

# ICETT



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## Commemorates the 25th anniversary

The International Center for Environmental Technology Transfer (ICETT) is an organization located at the foot of Suzuka Mountains, a spot of scenic beauty. In this environment blessed with rich nature, ICETT was established in 1990 through cooperation from governments, the industrial sectors, academic society, and other organizations, aiming to improve various foreign countries' environments and to contribute to the preservation of the global environment, as well as to the healthy development of the world economy. ICETT, entrusted by the national government and related bodies, as well as by the Mie Prefectural Government and Yokkaichi Municipal Government, actively develops projects related to international environmental preservation. Its projects' themes vary, including air pollution control technologies, water pollution control technologies, harmonious relationships with nature, and measures against global warming. Based on these themes, ICETT has implemented projects that involve training & guidance, surveys & research, interaction & collaboration, and/or information provision & dissemination and awareness raising.

In recent years, in cooperation with various international institutions, such as the CTI (Climate Technology Initiative: Multilateral initiative based on the Implementing Agreement of the International Energy Agency (IEA)), ICETT has significantly contributed to the preservation of the global environment, which is the purpose of its establishment, by expanding its activities to surveys intended to understand actual situations, seminars, workshops, and opinion exchanges, all of which aim to provide business support to introduce environmental technologies inside and outside Japan to the environmental industries of developing countries.

In this fiscal year, ICETT was able to mark its 25th anniversary. During the quarter century since its foundation in 1990, it experienced many transitions, including changes in its business content. With the change in the national system regarding incorporated foundations, ICETT made a new start in 2011 by becoming a public interest incorporated foundation, and by changing from a METI-authorized corporation to a Cabinet Office certified corporation. Also in 2014, it summarized a medium-term management plan, while doing business in line with its corporate philosophy, with all employees making a united effort for further improvement and expansion of its business.

Coincidentally, it was decided that the 42nd Summit Conference of the Leading Industrialized Nations (G7 summit) will be held in Shima City, Mie Prefecture, on May 26 and 27 in 2016 as the "Ise-Shima Summit." To promote exchanges with ASEAN nations while looking back on its achievements, ICETT is planning to hold the "ASEAN Environmental Forum in Mie" in commemoration of the 25th anniversary of its foundation. To transmit its activities related to international cooperation and environmental preservation to Mie Prefecture and other Asian countries, as well as all over the world, ICETT will plan and engage in business activities that it can boast about to the world in the future through the utilization of its assets, namely, knowledge and people, which it has fostered so far.

Also in the future, ICETT will promote the business improvements it has achieved to that point, and will further contribute to more effective efforts for the preservation of the global environment by engaging in environmental preservation technology transfer which is more suitable to other countries in response to changes in the times. Since ICETT will make a greater effort than ever before, it would appreciate it if you could provide your continued guidance and support.

January 2016

Kazuhide Mizutani  
Executive Director  
International Center for Environmental Technology Transfer

## JICA: Training Program for Young Leaders

# Urban Environment Management Course (India)

### Outline

In principle, the Training Program for Young Leaders is provided for training participants up to 35 years old invited by JICA. This time, however, 14 people up to 45 years old, including administrative officials from India's local and national governments and university associate professors involved in the environmental field, participated in basic training designed to provide an understanding of Japan's environmental administration and local governments' environmental management methods and environmental education through a 13-day program from December 3.

### ■ Background and purposes

India, a country with an area 8.7 times that of Japan, and the world's second largest population of approximately 1.25 billion people, is now in a situation where diverse environmental problems have occurred in urban areas with rapid economic growth and an increase in the population, and where urban policy cannot be sufficiently drawn up to respond to rapid urbanization.

This training was held to promote awareness of the functions of the central and local governments in water quality management, proper waste management, and air pollution control in India, as well as recognition of the responsibility of and awareness-raising by local government officials and persons in charge of environmental control, focusing on improvement of their abilities.

### ■ Training content

This training was held under four main themes: 1) Japan's management systems, such as legal systems, administrative frameworks, and ordinances for environment management, 2) Introduction to waste treatment techniques, especially disposal techniques for organic waste, 3) Water quality management methods of water and sewage systems, and 4) Air pollution control and management.

- 1) Japan's management systems, such as legal systems, administrative frameworks, and ordinances for environment management

Training participants explored and exchanged opinions concerning the direction of solving problems that they are currently facing related to Japan's administrative systems; environmental laws and regulations, policies, and national and local administrative structures for such elements as air, water quality and waste;



Study tour of a septic tank model

and their roles based on decentralization.

- 2) Introduction to waste disposal technologies, especially disposal technologies for organic waste

From cases of NPOs' cooperation activities with local governments, the training participants experienced their composting method. Also, they went on a study tour and deepened their understanding of the NPOs' activities in their 3R initiatives, such as selling repaired and reusable goods. Training participants also enjoyed shopping for recycled goods.

- 3) Water quality management methods and treatment technologies for water and sewage systems

With regard to water and sewage systems, training participants

learned about the processes, starting from drawing up a water use plan to water quality management, and water distribution management. Since India has a high non-revenue water rate due to water leakage, (which accounts about a 60 % of water it supplies), questions were concentrated on such matters as water leakage sensing methods. In terms of sewage systems, training participants learned about the treatment process while observing a full-scale model of a septic tank, which can be installed at each household at a reasonable cost of construction, and they went on a study tour of a wastewater treatment process for agricultural villages, which is also intended to prevent a reduction in the quantity of water in rivers. Furthermore, the training participants observed and learnt the processes of a facility for joint waste water treatment by several companies.

- 4) Air pollution control and management

Training participants visited actual sites where companies themselves conduct environmental control and monitoring. These companies set stricter environmental standards than those of the national government, and send their observance records periodically to governments. The governments have made these records open to the public.

### ■ In conclusion

Since this program also aims to deepen mutual understanding and to form friendly relationships between India and Japan, they had a discussion with invited officials from local governments and neighborhood (residents' associations). During their stay, training participants also climbed Mount Gozaisho to see snow, and visited Kyoto. Furthermore, they experienced a tea ceremony at Shisui-an, a tea room in Yokkaichi City, and enjoyed Japanese architecture.



Shisui-an

Through interactions in this training, I became impressed with the training participants' understanding of their own countries' environmental management and their lively discussions in which they actively asked questions in an attempt to learn from Japan's examples and shared their own country's environmental management methods toward what should be done in the future. In conclusion, I would like to express my appreciation to all the people who welcomed us and to the participants for their warm response.

(Tomoko Uchida)

## Seminar in Tianjin

### Outline

Yokkaichi City and Tianjin City in the People's Republic of China have continued their exchanges in various fields since they established a friendship city relationship in 1980. As part of their exchanges, Yokkaichi City has conducted a training program intended to help resolve various environmental problems in Tianjin City upon entrustment to ICETT since 1993. In this training program, 112 people have visited Japan to date and received training (638 people have received training at local seminars in Tianjin City.) In fiscal 2014, under the theme "Environmental Air Quality Improvement," a seminar was held in Tianjin City, and training in Yokkaichi City.

### Background and purposes

Tianjin City, one of the four centrally governed cities in China, along with Beijing, Shanghai, and Chongqing, and the marine gateway to Beijing, has continued to prosper as a city of commerce and industry and as the largest port city in the northern area of China. In the Jing-Jin-Ji region that includes Beijing City, Tianjin City, and Hebei Province, a region with rapid economic growth that has an economic integration plan, air pollution problems have occurred due to fixed sources, such as factories, and moving sources, such as vehicles, and improving such a situation has become the region's urgent challenge. Therefore, ICETT held this training, entrusted by Yokkaichi City, aiming for officials from the Tianjin Environmental Protection Bureau to use the obtained understanding and knowledge on efforts by national and local governments and companies, such as environmental management methods, and on Japan's environmental technologies for the improvement of the environment of Tianjin City.

