

ICETT NEWS

Inaugural Issue

VOL. 1

NO.1 March 1996

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Message from President

In recent years, there have been increasingly urgent needs for a solution to the world's worsening environmental problems. Clearly, a global commitment is required to ensure the effectiveness of our response to these global issues.

The International Center for Environmental Technology Transfer (ICETT) was founded in 1990 to promote the transfer of environmental technology to developing countries from developed nations such as Japan, which has achieved superb success in overcoming industrial pollution. Japan—and particularly the city of Yokkaichi—has accumulated industrial technologies, expertise, and administrative methods to prevent pollution through painstaking yet successful efforts to solve its serious industrial pollution problems.

ICETT has carried out transfer of environmental technologies, having hosted some 500 people from 30 countries and having provided training to about 900 people in 12 cities of six countries abroad as of end 1995. In addition, ICETT has carried out R&D on global environmental problems jointly with enterprises and universities, conducted local surveys overseas on the environment, distributed information, and organized symposiums in an effort to improve and energize Japan's efforts to conserve the environment in developing countries. Notably, aiming at more effective and efficient activities of Japan's international environmental cooperation, in October 1995, ICETT co-organized with MITI (the Ministry of International Trade and Industry) and other organizers the APEC Symposium on Environmental Technology Cooperation in Nagoya.

As well, in February 1996, ICETT successfully organized the International Symposium in commemoration of ICETT's Fifth Anniversary in cooperation with the Mie Prefectural Government and the city of Yokkaichi and with the participation of five ICETT's alumni from Brazil, China, Indonesia, Poland and Thailand.

Although we have succeeded in steadily widening the scope of ICETT, we believe that we must continue to expand ICETT's activities and rectify our lack of follow-up with our ICETT's alumni. Consequently, we have decided to issue *ICETT News* on a regular basis.

This issue has been compiled from information provided by sources both within and outside ICETT. We invite our readers to submit news, requests or inquiries on the newsletter and ICETT's activities, training in particular, your experiences in applying what you have learned in the ICETT's training course to your work, or information on the environmental situation in your country.

Sumiyuki Yoshii



ICETT : Five Years of Successful Initiatives

Chronology

- 1990 March The Environmental Technology Transfer Center Foundation is established with the approval of the governor of Mie prefecture.
 December The Environmental Technology Transfer Center Foundation is approved by the Minister of International Trade and Industry.
- 1991 February The Foundation is renamed the International Center for Environmental Technology Transfer (ICETT).
 October Construction of ICETT's main facility begins in Suzuka-Sanroku Research Park.
- 1992 October New facility is completed.
 November New facility is officially opened.



Training Program in Japan

(10 people per standard 50-day course) As of December 31, 1995, 448 people from 29 countries had completed courses in this program.

	Countries of Origin	Course Content
1990 (1 courses)	Mexico(91.1.17-91.3.20)	Industrial Energy Use and Exhaust Gas Treatment Technology
1991 (5 courses)	Seven Countries : Hong Kong, Indonesia, Iran, Mexico, Singapore, Thailand, Kenya (91.6.27-91.8.10)	Industrial Energy Use and Exhaust Gas Treatment Technology
	Poland(91.10.15-91.11.10)	Industrial Air Pollution Control Technology
	Poland, Hungary(91.11.4-91.12.18)	Air Pollution Control Technology
	China(Tianjin) (92.1.27-92.3.11)	Air Pollution Control Technology
	Indonesia I (92.3.14-92.4.27)	Environmental Conservation Technology
1992 (8 courses)	Seven Countries : Brazil, Colombia, Hong Kong, Indonesia, Thailand, Iran, Malaysia (92.6.25-92.8.8)	Industrial Energy Use and Exhaust Gas Treatment Technology
	Indonesia II (92.6.27-92.8.7)	Environmental Conservation Technology
	China (Tianjin, Penki) (92.8.15-92.10.4)	Air Pollution Control Technology
	Czech, Slovak (92.8.18-92.9.27)	Industrial Air-Pollution Control Technology
	Russian Federation, Bashkortostan and Kazakhstan (93.1.16-93.1.30)	Industrial Pollution Control Technology
	Brazil (93.1.23-93.3.27)	Environmental Protection : "Air Protection" and "Water Protection"
	Thailand (93.2.11-93.2.27)	Environmental and Energy Conservation Technology
	Malaysia (93.3.8-93.3.18)	Air Pollution Control Technology
1993 (11 courses)	Eight Countries : Argentina, Brazil, Hong Kong, Indonesia, Iran, Mexico, Singapore, Thailand (93.4.12-93.5.26)	Industrial Energy Use and Exhaust Gas Treatment Technology
	Indonesia (93.5.23-93.7.31)	Development of a Healthy Environment
	China (Henansheng) (93.8.20-93.10.7)	Air Pollution Control Technology
	Eastern Europe (93.10.19-93.11.27)	
	Poland, Bulgaria, Romania	Industrial Air-Pollution Control Technology
	China (Tianjin) (93.11.1-93.12.20)	Air Pollution Control Technology
	China (93.11.4-93.12.20)	Industrial Pollution Control Technology
	Eight countries (94.1.25-94.3.10) Argentina, Brazil, China, Hong Kong, India, Indonesia, Philippines, Thailand	Management of Industrial Effluent and Waste
	Five Countries (94.1.29-94.2.5)	
	Algeria, Egypt, Israel, Jordan, Palestine	Industrial Pollution Control Technology
	Indonesia (Palembang) (94.2.13-94.3.23)	Environmental Protection Technology



