

Global Environment Centre Foundation

Annual Report 2013



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All years listed in this Annual Report are expressed according to the Japanese fiscal year from 1 April to 31 March. Terms marked with an asterisk (*) are defined in the margin.

Foreword

In recent years, we have continued to observe abnormal phenomena in various areas of the natural world which seem to be caused by global warming, such as extremely powerful typhoons, a decrease of floating ice in the Arctic Circle and coral bleaching.

The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) found that the warming of the climatic system is unequivocal and that the main cause of warming since the middle of the 20th century is highly likely to be the human impact.

In Asian countries which have been developing in recent years, against the backdrop of their sharp economic growth, greenhouse gas emissions are increasing due to the increase in energy consumption. Every year this adds further weight to the importance of measures against the increased emissions. In response to this, the Japanese government has proposed the Joint Crediting Mechanism (JCM) in order to help developing countries realise a sustainable low carbon society, by introducing Japan's excellent low carbon technology while flexibly reflecting the circumstances of these countries.

In order to promote the JCM, the Ministry of the Environment has entrusted the Global Environment Centre Foundation (GEC) with feasibility studies, the operation of subsidy schemes and an investigation to support the promotion of low carbon cities. Since 2013, GEC has worked for the realisation of a low carbon society in developing countries and has introduced Japan's low carbon technology to overseas countries. We opened our Tokyo Office in April 2014, and have been working to develop a more efficient structure.

In addition to the above projects related to the JCM, GEC has also carried out the following projects:

1. Supporting the UNEP International Environmental Technology Centre (IETC)

GEC held international workshops to share issues and develop capabilities related to waste management.

2. Providing Training in Developing Countries

As commissioned by the Japan International Cooperation Agency (JICA), we provided training in Japan for administrative officers and engineers from developing countries (for 66 people from 33 countries).

3. Supporting Small and Medium-sized Enterprises in the Kansai Region to Expand their Businesses to Overseas Countries

Together with the Kansai Bureau Ministry of Economy, Trade and Industry, GEC acted as the secretariat of Team E-Kansai which is a forum to promote environmental and energy conservation businesses in Kansai and Asia and to support small and medium-sized enterprises from Kansai in expanding their businesses in Asia.

While continuing to carry out projects against global warming, GEC aims to become an organisation that is considered irreplaceable in our home region of Kansai, by promoting activities from Kansai for international environmental cooperation in developing countries.

Your continued understanding and support for GEC's activities will be much appreciated.



November 2014

A handwritten signature in black ink, appearing to read "H. Miyahara".

MIYAHARA, Hideo
President
Global Environment Centre Foundation

Supporting IETC's Activities of Information Dissemination and Technology Transfer on ESTs*

ESTs

Environmentally Sound Technologies, as defined in Agenda 21, should protect the environment, are less contaminative, use various resources in a more sustainable manner, recycle more of their wastes and products and handle residual waste in a more acceptable manner than the technologies for which they were substitutes.

Support in Organising the IETC Workshop on Waste Management

• Joint Workshop of Kawasaki City and IETC on Strategy Paper to Promote Eco-Town Approach

GEC provided support for the "Workshop on a Strategy Paper to Promote the Eco-Town Approach" held in Kawasaki City from 12 to 13 September 2013, which was jointly organised by Kawasaki City and UNEP IETC. The workshop was attended by 33 people from overseas, including members of government bodies, private companies, NGOs/NPOs, international organisations and academic institutions from 9 different countries, namely: China, India, Korea, Malaysia, Singapore, Sri Lanka, Thailand, Vietnam and US. Together with participants from Japan (including the Ministry of the Environment, the Ministry of Foreign Affairs, the Ministry of Economy, Trade and Industry, Kitakyushu City, Osaka City, Kawasaki City, private companies, NPOs and other organisations for international cooperation), about 80 people attended the workshop in total.



A scene at the workshop

Workshop Overview

12th September

- Keynote Lecture
- Group Sessions (Introduction of activities for strategies and plans to promote the development of eco-towns)

13th September

- Panel Discussion (Points to consider in strategies to promote eco-towns)
- Kawasaki Session (Case study on the cooperation between Kawasaki City, its citizens and companies to develop an eco-town and to promote activities for resource circulation and the establishment of a low carbon society)
- Facility Tours (of Kawasaki Eco Gurashi Miraikan, resource recovery facilities, etc.)



The panel discussion

At the workshop on the first day, a keynote lecture was given on the theme of "Eco-town strategies on the level of region, nation and community." In the group sessions held afterwards, participants were split into the four groups (1. Governmental organisations; 2. Private companies; 3. Academic institutions, NGOs and NPOs; and 4. International and bilateral institutions and organisations) to hold discussions on strategies and plans to promote the development of eco-towns. On the second day, there were discussions led by group moderators and a Q&A session with a panel of specialists to discuss the points to consider in promoting eco-towns. The mayor of Kawasaki City, Norihiko Fukuda, gave a speech in greeting, and a presentation was given about Kawasaki City as a case study in developing an eco-town, to promote activities for resource circulation and the establishment of a low carbon society.

During the facility tours, participants visited a photovoltaic power plant and a resource recovery facility, where they deepened their understanding of environmental technology and environmental education, as well as their understanding of the activities carried out by Kawasaki Eco-Town which aims to be a model sustainable city where industry and the environment exist in harmony.

• Workshop on Capacity Building for Sustainable Waste Management in the Asia-Pacific Region to Promote Eco-Town Model and Integrated Solid Waste Management (ISWM)*

GEC provided support and assistance for a workshop on the "Capacity Building for Sustainable Waste Management in the Asia-Pacific Region to Promote Eco-Town Models and Integrated Solid Waste Management (ISWM)", which was jointly held by the UNEP IETC and the UNITAR-CIFAL Jeju International Training Centre from 10th to 12th December in Osaka. The workshop

was attended by 60 people from various countries in the Asia-Pacific region, including Bangladesh, China, India, Kiribati, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam, as well as people from Japan and Korea. Participants represented the central governments and local governments, international research institutes, UN organisations, academic institutes, Japanese companies and the Consulate of Osaka.

Workshop Overview

10 December	<ul style="list-style-type: none"> • Keynote Lecture • Presentation of a Case Study (Good practices and challenges for Integrated Solid Waste Management in cities and the eco-town models) • Group Discussion
11 December	<ul style="list-style-type: none"> • Group Discussion • Introduction of the City Share methodology by the UNITAR-CIFAL Jeju International Training Centre and the creation and presentation of an action plan for Integrated Solid Waste Management
12 December	<ul style="list-style-type: none"> • Facility Tour (of the Panasonic Eco Technology Center) • Lecture (Global activities in Integrated Solid Waste Management and eco-town models)



Group photo



GEC introducing projects



A scene from a group session

In the keynote lecture delivered on the first day of the workshop, representatives of the Ministry of the Environment in Japan, the Ministry of the Environment in Korea, Chung-Ang University and the Institute for Global Environmental Strategies gave presentations on the development of waste management, green growth and low carbon societies. Good practices, experiences and challenges for Integrated Solid Waste Management in cities and eco-town models were shared. On the second day, participants held group discussions in the session on "Integrated Solid Waste Management and Eco-Towns" and exchanged information from different cities. The City Share methodology developed by the UNITAR-CIFAL Jeju International Training Centre was introduced and participants created their own action plans for Integrated Solid Waste Management, which were presented at the end of the sessions. On the third day, participants visited the Panasonic Eco Technology Center in Kato City, Hyogo Prefecture, and learned about a recycling system for waste household electrical appliances. During the session in the afternoon, topics including waste management, eco-town strategies, the International Partnership for Expanding Waste Management Services of Local Authorities (IPLA) and Waste-to-Energy technologies were introduced in a lecture to share information on "global activities".

• Participation to the 10th Asia-Pacific Eco-Business Forum held by Kawasaki City and UNEP IETC

The 10th Asia-Pacific Eco-Business Forum was jointly held in Kawasaki by Kawasaki City and IETC between 12 and 14 February 2014. GEC attended the forum as a supporter and gave an overview in the session held on 13 February about the activities and the results from the 2013 "Project for a Low Carbon Society through 'Waste to Energy' Technology in Penang, Malaysia." In another session focussing on the "UNEP project", participants had lively discussions and exchanged their views on the establishment of partnerships on the local, national and global level for the Integrated Solid Waste Management strategies promoted by the IETC, and the necessity for a comprehensive approach to waste management in various fields. The direction of the UNEP IETC project was confirmed and information was collected on related activities in other cities.



The Japanese industrial waste experience: Lessons for rapidly industrializing countries

CCAC

This is an international voluntary initiative launched in February 2012 to reduce short-lived climate pollutants such as black carbon, methane and HFCs. This reduction will mitigate short-term climate change and reduce air pollution.



