

# Global Environment Centre Foundation

Annual Report 2022



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## Message from President

Global Environment Centre Foundation (GEC) engages in a wide range of activities to promote projects for conserving the global environment through international cooperation, including technical assistance to developing countries, addressing climate change mitigation and international training, as well as helping to achieve the Sustainable Development Goals (SDGs), which were adopted by the UN General Assembly in September 2015, and reduce greenhouse gas (GHG) emissions under the Paris Agreement.

To support activities of the United Nations Environment Programme International Environmental Technology Centre (UNEP-IETC), which is also an objective of GEC's establishment, GEC hosted the UNEP-IETC 30th Anniversary Commemorative Event in FY2022, along with related communication events and workshops, in cooperation with the City of Osaka. In addition, we have worked to expand UNEP Sustainability Action, a cross-sectoral platform of the United Nations, government, business, and citizens, both domestically and internationally. GEC will continue actively to develop collaborative support for UNEP-IETC, including through the development of a key strategy to address plastic pollution, which is one of the most pressing issues facing our planet.

Elsewhere in the field of international cooperation, we continued our projects from FY2021 in support of market opportunities in Asia, including Support for Digitisation of Regional Industry, Promotion of the Water Environment Business, and Seeds and Needs Surveys for Environmental and Energy Technologies, and the related Promotion and Public Awareness-raising Activities. We will continue to support national and local governments in promoting their key environmental policies.

With regard to climate action, the 2050 Carbon Neutral declaration, approved at a Cabinet meeting in October 2021, effectively modified the existing plan including for the purpose of achieving the 46% reduction target by FY2030. Under the Joint Crediting Mechanism (JCM), implemented in coordination with developing countries, Japan has been promoting initiatives to share credits for reducing GHGs with partner countries through bilateral climate action projects, which is acclaimed as a model of the cooperative approaches set forth in Article 6 (2) of the Paris Agreement.

As a way of promoting JCM, GEC is supporting climate action overseas through active implementation of various JCM-related projects. Continuing from FY2021, we acted as an implementing organisation of the Financing Programme for JCM Model Projects and a demonstration project to produce green hydrogen in renewable energy-rich third countries and promote its transport to, and utilisation in small island countries in particular. We have also been taking action to support a series of JCM procedures, ranging from registration as JCM projects to credit issuance, for model projects that commenced operation following the completion of the financing programme.

In addition to the continuing threat of Covid-19, the world is experiencing increasingly frequent weather events reportedly as a result of global warming, such as localised torrential rains and powerful storms, as well as emerging environment and human rights issues including from resource extraction. Consistent efforts to reduce GHGs are indispensable if we are to avoid the most serious consequences such as food crises and devastating natural disasters. GEC will thus play an even more important role going forward.

GEC remains strongly committed to helping achieve the SDGs and the global warming agenda under the Paris Agreement, working with relevant organisations with heightened awareness of global trends and leveraging our expertise and networks both in Japan and overseas.

We would appreciate your continued understanding and support for our activities.



July 2023

SUZUKI Naoshi  
President  
Global Environment Centre Foundation

**Support Activities for United Nations Environment Programme (UNEP) International Environmental Technology Centre (IETC) to Promote Environmentally Sound Technologies**



Global Environment Centre Foundation (GEC) was commissioned by the City of Osaka to carry out the “UNEP-IETC Collaboration Project in FY 2022,” and implemented projects related to “Implementation of International Workshops,” “Survey of Environmental Support Needs in Developing Countries,” “Public Relations Support for IETC,” and “Implementation of meetings and Events to support UNEP Sustainability Actions. In addition, we were commissioned by the IETC to conduct a project related to the UNEP-IETC programme “Promotion and Delivery of Environmentally Sound Technologies and Methods and In-country Technical and Advisory Support”, supported and development of a “Research Report on Sustainable Waste Management”, the organization of events and conferences related to the IETC’s 30th anniversary and the production of a commemorative video, and outreach activities.

To contribute to the achievement of the SDGs, we actively participated in and supported UNEP Sustainability Action as a member, and promoted efforts in collaboration with IETC, the Japanese government, Osaka Prefecture and City, and related companies and organizations to implement the PLL (People’s Living Lab) proposal for the Osaka EXPO 2025.

**Support Activities for IETC Collaboration Project (Commissioned by Osaka City)**

**(1) IETC’s 30th Anniversary Commemorative Event**

GEC co-organized the IETC 30th anniversary event on 3 October, 2022. In the main event themed “Towards A Zero Waste Society”, leaders of UNEP-IETC partner organizations delivered messages on UNEP-IETC’s achievements over the past 30 years and the role expected of UNEP-IETC over the next 30 years. In the panel discussion, proposals and actions to realize a zero-waste society were shared and multifaceted discussions were held. Approximately 180 participants from 24 countries, including Japan, attended this event to celebrate the 30th anniversary.

**UNEP-IETC 30th Anniversary Commemorative Event:  
Towards a Zero Waste - Sustainability Actions for the Next 30 Years**

Date and Time: 3rd October 2022 (15:00–17:00)  
 Organizers: UNEP, Osaka City  
 Co-organizer: GEC  
 Venue: a Banquet room in Intercontinental Hotel  
 Osaka  
 Format: Hybrid manner (On-site and Online by ZOOM)  
 Languages: Japanese and English  
 Attendees: 57 people (On-site), 126 people (Online)



Panel discussion

In addition to the main events, we also supported the organization of the following two webinar as a pre-event.

**Webinar on “Gender and Waste”**

Focusing on one of the IETC programmes, “Waste Management and Gender”, panelists from different regions and specialties of the world shared their experiences on how to mainstream gender in waste management and empower women as agents of change.

Date and Time: 7th September, 2022 (19:00–20:30)  
 Format: Online (ZOOM)  
 Participants: 114 people



**IETC Partners Meeting (webinar)**

IETC partners from Japan and abroad participated in a lively discussion about opportunities for organizations working on projects in this field to collaborate with the IETC and with other UNEP offices. GEC participated in this event, presenting its 30 years of activities and accomplishments as an IETC’s supporting organization and a partner, as well as its expectations for the next 30 years.



Date and Time:	14th September 2022 (19:00–20:30)
Format:	Online (ZOOM)
Participants:	19 people (UNEP, UNEP-ROAP, UNEP-IETC, Basel Rotterdam Stockholm Convention Secretariat, Ministry of the Environment, Japan, Osaka City, Kawasaki City, Kitakyusyu City, Penang State, Malaysia, Institute for Global Environmental Strategies(IGES), International Lake Environment Committee Foundation(ILEC), GEC etc.

**(2) Needs Survey for Environmental Support**

GEC carried out the following support activities for Maharashtra, India and Greater Manchester, UK.

**Maharashtra State, India**

GEC supported to renew and conclude a Memorandum of Understanding (MOU) between the Environment Bureau, Osaka City and the Maharashtra Pollution Control Board (MPCB) , expanding the area of cooperation to the environment and energy sector.