	Countries of Origin	Course Content
1993 (11 courses)	Malaysia (94.3.17-94.3.30) Indonesia (94.3.22-94.4.9)	Energy Saving and Environmental Technology Development Industrial Pollution Prevention Guideline
1994 (12 courses)	Brazil (94.3.21-94.6.7) Seven Countries : Colombia, Hong Kong, Iran, Mexico, Singapore, Thailand, Indonesia (94.5.9-94.6.22) Indonesia (East Java province) (94.5.9-94.8.1) Indonesia (Palembang) (94.9.24-94.10.7) China (Henansheng) (94.9.26-94.11.14) Eastern Europe (94.10.18-94.11.27) Bulgaria, Romania, Slovak China (Tianjin) (94.10.27-94.12.8) China (94.10.31-94.12.19) Brazil (95.1.9-95.3.28)	Environmental Protection : "Air Pollution Control" and "Water Pollution Control" Industrial Energy Use and Exhaust Gas Treatment Technology Development of a Healthy Environment Water Pollution and Waste Water Treatment Technology Water Pollution Control Technology Industrial Air Pollution Control Technology Water Pollution Control Technology Industrial Pollution Control Technology Environment Protection ; "Air Pollution Control" and "Water Pollution Control" Management of Industrial Effluent and Waste Energy Saving and Environment Technology Development for Vietnam
1995 (12 courses)	Nine Countries : Argentina, Brazil, Colombia, Hong Kong, Indonesia, Iran, Mexico, Saudi Arabia, Thailand (95.5.8-95.6.18) Indonesia (95.7.11-95.10.9) Eastern Europe (95.9.18-95.10.27) Bulgaria, Romania China (Henansheng) (95.9.26-95.11.14) Indonesia (95.9.26-95.10.9) China (Tianjin) (95.10.25-95.12.6) China (95.10.30-95.12.17) Thailand (95.12.4-95.12.24)	Technology for Industrial Exhaust Gas Treatment and Energy Saving Industrial Pollution Control Technology Industrial Air-Pollution Control Technology Urban Environmental Conservation Technology Water Pollution and Waste Water Treatment Technology Urban Environmental Conservation Industrial Pollution Control Technology Automated Industrial Waste Water Quality Monitoring Technology at Model Industrial Estate Environmental Protection ; "Air Pollution Control" and "Water Pollution Control"
	Eleven Countries : Argentina, Brazil, China, Egypt, India, Indonesia, Iran, Mexico, Oman, Saudi Arabia, Thailand (96.1.15-96.2.29) Ten Countries : Argentina, Brazil, Colombia, Egypt, Hong Kong, Indonesia, Iran, Malaysia, Mexico, Thailand (96.1.23-96.3.7) Vietnam, Philippines (96.2.26-96.3.8)	Environmental and Safety Technology in Petrochemical Industries Management of Industrial Effluent and Waste Energy Saving and Environmental Conservation



Overseas Training Program

(50 people per standard 7-day course)As of December 31, 1995, 876 people from six countries had completed courses in this program.