Field Survey – a waste transfer point



Field Survey – food waste processing in schools

MRV

"Measurement, Reporting and Verification"
This term refers to the measurement, reporting and verification of greenhouse gas emissions in particular. The first step in taking action against global warming is to understand the quantity of greenhouse gas emissions caused by your activities. MRV is a series of process to assure the accuracy and reliability of the reported quantity.

Support in Creating UNEP Publications

• Support in Editing and Translating the UNEP Publication "The Japanese industrial waste experience: Lessons for rapidly industrializing countries"

This publication is aimed at helping to provide developing countries with more efficient measures and policies regarding the issue of industrial waste. By compiling Japan's experiences in our measures and policies related to industrial waste management, and sharing these with developing countries where industrialisation is rapidly progressing. The publication contributes to the more efficient use of resources, the reduction of pollution and greenhouse gas emissions, the improvement of public health and the environment, the reduction of necessary costs of various types and the expansion of corporate social responsibility. GEC was involved in the editing process of the publication as a reviewer and also provided support in the area of translation.

Project on the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC)*

• Supporting the Municipal Solid Waste Initiative of the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) carried out by the IETC

GEC has continued to support activities in the two cities of Penang in Malaysia and Ho Chi Minh City in Viet Nam, where IETC is in charge of municipal solid waste for the CCAC project. The main activity for GEC was attending the workshop on the "CCAC Municipal Solid Waste Initiative" which was held in Surabaya in Indonesia from 22 to 23 February 2014 to gather information for the execution of Phase 2 of the project. GEC also conducted a field survey in Ho Chi Minh City from 17 to 19 March and in Penang from 26 to 31 March, to collect and provide data related to waste for Phase 2 and data related to the best practices for organic waste management.

Feasibility Studies for a large JCM Project to realise a Low Carbon Society in Asia

Feasibility Studies on supporting the development of a Low Carbon City through cooperation between Ho Chi Minh City and Osaka City

Ho Chi Minh City is the largest city in Viet Nam in terms of its population and economy. The environmental impact on the city is becoming increasingly serious due to rapid urbanisation and economic growth, and the city is said to be one of the most vulnerable cities to climate change. Based on an awareness of this challenge, Osaka City and Ho Chi Mihn City signed a memorandum in July 2011 for a cooperative relationship in major areas (related to the economy, the environment and water management). Since then, with help from the Ministry of the Environment, Japan and the JICA, we have provided support including providing technical investigation groups, engaging in dialogues on policies, holding workshops in the city, carrying out feasibility studies on the transmission of Japan's technology and receiving trainees. These activities have been conducted in unity with local governments, private companies and research institutes.

Based on the discussions between the two cities and the results of feasibility studies for fundamental projects, we have set a basic policy which is to discover and develop large JCM projects after the fiscal year 2014, and to establish a system to operate, maintain and manage those projects. First of all, we carried out an investigation in the key areas of project development, planning and system reviews, training and MRV* methodology reviews.

1. Establishment of a System to Promote a Low Carbon City

The Ho Chi Minh City Climate Change Steering Committee is composed of the Department Chiefs from each department of the city. Activities to realise a low carbon city are mainly promoted by this committee. The Committee has an Advisory Group and the HCCB (Ho Chi Minh City's Climate Change Bureau) as subordinate groups, and its office is in the DONRE (Department of Natural Resources and the Environment).

At the start of the technical cooperation through public-private partnerships towards the development of Ho Chi Minh City as a low carbon city, Osaka City established a cross-department organisation the "Osaka Steering Board for Developing a Low Carbon City", on 11 July 2013. With the cooperation of Osaka Prefecture, the Steering Board carries out activities with a view to solving urban problems in Asia and revitalising Osaka's economy by utilising advanced technologies from private companies. It also works to promote the transmission of Osaka City's comprehensive knowledge and experiences related to the city's management and developments towards becoming a low carbon city.

For this project, GEC held a joint meeting between the Ho Chi Minh City Climate Change Steering Committee and the Osaka Steering Board for Developing a Low Carbon City. In addition, private companies including the Nikken Sekkei Research Institute, Chuo Fukken Consultants, the Shimizu Corporation, Nippon Express, the Hitachi Zosen Corporation, K. K. Satisfactory International, Kobelco Eco Solutions and the EX Research Institute carried out feasibility studies.

2. Promoting Cooperation between the Local Governments

In this project, we will develop the existing cooperation between the two cities in the areas of waste, water and sewer services as well as city railways, and expand these areas further to cover energy saving and transport services to support the development of a low carbon city. Below are the two key objectives.

- (i) Export Osaka's excellent system of environmental technology and administration as a comprehensive system, and discover and develop large JCM projects in the whole area, separately and as a package.
- (ii) Establish a structure to operate, maintain and manage projects; for example, launching a cooperative organisation for the two cities to support the large-scale application of the JCM projects from the viewpoint of the organisation and a system for creating low carbon city master plans, etc.

Through the above activities, we aim to reduce carbon emissions in Ho Chi Minh City, where the environmental impact is increasing, and help the city become an example for other megacities in Asia with similar problems.

[Meetings and Discussions]

(1) 1st Field Survey (July 2013)

At the first workshop (kick off workshop) held on 12 July, we held a separate meeting with governmental departments of Ho Chi Minh City to discuss future cooperation between Osaka City and Ho Chi Minh City.

(2) 2nd Field Survey (August 2013)

In order to understand issues and needs related to Ho Chi Minh City's general policies and policies regarding transport and housing, and to review the content of future cooperation between the two cities, we carried out a second field survey in August including a discussion with governmental departments in Ho Chi Minh City.

(3) 3rd Field Survey (September – October 2013)

In order to understand issues and needs related to Ho Chi Minh City's general policies and policies regarding the environment, and to review the content of future cooperation

between the two cities, we carried out a third field survey from the end of September to October and had a discussion with governmental departments in Ho Chi Minh City.

(4) Hosting the delegation from Ho Chi Minh City (October 2013)

For the international symposium held in Osaka City, we invited a delegation from Ho Chi Minh City including the Mayor Le Hoang Quan. In line with this symposium, we held a meeting to discuss areas concerning energy conservation, city planning, transport, solid waste and waste water treatment.

(5) Ho Chi Minh City Deputy Mayor's Visit to Japan (November 2013)

During the Deputy Mayor's visit to Japan, we held a meeting to discuss waste treatment and measures to prevent flooding.

3. Feasibility Studies and MRV Methodology Reviews

We commissioned private business operators to carry out feasibility studies on projects to reduce greenhouse gas (GHG) emissions and reviewed the MRV (Measuring, Reporting and Verifying) methodologies to quantitate the reduction of greenhouse gas emissions for the following JCM projects:

- Reducing CO₂ through an eco-driven and cooperative delivery system.
- Applying energy conservation to buildings and establishing a regional energy supply system.
- Improving fixed-route bus services.
- Making electric motorcycles and community bicycles available.
- Introducing a waste power generation system.
- Carrying out feasibility studies on introducing low carbon technology for the treatment of industrial waste water.

4. Workshops and Symposium

(i) 1st Workshop (July 2013)

To share the objectives and the outline of this study with as many people as possible, we held a kick off workshop.

About 40 people attended this workshop from Japan, including members of the Ministry of the Environment, the Osaka City Environmental Management Bureau, JICA, and the Vietnamese Office. In addition, about 40 people attended from Viet Nam, including members of the Ministry of Natural Resources and the Environment, the Ministry of Transport, and the Ho Chi Minh City Department of Natural Resources and the Environment. The workshop was attended by more than 80 people in total.

(ii) International Symposium (October 2013)

About 130 people from Osaka City attended the international symposium including Mr Tanaka, the Vice Mayor of Osaka City, as well as representatives from the Ministry of the Environment, JICA Kansai and representatives from private sectors including the Kansai Economic Federation. From Ho Chi Minh City, about 20 people attended the symposium including the Mayor and the Chairman of the Ho Chi Minh City People's Committee, Mr. Le Hoang Quan, as well as others from the Department of Natural Resources and the Environment, the Department of Science and Technology, the Department of City Planning, and so forth.

(iii) 2nd Workshop (February 2014)

We held the second workshop to summarise the investigations carried out this year. About 50 people attended the workshop from Japan including representatives from the Ministry of the Environment, the Osaka City Environmental Management Bureau and JICA Viet Nam. From Viet Nam, about 60 people attended the workshop from organisations including the Ho Chi Minh City Department of Natural Resources and the Environment, the Ho Chi Minh City Energy Conservation Centre, the Ho Chi Minh City Department

of Industry and Commerce, the Department of Planning and Construction and the Department of Transport. The workshop was attended by more than 100 people in total.