In addition, in order to promote the overseas expansion of companies with environmental technologies in Osaka and Kansai area, GEC held a seminar for the member companies of the Team OSAKA Network and Team-E Kansai on the possibility of utilizing the scheme Climate Technology Center Network (CTCN), an international support scheme for the overseas transfer of decarbonization and low-carbon technologies.

Date and Time:	22nd July 2022 (14:00–15:30)
Organizers:	Environment Bureau of Osaka City, GEC, Osaka Chamber of Commerce and Industry (OCCI)
Format:	Online (ZOOM)

**Greater Manchester, U.K.**

Osaka City has launched a partnership with Greater Manchester (GMCA), UK in 2021 within the framework of the International Urban Cooperation Program (IUC), and this fiscal year, the two cities have implemented exchange programs to expand cooperation in the areas of decarbonization and innovation between the two cities. GEC provided the following support.



Visit to Osaka Metropolitan University (Study tour to Osaka from the GMCA delegation)

- Study tour to Osaka from the GMCA delegation (October 2022, Osaka)
- Visit to Greater Manchester by the Osaka delegation (January 2023, U.K.)

**(3) Public Relations and Outreach Activities for UNEP-IETC**

GEC focused on public relations and outreach activities to commemorate IETC’s 30th anniversary and to raise awareness of UNEP-IETC. In FY2022, we participated in the following events and exhibitions and conducted public relations activities through the IETC and UNEP Sustainability Action websites and IETC’s official SNSs (Twitter, Facebook, Instagram, YouTube).

**Environmental Exhibitions**

- Eco Pro Exhibition 2022 (7–9 December 2022)
- One World Festival (4–5 February 2023)



IETC Booth at the Eco Pro Exhibition



IETC Booth at the One World Festival

**Environmental Events**

- World Environment Day Event at Tennoji Zoo Event- Part 1 (4th June, 2022)
- Environment Event at the Kaiyukan (aquarium) (30th October, 2022)
- Clean-up event with Naniwa Eco Kaigi (6th November, 2022)
- Eco En-Nichi 2022 (12th November, 2022)
- Tennoji Zoo Stamp Rally Event -Part 2 (19–20 November, 2022)



World Environment Day Event at Tennoji Zoo Event- Part 1



Environment Event at the Kaiyukan (aquarium)



Clean-up event with Naniwa Eco Kaigi



Eco En-Nichi 2022



Tennoji Zoo Stamp Rally Event -Part 2

**(4) Support for UNEP Sustainability Action**

GEC managed the UNEP Sustainability Action official website and organized regular team meetings (twice a month). In addition, we organized the following four events.

**UNEP Sustainability Action Mini-Dialogue**

Date and Time: 21st July, 2022 (13:30–15:00)  
 Place: Meeting room at the Seven & i Holdings Co., Ltd.  
 Attendees: UNEP-IETC, FAST RETAILING CO., LTD., Seven & i Holdings Co., Ltd., Rakuten Group, Inc.  
 Summary: Discussions were held on each company’s efforts and challenges toward a sustainable society, as well as their future goals as a world-leading company toward the year 2050. This dialogue was recorded and edited for use in the IETC 30th anniversary video.



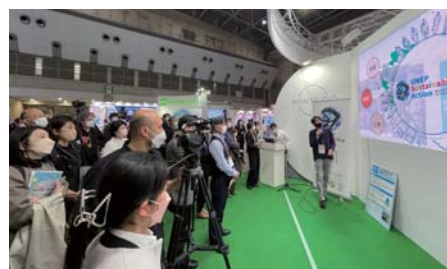
**UNEP Sustainability Forum at the Eco-pro 2022**

Date and Time: 7th December ,2022 (14:00–14:40)  
 Place: Special Stage, Eco-pro venue at Tokyo Big Site  
 Attendees: UNEP, FAST RETAILING CO., LTD., Seven & i Holdings Co., Ltd., Rakuten Group, Inc.  
 Summary: What can we do to make the world more sustainable in our daily lives? Discussions were held on the sustainable society that should exist in 2030, clarifying the SDGs-type approach to the formation of a recycling-oriented society, based on the initiatives of leading Japanese companies closely related to daily life and initiatives that go beyond the boundaries of companies and industries.



**Stage event at the Seven & i Holdings Co., Ltd., booth**

Date and Time: 8th December, 2022 (15:40–15:55)  
 Place: Eco-pro venue at Tokyo Big Site  
 Attendees: UNEP-IETC, Seven & i Holdings Co., Ltd.,  
 Summary: Seven & i Holdings gave an overview of UNEP Sustainability Action and a presentation by the company, followed by a presentation by UNEP-IETC on UNEP’s activities, the significance and purpose of establishing UNEP Sustainability Action, and the partnership between the team members and three global companies and their future expectations.



**UNEP Sustainability Action Talk event at One World Festival**

Date and Time: 5th February, 2023 (11:00–11:50)  
 Place: Yamanishi Kinen Fukushi Memorial Hall (One World Festival Venue)  
 Attendees: UNEP-IETC, Osaka City, GEC  
 Summary: Under the theme of “Let us protect the Future of the Earth together”, UNEP, Osaka City, and GEC shared their experiences and issues related to global environmental issues, SDGs, and international environmental cooperation, and discussed actions to realize a sustainable earth.



## Project on 'Promotion and Delivery of Environmentally Sound Waste Management Technologies and Methods, and Advisory Support' (commissioned by UNEP-IETC)

GEC supported the following two activities conducted by UNEP-IETC.

### Activity 1: Preparation of "Research Report on Sustainable Waste Management"

#### Activity 2: IETC 30th Anniversary Event and Outreach Activities

- World Environment Day Event at Tennoji Zoo (4th June)
- IETC 30th Anniversary Event (3rd October)
- Environment Event at the Kaiyukan (30th October)
- Clean-up event with Naniwa Eco Kaigi (6th November)
- Tennoji Zoo Stamp Rally Event -Part 2 (19–20 November)
- Creation of a IETC 30th anniversary interview video and a special website
- Public Relations activities through Media
- Management of the UNEP Sustainability Action website
- Outreach activities through IETC's SNSs (Twitter, Facebook, etc.)
- Creation of outreach materials (videos, posters, IETC 30th anniversary video, etc.)



### IETC 30th Anniversary Event and Outreach Activities

Some of these activities were jointly conducted with the activity of IETC Collaboration Project (Commissioned by the Osaka City)

## UNEP Programme Development Support Project (GEC's independent project)

GEC developed a "Draft Basic Strategy for Plastic Pollution Measures," an implementation plan to promote a support system for the establishment of new projects involving UNEP-IETC partners, UNEP Sustainability Action Team, and others, with the aim of solving social and environmental issues in developing countries.

### Support for Digitisation of Regional Industry



GEC has served as secretariat to the Kansai Asia Environmental and Energy Saving Business Promotion Forum (Team E-Kansai) since May 2013. Building on Team E-Kansai initiatives thus far, our proposal "Support project for advancement of technologies, products, and services in the environmental field through digitalization" was selected as the regional DX promotion activity support program in FY2022 subsidised by METI.