Furthermore, in fiscal 2014, as the Ministry of the Environment decided to implement "FY 2014 Cobenefit-type Air Pollution Abatement Measures Promotion Entrustment Business" (hereinafter "Inter-urban Coordination and Cooperation Project"), Yokkaichi City, by dispatching a lecturer to a local seminar and by holding training in Japan that received additional two training participants from overseas, decided to improve and strengthen the "Seminar in Tianjin" using the "Inter-urban Coordination and Cooperation Project."

### Project content

(1) Hold an environmental preservation seminar in Tianjin City  
 For two days on September 16 and 17, 2014, we held a local seminar under the theme of "Environmental Air Quality Improvement" in Tianjin City. The local seminar began with "Overview of Monitoring Tianjin City's Environmental Air Quality," a presentation from the Tianjin City side, which was followed by "Yokkaichi City's Air Pollution Abatement Measures," a presentation by Yokkaichi municipal government officials. After that, both Japanese and Chinese sides made presentations on "Measures for Atmospheric Environment in Japan," "Hypothetical Reasoning and Preventive Measures Related to Microparticulate Contamination Substances in Tianjin City," "Recycling and Utilization Technologies for Biomass Solid Waste," and "Utilization of Renewable



Seminar in Tianjin

Energy Toward Reduction in Air Pollution—Case Study of Biodiesel Fuel (BDF)." After each presentation, training participants actively exchanged opinions through Q & A sessions, and the training ended in success.

### (2) Training in Japan

Courtesy visit to mayor of Yokkaichi City and president of the City Council Training in Japan, for which six people including officials from the Tianjin Environmental Protection Bureau and Tianjin Academy of Environmental Sciences visited Japan, was held under the theme of "Environmental Air Quality Improvement" for 16 days from October 15 to 30.

After learning about the Yokkaichi pollution problem and Yokkaichi City's environmental administration in the beginning, training participants went on a study tour of the air quality monitoring station in Yokkaichi City. Also provided were lectures on Japan's laws and regulations related to air pollution abatement measures, such as the Law Concerning Special Measures for Total Emission Reduction of NOx and PM Automobiles, air pollution monitoring, and research on PM 2.5.

After that, receiving support from the Inter-urban Coordination and Cooperation Project, we also held training in Kitakyushu City and Kobe City, cities that have established a friendship-city relationship with Tianjin City. Trainees diversely learned about the actual situation of Japan's air pollution abatement measures, going on a study tour of the Environment Museum and major business establishments, attending a lecture by an environmental consultant in Kitakyushu City, attending a lecture on Kobe City's efforts, and going on a study tour of a waste incineration plant and facilities related to biogas. In addition, we provided practical training content directly related to business, such as study tours of an automobile inspection station, facilities related to biomass, and a coal-fired power station.



Courtesy Visit to mayor of Yokkaichi City and president of the City Council

### Prospect

I feel that the road toward improvement of the environment is long, but we need to persistently continue our activities by overcoming national differences while continuing discussions, so that we can attain the goal as soon as possible.

In closing, I would like to express my sincere appreciation to all people who cooperated with this training program.

(Shinji I deta)

## Japan-Asia Youth Exchange Program in Science (Mongolia)

### Outline

ICETT implemented a training program intended for Mongolian and Japanese young people who bear the future to deepen their science and technology exchanges, inviting outstanding youth (high school students) from Mongolia to Japan with a subsidy from the Independent Administrative Institution (National Research and Development Corporation from FY 2015), Japan Science and Technology Agency (JST).

### Background and Purposes

The “Japan-Asia Youth Exchange Program in Science” (Sakura Science Plan) was launched in fiscal 2014 by the Japan Science and Technology Agency (JST), with the purpose of contributing to the development of other Asian countries’ and Japan’s science and technologies and of fostering excellent human resources from overseas countries required by universities, research institutes, and companies in Japan. In this program, excellent young people visiting Japan from other Asian countries and Japanese young people, who bear the future, aim to deepen their interactions in the field of science and technologies, and raise awareness of Japan’s state-of-the-art science and technologies.

### Program details

Training to generally understand how to apply science and technologies, and realize sustainable development and environmental preservation, was held for eight days from November 30 to December 7, inviting 10 excellent high school students and one leader from Mongolia. In this training, with the background of the problem of environmental pollution in Mongolia, participants learned about the details from the past to the present of overcoming the industrial pollution that occurred in the Yokkaichi area as an example.

The training was composed of lectures, practices, study tours, and interactions conducted at ICETT under the theme of science and technologies, focusing on basic environmental measurement & analytical techniques for understanding the current status, as well as treatment technologies for the removal of contaminants.

In the training, participants not only acquired various types of knowledge, including a lecture on overcoming the Yokkaichi pollution problem, a lecture presented at the Tokyo Metropolitan Government Office, and studying in a university about the evaluation of developmental neurotoxicity with Zebrafish as an indicator, but also went on study tours of facilities for environmental analysis



Study tour of renewable energy based on livestock feces and urine (Biomass utilization facility)

and photovoltaic power generation, and Japan’s first facility for biomass energy based on livestock feces and urine, thinking about the possibilities of those technologies in their own country. While participants experienced commu-



Interactions with Japanese high school students

nication with an android at the National Museum of Emerging Science and Innovation, and had the opportunity to experience Japan’s state-of-the-art technologies through the training, they were also given opportunities to interact with Japanese people.

High school students from Mongolia visited a high school in Yokkaichi City in their national costume, and did a workshop together with Japanese high school students. Furthermore, they were able to learn about life customs in Japan by visiting a home in Yokkaichi City. After the Closing Ceremony, an exchange meeting with Indian training participants, who had been received in a different training course, was held at ICETT, in combination with a farewell party. Both parties deepened their interactions through introducing their countries and dancing.

### Achievements and prospects

Having acquired various types of information in Japan, participants seem to have experienced “Seeing is Believing” for themselves. On February 10, 2015, after returning to their home country, a briefing session was held by the participants on the training with an official of the Education Bureau, who was the leader of their party. Taking the lead, the participants made presentations for teachers and students of their school on the details of the training in Japan, information they acquired and their feelings about the training. According to them, they have already engaged in environmental activities at their school. Since this proves their strong hope to broadly transmit and share their precious experiences in Japan among their fellow students, I believe that the effectiveness of the training can be largely expected also in the future.

This training was a fruitful one thanks to the support provided by JST. I would like to express my appreciation to all people concerned who cooperated with this training.

(Maki Nagai)

## Japan Fund for Global Environment: The Philippines

### Promotion Project by Japan Fund for Global Environment

# Overseas Dispatch Training: “Hands-on Training for People Who Play the Roles of Leaders in NGO Activities in the International Environmental Cooperation Field—From the Perspectives of a Recycling-based Society and Environmental Education”

#### Outline

ICETT implemented an overseas dispatch training program of the Environmental Restoration and Conservation Agency in the Philippines. Targeting the staffs of environmental NGOs/NPOs, those who have experienced related activities, and those who are interested in environmental conservation activities in developing regions, this training program aims to develop participants so that they can contribute to international environmental cooperation by acquiring the knowledge, expertise, and technologies necessary at the actual environmental conservation sites in developing countries.

#### ■ Background and purposes of the project

The Environmental Restoration and Conservation Agency's Japan Fund for Global Environment, which develops human resources who have professional knowledge on international environmental cooperation related to global environmental conservation, made a public invitation for a plan which will contribute to the improvement of the skills of human resources involved in international cooperation at the private sector level, and to expanding the types of participants' fields.