5. Activities for Information Dissemination

We have created a website to share the information from this study.

In addition, we held a briefing session for private companies on 10 September 2013 with a view to widely introduce the objectives and the content of the activities involved in this study and to invite companies to take part in the project for developing a low carbon city. About 40 people from private companies attended the session, where Osaka City's and the Japanese government's activities to realise a low carbon society were shared. The Ministry of the Environment's programme for a support system using JCM was explained and the participants exchanged their views.

As to PR activities overseas, we organised a side event on the 8th day of the UNFCCC COP19 held in Warsaw, Poland between 11th and 23rd November 2013. The side event took place in the Japan Pavilion on 18th November, with the cooperation from the Ministry of the Environment in Japan, the Ministry of Natural Resources and the Environment (MONRE) in Viet Nam and the Kansai Economic Federation. About 25 people attended this side event where GEC offered an overview of the JCM and introduced this study. Three different organisations, namely GEC, the Vietnamese government and the Kansai Economic Federation gave presentations and discussed, from their respective viewpoints, the activities for NAMA* at the city level and the results of the public-private partnerships and the cooperation between the two cities. Explanations were given that shed light on the importance and the innovative spirit of the project and further discussions took place.

NAMA

"Nationally Appropriate Mitigation Actions"
This means activities for the voluntary reduction of GHG in developing countries. This is an important concept to promote GHG reduction in these countries. The Cancun Agreement adopted in COP16 states that developing countries shall carry out NAMA and developed countries shall support this.

Project for developing a low carbon society through "Waste to Energy technology" in Penang, Malaysia

This project aims to realise some "co-benefits" which will mitigate the serious problems with waste while contributing to the reduction of greenhouse gas emissions in Penang, Malaysia, by introducing the innovative green technology from Kawasaki City. As well as improving the efficiency of the waste management policies in Penang, the technology is combined with energy generation. The main content of the work will involve effectively executing activities such as training sessions, workshops, support in designing systems, engineering designs, the establishment of MRV (Measuring, Reporting and Verifying) methodology and the evaluation of the project feasibility through cooperation with others. As the chart below shows, several steps must be taken in order to realise the reduction of CO₂ emissions and the improvement to the environment by establishing an integral waste management model with an efficient separation and collection system, by utilising local NGOs and Waste-to-Energy technology, and by reducing the volume of the final quantity of waste.

Organisation Involved (Cooperation for the Project)	Roles
GEC	<ul style="list-style-type: none">• Lead and manage the whole project.• Communicate with Penang and collect information for the project.• Support workshops and training sessions in Japan.
Kawasaki City	<ul style="list-style-type: none">• Support the establishment of waste management (by designing systems) to develop Penang into a low carbon city.• Provide training for people in Penang on waste management.
JFE Engineering Co. Ltd.	<ul style="list-style-type: none">• Feasibility study on Waste-to-Energy technology.• Analysis, etc., of waste treatment technologies which are related to waste management and are applicable to Penang.
Institute for Global Environmental Strategies	<ul style="list-style-type: none">• Matters related to the JCM.



Kick off meeting (Penang)



Observing activities for converting organic waste into compost in the town



Final disposal site in Penang



Training session in Japan
(Kawasaki City)



Visit to a wood biomass facility

The main achievements in the fiscal year 2013 are as follows:

- Preliminary Field Survey (26 to 28 June 2013) in Penang
We explained the project to the local persons and investigated the current condition of the transfer points for waste, landfill disposal and waste recycling.
- Kick Off Meeting in Penang (20 to 23 August 2013)
We checked the current conditions in Penang with regards to waste treatment, 3R activities, challenges and needs. We also investigated the situation with waste transfer points, landfill disposal, waste separation and recycling and 3R activities. At the kick off meeting, Kawasaki City and Penang signed a memorandum on their cooperation in this project.
- Training Session in Japan (10 to 13 September 2013)
In Kawasaki City, we held a training session for the people who are responsible for waste management in Penang. The training covered Japan's efforts on waste, recent trends in the JCM, biomass power generation and tours of recycling plants for fluorescent lights and construction waste.
- The Final Workshop in Penang (20 to 23 January 2014)
In the workshop, we reported on the result of the activities carried out in the fiscal year 2013, and planned the activities to be carried out in the following year. We also carried out investigations into the situation with regard to the disposal of wood waste and food waste.
- Formulation of a proposal for the development of a low carbon city in Penang through the Waste-to-Energy technology.
- Support in designing systems for waste separation and recycling in Penang.

Based on the results of the investigation in the fiscal year 2013, we planned to carry out further investigations towards the introduction of a biomass power generation and to provide support in creating a legal framework for energy utilisation and the collection of wood waste, which is a biomass resource.

Support for Developing JCM Projects in Ulaanbaatar, Mongolia (OECC in charge)

As part of the investigation into developing JCM projects in Mongolia, we provided technical advice regarding the following points through local workshops and participation in a delegation to Mongolia to review the issues required to transform the investigation items into JCM projects:

- (1) Will the project achieve a net reduction in greenhouse gas emissions in Mongolia?
- (2) Is it possible to set JCM requirements which are eligible for promoting and introducing Japan's technology?
- (3) Is it possible to set a default value to calculate the reference emission quantity and to simplify the monitoring?
- (4) Can a monitoring system be established including a measuring device and calibration?

[Actions and applicable advice]

- Energy saving with optimal control by introducing the Joint Operation System.
- Introducing a circulation fluidised bed boiler (CFB).
- Updating the transformer.
- Introducing an inverter for the motor in the power plant.
- Introducing energy saving fluorescent lights (CCFL: Cold Cathode Fluorescent Lights) to the Gobi Cashmere Plant.

Support in Creating the 2013 MRV Guidebook “Joint Crediting Mechanism”

This project was carried out together with the Institute for Global Environmental Strategies (IGES). Specifically, we attended the author's meeting on a “MRV Guidebook” and participated in the discussion to create the guidebook. Based on the discussion with IGES, we edited and corrected the script for MRV (Measuring, Reporting and Verifying) regarding JCM projects in particular.

Support Activities for Waste and 3R Policies in Ho Chi Minh City

In the fiscal year 2013, we continued to carry out the following three activities in cooperation with Osaka City Environment Management Bureau, the IGES and private companies: (1) Supporting Ho Chi Minh City in formulating policies for waste management and 3R; (2) Providing training for staff in Ho Chi Minh City on waste management and 3R; and (3) Sending a basic investigation group to explore waste and 3R technology.

First of all, as part of the project to support the collection of integrated energy from solid waste in Ho Chi Minh City in Viet Nam, we gathered information on the environmental regulations and permissions which will be required to develop specific waste treatment projects in Ho Chi Minh City. We also explained the content of a project related to garbage burning for energy generation as one way of waste treatment, held a workshop to demonstrate a model of effective waste separation and collection, and widely discussed waste management in general.

Furthermore, we provided training for the Department of Natural Resources and the Environment (DONRE) and relevant staff in Ho Chi Minh City, as well as employees of companies who carry out environmental analysis. By giving lectures on Japan's actions, we transmitted our knowledge and experience in waste management and also provided some facility tours.

In addition, we conducted hearings with the local government in Osaka City on the processes for formulating a basic plan of waste management and summarised their waste management activities, as well as discussing the areas of knowledge and experience which can be applied to Viet Nam and Indonesia.

Projects to Promote the Global Roll-Out of Environmental Businesses

Faced with the urgent need to address global warming and other environmental problems, countries in the economically fast-growing Asian community are expected to shift their focus from policies that prioritise economic growth, to ones that aim for a balance between development and environmental conservation, to encourage energy-saving and environment-protection measures. Against this background, the Kansai Bureau of Economy, Trade and Industry took the initiative to organise Kansai-Asia Environmental and Energy Saving Business Promotion Forum (Team E-Kansai), calling for participation from industries, research institutions and governmental agencies mainly in the Kansai district (in the mid-western part of Japan). The aims of Team E-Kansai were to form a network for tackling the environmental issues that face Asian communities, and to offer solutions based on the technologies for environmental preservation and energy-conservation that Japan has developed.

GEC first took part in the forum as one of the participating organisations in the fiscal year 2012, and furthered its involvement from May 2013 by stepping up as a co-organiser of the forum, playing the role of secretariat alongside the Kansai Bureau of Economy, Trade and Industry.

Team E-Kansai (Kansai-Asia Environmental and Energy Saving Business Promotion Forum)

Purposes of Team E-Kansai

- Contribute to expanding the environmental and energy-conservation industries in Kansai into the rest of Asia
- Develop a network for sustainable business liaisons between Kansai and the rest of Asia



1. Activities in priority areas

The project designated four priority areas (Thailand, Viet Nam, and the Liaoning and Guangdong provinces in China), arranged for dedicated coordinators in each area, and pursued the development of 'model projects' that would support local needs. A delegation party was also launched to Indonesia to search for more regions to be included.



