

ICETT

NEWSLETTER

For the Earth
For the future of the Earth



Purpose of establishment

The International Center for Environmental Technology Transfer (ICETT) was established through industry-government-university cooperation for the purpose of transferring technologies for environmental conservation owned by our country and various foreign countries to other regions and alleviating environmental problems on a global scale.

ICETT aims at conservation of the global environment and sustainable development of the global economy by implementing various projects according to the characteristics of various foreign countries and by promoting smooth technology transfer.

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Systematic Household Waste Segregation and Discharge Promotion Project on Babeldaob Island in Republic of Palau

Outline

Mie Prefecture and ICETT implemented the JICA Partnership Program “The project on working together with the government and citizens for zero waste society promotion” from August 2018 to February 2022 together with the Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce (hereinafter “BPW”) of the Republic of Palau (hereinafter “Palau”), encouraging residents to promote separate collection efforts toward the reduction of landfill waste in Palau. We subsequently initiated a JICA Partnership Program (Local Government Type) starting from February 2023 through the expansion of areas covered by the program.

Background and purpose

Palau is a small island country with a population of approximately 20,000. While surrounded by beautiful seas and blessed with a rich lineup of sightseeing resources, the number of tourists is increasing year after year, making waste reduction a serious problem. Palau has no incinerators, thus resulting in the disposal of waste as landfill basically without being sorted together with many recyclable resources. Considering these circumstances, ICETT encouraged residents to sort out household waste and recover resources by making them aware of the issues, allowing them to become interested in environmental issues and the status of waste around them in the three years and a half from 2018 and segregate and discharge waste through the utilization of recycling stations. To reduce waste disposed of in landfills and make effective use of resources, it is essential for residents to become more environmentally aware and act in a proactive, sustainable manner. In the second phase starting in 2023, using a preceding system to segregate and discharge waste as a model, we will promote widespread efforts to segregate and discharge waste more widely through environmental education for residents and elementary school teachers and children in other areas.



Resources being recovered at a recycling station

Details

We will conduct activities across Ngatpang and Aimeliik on Babeldaob Island, the largest island in Palau, and at eight primary schools on the island over a three-year period from February 2023 to January 2026. During the first visit to the site, we held a kick-off meeting with parties concerned in Palau to propose establishing two teams to promote resource recovery: a community-based team and a school education-based team. Through the establishment of a structure to promote activities that allow the local people involved to act proactively, they will develop plans, raise local residents' awareness and conduct awareness-raising activities in schools based on the plans, and promote segregation and discharge at recycling stations. In particular, school education-based

team members (teachers) will be expected to work toward their goal of being able to provide environmental education for children in Palau, who will carry the nation's future, such as by providing training involving environmental education. In addition, both teams will hold regular meetings, sometimes with Japanese experts, to discuss how separate collection of waste should be organized across the island in the future and how to make effective use of resources recovered from recycling stations. A proposal summarizing the details of the discussions is scheduled to be submitted to the Palau government.

While conducting these activities, we will disseminate information, such as the results of the activities, domestically and internationally through interaction workshops between residents and teachers in Palau and Japan, debriefing sessions, and events.



Core members of activities (at the kick-off meeting)

Results and prospects

ICETT has dispatched one coordinator to Palau to promote project activities more effectively, allowing us to work on more activities and issues than ever before through close cooperation with the local people involved. We share information with the coordinator by utilizing online meetings on a daily basis, allowing us to understand the local situation as soon as possible and make considerations for issues. Through the coordinator, we will promote effective activities while further deepening a relationship of trust with the people involved in Palau.



An activity conducted by the coordinator dispatched to Palau



Tianjin Environmental Exchange Project Planning and Management Work

Outline

Commissioned by Yokkaichi City since 1993, ICETT has continuously provided training seminars with the aim of addressing environmental issues in Tianjin City. In fiscal 2022, under the theme of “Plastic Resource Circulation”, we held a seminar in Tianjin City, China, using a video produced in Japan providing lectures and introducing a special exhibition.