	Countries of Origin	Course Content
1991 (4 courses)	China (Shanghai, Benxi, Tianjin) Thailand (Bangkok)	Air Pollution Control Technology Water Pollution Control Technology
1992 (4 courses)	Indonesia (Jakarta), Brazil (São Paulo) China (Guiyang), Mexico (Mexico City)	Water Pollution Control Technology Air Pollution Control Technology
1993 (3 courses)	Thailand (Bangkok), China (Tianjin, Guiyang)	Water Pollution Control Technology
1994 (4 courses)	Indonesia (Surabaya) China (Nanjing) China (Shenyang, Qingdao)	Environmental control technology Water pollution control technology Environmental conservation technology
1995 (2 courses)	China (Chongqing) Philippines (Manila)	Air pollution control technology Waste-treatment technology



Research and Development

- 1990 -13 R&D projects to promote development of industrial technologies for global environmental protection, including carbon dioxide research
-3 R&D projects on industrial technologies related to the global environment, including research into bio-sensors to detect agricultural chemicals
- 1991 Establishment of a Research Committee on R&D for protection of the global environment
- 1994 Beginning of hosting researchers engaged in environmental issues from developing countries, including two researchers from Indonesia (one each in 1994 and 1995)

Surveys

- 1990 Comprehensive survey concerning environmental protection in the Asia-Pacific region (Thailand, Malaysia); and subsequently in 1991 (Thailand, Malaysia, China), and 1992 (Indonesia, China)
- 1991 -Survey mission to prevent industrial pollution in Indonesia
-An identification survey on environmental projects for mining industries (China); and subsequently in 1992 (Poland, Hungary)
- 1992 -Energy survey in Russia
-Survey on status of environmental technology transfer (Yokkaichi); and subsequently in 1993 (Minamata) and 1994 (Jintsu River, Toyama)
- 1993 -Preliminary survey in Indonesia to setup a training program to prevent industrial pollution (~1993)
-Environmental survey in Poland
-Survey on environmental restoration in specific areas (Eco-Phoenix) in Indonesia (~1994)
-Survey on methods of disseminating ICETT's environmental protection technology
- 1994 -International joint research on development and the environment in Northeast Asia (China, Korea, Russia, Japan)
-Projects to encourage environmental technology transfer (survey on needs of developing countries) China, Indonesia, Thailand
-Survey of research networks for environmental technologies in the Asia Pacific (China); subsequently in 1995 (Korea, Thailand, Malaysia)
-Research survey on the economic viability of development and the environment (~1996)
-Survey on setting up the Mexican Environmental Research Center



Promotion and Awareness Raising

- 1990 Organizing a seminar and symposium on global environmental issues (Yokkaichi)
- 1991 Organizing an international symposium on global environmental issues (Yokkaichi)
- 1992 -Organizing an international symposium on environmental technology transfer (Yokkaichi)
-Participating in the Moscow Japan Trade and Industry Fair and organizing a seminar
-Participating in Eco-BRAZIL '92 (an international exposition on environmental technologies) in São Paul, Brazil
-Participating in the "Earth Summit," the United Nations Conference on the Environment and Development in Rio de Janeiro
- 1993 Organizing the Asia Environmental Forum (ICETT)
- 1994 -Organizing the ICETT Environmental Forum (ICETT)
-Organizing concurrently the Global Environmental Conference GLENTEX '94 and the Seminar on China's Environmental Problems (Yokohama)
- 1995 -Presenting a lecture on the theme of Water Environment Management and International Cooperation at the Thailand Environmental Seminar
-Organizing the International Workshop on Environmental Technology Research Network in the Asia-Pacific Region (Tsukuba)
-Co-organizing the APEC Symposium on Environmental Technology Cooperation (Nagoya)
- 1996 -Organizing the International Symposium in Commemoration of the 5th Anniversary of ICETT (Yokkaichi)



Overview of the APEC Symposium on Environmental Technology Cooperation

The APEC Symposium on Environmental Technology Cooperation was held at the Nagoya Congress Center on October 25 and 26, 1995, on the theme of environmental protection and environmental technology transfer in the Asia-Pacific region. This successful event served as a forum for the enthusiastic exchange of views among the 270 participants, 28 of whom were from abroad. This symposium was one of the major events related to the APEC Industrial Science and Technology Working Group. ICETT participated as a member of the organizing committee and served as secretariat.