ICETT, with experience in implementing programs for the Philippines to improve regional environmental management abilities of each entity in relevant areas through projects related to political dialogues, Official Development Assistance (ODA), such as the JICA Grass Root Project, and public support projects by Mie Prefecture and other public bodies, has implemented overseas dispatch training in the Philippines.

#### ■ Outline of the project

The number of participants of this project is 10 in total, four for the short-term course (September 6 to 15) and six for the long-term course (September 6 to 25), comprising seven university students and three working members of society. Those participants who were selected for visiting the Philippines in September assembled in Tokyo from all over Japan on August 10 and 11 for prior training. In this training, participants learned about what type of country the Philippines is, and introduced themselves after an icebreaking topic so that the participants, who were meeting each other for the first time, could have better communication. Also, participants made progress with the preparations for the training in the Philippines: divided themselves into groups for group work, decided the themes for individual surveys, both of which were to be performed in the training in the Philippines, and conducted an preparatory survey. The themes for group work were “Water pollution problems in the Philippines,” “Each city's waste management,” and “Toward the realization of striking a balance between economic development and environmental preservation.”

In the Philippines, participants obtained information on the national government's environmental policies and NGO/NPO activities in the Philippines at the Department of Environment and Natural



Afforestation of mangrove

Resources-Environmental Management Bureau, made a presentation on NGO/NPO activities in Japan, and exchanged information. In Mandaue City, Cebu Province, the participants' next destination, which is located next to Sebu City and used to be labeled a dirty city, active environmental administration is advanced by persons in charge of the environment.



Practice of pack test at the Ministry of Natural Resources and Environment

Since the result of the joint survey between NPO-RAFI and Mandaue City on waste composition in the City showed high rate of garbage, the city has made efforts and become able to reduce waste and to earn profit by each of its barangays (self-governing associations) composting garbage, and selling resulting compost to neighboring farmers. After that, Mandaue City received recognition as the most beautiful city in the Philippines. At their next destination, the city of Puerto Princesa, since tourism resources provide the city government with a large part of its revenue, participants visited one of the world heritage sites, Puerto-Princesa Subterranean River National Park, as an example where efforts to protect its resources have been proficiently made, and learned about how to maintain and manage these resources. Those who hope to visit the national park are required to register the date of their visit in advance at the local Tourism Council, and to pay the boat fare for travel to the national park, admission fee, and environmental tax; a guide who can be mobilized on the day of the visit and a number of available staff members are arranged. Furthermore, we learned that the guide had been properly trained in an explanation method based on gestures so that a fun atmosphere could be created.

#### ■ Achievements and prospects

In this training, there were many discoveries for participating participants which could not have been understood until they came to Japan. This is indicated by their comments, such as “We were able to go places which we could not visit during ordinary travel,” and “I understand that the actual poverty is quite different from the image of poverty I had in Japan.” The significance of the project is large, and is expected to be used by participating participants for NGO/NPO activities in the future.

(Akiko Kise)

## Japan Fund for Global Environment

# Development of a comprehensive awareness-raising tool to reduce air pollution in the city of Ulan Bator

## —Raising awareness of residents by using environmental leaders

### Outline

Having received the Japan Fund for Global Environment's grant from the Environmental Restoration and Conservation Agency, ICETT implemented a residents' awareness-raising project intended to reduce air pollution for the city of Ulan Bator in Mongolia as part of a three-year plan from fiscal 2012.

### Background and purposes

With the air pollution problem of the city of Ulan Bator in Mongolia having become more serious along with an increase in its population, the influence of sulfur oxide, nitrogen oxide, and dust & soot, which are generated from vehicles' exhaust gas in the urban areas, coal-fired electric power generation, and raw coal-burning during the winter season on respiratory and lung diseases is serious, and there is an urgent need to make an effort to reduce air pollution.

With the purpose of reducing air pollution in the city of Ulan Bator, this project, targeting schools and community groups in the city of Ulan Bator, aims to establish a program of air pollution abatement measures in cooperation with Yokkaichi University and related organizations, while fostering "environmental leaders" through the methods and experience that were applied to improve the Yokkaichi pollution problem, based on collaboration with the government, companies, educational institutions, and residents for three years from 2012. Participants, with the lead of environmental leaders, are aiming to establish the foundation of residents' voluntary and sustainable environmental activities rooted in Ulan Bator, and to expand and disseminate the activities to other areas.

### Outline of the activities

First, we selected a model school and region, and developed "environmental leaders" from the school and the region, so that government administrators, teachers, students, citizens' groups, and residents could interact with each other. While learning in study sessions and workshops, which were provided repeatedly on such matters as the experience of the Yokkaichi pollution problem, the mechanism of air pollution, and the relationship between air pollution and health, participants conducted practical activities closer to them, including a health check and measurement of air pollution. The leaders made reports in the workshops and seminars. We allowed the representative members to directly learn about efforts for and case studies of the environment in local communities in Japan by holding training in Japan for them. Based on such activities, training participants gradually acquired knowledge on environmental preservation,



Leader Meeting

and raised their own consciousness as leaders by independently being involved in holding a seminar and a study session by themselves. With the morale of simple and honest Mongolian people raising, with which they can act as environmental leaders with pride,

participants repeated discussions on the establishment of voluntary and sustainable programs for which citizens of Ulan Bator can easily play an active roles from their respective positions, and on the dissemination of those programs for other regions.

As an awareness-raising tool, we prepared a booklet that summarized environment improvement efforts that started from the occurrence of the Yokkaichi pollution problem, the occurrence status of air pollution in the city of Ulan Bator, and the results of the health survey. The environmental leaders, using this booklet, held a study session in the Leader Meeting, and distributed the booklet widely to residents in such opportunities as a seminar.

### Achievements and prospects

Through the three-year activities, this project received positive responses and showed more progress than we had expected, with five main environmental leaders, including government administrators and residents from eco clubs of two schools and one model area; and environmental leaders for a resident group with a total of 62 members, which engages in ecological activities, and for a school eco club with a total of 91 members; having been developed.



Environmental leaders

The program of air pollution abatement measures was established as a Green Community Program, which was composed of activity details proposed mainly by the environmental leaders, and has become a program that can attract many more residents with content that includes not only the improvement of air pollution but also water pollution and waste problems. I am certain that the program and the booklet prepared in this activity will be revised by the environmental leaders to have a more developmental form, which could lead to raising more residents' awareness of the environment. The environmental leaders are expected to continue to actively engage in their environmental activities in the city of Ulan Bator in Mongolia, wearing their leader's certificate (badge). We also expect that new environmental leaders who will follow the path of their predecessors will appear one after another. On this occasion, I would like to express my appreciation for all people concerned who cooperated with this project.



Leader's certificate

(Maki Tamura)

## Toyota Environmental Activities Grant Program

# Project to support energy saving in India's steel rolling industry

### Outline

After receiving the Toyota Environmental Activities Grant, ICETT engaged in a project to establish a mechanism to implement sustainable and expanding energy-saving improvements based on voluntary efforts by India's steel rolling industry cluster by setting the dissemination of energy saving in the manufacturing processes in this cluster as its target. The project was completed after presenting a remodeling plan for target energy saving of 1,000 ton/year CO<sub>2</sub> reduction per plant, and establishing a mechanism to implement sustainable and expanding energy-saving improvements by opinion leader companies, the Steel Rolling Federation, and engineering companies in India.

