9 during our visit regarding the establishment of the National Energy Management Committee (NEMC) in a notification by the Executive Office of the President.
- We obtained a report labeled the "Myanmar Energy Sector Initial Assessment" that was compiled by the ADB (Asian Development Bank) in October 2012.

5.3.2 Cambodia

(1) Attendees:
- Cambodia: 10 persons (Four persons from an energy conservation policies and implementation plan proposal developing team (Consultant: EU Energy Initiative Partnership Dialogue Facility)

consisting of 2 people from Cambodia, one from Italy, and one American, 4 persons from the Cambodian government (MIME: Ministry of Industry, Mining & Energy), and two other people)
- ASEAN assisting countries: 3 persons (1 person each from Malaysia, Singapore, and Thailand)
- ACE: 2 persons
- ECCJ: 3 persons

(2) Number of Speakers at the Workshop and Main Speech Details
- Japan: 5 speeches (Guidance to activities and lectures relating to the Japanese Energy Conservation Act)
- Cambodia: 1 speech (The EUEI-PDF (EU Energy Initiative Partnership Dialogue Facility) has entered into a consulting agreement with the Cambodian government (MIME) and has dispatched a consultant team to carry out "national energy conservation policy, strategy, and implementation plan formulation support", and this team's investigation contents were reported.)
- ASEAN assisting countries: 3 speeches (Malaysia, Singapore, and Thailand) (Energy supply and demand situation in each country, energy policies and planning, developments and activities in building energy conservation legal systems, etc.)
- ACE: 1 speech (Explanation of AJEEP Project, and objectives and details of activities this time)

(3) Group Work

As one group, discussions were carried out in the group to create draft proposals for 3-year implementation plans, and these contents were announced. Many questions and opinions were received from the participants from Thailand, Singapore, Malaysia, and Japan, promoting the improvement of the 3-year implementation plans. It is planned that these contents will be incorporated into the final report that is to be submitted by the consultant team in March.

(4) Other
- The Cambodian government is receiving EU support, and is carrying out"national energy conservation policy, strategy, and implementation plan formulation". The draft proposals will be created in March.
- An EU consultant team has been formed, and their investigation report was obtained.

5.3.3 Lao PDR

(1) Attendees
- Lao PDR: 16 persons (12 persons from the MEM Department of Energy Policy and Planning, 3 persons from the Department of Electricity, and one other person)
- ASEAN supporting countries: 2 persons (1 person each from Thailand and Vietnam)
- ACE: 2 persons
- ECCJ: 3 persons

(2) Number of Speakers at the Workshop and Main Speech Details
- Japan: 4 speeches (Guidance to activities and lectures relating to the Japanese Energy Conservation Act)
- Lao PDR: 1 speech (Mr. Bouathep gave a speech titled "Overview of Energy Efficiency and Conservation in the Lao PDR", explaining the government's energy policies centered on electric power, that the annual energy consumption had reached 3,405 KTOE in 2010, and showed the changes in electricity supply and demand, etc.)
- ASEAN supporting countries: 2 speeches (Thailand and Vietnam) (Energy supply and demand situation in each country, energy policies and planning, developments and activities in building energy conservation legal systems, etc.)
- ACE: 1 speech (Explanation of AJEEP Project, and objectives and details of activities this time)

(3) Group Work

Participants were divided into 2 groups, discussions were carried out in each group to create draft proposals for 3-year implementation plans, and these draft proposals were announced. Mr. Bouathep oversaw the announcement, giving English translations where required. Many questions and opinions were received from the participants from Thailand, Vietnam, and Japan, promoting the improvement of the 3-year implementation plans.

(4) Other

There were no activities to announce such as those in the other two countries, and the support of each country will be necessary.

5.4 Energy Management Training

5.4.1 Myanmar

(1) Attendees
The number of participants from the Myanmar side was 31 persons: There was participation from government-related departments, and 11 of these persons also participated in the Workshop described above.
(2) Lecture Details
Introduction of the contents of the Myanmar language Energy Management Handbook (Myanmar Ministry of Industry)
From ECCJ, the linkage between "energy conservation and energy management" was explained including management manual. Then, as study training titled "Energy Management seen in Successful Case Studies in the ASEAN Energy Awards", an introduction was also given to practical methods of energy management using the current fiscal year's Industries Energy Management category Best Practice case study (Thailand Mitsubishi Electric) as a model.
(3) Group Work
Using the ASEAN case study described above as the materials, group work was implemented for two hours with the participants divided into 3 groups (each containing around 10 persons), and the discussion results were announced. Through analyzing the specific activities in the excellent case studies, it is believed that the understanding of the participants with regard to the key steps of energy management was deepened.