This project is led by the "Environmental Business DX Promotion Forum," a regional DX promotion community consisting of GEC as the secretariat and its members (industrial support organizations, educational and research institutions, IT vendors, etc.).

After the Forum identified the DX needs of companies that utilize digital technologies such as IoT-related cloud systems and logistics optimization control, it conducted matching with IT vendors and various types of support by them.

Through these efforts, The Forum has been identifying new companies for the spread of DX and supporting market development in Asia.

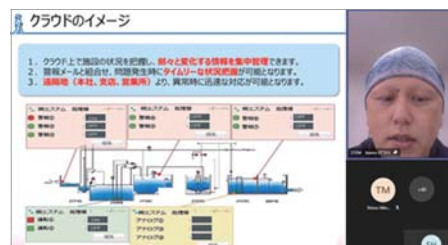
#### Implementation System in the Forum

Organization name	Main role
Global Environment Centre Foundation (GEC)	Management. DX support for environmental companies in Japan and abroad.
NPO Recycling System Center (RSC)	DX support for environmental companies
Shiga Prefecture Industrial Support Center	DX support for companies in Shiga Prefecture, etc.
NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION	Support for analysis of DX issues and strategy formulation
Nippon Software Knowledge Corp.	Proposals and support using ICT/IoT/AI
Stem Corporation	Proposals and support using IoT
Osaka Institute of Technology	Technical advice on ICT/IoT/AI

**(1) Briefing on the introduction of DX to the environmental business field**

IT vendors gave introductory lectures on the latest trends in DX and the benefits of introduction, as well as introductions of DX introduction examples.

Date: August 25, 2022 14:00–16:15  
 Method: Webinar by Teams  
 Outline: The latest trends in DX, an overview of DX solutions and case studies, digitization by IoT/ICT in the environmental field, and case studies of cloud systems



**(2) Matching meeting between local companies and IT vendors**

GEC was selected several local companies that were highly interested in introducing DX from among Team E-Kansai members, and held matching meetings (October, November, December, 2022) with three of them and one IT vendor.

**(3) Exchange Meeting on Environmental Business Utilizing Digital Technologies in Vietnam**

In Binh Duong Province, the technology of environmental systems and equipment that utilize digital technology were introduced, and the exchange meeting was held to aim at local business development through exchanges with relevant entity in Vietnam.

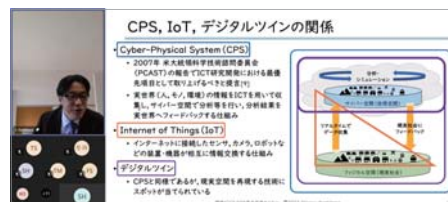
Date: December 2nd, 2022 13:30–16:00  
 Venue: Becamex Hotel – Thu Dau Mot in Binh Duong province, Vietnam  
 Outline: Introduction on the activity conducted by Binh Duong province government (Department of Industry and Trade, Department of Natural Resources and Environment, Monitoring Centre), introduction on technologies by membership companies (4 companies) of Team E-Kansai.



**(4) DX promotion seminar for environmental business**

DX of Japan’s environmental technology utilizing digital technology such as IoT/ICT/AI is expected as a new business model in the environmental field in Asia. For this reason, seminars were held to introduce examples of these technologies and systems, including lectures on the current state and prospects of information science and technology.

Date: March 7, 2023 14:00–15:45  
 Method: Webinar by Teams  
 Outline: Current status and prospects of information science and technology in the environment and fisheries fields, introduction of energy saving system utilization and introduction cases using storage batteries and AI control, introduction of application examples of digitization of water quality management



Promotion of the Water Environment Business

3  
GOOD HEALTH AND WELL-BEING

6  
CLEAN WATER AND SANITATION

7  
AFFORDABLE AND CLEAN ENERGY

8  
DECENT WORK AND ECONOMIC GROWTH

9  
INDUSTRY, INNOVATION AND INFRASTRUCTURE

13  
CLIMATE ACTION

17  
PARTNERSHIPS FOR THE GOALS

The Shiga Prefectural Government established the Shiga Water Environment Business Promotion Forum (Team Water Shiga) in March 2013 to facilitate development of the water environment business by taking advantage of the accumulated results of water environment-



related industries and research institutions as well as activities to conserve the water environment of Lake Biwa. The Prefectural Government not only provides information about recent trends in the water environment business, activities of pioneering companies, and various support measures, but also operates Team Water Shiga as a forum for matching and team-building to set up actual business projects, joint development, and so on.

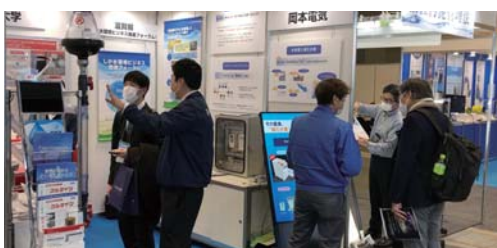
Commissioned to conduct the 'Survey & Coordination for Water Environment Business Promotion' by the Shiga Prefectural Government, activities of the project included: (1) support for hosting/offering seminars and section meetings in Shiga prefecture, (2) support for participating in business exhibitions in Japan, (3) business matching on water treatment in Vietnam and China, (4) study on identifying technological needs and issues related to the water environment in the Asian region, and (5) seminar on supporting measures and individual consultations by JICA Kansai.

### (1) Support for the session held in Shiga Prefecture

Asia Regional Sessions for relevant Forum members were held in December 2022 (online), aimed at sharing and discussing information useful for supporting Forum members' overseas expansion.

### (2) Support for participating in business exhibitions in Japan

To secure new Forum members and promote sales by members through introducing the activities of the Forum, GEC supported Team Water Shiga's booth at Plant Show OSAKA 2022, which is domestic exhibitions related to manufacturing and the water environment. During the exhibition, activities of the Forum such as the JICA project at Katt Ba Island in Vietnam were introduced.



The booth at Plant Show OSAKA 2022

### (3) Business matching on water treatment in Vietnam and China

Business matching seminars between Japanese companies and organisations related to the water environment in Vietnam and China were held. Details of the matching are listed below.



Business matching in Vietnam

Countries	Business matching	Date and Place	Number of participating Japanese companies
Vietnam	Business matching on water treatment in collaboration with Hanoi University of Construction	15 December 2022 (Hanoi University of Construction)	4
China	Business matching with companies and organizations in Guangdong Province regarding water treatment	3 March 2023 (online)	3

### (4) Survey on identifying water environment-related needs and related issues in the Asian region

Considering the needs of the members of Team Water Shiga, surveys were conducted in Vietnam and Indonesia as priority countries.

Through site visits and interviews with organisations such as local administrative agencies and business groups related to the water environment and Japan-related organisations, technological needs or issues concerning the water environment were identified. Details regarding the investigation are outlined below.