The Japan Pavilion at ENTEC POLLUTEC ASIA 2013



Environment and Energy Conservation Technology Seminar at the Vietnam Trade



Viet Water 2013

Thailand	<ul style="list-style-type: none"> In June, the Environmental Business Delegation was dispatched to Thailand (the party consisted of 13 participants from 5 member firms) for the following activities: <ol style="list-style-type: none"> Participation in the Environmental Technology Seminar hosted by The Japanese Chamber of Commerce, Bangkok Participation in ENTECH POLLUTEC ASIA 2013 (5 member firms participated) Holding a joint seminar with the Federation of Thai Industries (FTI) Signing an agreement on the commencement of a pilot for the construction of a model eco-friendly industrial park (and the development of One Stop Service) at Amata Nakorn Industrial Estate Meeting with the PTT (Thai Petrol public company) From October onwards, the coordinators followed up the cases that were initiated at ENTECH POLLUTEC In December, received the delegation from the Federation of Thai Industries and PTT
Viet Nam	<ul style="list-style-type: none"> In July, delegates were dispatched to Hanoi and Ho Chi Minh City for preliminary investigations, and meetings and discussions were held with 26 agencies, including government officials, universities, and industrial organisations In September, a system solution review was held in Japan In October, Team E-Kansai dispatched 'the Third Water Business Delegation to Viet Nam' (with 21 members from 16 companies) for the following activities: <ol style="list-style-type: none"> A group-to-group meeting with state-owned companies and industry associations in Hanoi A business-matching seminar (the Environment and Energy-Conservation Technology Seminar) at the Viet Nam Trade Promotion Agency A group-to-group meeting with state-owned company and industry associations in Ho Chi Minh City, as well as a joint seminar with the Dong Nai provincial government Participation in Viet Water 2013 (where 10 member firms presented exhibits at the Japan External Trade Organization (JETRO) booth) In November, Kansai Bureau of Economy, Trade and Industry sent a counsellor to Viet Nam (through arrangements made with local coordinators) In January, the coordinators accompanied an expert delegation party from the Kansai Bureau of Economy, Trade and Industry
Liaoning province, China	<ul style="list-style-type: none"> The coordinators visited the city to promote businesses and conduct interviews, as well as the following activities: <ol style="list-style-type: none"> In June, provided panel displays for the Japan-China Environmental Exchange in Shenyang (5 companies and 1 organisation represented the Japanese contribution) In September, gathered information from environment and energy-conservation businesses at the

	<p>12th China International Equipment Manufacturing Exposition (in Shenyang)</p> <p>3) From 22-25 October, visited Shenyang with members of the Japan-China Economic Association Kansai HQ to exchange information with local firms supported by Japanese investments, local government agencies, and industry members</p> <p>To disseminate information about local needs via our emailing list, and the Networking Café, and to facilitate business matching to meet cooperation needs in environmental policies in Liaoning, a meeting was held on 4 February</p>
Guangdong, China	<ul style="list-style-type: none"> The focus included energy-efficiency evaluations and a model clean production project in Nanhai district, Foshan <p>In August, a local model plant (an aluminium manufacturer) designated by the Nanhai district authority invited our member firms to conduct an energy-efficiency evaluation. Nanhai district is struggling with the promotion of clean production (energy-conservation, waste management, production process reforms, etc.)</p> <ul style="list-style-type: none"> In September, panel exhibitions were provided at the JETRO booth for the Third International (Guangdong) Energy Conservation Expo Support was provided for individual business cases and some follow-up Coordinators implemented follow-up support in some business negotiations between member firms and their counterparts in Nanhai district, and joint evaluation projects were agreed upon, with contracts signed in some cases An Environmental and Energy Conservation Delegation was sent to Guangdong in March for the following activities: <ul style="list-style-type: none"> Continuing from the fiscal year 2013, the MOU was signed with the Nanhai district authority of Guangdong and the Foshan City Environmental Protection Industry Association Participation in the Foshan City Nanhai District Technology Seminar and Business Meeting (7 firms and 2 organisations participated) Participation in the Foshan City Shunde District Technology Seminar and Business Meeting (7 firms participated) Presentations were given by 5 member firms on their proprietary technologies at the Guangdong Energy Conservation Seminar (140 Chinese participants took part) Visited the South China Institute of Environmental Sciences MEP (3 member firms and one organisation participated) Visited the Hong Kong Trade Development Council (the Kansai Bureau of Economy, Trade and Industry and the GEC only) for meetings with members of the Government of the Hong Kong Special Administrative Region and the opportunity for representatives of industrial associations to exchange opinions
Indonesia	<ul style="list-style-type: none"> The secretariat visited Indonesia to search for more regions to be included in the project priority areas (in December) <p>Successful negotiations and the conclusion of contracts have been reported in the priority areas, based on the initiatives of Team E-Kansai, in terms of energy-efficient aerators, measuring equipment, and the provision of water treatment chemicals for water treatment plants.</p>

2. Other activities

- Reporting at the regular meeting of the Water Group

In September, a presentation of local challenges and needs in relation to waste water in Viet Nam, including case studies conducted by locally-operating Japanese businesses and introducing risk management methods, etc., was presented. In February, a report was given from the December mission party to Indonesia

- Launching of the Networking Café

An information exchanging event entitled "Networking Café" was held, serving as a socialisation venue for member firms, thereby facilitating networking and information exchanges regarding local business situations (4 sessions have been made so far).

- Disseminating information

A technological data sheet was prepared both in Japanese and English, relating to the technologies and products of the member firms. This material was distributed locally through the team's initiatives in the priority areas. It was also published on the Team E-Kansai website. Other efforts to disseminate information include events and public calls for useful ideas regarding the international expansion of environmental businesses, exchanges and business negotiation events, and fortnightly email newsletters to provide local information (49 newsletters have been published (22 regular editions and 27 ad-hoc editions)).



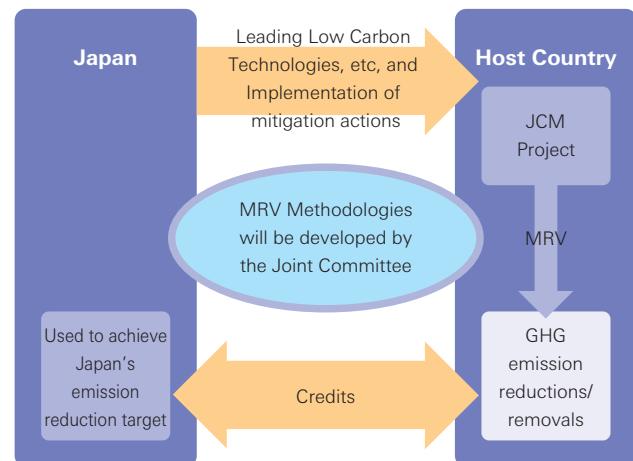
The Guangdong Mission party

Study Programme for the JCM Project

GEC was commissioned by the Ministry of the Environment, Japan (MOEJ) to conduct a Feasibility Study Programme for the Joint Credit Mechanism (JCM) Project. In this, GEC served as the secretariat to manage the progress of various studies in the JCM, to be conducted in developing countries by private entities. These studies include Project Planning Studies (PS), Methodology Demonstration Studies (DS), and Feasibility Studies (FS), as well as a feasibility study for the Clean Development Mechanism (CDM FS), as it is defined in the Kyoto Protocol.

Basic concepts of the Joint Crediting Mechanism (JCM)

- Facilitating the diffusion of leading low carbon technologies, products, systems, services and infrastructures as well as the implementation of mitigation actions, and contributing to the sustainable development of developing countries.
- Appropriately evaluating Japan's contributions to greenhouse gas emission reductions or removals in a quantitative manner, by applying measurements, reports and verification (MRV) methodologies, and using these to achieve Japan's emission reduction target.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for greenhouse gas emission reductions or removals, complementing the CDM



Source: 'Recent Development of The Joint Crediting Mechanism (JCM)' (published by the Government of Japan)

Japan signed a bilateral document for the implementation of the JCM with 12 countries (as of July 2014). Initially an agreement was made with Mongolia in January 2013, followed by Bangladesh, Ethiopia, Kenya, the Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, and Mexico. The results of the survey for the fiscal year 2013 are as follows:

- A total of 27 survey projects, submitted by Japanese private business entities, were accepted (6 PS projects, 4 DS, 16 FS, and 1 CDM FS).