Background and purpose

In Tianjin City, while the city has achieved remarkable economic development, many environmental issues have arisen, and as such, improvement of the situation has become a pressing issue. Therefore, we implemented this project with an aim of enabling officials of Tianjin City and other related persons to understand Japan's environmental technologies and management methods and to use this understanding for the improvement of Tianjin City's environment.

Details

We held the seminar in Tianjin City on February 17, 2023 with 25 participants, using a lecture video produced in Yokkaichi City. The lecture video covered the use of plastic resource circulation in Japan, Japanese companies' response to plastic waste issues, and introduction to the Yokkaichi Pollution Judgment 50 Years Exhibition.

Results and prospects

We received the following comments from the participants in the seminar:

- Introduction and statistics of technologies and methods about the use of plastic waste resource circulation were instructive and illustrative for our research.
- I was able to take lessons from the experiences of Yokkaichi City and use them as a reference for responses to environmental issues in our country.

We will continue taking up themes in line with Tianjin City's problems, aiming for a project that can help Tianjin City improve its environment.



At the seminar by an expert



Seminar on Developing Glocal Human Resources

Outline

Intended for high school and university students in Mie Prefecture, a seminar on developing glocal human resources was held on the theme of environmental issues, consisting of lectures, group discussions, and other activities.

Background and purpose

As the movement to achieve “SDGs” and “decarbonization” gains momentum across the globe, Mie Prefecture keeps pace with the international community by declaring “decarbonization” in 2019. The awareness level for global environmental issues is higher than ever, and young people are taking the issues seriously as future risks. Against this background, we held this Seminar on the theme of environmental issues with the aim of broadening the perspectives of younger generations, who carry Mie Prefecture's future, and thus leading to the development of glocal human resources.

Details

Inviting people who play a valuable role glocally in Mie Prefecture, we held three seminars consisting of lectures, group discussions, fieldwork, and other activities. The outline is as follows:

[1st seminar] (on Nov. 13, 2022 with 23 participants)

Theme: Front line of research on climate crisis and extreme weather due to global warming — Close connection between global and local climates —

[2nd seminar] (on Dec. 11, 2022 with 57 participants)

Theme: Toba Aquarium is more than just fun! — Environmental conservation, preservation of the species, and relationship with other countries —

[3rd seminar] (on Dec. 18, 2022 with 28 participants)

Theme: Think Globally, Act Locally — Mindset of glocal human resources —



1st seminar

Results and prospects

We received positive feedback from the participants, with one saying, “I was able to think of environmental issues, including climate change, as my own issue,” and thus we succeeded in providing opportunities for the participants to discover and learn new things in this seminar.

We hope that this seminar encouraged greater interest of the participants in mastering foreign languages and in environmental issues and will prove helpful to their further learning.

Sakura Science Exchange Program

Outline

As part of the International Youth Exchange Program “Sakura Science Exchange Program”, we invited students from Palau High School and Belau Modekngai School and taught a science and technology experience course.

Background and purpose

In Palau, as mentioned above, waste is not incinerated, and nearly all of it is landfilled. To use the new waste landfill site established in 2020 as long as possible, the country urgently needs to reduce the amount of waste. With the background of this problem, we provided an opportunity for high school students from Palau to learn about cutting-edge Japanese science and technology in this program so that they could deepen their understanding about Japanese efforts regarding waste management.

Details

A total of 12 participants (including two teachers) visited us from February 14 to February 20, 2023. In cooperation with Mie University, we provided an opportunity for the students to learn about research on and development of



The lecture at Mie University

biomass material and experience the shaping process of wooden straws in a laboratory, as well as about the history of Yokkaichi Pollution and the recovery thereof, Mie Prefecture's efforts to form a sound material-cycle society, resource recovery from vehicles and its processing technology, and the like. They also interacted with high school students in Mie Prefecture, including those of Kawagoe High School.

Results and prospects

For some students, this was their first trip abroad, and they seemed to be hugely inspired by Japanese technology and culture. We hope the participants will take the initiative as younger generations, who carry the nation's future to work on environmental issues.