### Background and purposes

Although India has addressed the challenge of climate change by such measures as improving energy efficiency after becoming the world's third largest producer of greenhouse gases, the main target of these measures has been large companies, while small and medium-size businesses' energy-saving measures have not progressed due to lacks of skills at the sites and for financial reasons. With ICETT having realized energy-saving improvements with heating furnaces for the rolling industry cluster in the Bhavnagar District in Gujarat State since 2008, an increasing number of local companies hope for improvement by replacing old equipment with energy-saving-type heating furnaces. To introduce highly energy-efficient manufacturing processes through voluntary efforts in the cluster, mechanisms to provide the necessary technologies and expertise for improvement and fund-raising mechanisms are needed. ICETT promoted activities to disseminate energy saving in India's rolling industry cluster through the establishment of a mechanism to implement sustainable and expanding energy-saving improvements based on voluntary efforts.



### Content of the project

In mid-April 2014, we visited five model plants in Bhavnagar in Gujarat State together with Japanese specialists and Indian technical experts, and extracted energy-saving improvement items through a survey on present issues and future needs based on interviews, and a survey on the work progress at the actual sites. In early July, Indian technical experts conducted a survey on the current energy balance. Based on these surveys, under the guidance of Japanese specialists, we formulated an improvement plan for energy saving,



Interview survey in India  
(Survey on issues & needs)

and in early October, we formulated a final plan after coordinating details of feasible improvements with the local rolling industry cluster. In late November 2014, we visited Bhavnagar again, together with Japanese



Workshop (Discussion)

specialists and Indian technical experts, and established a mechanism to implement sustainable and expanding energy-saving improvements through discussions with five model plants and the steel rolling industry cluster of the Bhavnagar District. During our stay, we held a workshop for the dissemination of energy-saving improvements in the Bhavnagar District, and completed this project.

### Achievements and prospects

#### ○ Energy-saving effects

We formulated a remodeling plan for energy saving of 1,000 ton/year CO<sub>2</sub> reduction per plant, and presented the plan to the steel rolling industry cluster of the District in October 2014.

- Effect of the power consumption reduction by reviewing the steel rolling process based on the proper management of temperature: 300 tons/year
- Effect of reduction in failed rolling: 33 tons/year
- Effect of the improvement of thermal efficiency based on the remodeling of furnaces: 695 tons/year

Energy-saving remodeling based on this remodeling plan will be implemented in fiscal 2015 through voluntary efforts by each model plant.

#### ○ Establishing a mechanism to implement sustainable and expanding energy-saving improvements

We established a mechanism to implement sustainable and expanding energy-saving improvements based on voluntary efforts in which opinion leader companies promote energy-saving improvements; the Steel Rolling Federation recommends energy-saving improvements to affiliated companies; and engineering companies in India supporting energy-saving improvements cooperate with each other.

(Eiichi Masuda)

## Chubu Bureau of Economy, Trade and Industry

# FY2014 Small and Medium-sized Business Industrial Pollution Prevention Survey: Project on “Feasibility Studies for Commercialization and Overseas Development of Equipment Intended to Prevent Industrial Pollution through Industry-academia Collaboration that Use the Strength of the Region”

### Outline

Entrusted by the Chubu Bureau of Economy, Trade and Industry, ICETT conducted a project that aims to support business development inside and outside Japan with companies engaged in the environmental business in the Chubu Region (five prefectures of Aichi, Gifu, Mie, Ishikawa, and Toyama). Identifying waste & recycling industries as one of the characteristics of the Chubu Region, the project confirmed the possibility of establishing a study group intended for industry-academia collaborative technology development related to the recovery and recycling of valuable metals and rare metals. It also established a basic plan for a business matching seminar in the water sector in Indonesia.

### ■ Background and purposes

Since fiscal 2012, entrusted by the Chubu Bureau of Economy, Trade and Industry, ICETT has implemented projects to promote business development inside and outside Japan with companies in Chubu Region that provide environmentally-friendly technology, equipment and services. In fiscal 2014, under the above-mentioned project, ICETT explored the possibility of industry-academia collaboration under theme “Recovery and Recycling of Valuable Metals and Rare Metals,” and also recognized the possibility of several companies jointly proposing technologies and services as a mutually complementary package. The project targeted Indonesia, that has attracted a great interest from companies in the Region as next business location, and also identified a few local governments in the country which are greatly interested in collaboration with the Chubu Region.

### ■ Activities of the project

- (1) Examination of establishing a study group for industry-academia collaboration under the theme “Recovery and Recycling of Valuable Metals and Rare Metals,” and organizing an environmental business seminar

To explore the possibility of establishing a study group, a questionnaire survey was conducted targeting to researchers in research institutes, such as universities, in Chubu Region to identify researches related to this theme and their interest in industry-academia collaboration, followed by interviews to gain clear understanding of the study of the identified researchers.

Based on the results, an Industry-academia Collaborative Seminar on Environmental Business was held on 29 January, 2015, in Nagoya City, Aichi Prefecture. In the Seminar, approximately 90 participants from laboratories of companies and universities attended lectures by local researchers on their research. After that, the participants divided into groups for extracting problems and creating ideas for technical development.

- (2) Feasibility study for entering markets in Indonesia  
Literature and field surveys were conducted to identify needs for environmental technology and local governments in

Indonesia interested in a business matching seminar with companies in the Chubu Region. In the field survey, we visited the Ministry of Industry and Ministry of Environment of Indonesia; local government agencies in West Java Province and Banten Province; and local industrial estates and individual companies. We confirmed the possibility of cooperation by holding a business matching seminar on great needs in the environmental field, particularly those for water-related technologies, such as water purification, sewage and waste water treatment, and water recycling technologies.

### ■ Achievements and prospects

“Recovery and Recycling of Valuable Metals and Rare Metals” is a theme in which people in the Chubu Region have a deep interest. This project also revealed the people’s wish to expand their network in the Region for their technical development. As the significance and possibility of establishing a study group under this theme has been confirmed, a study group is expected to be established in the future.

Business matching seminars are expected to be held in West Java and Banten Provinces, Indonesia with identified cooperative organizations to meet the technology requirements for better environment of the country.

(Naoko Kuroda)



Industry-academia Collaborative Environmental Business Seminar

## Chubu Bureau of Economy, Trade and Industry

# Project to Support Construction of Infrastructure for the Creation of New Industry Concentration

### Outline

Paying attention to the technical fields (plasma and ceramics) in which environmental and automobile industries are highly relevant, we held a seminar, a business matching session, and a workshop in order to facilitate industry-academia collaboration and industry-industry collaboration. Furthermore, as part of our support for overseas development of environment-related companies from the Chubu Region, we organized a mission to Vietnam, and held seminars and business negotiation events in the country.

### Background and purposes

Against the backdrop of the concentration of manufacturing industries, the advanced environmental technologies that support these artery industries have become the strength of the Tokai Region. In particular, against the background of the concentration of the automobile-related industries, this is a region where environmental technologies mainly for waste disposal and wastewater treatment have become concentrated. On the other hand, with the production of the automobile industry in the region having been on the decline due to the shrinkage of the domestic market and the acceleration of overseas production, it is unavoidable for related company groups to develop their business outside the automobile industry.

Therefore, we are promoting the entrance from a manufacturing industry, such as the automobile industry, into the environmental business, by organic collaboration with conventional environmental company groups, and are making an effort to cultivate a new market inside and outside Japan.

### Details of the project

- (1) Holding a workshop on environmental business technologies and a workshop on market development

In these workshops, large companies that were seeking joint technical development with other companies through disclosure of their own technical needs transmitted their technical needs, collected proposals from participating small and medium-sized enterprises, and had individual interviews with medium-sized enterprises that became interested in the technical needs.

- (2) Seminar on entering environmental business and business matching session

To promote the entrance from a manufacturing industry, such as the automobile industry, into the environmental business, and to encourage collaboration with conventional environment-related company groups, we introduced cases regarding entering the environmental business and held a business matching session between major companies and local small and medium-sized enterprises.