5.4.2 Cambodia

(1) Attendees
The number of participants from the Cambodian side was 15 persons: Hotels (10 persons), banks (1 person), universities (1 person), electric power (1 person), and other (2 persons)
(2) Lecture Details
Introduction of the contents of the Khmer language Energy Management Handbook (Cambodia Ministry of Industry, Mining & Energy)
From ECCJ, explanations were given including successful case studies in Cambodia relating to buildings energy management from the PROMEEC Project, buildings energy management methods, and the importance of management manual. In addition, a lecture was given with the same content as the one given in Myanmar on "Energy Management as seen in Successful Case Studies in the ASEAN Energy Awards".
(3) Group Work
Using the ASEAN case studies described above as the materials, group work was implemented for two hours with the participants divided into 2 groups (consisting of 7 persons and 8 persons), and the discussion results were announced. A board on which paper had been fixed was prepared for each group for use in discussions and presentations. Both groups used these in their discussions, and they also used the boards in the following presentations to expertly summarize the key points. From this, we could appreciate the high capabilities of the participants.

5.4.3 Lao PDR

(1) Attendees
The number of participants was 23 persons: Participation by 10 persons from government-related departments (9 of whom also participated in the Workshop described above), hotels (2 persons), factories (3 persons), and other (8 persons)
(2) Lecture Details

Introduction of the key points of the Lao language Energy Management Handbook (Lao PDR Ministry of Energy and Mines). Other activities were the same as in Myanmar.
(3) Group Work
Using the ASEAN case studies described above as the materials, group work was implemented for two hours with the participants divided into 3 groups (each containing around 6 persons), and the discussion results were announced. Through analyzing the specific activities in the excellent case studies, it is believed that the understanding of the participants with regard to the key steps of energy management was deepened.

5.5 Energy Management On-site Training (Simple Energy Conservation OJT)

5.5.1 Cambodia

(1) Implementation Location (Building)
- Scope: Total floor area: 21,411 m^2
- Annual energy usage amount: 17,626 GJ
- Annual electricity usage amount: 11,660,525 kWh
- Energy intensity: 823 MJ/m^2 (84 kWh/m^2)

(2) Participants
14 persons participated, consisting of Cambodian government-related persons (3 persons), persons in charge of energy management at the hotel concerned (4 persons), university teacher (1 person), person in charge of the buildings sector in the previously mentioned EU consultant team (1 person), in addition to 2 persons from ACE and 3 persons from ECCJ.
(3) Implementation Details and Period
After implementing buildings energy management inside the company, the practical training described below was carried out as OJT (On the Job Training) relating to the necessary energy conservation diagnosis (data collection and analysis).
- Guidance and lectures: Morning of the 17th
- Data collection and analysis: Afternoon of the 17th and all day on the 18th
- Result reporting and discussions: 18th 16:00-17:00

(4) Lectures and Practical Training Details
- Lectures: Three lectures on “Overview of Buildings Energy Conservation Diagnosis”, “Energy Conservation in Hotels”, and “Energy Management using Energy Conservation Target Management Tools”
- Practical training details: Implemented after dividing participants into 3 groups
- Data collection and measurement (Temperature, humidity, illumination, and CO_2 concentration)
- Understanding of kinds of lighting apparatus (types and wattage) and number of units in each application area, calculation of the energy conservation effect of adjusting their lighting times and replacing them with high efficiency lamps, and in the case of lamp replacement, calculation of the investment recovery period
- Floor area calculation for each application (Public facilities, guest rooms, restaurants, offices, etc.)
- Investigation of introduction of inverters to water supply pumps (Calculation of energy conservation amount and investment recovery period)
- Investigation of the situation of replacing the air conditioners by high efficiency types (high COP) with inverters (Calculation of energy conservation amount and investment recovery period)

5.5.2 Lao PDR

[Buildings Sector]
(1) Implementation Location (Hospital): January 31
- No. of hospital beds: 450, No. of employees: 800 persons

- Scope: Hospital from the time of French rule, consisting of many buildings numbering 10 or more
- Annual electricity usage amount: 4,029,851 kWh (Average 460 kW)
  (Annual paid electricity charge: 2,700,000 KIP, calculated from 670 KIP/kWh at approximately ¥8/kWh)

(2) Participants

21 persons, consisting of Lao PDR government-related persons (5 persons), hospital-related main persons including the vice director (10 persons), person from PEPSI which was to be visited the next day (1 person), in addition to 2 persons from ACE and 3 persons from ECCJ.