Students introducing each other's country at Kawagoe High School



Project commissioned by the business sector

Project on Improving Capabilities to Reduce Non-revenue Water in Republic of Palau

Outline

Inviting five officials from BPW, ICETT organized training sessions in Japan to learn about water supply operations in Japan, jointly with Yachiyo Engineering Co., Ltd., which was commissioned by JICA.

Background and purpose

In Palau, water service pipes buried in the 1940s and 1970s are still used, thus causing frequent water leaks due to aging. In Koror and Airai, for example, 48 percent of the water that has been produced is estimated to be non-revenue water (unbilled water). In light of this, in Japan, where reliable water supply operations with an extremely low non-revenue water rate are maintained, we organized a training session to learn about the management of water supply operations and the technology of water leak prevention.

Details

Five officials from BPW visited Japan for 19 days from October 17 to November 4, 2022. They learned about water supply operations at the Public Utilities Agency in Mie Prefecture and visited water leak prevention facilities at waterworks bureaus in the cities of Yokkaichi, Ise, Toba, and Shima. In Toba City, which has much in common with Palau, such as terrains surrounded by the sea and the population, the participants learned about the installation

of submarine pipelines for water. They also learned about the latest technologies on water leaks from companies manufacturing service pipes or water leak detectors through training sessions and lectures.

In cooperation with Fuji Tecom Inc., which is based in Niiza City in Saitama Prefecture and manufactures water leak detectors, the participants learned about the characteristics and use of water leak detectors for two days through training sessions.

Results and prospects

The participants were quoted as saying, “All programs were wonderful, and I was able to acquire knowledge for my actual work,” and “It was a great honor to hear lectures from Japanese experts.” We hope that the participants will play an active role in BPW to lower the non-revenue water rate in Palau.



Tour at the Yokkaichi City water resource management center



JICA Knowledge Co-creation Program: Waste Management towards Control of Marine Litter (B)

Outline

Commissioned by JICA, ICETT provided remote training and in-person training for government administrators from Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam working in the field of waste management, and an ASEAN Secretariat officer, in order to contribute to measures against marine plastic litter in the ASEAN region.

Background and purpose

In recent years, marine plastic litter has been recognized as one of the global-scale important environmental issues. In Southeast Asia especially, a positive and substantial effort is expected as it is considered as a major marine plastic litter generating area in the world.

In such a situation, commissioned by JICA, ICETT, as it did in 2020 and 2021, implemented the JICA Knowledge Co-creation Program: Waste Management towards Control of Marine Litter (B). Through this program, the participants of ASEAN countries were expected to comprehensively learn about initiatives for marine plastic litter by various sectors from the perspective of the actual situation, proper handling and prevention, as well as related laws and measures in Japan, and through these learning experiences, to consider measures that can be taken in each country and throughout ASEAN countries.

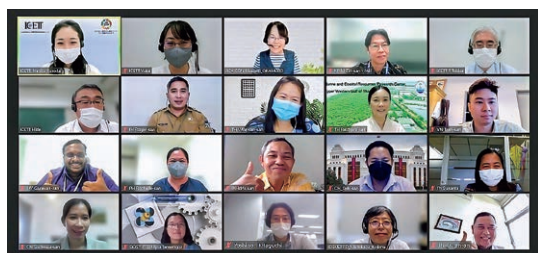
Outline

Training period

- Remote training: Oct. 3 to 14, 2022
- In-person training in Japan: Nov. 18 to Dec. 9, 2022

Participants

A total of 13 participants: 2 from Cambodia, 3 from Indonesia, 1 from Malaysia, 2 from the Philippines, 3 from Thailand, 1 from Vietnam, and 1 ASEAN Secretariat officer



Remote training

Training details

Since land areas are the source of about 80% of marine litter, and as there is an urgent need to take measures against plastic waste in particular, in this training we focused on measures against plastic waste flowing into the ocean, such as grasping the actual situation and collecting and handling the waste, while taking up mainly measures against the sources of waste, such as managing waste and circulating plastic resources on land.

For measures against the sources of waste, the participants learned about initiatives among industry, government, academia and the private sector, such as various measures in Japan, social systems and technologies that realize the reduction of disposable containers and packaging, the recycling of plastic containers and packaging

and resource circulation, and the development of alternative materials by research institutions, through lectures and on-site tours.