JCM PS (Project Planning Study)



Utilising exhaust heat at a cement manufacturing plant (Indonesia)

Host Country	Study Entity	Study Title	Sector
Indonesia	Nippon Koei Co., Ltd., and Ebara Refrigeration Equipment & Systems Co., Ltd.	Energy saving by high-efficiency centrifugal chiller	Energy Efficiency Improvement
Indonesia	JFE Engineering Corporation	Power generation by waste heat recovery in cement industry	Energy Efficiency Improvement
Indonesia	Toyotsu Machinery Corporation	Regenerative burners for aluminium melting furnaces	Energy Efficiency Improvement
Mongolia	Shimizu Corporation	10MW-scale solar power plant and rooftop solar power generation system	Renewable Energy
Viet Nam	Hitachi Zosen Corporation, and K.K.Satisfactory international	Anaerobic digestion of organic waste for cogeneration at market	Waste Management / Biomass Utilisation
Viet Nam	RENOVA, Inc (Recycle One, Inc.)	Integrated energy efficiency improvement at beer factory	Energy Efficiency Improvement

JCM DS (Methodology Demonstration Study)

Host Country	Study Entity	Study Title	Sector
Lao PDR	Almec Corporation	Promotion of use of electric vehicles (EVs)	Transport
Mongolia	Suuri-Keikaku Co., Ltd.	Centralization of heat supply system by installation of high efficiency heat only boiler (HOB)	Energy Efficiency Improvement

Thailand	Shimizu Corporation	Dissemination of high-efficiency inverter air conditioners	Energy Efficiency Improvement
Viet Nam	Ihara Furnace Co., Ltd.	Energy efficiency improvement of glass furnace	Energy Efficiency Improvement

JCM FS (Feasibility Study)

Host Country	Study Entity	Study Title	Sector
Bangladesh	EJ Business Partners Co., Ltd.	High-efficiency rice husk-based cogeneration	Waste Management / Biomass Utilisation
Bangladesh	Sony Energy Devices Corporation	Installation of solar power generation and long-life storage battery system in non-electrified regions	Renewable Energy
Indonesia	Nihon Suido Consultants Co., Ltd.	Anaerobic treatment for wastewater treatment from rubber plants	Waste Management / Biomass Utilisation
Indonesia	Pricewaterhouse Coopers Co., Ltd.	Solar power system at off-grid cell towers	Renewable Energy
Indonesia, and Myanmar	Mizuho Bank, Ltd.	Solar-Diesel hybrid system to stabilise solar power generation	Renewable Energy
Indonesia	Mitsubishi Research Institute, Inc.	Improvement of REDD+ implementation using IT technology	REDD+
Kenya	Pricewaterhouse Coopers Co., Ltd.	Expansion of geothermal project	Renewable Energy
Mongolia	myclimate Japan Co. Ltd.	10MW-scale solar power generation for stable power supply	Renewable Energy
Mongolia	Taiheiyo Engineering Corporation	Energy conservation at cement plant	Energy Efficiency Improvement
Mongolia	Kanden Plant Co., Inc.	Improvement of thermal insulation and water cleaning /air purge at power plant	Energy Efficiency Improvement
Myanmar	Nippon Koei Co., Ltd.	Geothermal Binary Power Generation	Renewable Energy
Sri Lanka	EX Research Institute Ltd.	Replacing grid electricity with sustainable biomass-based power generation	Renewable Energy
Thailand	Mayekawa Manufacturing Co., Ltd.	Heat recovery to generate both cooling and heating energy	Energy Efficiency Improvement
Viet Nam	Nikken Sekkei Research Institute	Promotion of public transport use by park-and-ride system	Transport
Viet Nam	Asahi Glass Co., Ltd.	Energy-saving glass windows for buildings	Energy Efficiency Improvement
Viet Nam	Sumitomo Forestry Co., Ltd.	REDD+ with livelihood development and Biomass-based power generation	REDD+

CDM FS (Feasibility Study)

Host Country	Study Entity	Study Title	Sector
Myanmar	Nippon Koei Co., Ltd	Small-scale conduit type hydropower plant	Renewable Energy

- Activities in fiscal year 2013:

GEC developed the MRV (Measurement, Reporting and Verification) methodology for a quantitative evaluation of the GHG emissions reductions resulting from the target projects of the survey, to be authorised and implemented within the framework of the JCM. As another positive contribution, GEC organised opportunities for participants to discuss their opinions, such as a Host Countries Discussion Board, and GEC, as the secretariat, generally dedicated its thorough efforts to progress management.



The Indonesia JCM 1st Host Country Discussion Board

Financing Programme for JCM Model Projects by MOEJ

GEC was commissioned to operate and manage the administration of a Financing Programme for JCM Model Projects by the MOEJ. The tasks in administering the subsidies included the following: advertising projects and the preliminary assessment of applicants; administrative work for subsidy issuance; progress management including interim assessments; and the finalisation of work completed including audits and the settlement of expenses.

The results for the fiscal year 2013 are as follows:

- Advertising for projects to grant the financing programme:
 - First call (23 May to 12 June)
 - Second call (21 June to 10 July)
 - Third call (1 to 21 August)
 - Fourth call (15 to 29 October)
 - Fifth call (16 December to 6 January)
- A series of projects were accepted by the MOEJ



A chiller for plant air conditioning and process cooling systems (Indonesia)

Public Offering	Implementing Entity	Study Title	Host Country
1st	Ebara Refrigeration Equipment & Systems	Energy Saving for Air-conditioning and Process Cooling at Textile Factory	Indonesia
	Tepia Corporation Japan Co., Ltd.	Brick Production Based on Non-Firing Solidification Technology	Bangladesh
	Promaterials	Small-scale Biomass Power Generation by Using Stirling Engines	Cambodia
	Suuri-Keikaku	Upgrading and Installation of Centralized Control System of High-Efficiency HOB	Mongolia
	Renova, Inc.	Integrated Energy Efficiency Improvement at Beer Factories	Viet Nam
2nd	Lawson	Energy Savings at Convenience Stores	Indonesia
3rd	Mayekawa Manufacturing Co., Ltd.	Energy Efficient Refrigerants to Cold Chain Industry	Indonesia
4th	Toyota Tsusho Corporation	Energy Saving by Double Bundle-Type Heat Pump at Beverage Plant	Indonesia
	Ebara Refrigeration Equipment & Systems	Energy Saving for Air-Conditioning at Textile Factory	Indonesia
	Mayekawa Manufacturing Co., Ltd	Energy Efficient NH3 Heat Pumps to Marine Products Processing Industry	Indonesia
5th	Pacific Consultants, Inter Act	Small-Scale Solar Power Plant for Commercial Facilities in Island States Project	Palau

- The MOEJ's financing programme for JCM projects raised interests in many for being an effective system to promote and diffuse excellent technologies and products for GHG emissions reduction in developing countries.
 - Management of grant applications for accepted (provisional) projects
 - Management of the progress of accepted projects (including confirmed projects)
 - Work to complete audits and to settle expenses for the projects completed within the programme term (for example: an energy saving project for an air conditioning system and process cooling system by Ebara Refrigeration Equipment & Systems Co. Ltd. (the first call applicant))

Dissemination of Information and Countermeasures for Climate Change

GEC transmitted information through our websites, and at side events at international conferences as well as holding symposiums in Japan.

- Hosting the Global Warming Countermeasures Symposium 2014: Towards the Establishment of Applicable Methodologies for the Joint Crediting Mechanism (JCM) Projects**

On 25 February 2014, GEC held the Global Warming Countermeasures Symposium 2014: Towards the Establishment of Applicable Methodologies for the Joint Crediting Mechanism (JCM) Projects in Tokyo. The MOEJ introduced some initiatives for the development of the JCM, and GEC delivered a report suggesting improvements to be made in the JCM feasibility study, based on lessons learned from the survey programme conducted in this fiscal year. Furthermore, the four groups who had conducted JCM PSs in the fiscal year 2013 presented their respective study results, followed by discussions on the methodologies to be implemented for CO₂ emission reduction projects under the JCM, contributing towards the actual execution of these projects.



Proposed improvement (GEC)



Open Q&A session

- Information Dissemination at the UNFCCC Sessions**

The UN Framework Convention on Climate Change (UNFCCC) held its 38th Climate Change Talks (SB 38) in Bonn, Germany, between 3 and 14 June 2013. At the event, GEC organised an official side event entitled ‘Developing a Joint Crediting Mechanism (JCM) through Feasibility Studies,’ in collaboration with the MOEJ, the IGES, and the Overseas Environmental Cooperation Center, Japan (OECC).

More than 40 participants attended the event, including government officials and various experts, giving them an opportunity for lively discussions. Questions were presented by the audience on subjects such as project funding, the establishment of reference levels, and prerequisites for the third-party auditors. Through these discussions, the attendees were able to further their understanding of the JCM.