Period	Country/region	Main destinations	Objective
December 2022	Viet Nam (Hai Phong City)	<ul style="list-style-type: none"> <li>The final wastewater treatment facilities of Dinh Vu Industrial park</li> <li>The wastewater treatment facilities of Hai Phong beer company and Tia Sang Battery company</li> <li>Department of Natural Resources and Environment (DONRE) in Hai Phong</li> </ul>	Research on technology needs, challenges and trends in regulation and policy etc. related to water environment
February 2023	Indonesia (West Java)	<ul style="list-style-type: none"> <li>Department of Environment and Department of Marine and Fisheries of West Java Province</li> <li>Industrial Wastewater Treatment Facility of Cisirung</li> </ul>	Research on technology needs, challenges, trends in regulation and policy etc. related to water environment and the possibility of structuring projects to improve water quality in aquaculture



Survey in Vietnam



Survey in Indonesia

**(5) Seminar on supporting measures and individual consultations by JICA Kansai**

To support the overseas expansion of Forum members, the seminar was held in February 2023 to introduce challenges in the environmental sector in Asia and JICA’s support scheme for SMEs. After the seminar, JICA also provided individual consultations to participants.



Seminar on supporting measures and individual consultations by JICA Kansai

**Seeds and Needs Surveys for Environmental and Energy Technologies, and the Related Promotion and Public Awareness-raising Activities**



booklet for the public



booklet for businesses

GEC, in collaboration with think tanks (Mitsubishi UFJ Research and Consulting and Innovare), has been commissioned by the Osaka Prefectural Government in 2022, as it was in 2021 to conduct a study on advanced environmental technologies expected to contribute to achieving the long-term goals of decarbonisation and marine plastic litter countermeasures in the Osaka region. The study included seeds survey on innovative technologies related to decarbonisation measures and marine plastic litter measures that are expected to be put into practical use and incorporated into society between 2030 and 2050, also needs survey on domestic and overseas environmental issues to which businesses in Osaka and Kansai region can contribute and preparation of a technical information booklet for business operators and an environmental awareness booklet for prefectural residents.

Of this study, GEC was mainly responsible for preparing scenarios for the diffusion of advanced environmental technologies in the prefectural area, researching and considering methods for promoting diffusion and solving challenges, running a review committee on the survey results, holding the symposium, and preparing booklets for businesses and for the public that summarised diffusion scenarios and future plans.

## Model Project for Improving Water Environment in Asia



The “Project to reduce volume and promote reuse of water by membrane treatment of high-concentration oil-containing wastewater, Vietnam”. proposed by GEC, DAICEN MEMBRANE-SYSTEMS Ltd., and Osaka Institute of Technology was selected by MOEJ.

The tubular membrane module is used to separate oil-containing wastewater from metal processing / metal treatment factories, into highly concentrated wastewater and reusable water.

In addition to current situations, issues and potential demand for wastewater treatment on metal processing / metal treatment factories, acceptability and applicability of the technology, business plan for developing sales were implemented as feasibility study in FY 2022

Implementation systems	
Japan side	<ul style="list-style-type: none"> <li>• Global Environment Centre Foundation(GEC)</li> <li>• DAICEN MEMBRANE-SYSTEMS Ltd.</li> <li>• Osaka Institute of Technology</li> </ul>
Vietnam side	<ul style="list-style-type: none"> <li>• Institute of Environmental Technology, Vietnam Academy of Science and Technology (VAST-IET)</li> <li>• Vietnam-Japan Institute of Advance Technology (VJIAT), National University of Civil Engineering</li> </ul>

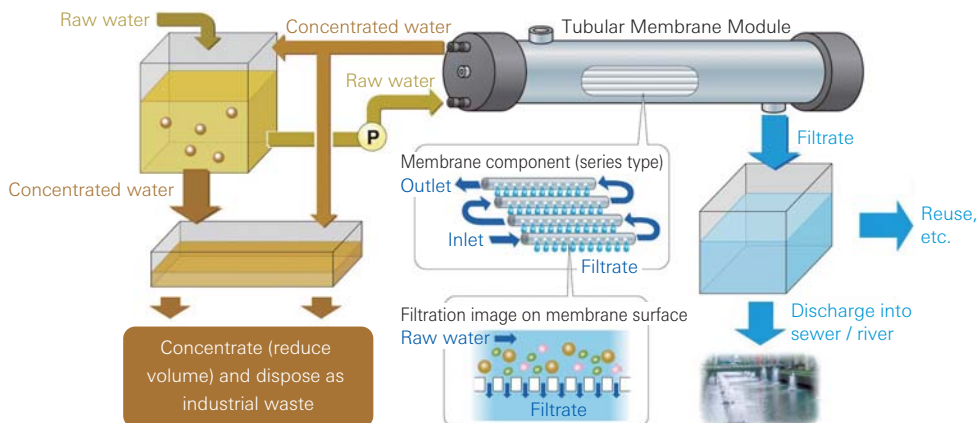


Project meeting with VAST-IET



Survey on wastewater including oil from factory

### Systematic diagram on tubular membrane module



## Support for Tripartite Environment Ministers Meeting among China, Japan and Korea (TEMM) (commissioned by OECC)



The 23rd Tripartite Environment Ministers Meeting among China, Japan and Korea (TEMM23) was held on 1 December 2022 by online mode. GEC participated in the TEMM23. At the TEMM23, three Environmental Ministers exchanged their perspectives related to their environmental policies, the actions to address global and regional environmental problems, and the progress of the Tripartite Joint Action Plan (TJAP) 2021-2025 updated and adopted at the TEMM22 held in 2021.

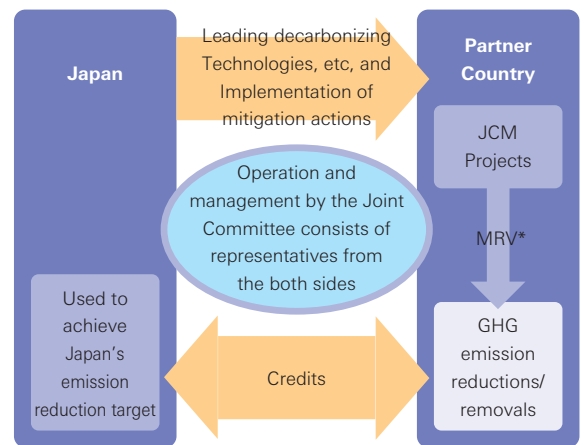
In addition, GEC, as a Japanese implementing agency in charge of the Tripartite Environmental Pollution Prevention and Control Technology Cooperation Network Information Platform, collaborated with Chinese and Korean implementation agencies to official launch the platform, and worked to develop the documents to help Japanese private entities register and upload the information on their environmental technologies.

### What is the Joint Crediting Mechanism (JCM)?

The JCM is a mechanism based on bilateral agreements between Japan and developing countries. It facilitates the diffusion of leading decarbonising technologies, products, systems, services, and infrastructure as well as the implementation of mitigation actions, and contributes to sustainable development in developing countries. It quantitatively evaluates contributions to GHG emission reductions or removals by Japan and uses them to achieve Japan’s emission reduction target.