For measures against marine litter, the participants learned about multifaceted initiatives, such as measures against marine litter taken by the central and local governments, the realities of marine litter in Mie Prefecture, technologies to grasp the realities of marine litter through the utilization of data science, and fishing gear upcycling technologies, through lectures, site visits and training sessions.

To realize these initiatives, the participants also participated in a citizens' seaside cleanup activity, as well as learning about awareness-raising activities and education that contribute to the creation of environmental awareness.



On-site tour of resource separate collection in a community



At the workshop

Through the active participation in discussions and workshops, the participants deepened their thoughts about initiatives in the ASEAN region by understanding the current situation of other countries in the same ASEAN region and other participants' thoughts.

The participants worked hard on an action plan as a result of training while learning about its creation process and receiving advice from experts. On the final day of the training, the participants made presentations and deepened consideration while receiving reviews and advice from experts.

During their visit to Japan, the participants experienced a taste of Japanese culture and enjoyed Japan's scenic views in autumn.

Results and prospects

After the training, the participants reported with pictures that they had shared what they learned and experienced in this training with people involved in their workplaces and other settings and that they had implemented their action plans.

The strong bond developed between participants during the training can still be seen through information sharing, activity reports, and reports on a reunion between participants.

We hope that such a positive attitude of individual participants and a sense of solidarity as a group will boost synergies in their activities and contribute to the promotion of measures to reduce marine litter throughout ASEAN countries.

Seminar for Managers of Resource Circulation-related Industries

Outline

To promote resource circulation-related industries, ICETT held a seminar for the managements of resource circulation-related industries in Mie Prefecture to introduce the latest trends in decarbonization involving resource circulation and advanced initiatives by companies.

Background and purpose

Toward the establishment of a sustainable circulation-based society and the realization of carbon neutrality (hereinafter "CN") by 2050, to further promote proactive, advanced initiatives by business operators involving resource circulation, Mie Prefecture is engaged in the development and securing of human resources to help promote resource circulation-related industries.

As one of the initiatives, we organized a seminar in the prefecture for the managements of resource circulation-related industries.

Details

The seminar was held on January 25, 2023 in a hybrid manner, with the participation of a total of 67 people on the day: 15 in-person and 52 online. The seminar included the following lectures: "Initiatives for regional decarbonization as an environmental management strategy" by Senior Manager Ryosuke Muraoka of the Environmental Business Group, Japan Environmental Sanitation Center, and "Initiatives to

balance between resource circulation and decarbonization" by President Junichiro Kayama of Kayama Kogyo Co., Ltd.

Results and prospects

We received feedback from the participants, with some saying, "It was very helpful," and "It was good to hear the case studies of leading companies." Some also commented on the need for the local government to take action, such as upgrading programs for further support.

We hope that this seminar encouraged greater interest of the participants in decarbonization in resource circulation-related industries and will lead to further promotion of their initiatives.



At the seminar

Interactions & Collaboration

Independent project



Third ICETT Environmental Seminar "Promotion of Plastic Resource Circulation through Industry-government-academia Collaboration — Promote manufacturing based on design for environment"

Outline

ICETT held the Seminar "Promotion of Plastic Resource Circulation through Industry-government-academia Collaboration" on July 27, 2022 to contribute to the promotion of resource circulation of plastic's entire life cycle.

Background and purpose

Following the enforcement of the Act on Promotion of Resource Circulation for Plastics in April 2022, this third seminar provided information about technologies and cases especially on the Guideline for Design of Plastic-containing Products, on the theme of environmentally friendly design.

Details

As well as how the Act is applied after its enforcement, the Ministry of Economy, Trade and Industry shared with us the certification criteria, schedule, etc. of a certification scheme in which a competent minister recognizes especially excellent designs based on the Guideline for Design of Plastic-containing Products.

Afterwards, Dr. Shigeru Yao, a professor at Fukuoka University, introduced a recycled plastic forming technology. This technology allows even recycled plastic to have the same strength as virgin plastic through the improvement of an existing

forming machine, suggesting new views on material recycling.