GEC report



A scene from the side event

- Official Side Event and Official Booth at the COP19**

GEC participated in the COP19 and CMP9 of the UNFCCC, held between the 11th and 23 November 2013 in Warsaw, Poland. It organised an official side event as well as another side event for the Japan Pavilion. GEC also ran an official booth, where it introduced the JCM FS to the audience.

- (1) Information dissemination at the official side event**

GEC, jointly with the OECC, held an official side event at the COP19, entitled ‘Feasibility

Studies and Financing Programme for JCM and the Development and Implementation of Nationally Appropriate Mitigation Actions (NAMAs) by Developing Countries.' The event took place on 12 November, and was attended by government officials from four countries (Mongolia, Viet Nam, Lao PDR and Indonesia), as well as by the MOEJ.



Official side event at COP19

(2) Information dissemination at the Japan Pavilion side event

GEC organised another side event at the COP19, which was held at the Japan Pavilion and operated by the Government of Japan. It took place on 11th November, under the title 'Development of the Joint Crediting Mechanism (JCM) project and its methodology through JCM Promotion Scheme'

(3) Information dissemination at the official booth

The official booth was set up in the COP19 official venue (the National Stadium), and provided information on Japanese initiatives in the JCM, particularly regarding the feasibility study and financing programme for the JCM the GEC was pursuing.



Exhibits at the official booth

• **Other Activities at International Events for the Dissemination of Information**

(1) The Carbon Forum Asia 2013

GEC, in cooperation with the OECC and IGES, ran a Japan Pavilion booth at the Carbon Forum Asia 2013, held on the 24 and 25 September 2013. GEC also participated in an official side event hosted by the OECC, where it made a presentation on the purposes and methodology development in the JCM feasibility study.



The Forum: an open discussion
(an Indonesian participant is asking
a question)

(2) Carbon Forum Asia 2013 Workshop

GEC participated in Workshop 9, hosted by the OECC, on 25 September and discussed the JCM as part of Japan's policies.

Also at the workshop, the OECC gave an introductory talk about the JCM in terms of its systems and member countries, while GEC outlined the feasibility study and financing programme, representing the MOEJ initiatives for the JCM in the fiscal year 2014.



Workshop 9: the facilitator and the
panellists

Osaka CDM Network

GEC, as a chief representative of the Osaka CDM Network, gives support to Kansai-based enterprises for the expansion of businesses involved in global warming countermeasures. The Network was established in February 2004, in cooperation with the OISCA Kansai and the Osaka Urban Industry Promotion Center, for the purpose of encouraging Kansai-based enterprises to become proactive within the CDM project. Another carbon-offset initiative 'Osaka Carbon Offset Concierge (OCONOMI)' has been operating since 2008, and the Osaka CDM Network has now launched its own website.



Panel discussion at the Osaka Carbon Conference 2013

- Activities in the fiscal year 2013 included:

- (1) Study sessions

One study session was conducted in the fiscal year 2013, where a member organisation made a presentation on the following themes to further the understanding of the JCM system:

- A joint survey on the low-carbon city project between Ho Chi Minh City and Osaka, and overseas expansion through liaisons between the government and the private sector
 - The financing programme for JCM model projects
 - The specific financing programme for the JCM model project in Bangladesh

- (2) Osaka Carbon Conference

The outcomes of the UNFCCC COP19, held in Warsaw, were shared at the Osaka Carbon Conference, attended by leading researchers involved in international negotiations on climate change and delegates from the Government of Japan. The conference made its first foray into Japan to disseminate this latest information on the international talks regarding climate change in the Kansai district.

Human Resource Development in Developing Countries**Country Report**

A report prepared by each participant describing the environmental administration system, environmental situation and other related issues in his/her country. These Country Reports are presented at the start of the training course to minimize the gap in issue awareness between participants and instructors.

Action Plan

A plan prepared by each of the participants to improve the environment in their own country based on knowledge acquired during the training. Participants present their Action Plan and receive advice from audience (mainly from course instructors and advisers) on how to improve its feasibility.

Japan-Mexico Training Programme for the Strategic Global Partnership: Total Environmental Contamination Control*

Making a control panel for PV panels (Osaka City University)

Mega-City Environmental Policy and Environmental Management System

Tour of the bio-gas power generation plant (the Kobe City Sewage Treatment Plant)

The Japan International Cooperation Agency (JICA) Group Training Project

As commissioned by the JICA, GEC has carried out 7 training courses for engineers and administrative officers in developing countries. We launched a course on effluent pollution control caused by mining and manufacturing industries in the English language. The course has also been run in Spanish, mainly targeting the needs of countries in Central and South America. These new developments are a response to the growing concerns for similar effluent pollution controls in other parts of the world. Meanwhile, the GEC course on urban solid waste management by local governments was again undertaken twice this year.

Each course started with a Country Reports, in which participants shared the issues that their countries faced. Action Plans were developed at the end of the training programme to clarify the purposes of the participants' future activities on their return to their countries.

GEC will continue to provide training, including the popular courses among developing countries, in liaison with relevant bodies and will accommodate the changes in current needs. Likewise, it will continue to strengthen bonds with research institutes and other affiliate organisations to prepare for an increasing demand for training in new areas in the future.

Training period	Nationality of participants	Main course contents
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Japan-Mexico Training Programme for the Strategic Global Partnership: Total Environmental Contamination Control*

8 May – 14 November 2013	2 participant from Mexico	<u>Purpose</u> To develop the participants' capacity in the field of comprehensive environmental contamination control by providing a broad range of relevant expertise and experiences, and through participation in multiple JICA group training sessions. <u>Cooperating bodies</u> Osaka City University, Osaka City Institute of Public Health and Environmental Sciences, and others. <u>Lectures</u> Environmental policy frameworks; waste management; effluent pollution countermeasures; countermeasures against automobile pollution; photovoltaic panel controls, etc. <u>Facility tours and training sessions</u> Experiments in PV power generation control, etc.
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Mega-City Environmental Policy and Environmental Management System*

6 May – 22 June 2013	7 participants from Brazil (1), Mexico (2) Myanmar (1), Nigeria (2), South Africa (1)	<u>Purpose</u> To master pragmatic and practical methodologies, such as the framing of environmental policies, techniques in environmental assessment, guiding corporation policies, Environmental Management Systems and methods of enlightening citizens. <u>Cooperating bodies</u> Osaka City Environment Bureau, Osaka City Education Center, Kyoto University, Toyo University, United Nations Centre for Regional Development (UNCRD), United Nations Environment Programme, Kobelco Eco-Solutions Co., Ltd., Environmental Strategies Inc., EX Research Institute Ltd., and others. <u>Lectures</u> Environmental administration in Osaka, Japan; environmental management systems; environmental impact assessments; environmental policies and socioeconomic systems; countermeasures against climate change, etc. <u>Facility tours and training sessions</u> Tour of a bio-gas power generation plant and a seaside landfill site (Phoenix), educational activities on environmental issues at elementary schools, etc.
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Training period	Nationality of participants	Main course contents
Urban Solid Waste Management by Local Government (A, B)*		
(A) 10 June – 27 July 2013 10 participants from Argentine (2), Brazil (1), Cuba (1), Djibouti (1), Kenya (1), South Sudan (1), Sudan (1), Uganda (1), Zimbabwe (1)	<u>Purpose</u> To develop leaders and core people who will play a major role in creating solid waste treatment plans and in implementing treatment businesses in their own countries. <u>Cooperating bodies</u> Osaka City Environment Bureau, Fukuoka City, Kitakyushu City, Suita City, Fukuoka University, Toyo University, Osaka City University Hospital, EX Research Institute Ltd., Kokusai Kogyo Co. Ltd., Jpec Co. Ltd., Kawase Co. Ltd., Kyoei Mesona Inc., Plantec Inc., and others. <u>Lectures</u> Outline of waste treatment; sanitary landfill technology; industrial waste treatment planning, etc. <u>Facility tours and training sessions</u> Tours of a sanitary landfill, waste incineration plant, plastic container recycling facility, onsite composting (TAKAKURA Method), and participation in voluntary beautification activities, etc.	
(B) 13 January – 8 March 2014 9 participants from Cambodia (1), India (1), Indonesia (1), Lao PDR (1), Myanmar (1), Nepal (2), Pakistan (1), Philippines (1)		
Effluent Pollution Control Caused by Mining and Manufacturing Industries (A, B)*		
(A) 12 August – 20 September 2013 21 participants from Argentine (3), Bolivia (2), Cuba (3), Ecuador (3), Paraguay (3), Peru (4), Uruguay (3)	<u>Purpose</u> To draw up effective solutions and policies to mitigate environmental destruction and pollution, caused by hazardous substances contained effluent from mining and manufacturing industries in relevant countries. <u>Cooperating bodies</u> Kwansei Gakuin University, Japan Oil, Gas and Metals National Corporation (JOGMNC), National Institute for Minamata Disease, Ministry of the Environment of Japan, Osaka City Public Works Bureau, Taiyo Manufacturing Co. Ltd., Mitsubishi Material Techno Co. Ltd., Kosaka Smelting and Refining Co. Ltd., Osaka Environmental Technology and Research Co. Ltd., JNC Corporation, Kanden Geo-Re Inc., Toray Industries, Inc., Nippon Magnetic Dressing Co. Ltd., Sumitomo Metal Mining Co. Ltd., Mitsui Kushikino Kozan Co. Ltd., and others. <u>Lectures</u> Mining pollution and the Mine Safety Act in Japan; pollution control for hazardous materials; plant effluent regulations and soil contamination control measures in Osaka City; salvation and compensation system for pollution victims, etc. <u>Facility tours and training sessions</u> Tours of the waste water treatment in a metal plating factory, effluent treatment at a mining facility, Hishikari mine, Kushikino Akaishi mine, waste water treatment in a waste incineration plant, a contaminated soil purification and regeneration plant, Minamata Disease Municipal Museum, etc.	
(B) 4 November – 13 December 2013 5 participants from Myanmar (2), Papua New Guinea (2), Serbia (1)		
Countermeasures against Automobile Pollution in Urban Areas*		
16 September – 7 November 2013	12 participants from Angola (2), Botswana (1), Ghana (2), Iran (1), Kosovo (1), Mexico (2), Nigeria (2), Tunisia (1)	<u>Purpose</u> To formulate and implement plans for automobile pollution prevention in targeted countries and to resolve air pollution problems caused by city-based vehicles from the dual perspectives of environmental countermeasure technologies and urban transport policies. <u>Cooperating bodies</u> Osaka City University, Osaka City Environment Bureau, Osaka Municipal Transportation Bureau, Tokyo Metropolitan Research Institute for Environmental Protection, Kinki District Transport Bureau, Kinki Regional Development Bureau, Osaka Police, Japan Automobile Federation (JAF), Hanshin Expressway Co. Ltd., Suuri-Keikaku Co. Ltd., Climate Consulting, LLC, Kimoto Electric Co. Ltd., Osaka Environmental Technology and Research Co. Ltd., Mitsubishi Fuso Truck and Bus Corporation, Osaka Toyota Motor Corporation, and others. <u>Lectures</u> Countermeasures against automobile pollution; physico-chemical characteristics of particulate matter (PM 2.5, etc.); urban noise measurement and analysis; simplified passive sampling measurement; atmospheric dispersion simulation; drivers' education (practical exercises in eco-driving), etc. <u>Facility tours and training sessions</u> Tours of an atmospheric continuous monitoring station, automobile inspection centre, chassis dynamometer, traffic control centre, case study of a traffic demand management (TDM), etc.