- Ceramics field:

We held the "Industry-academia Collaborative Environmental



Industry-academia collaborative seminar (ceramics field)

Business Seminar and Business Matching Session," in which lectures were given by university researchers and those from other institutions, industry-academia collaborative themes were introduced, and a business matching session between environment-related companies and researchers was held.

- Plasma field: We discovered companies that handle plasma technologies and companies that are considered to be interested in these technologies, and the formation of those companies' project team was considered with university researchers.

- (3) Efforts related to support for business development in Vietnam  
Putting a spotlight on Vietnam, a country with rapid economic growth, we organized a business mission that comprised nine companies, the Chubu Bureau of Economy, Trade and Industry, JETRO Nagoya, and ICETT, visited Binh Duong Province in southern Vietnam and Ho Chi Minh City, and held seminars and business negotiation events in which local companies participated.

### [Achievements]

- Market development: Companies that hope to tie up with other companies actively participated in the seminar and business matching session, and realized the conclusion of new business agreements.
- Transmission of technical needs by large companies: Many participating small and medium-sized enterprises made proposals related to technical collaboration, and are considering such collaboration with large companies.
- Industry-academia collaboration: Several teams that comprised companies and university researchers were formed, and each team has been advancing its discussions toward making an application for public subsidization, such as national subsidies, since fiscal 2015.
- Mission to Vietnam: Many business talks were conducted in the business negotiation events in Binh Duong Province and Ho Chi Minh City, and several cases are expected to see the conclusion of business agreements.

(Kensuke Sugiyama)



Seminar and business negotiation event in Binh Duong Province in Vietnam

## Mie Prefecture

# Environmental Technology Overseas Development Feasibility Study Project (Sao Paulo)

### Outline

Sao Paulo State, the location of the central city of Brazil, is the most urbanized and industrialized among the 25 states of Brazil. This state is also attractive as an area of consumption. In this state, with related Japanese companies launching new plants and expanding their plants one after another, cases of investment by Japanese companies have steadily increased. Based on such a situation, ICETT conducted a feasibility study for business development in Sao Paulo by environmental companies in the Chubu Region, mainly in Mie Prefecture.

### Background

Sao Paulo State in Brazil, where many (more than 1.5 million) Japanese Brazilians live and where activities of people from Mie Prefecture are remarkable, has a deep relationship with Mie Prefecture, and concluded a friendship agreement with the prefecture in 1973. In 2012, the state marked the 100th anniversary of the settlement of immigrants from Mie Prefecture to Brazil. In August 2013, a mission, with the governor serving as the leader, visited Sao Paulo State, and signed the Declaration to Commemorate the 40th Anniversary of the Sister Relationship, which aims to develop the conventional "friendship relationship" into "economic exchange." The prefecture has engaged in mutual exchanges and cooperation in four fields: 1. Education, 2. Environment, 3. Industry and Commerce, and 4. Tourism. It has also promoted the development of both regions. In such a situation, JETRO (Japan External Trade Organization) established the first "Platform to Provide Local Support for Small and Medium-sized Enterprise Business Development Overseas" for enterprises which collaborate with local governmental and private support institutions, as part of the support for business development of small and medium-sized enterprises.



Sao Paulo Water and Sanitation Company (SABESP)

### Purposes of the project

Mie Prefecture has stipulated the promotion of overseas development strategy and the promotion of sales campaigns for brands made in Mie in the "Mie Industrial Promotion Strategy" and "Basic Policy on Mie International Development." Against such a backdrop, ICETT, entrusted by Mie Prefecture, administered a questionnaire on overseas environmental business development in advance, targeting about 50 related companies in the prefecture for the survey on overseas development of environment-related companies. Based on the questionnaire results, we conducted a survey on environmental needs in Sao Paulo State, the location of Brazil's largest city, and a field survey to explore the possibility of business development in Brazil for environment-related companies in the Chubu Region, including Mie Prefecture, from January 31 (Sat) to February 8 (Sun) in 2015.

### Achievements and prospects

We visited Sao Paulo's state government bodies, such as the Environment Bureau, the Sao Paulo Water and Sanitation Company (SABESP), the Sao Paulo Industrial Federation (FIESP), and an environmental disposal facility to conduct a survey to ascertain the current environmental situation in Brazil.



Automatic Waste Sorting and Disassembly Center

In this survey, we were able to confirm that there are environmental needs in broad fields, such as water quality improvement at water sources as a measure for water shortages, measures for domestic wastewater to be



Sao Paulo Industrial Federation (FIESP)

taken to meet the demand for construction of infrastructure, measures for industrial wastewater, measures for soil contamination in the former sites of factories, and recovery and recycling of waste. On the other hand, we noted that there are many matters to be addressed to develop the environmental business in Brazil, such as technological product development capabilities, marketing capacity, strong conviction for entering Brazil, securing funds, securing human resources, and management of local human resources. Based on these factors, we felt that we need to properly understand the political and economic mechanisms of Brazil, and to keep in mind that, regardless of whether entrance into Brazil is on a business basis, it should be launched from a more feasible activity, and after undergoing some steps, it should be shifted to a full-scale business through trial and error, as part of technical provisions with the use of frameworks, such as that of ODA and the Exporting Know-how and Support Project. This project is expected to contribute to further progress of economic exchanges between Mie Prefecture and Sao Paulo State, to promote the transfer of environmental technologies, and to lead to the growth and development of environmental business among companies in both countries.

(Hirohito Nakamaru)

## JICA: China

# JICA Technical Cooperation Project The Project for Total Emission Control of Nitrogen Oxide in the atmosphere

### Outline

With regard to controlling the total amount of NO<sub>x</sub> (nitrogen oxide), which is one of the causes of air pollution and a serious problem in China, in the JICA Technical Cooperation Project we aim at capacity-building for human resources through technical, political and institutional support for the reduction of NO<sub>x</sub> emissions. This project has been conducted by forming a JICA expert team at a joint venture that we formed with SUURI-KIKAKU Co., Ltd.

### ■ Background and purposes of the Project

In China, along with the development of economic activities and an increase in the number of automobiles, NO<sub>x</sub> (nitrogen oxide) emissions continue to increase. Therefore, the 12th Five-Year Plan (2011 – 2015), in which NO<sub>x</sub> was added as one of the indexes in the total emissions reduction target of major pollutants, has a target to reduce 2010 total emissions by 10%. In addition, each industrial field has made an effort to reduce total NO<sub>x</sub> emissions by setting strict emission standards individually.

Based on Japan's experiences in the reduction of NO<sub>x</sub>, this project is being conducted during the period from March 2013 to February 2016 by the Japanese Government, upon request from the Chinese Government to provide support, in order to promote China's measures to control total NO<sub>x</sub> emissions.

### ■ Details of the activities

Aiming to improve the methods to control NO<sub>x</sub> in China, this project has the following two targets: (1) To prepare technical guidelines related to controlling NO<sub>x</sub> emissions, and actually use these guidelines, and (2) To improve the methods to understand the effects of controlling NO<sub>x</sub> emissions through a simulation of diffusion of air pollutants. ICETT is in charge of activities toward achieving the first target.

The major activities in which ICETT was in charge in the second year (April 2014 to March 2015) are as follows:

- ① To understand the situation of NO<sub>x</sub> emissions and to propose remedial measures at model companies

After selecting companies as model in Xiangtan City, Hunan Province, related to target fields in the technical guidelines, we measured the amount of emissions of air pollutants, such as NO<sub>x</sub>, in the production process of the sections which were considered to have larger NO<sub>x</sub> emissions. Based on the data obtained from the measurements and



Measuring the amount of emitted pollutants at a model company

interviews with persons in charge from model companies, the JICA expert team clarified the situation of emissions, and proposed effective NO<sub>x</sub> control measures along with introduc-

tion of cases in Japan. In the model company, while proposed measures, which require large-scale improvement works, have been discussed concretely together with local engineering companies, proposed low-cost improvement measures requiring a fewer repair works, such as energy-saving, have already been taken, and have produced certain effect.