Three presentations by the industrial sector followed. Toppan Inc. introduced "research and development on realizing monomaterial flexible packages by switching from packages made of composite materials and environmentally friendly product manufacturing based on life cycle assessment." Risupack Co., Ltd. presented the "development of its products using biomass plastic and its initiatives for cross-industry chemical recycling". Finally, Aeon Co., Ltd. introduced its "initiatives for resource circulation in collaboration with consumers, such as reducing the use of plastic, collecting plastic bottles, and utilizing recycled materials."

Results and prospects

This seminar was held both in-person and online, with the participation of 395 people (412 people, including resource persons and others involved) from all over Japan, mainly from Mie Prefecture, Aichi Prefecture, and Gifu Prefecture. We will continue to work on disseminating useful, timely information.



Global Environment Workshop for High School Students

Outline

As a project commissioned by Yokkaichi City, ICETT held the Global Environment Workshop for High School Students online with participation from high school students in Yokkaichi City and Tianjin City in China, Yokkaichi's friendship city.

Background and purpose

Every year during summer vacation, we provide training and opportunities for exchange of ideas at this Workshop focusing on environmental issues, inviting high school students from Yokkaichi's friendship and sister cities, as well as high school students in Yokkaichi City. However, due to COVID-19 still being spread this fiscal year, we held the Workshop online with the aim of ① providing an opportunity to think about environmental issues from international perspectives and ② promoting international sensibility and building momentum for practicing environmental conservation activities through the exchange of ideas.

Details

The Workshop was organized by Yokkaichi City and Tianjin City in China, Yokkaichi's friendship city, for three days from August 3 to 5, 2022.

On this year's theme "marine plastic," Dr. Maki Oyagi, Associate Professor from the Faculty of Environmental and Information Sciences,



Yokkaichi University, was invited to give a lecture on the theme of "Think about microplastics issues in the catchment area of Ise Bay Based on On-site Surveys." The students also discussed impacts on living things, initiatives in each country, and other issues.

Results and prospects

The students learned that the source of marine plastic lies in our daily lives and the resulting environmental issues are arising across the globe. We received feedback from the participants noting their decisions to refrain from using plastic products, and we were able to provide an opportunity for students to think about environmental issues and take action.

We hope that the participants will leverage this experience to implement measures against environmental issues and play an active role in their daily lives with an international outlook.



Online interactions between students in Tianjin City and Yokkaichi City

Independent project

The 50th year of ASEAN-Japan Friendship and Cooperation Project "ASEAN International Environmental Seminar" — Think about cooperation between ASEAN countries and Japan —

Outline

ICETT held an online seminar on the realization of a decarbonized society and the promotion of resource circulation in the ASEAN region on February 7, 2023. This seminar was held as the 50th year of the ASEAN-Japan Friendship and Cooperation Project under the auspices of the Ministry of Foreign Affairs of Japan.

Background and purpose

With the aim of realizing CN by 2050 as a universal long-term target, each country has proceeded with initiatives toward reaching the target. In light of this, ICETT invited academic experts specializing in CN or city planning, specialists from international organizations, diplomats stationed in Japan from Indonesia, the Philippines and Thailand, and Japanese companies operating in ASEAN countries to hold a seminar to introduce CN and resource circulation policies implemented in their countries.

Details

The keynote presentation was delivered by Dr. Yoshitsugu Hayashi, a Distinguished Professor of Chubu University, which was entitled "From the limit of growth to carbon neutral - transforming 20th Century-Civilization".

Next, Dr. Kunihiko Hirabayashi, Secretary-General of the International Organization ASEAN-Japan Centre, and Dr. Nguyen Tuan Anh, Program Coordinator, Strategic Country Support Team, introduced the status of emissions and reduction target of greenhouse gases in ASEAN countries, the role of the centre, and other topics.

Then, experts from the embassies in Japan gave lectures about

CN and resource circulation policies and initiatives implemented in their countries while sharing examples in their cities with us.