Urban Solid Waste Management by Local Government (A, B)



Tour of the plastic container recycling plant (Kawase Co. Ltd.)



Workshop on making compost (Jpec Co. Ltd.)

Effluent Pollution Control Caused by Mining and Manufacturing Industries (A, B)



Tour at the contaminated soil treatment plant (Kanden Geo-Re Inc.)

Countermeasures against Automobile Pollution in Urban Areas



A simplified method of measuring nitroxides (Osaka Environmental Technology and Research Co. Ltd.)

GEC Networking Project for Former Training Course Participants

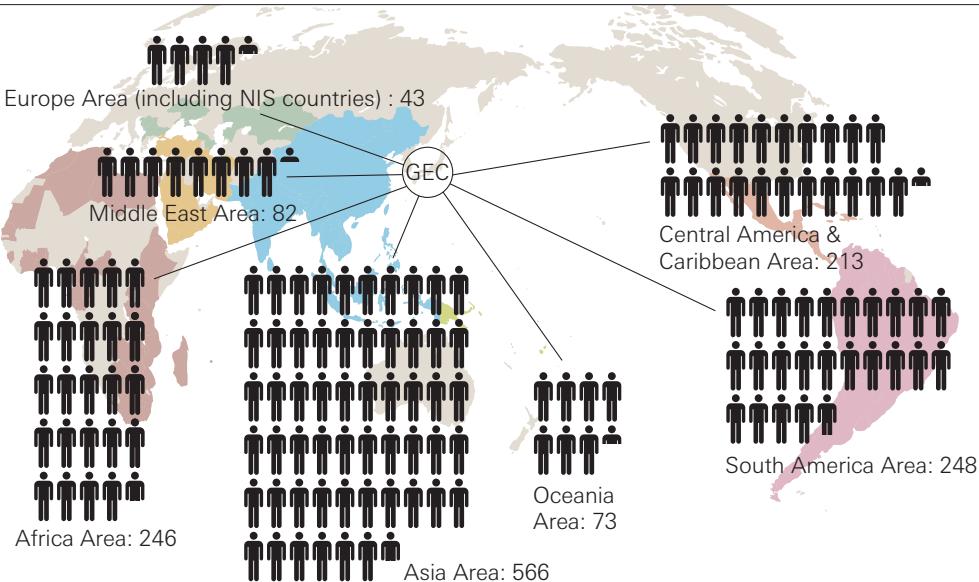
Since 1998, GEC has established a GEC network for overseas trainees, enabling them to follow up on the JICA training programmes and to accurately understand the needs of developing countries. We have strengthened this network by exchanging information through our website and the email newsletter 'Connect the World' that is delivered to our members (individuals who have completed our training courses).

In the fiscal year 2013, the JICA training programme 'Mega-City Environmental Policy and Environmental Management System' was conducted over a period between May and June. Mr. Kolokoto Thomas from South Africa, a training course graduate, developed an action plan during the course, which was adapted to JICA's 'software-type follow-up cooperation project.'

With the aim of developing an appropriate disposal system for a town-full of waste, he employed the Time and Motion Study method, which he had learned during the training programme, to solve the problem and to enhance the system's efficiency. In 2014, lecturers from this course will be dispatched to South Africa as engineers to conduct a full-scale survey.

GEC continues to make contributions towards progress in developing countries by providing support to training course graduates such as Mr. Kolokoto in their activities.

Network Member Distribution Diagram (As of March 2014)



Expanding the GEC Networking Project for Former Training Course Participants

1998	Started conducting One Day Seminars and publishing the official newsletter
May 2001	Commenced the full operation of the GEC Information Board on the Internet
April 2002	JICA trainees participated in four environmental courses (given by Osaka City) and joined the GEC network
May 2003	Training text materials were made available online
April 2004	Country Reports, postings and photo albums were published online
April 2005	The website was renamed 'JICA-GEC Network'
January 2007	The email newsletter 'Connect the World' was launched
March 2009	Questions from training course participants were published online

PR and Educational Activities

PR Activities

In the fiscal year 2013, we carried out PR activities to let citizens in Osaka know of the existence of the GEC and the IETC, and the content of our work.

Date	Event	Content	Notes
1–2 June 2013	Eco Festival Day 2013 Venue: Tsurumi Park (Osaka)	Introduced activities by the GEC and the IETC, collected and posted up environmental messages.	Joint Exhibition
15 August 2013	Sumiyoshi Eco Festival Venue: Sumiyoshi Ward Community Centre (Osaka)	Introduced activities by the GEC and the IETC, collected and posted up environmental messages.	Joint Exhibition
9 September 2013	Tsurumi Ward Festival Venue: Tsurumi Park (Osaka)	Introduced activities by the GEC and the IETC, collected and posted up environmental messages.	Joint Exhibition
13 October 2013	ECO Festival 'Garage Sale in OSAKA TOWN' Venue: Osaka Castle Park	Introduced activities by the GEC and the IETC	Joint Exhibition
1–2 February 2014	One World Festival Venue: International House Osaka	Introduced activities by the GEC	Exhibition

*'Joint' in the notes means our joint activities with the IETC.



Eco Festival Day 2013



Sumiyoshi Eco Festival



Tsurumi Ward Festival



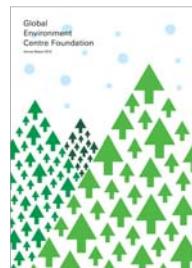
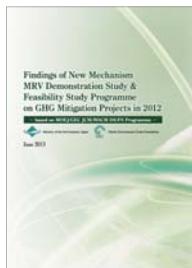
One World Festival

Publications List

Publications List

Publication Name	Format	Size/pages/ date of publication
Findings of New Mechanism MRV Demonstration Study & Feasibility Study Programme on GHG Mitigation Projects in 2012	Booklet PDF	A4 / 56 pages June 2013 ①
Joint Crediting Mechanism (JCM) Promotion Scheme by MOEJ/GEC in 2013	Booklet	A4 / 24 pages November 2013 ②
GEC Annual Report 2012	Booklet PDF	A4 / 24 pages March 2014 ③

*Publications in PDF format are available on the GEC's website.