The following is a summary of the symposium.

October 25

First Day: Opening Session

Following the Welcoming Address, representatives of the Ministry of International Trade and Industry, the Ministry of Foreign Affairs, the City of Yokkaichi and the International Energy Agency presented their suggestions on international cooperation for environmental technology transfer. They stressed that, in tackling environmental protection issues, it is vital to develop, transfer, and disseminate those technologies best suited to each region.



Session 1 *Environmental Technology Cooperation: Current status and future challenges*

This session addressed the current status and future challenges of environmental cooperation as well as the particular technologies required to solve environmental problems. Also discussed were tasks related to the development, transfer, and dissemination of such technologies.

From Japan, NEDO (New Energy and Industrial Technology Development Organization), JICA (Japan International Cooperation Agency), and ICETT presented environmental cooperation projects in which they participated. ICETT introduced the Eco-Phoenix Project conducted in the Palembang area of Indonesia. It also introduced the concept of the Virtual



Center for Exchange of Environmental Technology, which promotes the Internet-based exchange of information related to environmental technologies, and proposed that a symposium on this subject be convened in Japan next year.

Representatives from Indonesia, China, Thailand, and the Philippines reported on their respective environmental problems and their efforts to solve them. Indonesia, in particular, stressed the need for appropriate technologies that could be expected to spread spontaneously to local areas.

The representative from Canada reported on a discussion that took



place during the APEC Cleaner Technology Conference held in Vancouver, Canada in May 1995. It was pointed out that the highest priority should be placed on further promotion of cleaner technologies for sustainable intra-regional development.



Session 2 *The Role of the International Environmental Researchers' Network in the Asia-Pacific Region*

Building on the discussions that took place in Session 1, panelists discussed the current situation and future tasks for international cooperation and expressed the hope that a researchers' network be established. They also discussed the future course of their own efforts in this regard.

From Japan, researchers involved with environmental technologies reported on the progress of the Environmental Technology Researchers' Network in the Asia-Pacific Region technological cooperation network and the results of environmental technology research. Australia, China, Thailand, Malaysia, and Korea presented their efforts in addressing their specific environmental problems and the challenges they faced.

The subsequent panel discussion reaffirmed the importance of establishing a network and expressed the hope that a symposium on this subject be convened next year.

Session 3 *International Cooperation in Environmental Technology Transfer*

Following up the topics covered in sessions 1 and 2, this session addressed transfer of locally appropriate technologies and discussed how international cooperation should foster the development, transfer, and dissemination of these technologies.

Developing countries reported on problems related to technology transfer and other relevant issues, including the lack of information, human resources, and finances. They stressed the need for cooperation from developing countries in this respect.

The panel discussion that followed dealt with the ideal development and transfer of locally appropriate technologies, human resource development, and the need for a network covering these issues.

Finally, the chairman summarized the results of the symposium and released the following statement.



Summary of the APEC Symposium on Environmental Technology Cooperation

At the closing of the Symposium, the participants have reached and share a common recognition on the current state of the environment, an understanding of the tasks required for cooperation in environmental technology, and a commitment to the future policies and activities described below.

● Current state and tasks of the environment in the APEC region

In the Asia-Pacific region, developing economies are facing ever increasing challenges in regard to pollution and other serious environmental problems resulting from industrialization and urbanization.

Below are some specific measures being undertaken:

- The Climate Technology Initiative (CTI) of the International Energy Agency (IEA), which is aimed at developments of climate-friendly technologies and their diffusion into the global economy, as reported in the Opening Session
- APEC's Cleaner Technologies Conference, held in Canada in May 1995 and reported in Session 1
- The Environmental Technology Research Network in the Asia-Pacific Region (ETERNET-APR), discussed in Session 2

Developing economies within the Asia-Pacific region, however, often lack the funds, expertise, information, and specialists, such as environmental scientists and engineers, required to implement environmental protection and pollution control technology.

● Toward a region consistent with sustainable development in the Asia Pacific

To further the cause of sustainable development, each APEC member economies must remain committed to environmental preservation. Consequently, to achieve this regional goal, these economies must further join forces in fields related to environmental protection.