(3) Implementation Details and Period

- Energy management lectures: Morning of the 31st
- On-site simple diagnosis and confirmation by all participants of changes over time in the thermometers and hygrometers that were installed on the previous day
- Result reporting and discussions: 14:00-15:30

(4) Lectures and Practical Training Details

- Lectures: Lectures were given on "Easily Implemented Energy Conservation (for operations improvement) and its Effect", creation and implementation of "Management Manual", and methods of proceeding with energy conservation of "Lighting Equipment".
- Q&A session: Questions including "What are the circumstances behind the 28°C summertime recommended temperature setting in Japan?" and "What is the source of the air conditioning equipment 1°C alleviation effect?" were asked and answered.

[Industries Sector]

(1) Implementation Location (Factory)

- Soft drink manufacturing plant that was established 10 years ago
- Energy consumption: Electric power: 3,260,000 kWh, diesel: 414 kL
- Annual manufactured amount: Soft drinks total: 40,000 kL

(2) Participants

23 persons, consisting of Lao PDR government-related persons (6 persons), plant-related persons (11 persons), tobacco plant-related person (1 person), together with 2 persons from ACE and 3 persons from ECCJ.

(3) Implementation Details

On-site inspections of boilers, air compressors, and chillers by all participants, together with the below-mentioned lectures and Q&A session

(4) Lectures and Practical Training Details

- Although energy estimated intensity management is being implemented, the analysis of the intensity and production amounts have not yet been dealt with, and the analysis results were shown.
- Because the cost of the diesel is high compared with the electric power, lectures were given relating to energy conservation technologies in air compressors and chillers focusing on the boilers, and in addition appeal was also generated for the importance of creating "management manual".

5.6 Results of Activities in the Three Countries

(1) Activities in Myanmar

Because a three-day period was allocated to the energy conservation legal systems building support Workshop, it was possible to hold lectures and group activities for working-level persons from each of the related ministries, and also to secure time for giving lectures and reporting the results of the working-level group activities to senior official level persons. Accordingly, a wide range of subject persons could understand the contents of the matter, and it was possible to share the knowledge, information, and course of action.

In particular, because the issues for tackling the building of energy conservation legal systems in the future were identified and the 3-year action plans that will become the foundation were created, it was

possible to establish the main framework for the future.
Among the supply of information from ASEAN countries that are more advanced in energy conservation promotion, a detailed introduction was given to the energy laws and energy conservation legal systems (Decree & Regulation) formulation developments and issues in Indonesia. This is a case study from the ASEAN region, and it is believed that it provided a valuable reference for Myanmar. In addition, concerning the Myanmar 3-year implementation plan creation, the appropriate comments received from participants showed that extremely capable persons had been selected.
In the energy management training, in addition to the Myanmar Focal Points distributing the local-language version of the Energy Management Handbook, detailed explanations were also given, so that it was possible for the persons related to Myanmar government and leading institutions to gain a deeper understanding and penetration of the contents.

(2) Activities in Cambodia
The Cambodian energy conservation policies action plan formation work is currently proceeding with the support of the EU, and a large amount of information was supplied to the consultant team, contributing to the creation of the draft proposals which are planned to be completed in March this year.
In the Workshop group work, action plans were created for the development of energy conservation laws over the next 3-year period, so that it was possible to confirm the specific course of action for the Cambodian government's legal infrastructure.
By implementing the energy management training and the buildings energy conservation diagnosis OJT activities, development of the site's energy management personnel (participants from the hotel were in the majority) could be achieved.
As originally planned, there was participation in the Workshop relating to energy conservation law development by the three countries, Malaysia, Singapore, and Thailand, and each country explained the circumstances and overview of the EC legal system formulation in their country. This allowed comparison of the characteristics of each of the three countries, forming a favorable reference. Further, many practical suggestions were proposed concerning the Cambodian legal infrastructure action plans.

(3) Activities in Lao PDR
In the energy conservation legal infrastructure action plan formulation and the energy management training group work, due to the format where the participants carried out the work themselves and announced their results, it was apparent that this was practical training that had enabled the participants to learn each of the methods.
Thailand and Vietnam each explained the current situation of the legal systems relating to EC in their country. In Lao PDR, because many of the participants had an insufficient understanding relating to energy conservation, it is believed that the explanation of the situation in the advanced ASEAN countries gave them a stimulus. In the energy management on-site practical training, it was apparent that the persons related to the hospital and the plant had a high energy conservation awareness.

5.7 Activity Photographs

(1) Activities in Myanmar

 Energy conservation legal system building Working Group members	 Briefing Session for senior official level

(2) Activities in Cambodia

 Energy conservation legal system building Working Group members	 Building energy management on-site practical training

(3) Activities in Lao PDR

 Energy conservation legal system building Working Group members	 Factory energy management practical training