Background of the Establishment

Establishment of the International Environmental Technology Centre

Beginning in the 1960s, Osaka City experienced a series of acute socio-environmental issues on the back of rapid industrialization, such as air, noise and water pollution and land subsidence. The city succeeded in substantially mitigating these problems, however, through the combined efforts of government and industry. Seeking to leverage these experiences for the benefit of others, the Osaka City Government actively cooperated with developing nations to help resolve their environmental problems, such as the formulation of a master plan to address air pollution in Shanghai, China.

In 1990, the International Garden and Greenery Exposition was held in Osaka based on the theme of 'harmonious coexistence between nature and mankind'. In anticipation of this event, Osaka City announced its intention in August of 1989 to invite an international environmental organization to the city as a way of carrying on the spirit of the exposition and taking advantage of Osaka's experience in environmental conservation. The announcement was followed by moves to attract relevant organizations, including an official invitation from Osaka Mayor Masaya Nishio handed to the Executive Director of the United Nations Environment Programme (UNEP) Dr. Mostafa K. Tolba during his visit to Japan.

These efforts culminated in July 1990 with a proposal by Japan's then Prime Minister Toshiki Kaifu at the G7 Summit in Houston to establish a UNEP facility in Japan. In August of the same year, Japan's Ambassador to Kenya Mr. Naohiro Kumagai made a proposal to the 2nd Special Session of the UNEP Governing Council to set up the International Environmental Technology Centre (IETC). In May of the following year, a resolution to establish IETC with the mandate of promoting the adoption, application and operation of Environmentally Sound Technologies (ESTs) in developing countries and countries with economies in transition was unanimously approved at the 16th Session of the UNEP Governing Council. In October 1992, UNEP Executive Director Tolba and Parliamentary Vice-Minister for Foreign Affairs Mr. Koji Kakizawa signed an agreement in Osaka on the founding of IETC in Osaka, which officially commenced operations in April 1994. Since April 2011, IETC operates in Osaka after its two offices were merged into one office.

Note: official positions listed above were current at the dates listed.

Establishment of the Global Environment Centre Foundation

Following the UNEP Governing Council's official decision to establish IETC in Japan, the Osaka City Government set up the UNEP/IETC Osaka Planning Office on 3 July 1991 to investigate IETC's operations and to facilitate the establishment of a support foundation to be launched at the start of 1992.

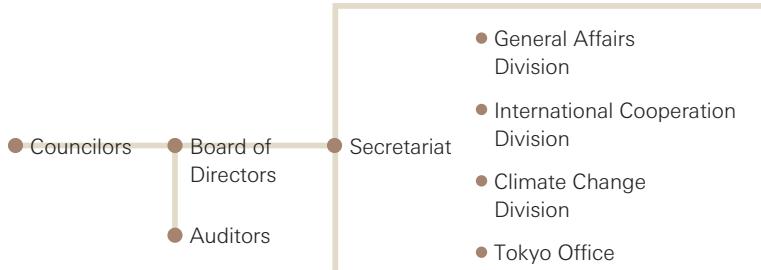
Following initial preparations by the Planning Office, the Global Environment Centre Foundation (GEC) was launched as a UNEP support entity on 28 January 1992 with a capital endowment from the Osaka prefectural and city governments.

In 2008, GEC subsequently filed an application for change of legal entity from an incorporated foundation to a public interest incorporated foundation on 27 October 2009 in response to the 2008 enforcement of the three laws relating to reform of the public interest corporation system. After receiving the approval of the Prime Minister, GEC made a new start as a public interest incorporated foundation on 1 April 2010.

GEC was founded with the aim of contributing to the conservation of the environment in developing nations and around the world by leveraging Japan's wealth of conservation knowledge and experience in support of UNEP's urban environment conservation activities in developing nations, and undertaking activities to promote international cooperation to protect the global environment.

GEC's Activities

In addition to providing various types of support to IETC such as project collaboration, GEC also acts as an intermediary between IETC and its affiliated institutions in Japan to help ensure that its activities proceed smoothly and efficiently. Through activities to protect the global environment including surveys & research, collection & dissemination of information, and hosting of training & seminars, GEC contributes to Japan's international efforts on the environment.

Name	Global Environment Centre Foundation (GEC)
Date of Establishment	28 January 1992
Supervisory Authorities	Cabinet Office, Government of Japan
Office Location	<p>[Headquarter] 2-110 Ryokuchi-koen, Tsurumi-ku, Osaka 538-0036 Japan Telephone: +81-6-6915-4121 Facsimile: +81-6-6915-0181</p> <p>[Tokyo Office] Hongo Ozeki Bldg., 3-19-4, Hongo Bunkyo-ku, Tokyo 113-0033, Japan Telephone: +81-3-6801-8860 Facsimile: +81-3-6801-8861</p>
Endowments	1,754,160,000 yen
Activities	<p>(1) Projects in support of UNEP IETC stated aims of technical transfers and spreading information on environmentally sound technologies (ESTs) to promote environmental conservation in major urban areas of developing nations.</p> <p>(2) Collection, dissemination, surveying & research of information on environmental conservation in developing nations & the world as well as global warming countermeasures to promote technical cooperation and foster human resources in developing nations.</p> <p>(3) Other projects required to achieve GEC's stated aims.</p>
Number of Staff	34
Organization Chart	 <pre> graph LR Councilors((Councilors)) --- Board[Board of Directors] Auditors((Auditors)) --- Board Board --- Secretariat[Secretariat] subgraph Secretariat_Box [] GeneralAffairs[General Affairs Division] InternationalCooperation[International Cooperation Division] ClimateChange[Climate Change Division] TokyoOffice[Tokyo Office] end </pre> <p>The organization chart illustrates the governance structure of GEC. It starts with the Councilors, which oversees the Board of Directors. The Board of Directors oversees the Secretariat. The Secretariat oversees four main divisions: General Affairs Division, International Cooperation Division, Climate Change Division, and the Tokyo Office. Additionally, there are Auditors who report directly to the Board of Directors.</p> <p>(as of 1 November 2014 / GEC's board members is listed on page 24)</p>

Board Members of the Global Environment Centre Foundation

Councilors	INOUE, Yuichi KATAOKA, Shigehiro KUWAHARA, Chika MIZUNO, Minoru MORIOKA, Toru NAITO, Noboru OTA, Susumu SUZUKI, Yutaka TAKESHIBA, Seiji TSUNO, Motonori YAMAMOTO, Hitoshi	Corporate Auditor, The Kansai Electric Power Co., Inc. Attorney General Manager, CSR and Environment Department, Osaka Gas Co., Ltd. Professor Emeritus, Osaka University Professor, Faculty of Environmental and Urban Engineering, Kansai University (Professor Emeritus, Osaka University) President, Environmental Management and Technology Center Executive Managing Director, Overseas Environmental Cooperation Center, Japan Director, Institute for Global Environmental Strategies, Kansai Research Centre (Professor Emeritus, Osaka University) Senior Executive Director - Environmental Management, Department of Environment, Agriculture, Forestry and Fisheries, Osaka Prefectural Government Director General, Kansai International Centre of the Japan International Cooperation Agency Director General, Environment Bureau, Osaka City Government
President	MIYAHARA, Hideo	Professor Emeritus, Osaka University
Executive Director	TAKATA, Hiromu	
Executive Director, Tokyo Office	KIMURA, Yuji	
Directors	FUJIWARA, Yukinori HARADA, Tomoyo NAKAGAWA, Masataka OTSUKI, Yoshinobu SOURI, Norio	General Manager, Economic Research Department, Kansai Economic Federation Lecturer, Kyoto Seika University Director, Economy and Industry Division, The Osaka Chamber of Commerce and Industry Senior Researcher, Research Institute of Innovative Technology for the Earth Professor Emeritus, Osaka City University
Auditors	IWAMOTO, Kenichi KAGATSUME, Toshiaki	Certified Tax Accountant Secretary General, International Lake Environment Committee Foundation

(as of 1 November 2014, honorific omitted; name in alphabetical order <Surname>)

Overview of the UNEP DTIE IETC

Name	United Nations Environment Programme (UNEP) Division of Technology, Industry and Economics (DTIE) International Environmental Technology Centre (IETC)
Agreement	The agreement between Japanese Government and UNEP was signed on 30 October 1992.
Mandate	Transfer of environmentally sound technologies to developing countries and countries with economic transition with a focus on waste management.
Contacts	Osaka Office: 2-110 Ryokuchi-koen, Tsurumi-ku, Osaka 538-0036 Japan tel: +81-6-6915-4581 fax: +81-6-6915-0304 e-mail: ietc@unep.org IETC homepage: http://www.unep.org/ietc

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