The JCM contributes to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reduction or removal. As of July 2023, the following 27 countries have signed bilateral documents for introducing the JCM: Mongolia, Bangladesh, Ethiopia, Kenya, the Maldives, Vietnam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand, the Philippines, Senegal, Tunisia, Azerbaijan, Moldova, Georgia, Sri Lanka, Uzbekistan, Papua New Guinea, United Arab Emirates and Kyrgyz.

JCM scheme between Japan and partner country



### Financing Programme for JCM Model Projects



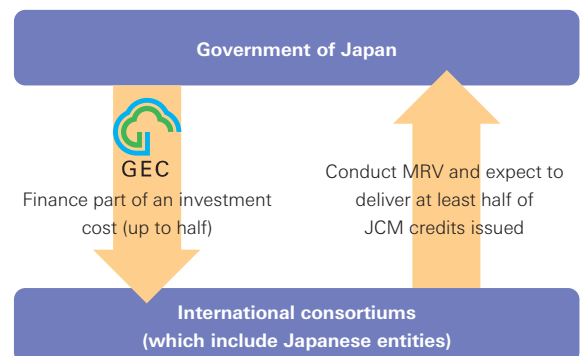
The Ministry of the Environment, Japan (MOEJ) provides financial support for several programmes and activities including the Financing Programme for JCM Model Projects to facilitate the development of JCM projects. GEC is commissioned by the MOEJ to serve as an implementing organisation to manage these programmes and activities.

As for the Financing Programme for JCM Model Projects, GEC has played the role since 2014.

The purpose of this programme is to financially support the implementation of projects that reduce GHG emissions by utilising leading decarbonising technologies in developing countries, and in return, to seek to acquire JCM credits towards achieving Japan’s GHG emission reduction target.

The total number of JCM Model Projects reached 215, including those selected in FY2022. The total expected reduction is 2,375,285 tCO<sub>2</sub>. Of these, 143 projects have started operations and are thus contributing to the reduction of GHG emissions.

JCM Model Projects by MOE

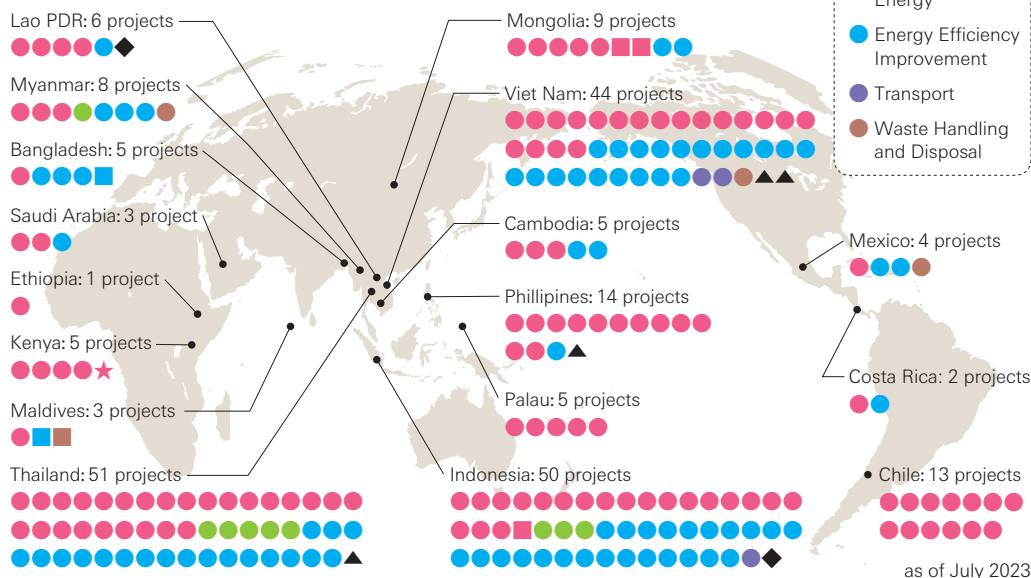


- Scope of the financing: facilities, equipment, vehicles, etc. which reduce CO<sub>2</sub> from fossil fuel combustion as well as construction costs for installing such facilities, etc.
- Eligible projects: those starting installation after the adoption of the financing and finishing installation within three years.

### JCM Financing Programme by MOEJ (FY2013~2022)

Total 228 projects / 17 countries

● Model Project: 215 ■ ADB: 6 ★ UNIDO: 1 ◆ REDD+: 2 ▲ F-gas: 4



Each year, GEC calls for, reviews and selects project proposals for the financing programme, and manages the selected projects. In FY2022, GEC held open calls for proposals from April through November and selected 37 projects in total in consultation with the MOEJ, as listed in the table below.

### JCM Model Projects Selected in FY2022

No.	Partner Country	Representative Participant	Title
1	Kenya	AAIC Japan Co., Ltd.	Introduction of 3.1MW Rooftop Solar Power System to Food Processing Facilities
2	Kenya	AAIC Japan Co., Ltd.	Introduction of 2.3MW Rooftop Solar Power System to Hatchery, Meat Processing and Battery Facilities
3	Vietnam	eREX Co.,Ltd.	20MW Biomass Power Plant Project in Hau Giang Province
4	Vietnam	Kanematsu KGK Corp.	16MW Mini Hydro Power Plant Project in Binh Thuan Province
5	Vietnam	The Kansai Electric Power Company, Incorporated	Energy Supply Project by 7.9MW Rooftop Solar Power System to Automotive and Garment Factories
6	Vietnam	Sumitomo Mitsui Trust Panasonic Finance Co., Ltd.	Introduction of 0.4MW Rooftop Solar Power System to Aluminum Wheel Manufacturing Factory (JCM Eco Lease Scheme)
7	Indonesia	DIC Corporation	Introduction of High-efficiency Once-through Boiler System to Chemical Factory
8	Thailand	The Kansai Electric Power Company, Incorporated	Introduction of Gas Co-generation System and 22MW Rooftop Solar Power System to Tire Factory
9	Thailand	AGC Inc.	Introduction of ORC Waste Heat Recovery Power Generation System to Flat Glass Factory
10	Thailand	The Kansai Electric Power Company, Incorporated	Energy Supply Project by 4.0MW Rooftop Solar Power System to Parts and Tools Factories
11	Thailand	Osaka Gas Co., Ltd.	Energy Supply Project by 2.9MW Rooftop Solar Power System to Metal Factories and Refrigerating Warehouse
12	Thailand	Marubeni Corporation	Energy Supply Project by 1MW Rooftop Solar Power System to Metal Recycling and Automotive Parts Factories
13	Philippines	JGC CORPORATION	28MW Binary Power Generation Project at Mahanagdong Geothermal Power Plant
14	Philippines	Toyota Tsusho Corporation	14.5MW Mini Hydro Power Plant Project in Siguil River in Mindanao
15	Philippines	Marubeni Corporation	Energy Supply Project by 9MW Solar Power System to Ceramic Factory and Cement Plant
16	Philippines	Tokyo Century Corporation	Introduction of 0.8MW Solar Power System to Aluminum Products, Packaging Materials and Automotive Parts Factories (JCM Eco Lease Scheme)