- ② Technical exchanges

In Beijing City, we held the Japan-China Technical Exchange Meeting on NO<sub>x</sub> control technologies. On the Chinese side, persons in charge of environmental protection from the central and local governments, including those from the Ministry of Environmental Protection, and persons in charge from companies related to environmental pollution control, and on the



Introduction to technologies of Japanese companies at the Japan-China Technical Exchange Meeting

Japanese side, persons related to the Project and companies with NO<sub>x</sub> control technologies, attended the Technical Exchange Meeting, and introduced their knowledge on NO<sub>x</sub> control technologies through lectures and booth exhibitions. Furthermore, from the reports of the model companies on the details of their activities so far, participants were able to understand the effects of the technologies, and the issue to be solved.

### ■ Achievements and prospects

In this project, we are preparing more practical technical guidelines, to which matters to be noted when solving problems of production sites in China and when taking measures for those problems are reflected. The prepared technical guidelines are expected to be broadly disseminated among people in China involved in the prevention of air pollution through the Dissemination Workshop, to be held in the autumn of 2015, and to contribute to the improvement of air pollution in China, by being used for the 13th Five-Year Plan, to be implemented from January 2016, and being more widely disseminated through publication by the Ministry of Environmental Protection.

(Ayako Okuda)

## Environmental Summit in fiscal 2014

### Outline

Targeting high school students, ICETT held the Environmental Summit as a project entrusted by Yokkaichi City. In this fiscal year, we held the Summit under the theme “Toward a sustainable recycling society—What we can do.”

### Background

This Environmental Summit aims to deepen mutual understanding between high school students in Yokkaichi City and students invited from Tianjin City, a friendship city of Yokkaichi City, and those from the city of Long Beach, a sister city of Yokkaichi City, which is held during the period of summer vacation, through opinion exchanges on environmental problems. Its purpose is to contribute to the revitalization of environmental preservation activities in each city with those students' ideas from an international perspective related to the environment.

In this fiscal year, under the theme “Toward a sustainable recycling society—What we can do,” the Summit was held for eight days from July 28 to August 4 in 2014.



Presentations of achievements in the Environmental Summit in Yokkaichi City features of each city and identification of environmental problems, expressed their opinions with their feet on the ground on what each of them could do to contribute to a recycling society.



Courtesy visit to the mayor of Yokkaichi City and the president of the City Council

### Achievements of the training

During these eight days, participating students newly deepened their insight into environmental problems from an international perspective by reconsidering their own countries through communal life at ICETT. Also, with one of the main purposes of this project being to deepen cultural and international exchanges, students were able to deepen their interest in and concern for Japan by experiencing Japanese traditions and culture.

### Details of the training

In this training, which includes a curriculum for understanding efforts related to the environment toward a recycling society by diverse entities, such as citizens, companies, and governments, participants also learned about the process of improving Yokkaichi City's pollution problem.



Hands-on cultural learning of "iaido" (the art of drawing a Japanese sword)



Effort for a recycling society at the port of Yokkaichi

I hope that the students, who are the bearers of the future of their respective cities, through the friendships formed in this Environmental Summit, can continue their exchanges also in the future, contribute to the improvement of the environmental problems of the friendship city of Tianjin, the sister city of Long Beach, and Yokkaichi City in the future, and play active roles as human resources who can serve as a bridge of friendship between these three cities.

(Akihiro Tsuchiguchi)

In the presentations, participating students, touching upon the

## CTI • CTI PFAN

# Climate Technology Initiative (CTI): Fostering international cooperation in the accelerated development and diffusion of climate-friendly technologies and practices

### Outline

The Climate Technology Initiative (CTI) is a multilateral initiative that was established at the first Conference of Parties (COP1) to the UNFCCC in 1995 by IEA/OECD member countries and the European Commission. Its mission is to bring countries together to foster international cooperation in the accelerated development and diffusion of climate-friendly and environmentally sound technologies and practices. In 2003, the CTI gained status as an IEA Implementing Agreement and ICETT has hosted its international secretariat since then, gradually expanding its scope of activities.

### Background and objective

Financing development is one of the major topics in technology transfer under UNFCCC. To facilitate fundraising for implementation of climate change projects in developing countries, the CTI Private Financing Advisory Network (PFAN) has been established by CTI in cooperation with the UNFCCC secretariat and has been making efforts to contribute to the goals of UNFCCC. CTI PFAN has broadened opportunities for fundraising by project developers and entrepreneurs of clean energy, renewable energy, and energy efficiency projects, and fostered technology transfer in developing countries and countries in transition.



CTI workshop in Berlin

### Programme activities

The CTI Executive Committee's 23rd Meeting was held in Berlin. Delegates from CTI member countries attended and have reported activities of CTI and CTI PFAN, and discussed further expansion of activities. During the Executive Committee meeting, Dr. Barbara Hendricks, German Federal Minister for the Environment, Nature Conservation, Building and Nuclear Safety, joined the CTI Executive Committee, and welcomed CTI members to the historical city of Berlin and congratulated the CTI on its 20th anniversary. The



CTI Workshop in Berlin

15th CTI Workshop was held by the German government to coincide with the CTI Executive Committee Meeting. Over 70 experts from 27 countries participated in a workshop titled "Market Mechanisms for Climate Action at the Urban Level" and discussed measures for mitigating climate change problems in urban areas.

### Moving forward

The CTI held a side event at the 42nd Subsidiary Body of the UNFCCC in Bonn jointly with the Renewable Energy and Energy Efficiency Partnership (REEEP) and Kreditanstalt für Wiederaufbau (KfW). Since the CTI PFAN's mechanism is a highly effective programme to facilitate private sector financing by leveraging limited public funds, CTI plans to continue actively contribute to the UNFCCC objectives by linking the PFAN Programme to technology transfer mechanisms under UNFCCC. The CTI PFAN website has been renewed to enable visitors to retrieve information on PFAN-supported projects based on each project's location and technology sector. (<http://www.cti-pfan.net>)

(Akiko Naka)



## ICETT Participants in Exhibition, Business Talks, etc. in Harbin and Shenyang, China

### Outline

In response to a request from the Consulate General of the People's Republic of China in Nagoya, from the end of June to early July in 2014, ICETT, together with three Japanese companies, participated in the 5th China Harbin International Science and Technology Exhibition and Fair in Harbin, Heilongjiang Province, which was held under the auspices of the China Science and Technology Exchange Center, and Northeastern China International Science and Technology Conference held in Shenyang by the Liaoning Province Science and Technology Agency. The purpose was to make presentations and join discussions in an international forum, as well as participate in a matching meeting (business talks).

### ■ [Background of the program]

At the biennial exhibition in Harbin, Heilongjiang Province, China, which has provided a place for companies from Russia (including former Soviet republics) to present their companies since 2006, Japan and South Korea were allowed to showcase their advanced technologies for the first time. In consultation with the Chinese Consulate General, ICETT participated in this exhibition together with three companies: an environmental material manufacturer based in Osaka, a Gifu-based metal mold maker, and a Niigata-based communications service provider.

### ■ [Details of activities]

After paying a courtesy call to the China Science and Technology Exchange Center, the organizer of this exhibition, in Beijing, and visiting the Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, with some members, the delegation moved to Harbin and then Shenyang.