Embassy in Japan	Description	Example in city
Indonesia	Vision aiming to achieve zero emissions by 2060	Surabaya City as the first city of the nation in eco-friendly city planning
The Philippines	National Renewable Energy Program	Green, resilient New Clark City
Thailand	Bio-Circular-Green Economy Model	The bio-industry promotion center and smart park industrial estate in the Eastern Economic Corridor in Chonburi Province

PTT MCC BioChem Co., Ltd. and ISONO Co., Ltd. explained their initiatives in the production and sale of biodegradable plastic and the recycling business of automotive parts, etc., respectively.

At the end of the Seminar, Professor Hayashi summarized all the presentations by each country while taking up particularly important points of them.

Results and prospects

We succeeded in building momentum for the promotion of CN in ASEAN countries, with the participation of 234 people from Japan and abroad. We also received feedback from many participants noting that the seminar was meaningful.



Independent project

Consideration Project on the Commercialization of the Establishment of a Decarbonized Society

Outline

ICETT has researched and considered the introduction of distributed energy supply equipment that combines solar power generation, etc. and storage batteries to areas such as Pacific island countries depending mainly on fossil fuel-based electricity and having fragile power grids.

Background and purpose

Many Pacific island countries are facing the issue of dependence on internal combustion engines, such as diesel generators, that emit a large amount of greenhouse gases (hereinafter "GHGs") for the supply of electricity due to inadequate improvement in power grids and the low deployment rate of renewable energy. Since many severe natural disasters, such as cyclones and volcanic activities, have occurred in recent years, there are hopes that distributed energy supply equipment that can help accelerate decarbonization and strengthen resilience could be introduced.

Details

In cooperation with companies and organizations mainly in the Chubu region, we have explored the possibility of

introducing energy supply equipment that combines solar power generation and storage batteries to Pacific island countries and other areas.

Results and prospects

We have conducted an interview survey with related Japanese companies, research on remote islands in Okinawa Prefecture as a precedent and on-site research in Palau to identify needs. For this project, we will continue to research and consider the direction of support and other topics for the expansion of businesses and operations overseas.

Independent project

Decarbonization Initiatives Support Project for Small and Medium-sized Companies

Outline

ICETT held a two-day online seminar on the know-how to calculate GHG emissions for working level personnel in charge of the calculation in small and medium-sized companies and also provided accompanying support for two companies about the calculation and reduction of GHG emissions.

Background and purpose

Amid a rapid acceleration of global efforts toward the realization of CN, even small and medium-sized companies in Japan are urged to make efforts toward the calculation and reduction of GHG emissions for each company. In such a situation, ICETT held a two-day practical seminar with the aim of providing working level personnel in small and medium-sized companies with the know-how to calculate GHG emissions in each company's supply chain. We also provided support for two companies that wish to receive support about the calculation and reduction of GHG emissions and other issues.

Details

We organized the two-day online seminar on March 8 and 10, 2023. At the seminar, professional consultants meticulously explained calculation procedures and introduced the latest trends and examples of initiatives at home and abroad. We also provided an opportunity for the participants to calculate GHG emissions on their own.

For company assistance, ICETT expects the companies to carry out calculation and other work on their own but provided accompanying support, such as explaining how to calculate

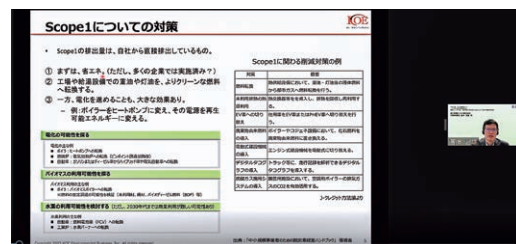
GHG emissions, providing tools, offering advice on questions, and checking calculation results.

Results and prospects

A high total of 425 participants participated in the seminar for two days, with some commenting, "I was able to visualize actual work and issues," and "It was a good opportunity to learn from the basics."

For company assistance, we received some feedback saying, "It was very useful for considering the next step," and "This led to the reduction of electricity as a result."

We hope that this seminar and company assistance will help small and medium-sized companies to decarbonize and lead to the further promotion of decarbonization.



Online lecture