No.	Partner Country	Representative Participant	Title
17	Indonesia	Toyota Motor Corporation	Introduction of 5MW Solar Power System to Vehicle and Engine Plants
18	Chile	FARMLAND Co., Ltd.	6MW Solar Power Project Utilizing Farmland in Maule and Nuble Region
19	Thailand	Dole Japan, Inc.	Thermal Energy Supply and Methane Avoidance Project Utilizing Biomass mixed with Biogas from Wastewater in Fruit Processing Factory
20	Thailand	Tokyo Century Corporation	Introduction of 1.6MW Solar Power System to Plastic Bottles and Cosmetics Factories (JCM Eco Lease Scheme)
21	Vietnam	Marubeni Corporation	Introduction of 5.7MW Rooftop Solar Power System to Fastener and Aluminum Factories
22	Indonesia	Alamport Inc.	Introduction of 3.1MW Rooftop Solar Power System to Fast-Moving Consumer Goods and Printing Factories in Java Island
23	Indonesia	Tokyo Century Corporation	Introduction of 2.1MW Solar Power System to Steel Wire Products and Aluminum Factories
24	Chile	Eurus Energy Holdings Corporation	9MW Second Solar Power Project in Yungay, Biobio Region
25	Chile	Eurus Energy Holdings Corporation	9MW Solar Power Project in Teno, Maule Region
26	Vietnam	Shizen Energy Inc.	48MW Offshore Wind Power Generation Project in Duyen Hai District, Tra Vinh Province
27	Vietnam	The Kansai Electric Power Company, Incorporated	Energy Supply Project by 1.8MW Rooftop Solar Power System to Automotive Parts Factory and Construction Materials Factory
28	Lao PDR	Yuko Keiso Co., Ltd.	Introduction of Amorphous High Efficiency Transformers in Power Grid II
29	Philippines	JGC CORPORATION	5.6MW Geothermal Binary Power Generation Project in Northern Negros
30	Mongolia	Asian Gateway Corporation	15MW Solar Power Project in Erdene, Dornogovi Province
31	Kenya	AAIC Japan Co., Ltd	Energy Supply Project by 1.5MW Rooftop Solar Power System to Beverage Factory
32	Vietnam	The Kansai Electric Power Company, Incorporated	Energy Supply Project by 0.8MW Rooftop Solar Power System to Chemical Factory
33	Indonesia	SDG Impact Japan Inc.	3.5MW Mini Hydro Power Plant at Pungga River in North Sumatra
34	Indonesia	Yuko Keiso Co., Ltd.	Installation of Energy Saving Equipment and Solar Power System to Complex Building in Jakarta
35	Saudi Arabia	Toyota Tsusho Corporation	100MW Solar Power Project in Wadi Ad Dawasir Region
36	Chile	DAIICHI JITSUGYO CO., LTD.	47MW Solar Power Project Utilizing PMGD Scheme
37	Chile	Asian Gateway Corporation	Energy Supply Project by 2.0MW Rooftop Solar Power System to Industrial Plastic Plant in Renca, Santiago Metropolitan Region

As of July 2023, GEC has selected a total of 215 Model Projects and more than half of the projects have completed the installation of facilities. These projects have been, or are expected to be, registered as JCM Projects, and the GHG emission reductions will be appropriately calculated for issuing JCM credits through a robust process.

### Photos from Model Projects that completed installation in FY2022



#### Vietnam

- Introduction of High Efficiency LED Lighting with Dimming and Tunable Function to Office Building in Ho Chi Minh City
- ENDO Lighting Corporation



#### Indonesia

- Introduction of High-Efficiency Thermal Oil Heater System in Chemical Factory
- FUMAKILLA LIMITED



#### Thailand

- Introduction of High Efficiency Once Through Boiler to Garment Factory
- Osaka Gas Co., Ltd.



#### Indonesia

- Energy Saving by Introducing High Efficiency Autoclave to Infusion Manufacturing Factory 2
- Otsuka Pharmaceutical Factory, Inc.



**Thailand**

- Introduction of 1.3MW Solar Power System to Food Factories (JCM Eco Lease Scheme)
- Tokyo Century Corporation



**Thailand**

- Introduction of 0.13MW Solar Power System to Auto Parts Factory (JCM Eco Lease Scheme)
- Tokyo Century Corporation



**Vietnam**

- Introduction of Biomass Boiler to Soluble Coffee Manufacturing Plant
- Marubeni Corporation



**Vietnam**

- Introduction of High Efficiency Air-conditioning System to Hotel in Ho Chi Minh City
- Hitachi-Johnson Controls Air Conditioning, Inc



**Thailand**

- Introduction of 8.1MW Rooftop Solar Power System in Motorcycle Factory and Fiber Factory
- The Kansai Electric Power Company, Incorporated



**Chile**

- 3MW Solar Power Project Utilizing Farmland in Valparaiso Region
- FARMLAND Co., Ltd.



**Myanmar**

- 4.3MW Solar Power Project in Mandalay International Airport and Yangon City
- Tokyo Century Corporation



**Thailand**

- Introduction of 5MW Rooftop Solar Power System to Aluminum Building Materials Factory
- Sumitomo Mitsui Finance and Leasing Company, Limited



**Thailand**

- Introduction of 2.6MW Rooftop Solar Power System to Semiconductor Factory
- The Kansai Electric Power Company, Incorporated



**Thailand**

- 2.5MW Solar Power Project with Blockchain Technology in Chiang Mai University Town Community
- Inabata Co., Ltd.



**Indonesia**

- 4.2MW Rooftop Solar Power Project to Pharmaceutical Factories, Vehicles Dealers, and Timber Factories
- Alampont Inc.



**Thailand**

- Introduction of 2MW Rooftop Solar Power System to University
- SHIZUOKA GAS CO., LTD.



**Philippines**

- 9.6MW Solar Power Project in Collaboration with Power-supply Company
- Tokyo Century Corporation



**Vietnam**

- Introduction of Biomass Boiler to Chemical Factory
- DAIICHI JITSUGYO CO., LTD.



**Thailand**

- Introduction of 37 MW Solar Power System and High Efficiency Melting Furnace in Vehicle & Engine Factory
- Toyota Motor Corporation



**Philippines**

- Biogas Power Generation and Fuel Conversion Project in Pineapple Canneries
- ITOCHU Corporation



**Vietnam**

- Introduction of High Efficiency Air-conditioning System and Air Cooled Chillers to Office Buildings
- Hitachi-Johnson Controls Air Conditioning, Inc.