At the exhibition in Harbin, we held business talks mainly with visitors to our exhibition booth. Additionally, ICETT and one participating company visited Harbin Vocational and Technical College and the Harbin Institute of Technology to demonstrate



In front of our exhibition booth in Harbin

eco-friendly products and exchange views. At the Harbin Institute of Technology, we were also able to meet a professor who had completed training in ICETT.

The participating companies from Japan held individual business talks according to arrangements made beforehand based on requests for matching from companies and research institutions in Liaoning Province. Meanwhile, ICETT mainly made a presentation and held discussions with other technology-transfer organizations invited from the UK, Italy, and South Korea, about our common challenges concerning technology transfer to China.

### ■ [Results]

For the forum in Shenyang, Liaoning Province had given participating countries (the UK, Italy, South Korea, and Japan) common discussion subjects beforehand and had requested the participants to openly provide information on various matters, including the present situation regarding technology transfer to China, conditions for facilitating technology transfer to China, requests to the Chinese side for consideration, and the organizations involved in technology transfer to China.

Through presentations and discussions, the participating organizations from multiple countries expressed their requests to the Chinese side for properly evaluated compensation for transferred technologies and enhancement of corporate compliance. The Chinese participants, on the other hand, asked their foreign counterparts to understand and respect Chinese business practices and culture. The forum offered all participants the opportunity to exchange honest views in a friendly atmosphere.

Follow-up interviews with the companies participating in the business talks confirmed the achievements and subsequent progress of the meeting, including success in meeting target companies, signs of the expansion of sales networks, and the distribution of product samples.

We would like to express our heartfelt gratitude to the Consulate General of the People's Republic of China in Nagoya and the China Science and Technology Exchange Center, Ministry of Science and Technology of the People's Republic of China, for offering us such a valuable opportunity to expand our personal and business links with China.

(Etsuko Minamikawa)



Making a presentation in Shenyang, before participants from Liaoning Province, the UK, Italy, South Korea, and Japan

# CTI PFAN Programmed Operation in Africa

## Outline

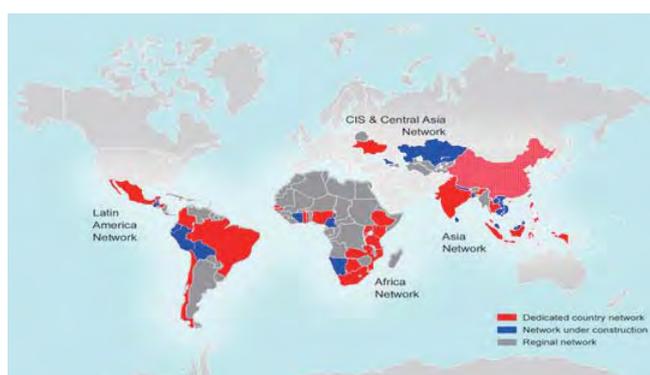
The Climate Technology Initiative Private Financing Advisory Network (CTI PFAN) is a global, multilateral initiative dedicated to reducing greenhouse gas emissions by bridging the gap between investors and clean energy projects in need of financing. CTI PFAN has developed regional networks covering Latin America and the Caribbean, and Asia, Africa and CIS as well as in-country networks of developers, consultants and investors. By participating in the PFAN network, entrepreneurs and project developers gain access to investors and bankers interested in clean energy projects. A key aspect of the PFAN processes is to build and strengthen networks of collaboration on clean energy financing, and to facilitate interaction between entrepreneurs and investors.

## OBJECTIVES

CTI PFAN aims to achieve the following overall goals:

- broaden access to private and public financing for Clean Energy projects,
- gain access to investors, and
- facilitate interactions between entrepreneurs and investors.

CTI PFAN will be launched with a request for proposals (RFP) for clean and renewable energy projects. Shortlisted projects from the received proposals will attend project development & financing workshops. During the workshop, each project will be required to make a presentation to show they are informed about the development process and development framework. Shortlisted projects will receive intensive one-on-one coaching from nominated CTI PFAN consultants to further develop their project and prepare their business plan for presentation to investors at the Forum. Based on the submitted business plans, finalists will be selected. The finalists will have the opportunity to present their projects in front of a group of investors.



Bird's-eye view of CTI PFAN subject area

The purpose of the workshops is to help them polish their business plans, develop convincing investment pitches, and formulate a commercially, financially and risk mitigating strategy that in turn will significantly enhance the possibility of obtaining financing.

There were 145 applicants for Africa Forum for Clean Energy

Financing (AFRICEF-3) Business Plan Competition and 23 teams were selected as shortlisted projects.

In July 2014, Project Development and Financing Workshops for eastern and southern Africa were organized in both Kampala and Johannesburg, respectively.

There were 50 applicants for the West Africa Forum for Clean Energy Financing (WAFCEF-2) Business Plan Competition and 20 teams were selected as shortlisted projects. In February and March 2015, Project Development and Financing Workshops for western Africa were organized in both Dakar (Francophone) and Accra (Anglophone), respectively.

## Results

The AFRICEF 3 Investor Forum was held in Johannesburg in November 2014. Ten finalists made presentations to investors, and two of them have already been financed.

## Prospects

The project developers will receive coaching in finalizing their business plans to make them investor-ready, and among them around 10 projects will be showcased to targeted investors at the West Africa Forum for Clean Energy Financing (WAFCEF-2). WAFCEF-2 which seeks to match promising clean energy projects from West Africa with investment and financing is scheduled to take place on September 17, 2015 in Abidjan Côte d'Ivoire.

(Tohru Hasegawa)

## Information Dissemination and Awareness-raising Project

### Outline

We conducted information dissemination and awareness raising inside and outside ICETT through activities related to environmental preservation conducted by the staff and experts of ICETT and citizens, exhibiting at events, and visiting lectures. In fiscal 2014, we created a video that introduces these activities, which are to be used at such occasions as international lectures on the environment.

### Background

We created a video that introduces ICETT's activities as an awareness-raising tool to be used by the staff of ICETT for their external lectures, training in Japan, workshops, which are held inside and outside ICETT, and opinion exchange session. With this video, we have made ICETT's activities easier to understand.

In March 2015, the Yokkaichi Pollution and Environmental Museum for Future Awareness opened in front of Kintetsu Yokkaichi Station. A visit to the museum will be scheduled in training programs and study tours of ICETT in the future, and the Museum, through its cooperation, can be utilized to more broadly inform the residents of Mie Prefecture about the historical background of the Yokkaichi pollution problem and ICETT's international activities.



Video that introduces ICETT's activities

### Details of the project

#### ① Responses to visitors

We introduced ICETT's activities to administrators of municipalities inside and outside the prefecture, residents and citizens of the prefecture, persons with relevant knowledge and experience, researchers, and students, for dissemination



Yokkaichi Pollution and Environmental Museum for Future Awareness

and awareness raising of knowledge related to environmental preservation, and for fostering a global perspective among them. Main visitors to the Museum were as follows:

- Consul general of the Consulate-general of the People's Republic of China in Nagoya
- Mission to Japan from the Sichuan Province Science and Technology Agency
- Mission to Japan from the Hong Kong Trade Development Council, etc.

#### ② Visiting lectures in the international and environmental fields

As part of Mie University's beginner's lectures on International Cooperation, former Executive Director Minami gave a lecture under the title of "Environmental Problems in Developing Countries and International Cooperation by Municipalities of Those Countries—Using Cases of Mie Prefecture as Examples." Through his experience as an official of the Mie prefectural government and his activities for ICETT, he said, "Resources are limited, and the earth will deteriorate," and "Well-balanced economic growth and environmental preservation are needed for a sustainable society." Furthermore, since many participating students showed a deep interest in the occupation of public official, to encourage those students who will become working members of society, he compared human characters to animals with humor—a character submissive to humans as a dog type, a character submissive to an organization as a cat type, and a character not applicable to either of these two types. In addition, introducing his experience in overseas countries while he was a public official, he explained that work for a public official is not limited to work in Japan.