Any cooperative framework must be based on mutual understanding of the diversity among APEC member nations regarding cultural, political and economic systems, degree of economic development, and fields identified as development priorities.

To promote the transfer and diffusion of technology, we must be more aware of obstacles such as lack of funds, expertise, information, and specialist workers.

Technology is an important part of the solution to environmental problems, however, its development and adoption must also reflect the diverse characteristics of the countries and areas of the Asia-Pacific region. We must therefore develop and transfer appropriate technologies to the natural and social conditions and needs of each economy.

In view of the present circumstances surrounding developing economies, the key focus of technology transfer should be clean technologies and energy-saving technologies, which can reduce both the environmental load and production costs.

Consequently, we must individually and collectively deepen our awareness of the importance of the approaches to environmental problems suggested at this Symposium and take specific appropriate actions.

In this respect, the concept of the Virtual Center for APEC Environmental Technology Exchange—welcomed by the APEC Ministers' Conference on Regional Science and Technology Cooperation held in Beijing, on October 5 and 6, 1995—is expected to strengthen understanding among APEC member economies while helping to overcome the environmental problems they face.

We welcome the proposal for a symposium in Japan in 1996 to review, improve, and refine the adoption of this concept and the progress in its application.

Based on the common recognition that development of human resources is the most important challenge, we urge that further efforts will be made to strengthen training programs, including the holding of symposiums.

ICETT NEWS

The International Symposium in Commemoration of the 5th Anniversary of ICETT: Toward a Better Global Environment

ICETT was established in March 1990 as the Center for Environmental Technology Transfer, a non-profit foundation under the auspices of the Governor of Mie Prefecture. In December of that year, the center came under the jurisdiction of the Japanese Ministry of International Trade and Industry (MITI). The following February, its name was changed to the International Center for Environmental Technology Transfer. Since its founding, ICETT has recorded a series of successes in the international transfer of environmental technology.

To commemorate the 5th anniversary, ICETT organized an international symposium for February 14 and 15 in Yokkaichi. This symposium was intended to increase public interest in global environmental issues, to increase awareness of the importance of environmental technology transfer, and to publicize ICETT's activities.

The symposium featured the following program:

February 14 First day

Following welcoming remarks by Mr. Tokio Katayama, Deputy Director General, Environmental Protection and Industrial Location Bureau, MITI and Mr. Masayasu Kitagawa, Mie Prefectural Governor, Mr. Kanshi Kato, Vice-chairman of the Board of ICETT and Mayor of Yokkaichi, the guest speakers—Mr. Yoichiro Fujiyoshi, NHK's (Japan Broadcasting Corporation) executive commentator and Dr. Kenichi Fukui, Director of the Institute for Basic Chemistry and a Nobel laureate in chemistry delivered presentations on their environmental conservation efforts and on the need to improve the environment. Three college students then presented their ideas on local and global environmental conservation and stressed the need to take up relevant issues.



February 15 Second day

Mr. T. Mukai, Executive Director of the New Energy and Industrial Technology Development Organization (NEDO), delivered a lecture on environmental problems in developing countries and Japan's cooperation in environmental technology. In the panel discussion, Dr. K. Yoshida, Advisor to ICETT, opened the discussion with a presentation on the progress of the environmental conservation movement in the city of Yokkaichi. ICETT alumni Mr. Milton Norio Sogabe of Brazil, Mr. Sun Hong of China, Mr. Sudarmadji of Indonesia, Mr. Artur Chachlowski of Poland, and Ms. Kasemsri Homchean of Thailand then discussed ways in which they have applied the training they received at ICETT and expressed their expectations for ICETT. Mr. M. Nishikawa, Technical Advisor to ICETT, joined the panelists in a spirited discussion of the present tasks and future prospects for environmental technology transfer.



The readers' column

ICETT is publishing this newsletter in an effort to establish a network of ICETT's alumni. This issue has been compiled from information gathered by ICETT. We invite the reader to contribute information, requests opinions regarding the ICETT's training programs in which you

have participated, and suggestions for this newsletter. (Submissions within 1,200 words.) Those whose opinions are selected for publication in the newsletter will receive a small token of our appreciation for their efforts.

(As we would like to stay in touch with our alumni, please keep us informed of any change of address.)



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March 1996



This work was subsidized by the Japan Keirin Association through its Promotion funds from KEIRIN RACE.