**Thailand**

- 17.8MW Rooftop and Floating Solar Power Project in Industrial Park
- Tokyo Century Corporation



**Indonesia**

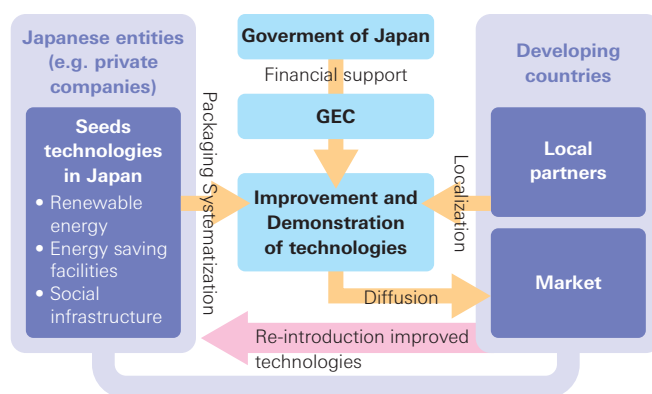
- Rehabilitation Project of Power Generation System at karai 7 Mini Hydro Power Plant
- Voith Fuji Hydro K. K.

## Financing Programme to Demonstrate Decarbonisation Technology for Realising Co-Innovation in FY2022



On behalf of the Ministry of the Environment, Japan (MOEJ), GEC began implementing the 'Financing Programme to Demonstrate Decarbonisation Technology for Realising Co-Innovation' in 2019.

This financial support programme aims to create innovations that are beneficial for both Japan and developing countries through collaboration (co-innovation). The purpose is to create a low-carbon society through renovation and dissemination of high-quality low-carbon technologies (including decarbonising technologies) and products, which are Japan's strengths, by systematising and packaging multiple technologies, and encouraging the uptake of such technologies and bringing benefits to the developers in Japan as a result.



### GEC's Activities in FY2022

Each year, GEC calls for, reviews and selects project proposals for the financial support programme, and manages the selected projects. In fiscal 2022, GEC held open calls for proposals and selected new project in consultation with the MOEJ and the evaluation committee of experts.

- One project was selected for funding under the financial support programme.
- Project management: GEC oversaw the progress of the projects that had been selected in fiscal 2019, 2020, 2021 and 2022 through monthly reports and meetings, and provided suggestions for improvement when needed.
- Intermediate evaluation: Fourteen projects that had been selected in fiscal 2019, 2020, 2021 and 2022 were evaluated by the evaluation committee of experts based on an intermediate progress report submitted by each project participant in February.
- Final inspection: GEC conducted a review of the final reports (including evaluation of the final reports and online site inspections) and disbursement of financial support within fiscal 2022, in regard to the six projects that had been selected in 2019.
- For many projects, it has been difficult to visit the project sites due to Covid-19. As a result, eight projects were carried forward to the budget of the next fiscal year.

#### New project selected in FY2022 (1 projects)

No.	Country	Project Participants	Title
22-1	Maldives	Hitachi Zosen Co.	Demonstration of decarbonized seawater desalination system using solar power generation and NAS battery in Maldives

#### Projects selected in FY2021 (3 projects)

No.	Country	Project Participants	Title
21-1	Viet Nam, Thailand	Sumisho Global Logistics Co., Ltd.	Low-carbon cold chain logistics model demonstrated project using high performance reefer containers
21-2	Thailand	Kaneka Corporation	Demonstration project of the stylish and high-efficiency BIPV system to the high-rise building in Thailand
21-3	Malaysia	Sumitomo Heavy Industries, Ltd.	Development and Demonstration of a CFB (Circulating Fluidized Bed) Boiler utilizing palm residue as a biomass fuel in Southeast Asia



**Projects selected in FY2020 ( 4 projects)**

No.	Country	Project Participants	Title
20-1	Mongolia	Zeneral Heatpump Industry Co.,Ltd.	The demonstration of a hybrid source (ground source / solar heat) heat pump heating system for extremely cold regions
20-2	Indonesia, Vietnam	Fukushima Galilei Co.Ltd.	Demonstration of High-performance ventilation, air conditioning, and showcase combined control to Food Supermarket in Asia
20-3	Thailand	Hasegawa Electric Industries Company Limited	Introduction and demonstration of load-linked flow control system technology for existing water-cooled air conditioning systems in hospitals and other buildings in Thailand
20-4	Indonesia	Mikawa Environmental Technology Inc.	Demonstration of GHG-free production of functional activated carbon using coconut-shell by integrating carbonization and activation process

**Projects selected in FY2019 (8 projects)**

No.	Country	Project Participants	Title
19-1	Cambodia, Laos, Philippines	Toyota Tsusho Corporation	Demonstration for Development and Introduction of Electric Vehicle in Asian Countries with Reusing Main Components Recovered from Spent Hybrid Vehicle
19-2	Philippines	Challenergy Inc.	Development of High Wind Speed Resistance Magnus Vertical Axis Wind Turbine Aiming for the Cost-Efficient and High-Resilient Micro-Grid System
19-3	Philippines, Vietnam, Laos, Thailand	Climate Experts, Ltd.	Demonstration Project of Mobile Container Refrigerator with High Humidity for Innovative Cold Chain for Fruits/Vegetables/Flowers in Developing Countries
19-4	Indonesia	Sugawara Industry Co., Ltd.	Verification for Cost Reduction and Low Carbonization of the Pavement Recycling Technology with Asphalt Wastes for Indonesia
19-5	Maldives	Tamaden Industry Co., Ltd.	Development of Hybrid Autonomous Power Control System with Renewal Energy in Small Remote Islands
19-6	Philippines	Zenmov Inc.	Demonstration of Low-Carbon Society by Easing Traffic Congestion by Optimization of Public Vehicle Allocation and Utilizing Electricity Derived from Renewable Energy



No.20-2  
High-performance ventilation, air conditioning, and showcase combined control to Food Supermarket



No.20-3  
Load-linked flow control system

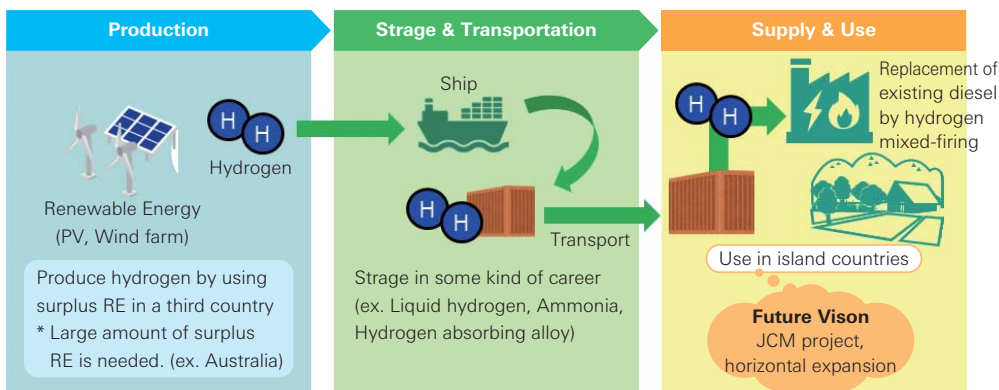


No.19-5  
Hybrid Autonomous Power Control System with Renewal Energy

**Pilot Project for Comprehensive Support throughout the Whole Hydrogen Supply Chain Abroad in FY 2022**



This programme started in 2021 to provide financial support to projects that aim to produce hydrogen in a country with abundant renewable energy, and transport and utilise it in a small island country. The goal of this pilot project is to advance utilisation of hydrogen made with renewable energy while contributing to Japan’s GHG emission reduction goals.