Listed below are examples of visiting lectures.

- Speech on "Special lectures on the environment" at Yokkaichi University
- Lecture in a round table meeting at Yokkaichi Rotary Club
- Lectures for the Faculty Meeting of the 11th Annual International Symposium (organized by the Society of Chinese Professors in Japan), etc.

### Prospects

In fiscal 2014, we received many requests for visiting lectures in addition to our information dissemination and awareness-raising activities. Along with the opening of the Yokkaichi Pollution and Environmental Museum for Future Awareness, and with citizens' growing concern for the global environment, ICETT has come to be expected to play a role in providing related lectures.

(Hidetoshi Mashita)

# International Collaboration Program for the Global Environment

## Outline

ICETT organized the 5th Asia Forum for Clean Energy Financing (AFCEF-5) which provided a unique opportunity to match clean energy related project developers in developing countries and interested investors by improving developer's fund raising capacity in cooperation with the Climate Technology Initiative's PFAN programme, as well as other organizations. Additionally, with the aim of encouraging the creation of a greater number of clean energy projects, ICETT conducted research activities in Japan and developing countries in Asia to establish a CTI CTBN program (hereinafter "CTBN") to support project development.

## Background

In order to prepare clean energy entrepreneurs to take part in the Financing Forum on 6th February 2015, ICETT organized Project Development and Financing Workshop to enhance developer's project development ability and provided one-on-one coaching by financing professionals.

Team / Company Name	Short Project Description	Country
AllGreen Energy Pte. Ltd.	Biomass & Solar Power Production	India
Busiwind Park Energy Pvt. Ltd	50MW Wind Farm Project	India
ALPS Maintaineering Services, INC.	Energy Efficiency Project in Philippines	Philippines
5 Star Stoves	Biomass Cook Stove Project in Bangladesh	Bangladesh
Green Investment Holding LLC	Investment platform for renewable energy projects in Mongolia	Mongolia
Gham Power Nepal Private Limited	12MW Solar project in Nepal	Nepal
Praj Industries Ltd	2nd generation lignocellulosic bio-ethanol plant scale up project	India
IORA Ecological Solutions Pvt. Ltd.	Biogas project in India	India
Water & Energy Nepal p. ltd	6.6MW Hydroelectric Project in Western Nepal	Nepal

Shortlisted projects

Out of 35 applicant projects, 10 best projects were selected as listed above to present in front of potential investors at the Financing Forum.

Owing to having coaches' guidance on their respective business plan and investor pitch, project developers' ability to speak to the audience improved significantly and caught attention of both judges and investors.

CTI is planning to establish a CTI CTBN program in order to encourage small and medium companies with outstanding anti-global-warming technologies in CTI member countries, including Japan, to transfer technologies and increase the number of clean energy projects. Furthermore, CTI is aiming to



AFCEF-5 Winner

enable a larger number of clean energy projects to secure funds and be implemented as businesses by connecting projects developed in the CTI CTBN program to the CTI PFAN program.

## Details of the project

This fiscal year, ICETT conducted interviews with companies, industry bodies, and governmental bodies in developing countries in Asia, as well as Japanese small and medium companies with clean technologies, in order to identify effective support frameworks that could be provided under CTBN. Topics discussed in the interviews included the need for developing countries to adopt clean technologies, the seeds of technologies that Japanese small and medium companies have, problems that Japanese companies face while transferring their technologies to developing countries and creating projects, and the necessary support for addressing such problems.

These research activities confirmed that for successful matching of developing countries' technological needs and Japanese companies' technologies and encouragement of the creation and implementation of projects, we are required to provide efficient opportunities for matching, develop effective business models, and appropriately bridge the gap between projects and funds, and that collaborations with project developers in developing countries, who play all of the above roles, were most important.

## Future vision

Based on these findings, we aim to further encourage the creation of clean energy projects and their implementation as businesses within the CNBT model framework, by providing opportunities for project developers and Japanese small and medium companies to collaborate with each other, and by practically running the program into which we will incorporate continued support by experts for Japanese companies inexperienced in overseas operations.

(Yasuko Ozaki)

# Remarks

The parent organization of our Center, which was established as the International Center for Environmental Technology Transfer (ETTC) on March 31, 1990, 25 years ago, was able to develop into the present-day ICETT based on contributions of 6.2 billion yen in total—1.5 billion yen from Yokkaichi City, 1.5 billion yen from Mie Prefecture, and 3.2 billion yen from companies—thanks to its strong industry-academia-government collaboration and efforts in those days.

In 2011, when changing to a public interest incorporated foundation, we restructured our organization into four types of businesses—“training and technical guidance,” “surveys and research,” “exchanges and collaboration,” and “information provision and dissemination & public awareness.” Among these four types, we have especially focused on the “training and technical guidance” business since our establishment.

The first training in Japan was held from January 21 to March 15 in 1991, receiving nine training participants from Mexico under the theme “Exhaust Gas Treatment and Heat Utilization.” Thereafter, even if it was limited to long-term training for more than a week, the number of people invited to Japan for training amounted to 2,417 from 90 countries by the end of March 2015. Furthermore, the number of participants in training and seminars we have held outside of Japan has amounted to 5,465 in 11 countries.

This ICETT newsletter, which is published once a year, is marking its 23rd issue on this occasion. We have sent 2,300 copies of this newsletter in total to overseas countries—1,800 copies of the English edition and 500 copies of the Chinese edition, 1,700 copies of which are directed to people who have visited ICETT for our training in Japan.

It would be great, if you recollect upon receiving this newsletter, your everlasting memory at ICETT where you thought and learned about your own country from outside it, engaged in solving problems, and had discussions under the same theme with Japanese participants despite the difference in their nationality, and after the training, if you report on and let us know your country's environmental problem, what kind of issue you have made efforts for, and achievements from those efforts.

In recent years in Japan, the concept of a type of education called “Education for Sustainable Development / ESD” has been spreading. “ESD” is a term that Japan

proposed at the United Nations’ “World Summit on Sustainable Development,” which was held in 2002 in Johannesburg. ESD is learning and activities aimed at understanding issues in modern society, such as poverty, human rights, peace, development, and environmental problems, as our own problems; to create new values and actions by making efforts for an issue around us (think globally, act locally); and to create a sustainable society based on these values and actions.

It is important for not only inter-field activities, such as ESD, but also efforts for the global environment to be conducted beyond national borders. In the hope of creating a happy environment for children around the world, who are the bearers of the future, using the ties between readers and ICETT, I engaged in editing this commemorative issue for the 25th anniversary of ICETT.

Also in the future, ICETT will convey the importance of environmental preservation and energy, use our wits to hand an environment-friendly society and safe atmosphere & water to children, and make daily efforts for environmental preservation activities.

(Yuka Kanda)

Column: Pre-event for Ise-Shima Summit  
 On May 26 and 27 in 2016, the Group of Eight summit meeting will be held in Shima City in Mie Prefecture. In response to the summit, ICETT will hold the “ASEAN Environment Forum in Mie,” an event to be held 100 days before the Ise-Shima Summit and a project to commemorate the 25th anniversary of the founding of ICETT in February 2016.  
 Regarding striking a balance between economic growth and environmental preservation as an urgent issue, we would like to use this project, an opportunity to collaborate with other countries and to transmit the potentials of those countries, for ICETT’s activities in the future.

(Reference) Website of Japanese National Commission for UNESCO, the Ministry of Education, Culture, Sports, Science and Technology  
 Website of Ise-Shima Summit & Mie prefectural government