Each year, GEC calls for, reviews and selects project proposals for the financial support programme, and manages the selected projects. In fiscal 2022, GEC held open calls for proposals and selected new project in consultation with the MOEJ and the evaluation committee of experts.

- One project was selected for funding under the financial support programme.
- Project management: GEC oversaw the progress of the projects that had been selected in fiscal 2021 and 2022 through monthly reports and meetings, and provided suggestions for improvement when needed.

### New project selected in FY2022 (1 project)

Countries	Implementer	Project Title
New Zealand, The Republic of Fiji	Obayashi Corporation	Project for transportation of green hydrogen derived from geothermal power generation in New Zealand to Fiji and utilization of a dual fuel generator

### Projects selected during the Fiscal Year 2021 (2 projects)

Countries	Implementer	Project Title
Australia, Indonesia	Marubeni Corporation	Production of economical green hydrogen in South Australia, transportation of hydrogen by metal hydride to Indonesia and utilization of hydrogen through fuel cell in an industrial town in Indonesia
Australia, Palau	Sojitz Corporation	Demonstration Project on Green Hydrogen Production in Australia, its Transportation to Palau and Utilization by Fuel Cell and Fuel Cell Boat

Support for the Efficient Implementation of MRV Activities, Awareness Raising and Promotion for JCM



GEC was commissioned in April 2022 by the MOEJ to support the efficient implementation of MRV activities related to the Financing Programme for JCM Model Projects, and to promote understanding and participation in the JCM scheme domestically and internationally.

### Support for efficient implementation of MRV for JCM

This task involves supporting the process of MRV activities such as JCM project registration and credit issuance of JCM Model Projects. In fiscal 2022, GEC supported 12 project registrations and 24 credit issuances for projects of which facilities were installed in the JCM Model Projects in coordination with the MOEJ, related institutions, and partner countries.

In FY2022, the joint committees with partner countries, which consist of government members of both Japan and the partner country were not held with Partner countries. Since government officials in charge of the JCM came to Japan invited by Ministry of the Environment Japan in February 2023, GEC held face to face bilateral meeting with 21 partner countries and gave presentations on the JCM Model Projects and shared the latest information based on accumulated knowledge and experience as the implementing organisation of the JCM Model Projects.

GEC held a webinar for the representative participants together with the MOEJ, the Institute for Global Environmental Strategies (IGES) and Overseas Environmental Cooperation Centre (OECC) to explain the procedures of MRV activities after completion of installation of the facilities, focusing on the schedule and points to be noted during MRV activities.

### Annual report of JCM Model Project

After completion of facility installation, annual reports of JCM Model Project are submitted by representative participants to report the actual GHG emission reductions. Representative participants also report the reason if the amount of actual GHG emission reductions did not reach the expected amount.

The following table shows the number of project and the actual GHG emission reductions reported by the annual report of JCM Model Project from 2017 to 2022. The cumulative

amount of GHG emission reductions from 2017 is 1,387,558 ton-CO<sub>2</sub> equivalent.

	2017	2018	2019	2020	2021	2022
Number of the project	38	74	91	102	117	106
GHG emission reductions [ton-CO <sub>2</sub> eq]	35,688	172,009	190,776	250,752	363,190	375,143

## Awareness-raising Activities for JCM

### (1) Website and social media platform

#### • JCM website by GEC

New additions to the website include a webpage for each JCM Model Project that were newly selected for fiscal 2022, and the webpage for existing projects were updated.

In addition, a new webpage was added for information about call for proposal and selection result for Financing Program to Demonstrate Decarbonization Technology for Realizing Co-Innovation as well as Pilot Project for Comprehensive Support throughout the Whole Hydrogen Supply Chain Abroad. Lastly, the webpage for the JCM brochure were updated to attract more viewers.

#### • Twitter

225 posts were made on Twitter to disseminate information regarding JCM news and events, which resulted in an increase in the number of followers by 34, totalling 1,046 as of March 2023.

### (2) JCM Seminars in JCM Partner Countries

A series of webinars were held for the audiences in Indonesia and Chile. The webinars were participated by government officials and business leaders from Japan and the above-mentioned countries, and it aimed at sharing overview and progress of the JCM Financing Programme and facilitating project development and scaling up those future projects.

With this year's theme 'Accelerating the Transition towards Decarbonization through the JCM', the webinars introduced Financing Programme for JCM Model Projects as well as good examples of the projects.

Furthermore, individual meetings were held with those who expressed interest where they received guidance directly from GEC.

#### • JCM Webinar for Indonesia

A webinar was held on 26 July 2022 with 365 attendees. GEC and Indonesia JCM Secretariat also received requests for 103 individual meetings where they provided guidance on JCM.

#### • JCM Webinar for Chile

A webinar was held on 28 October 2022 with 88 attendees. GEC also received 36 requests for individual online meetings.

In addition, GEC joined JCM webinars organised by other organisations for Africa, Mexico, Kenya and so on to discuss the JCM Financing Programme, JCM Global Match and contributions to SDGs by JCM as well as to hold consultation meetings.

### (3) Presentation on JCM at International Conferences

GEC joined the following international conferences to provide a presentation on the JCM Financing Programme.

#### • COP27

At a side-event organised by MOEJ, GEC and European organizations on 15 November 2022, on the theme of "Sharing best practices and lessons learned from capacity building for implementation of Article 6", representatives from GEC acted as a moderator and assisted the logistics and public relations.

#### • Indonesia Net Zero Summit 2022 Side Meeting

At this event organised by UNDP and Indonesia Chamber of Commerce and Industry on



Indonesia JCM Webinar



Chile JCM Webinar

11 November 2022, a representative from GEC gave a presentation on the JCM Financing Programme.

#### (4) JCM Symposium in Japan

To further promote the JCM Financing Programme, GEC held an online JCM symposium on 1 March 2023 with 244 attendees.

During the symposium, MOEJ gave an overview of the JCM Financing Programme in fiscal 2023, and GEC explained the secrets of success based on actual examples of the JCM projects as well as activities about gender guidelines and SDGs in the JCM projects. In addition, companies gave presentations on good examples of the JCM projects.



JCM Symposium in Japan

### Promotional Activities for JCM

#### (1) Identification of potential projects, challenges, and solutions

- **Identification of Large Scale Projects**

In order to identify large and effective JCM projects, GEC held consultation meetings with companies that have the ability to develop large scale JCM projects and showed interest in JCM in the past, as well as presentation meetings with business associations.

- **Surveys**

A survey was sent to 1,882 recipients to find out the likelihood of a business applying for the JCM Model Project in the next few years. Together with that, a survey was made to gain understanding on the possibility of survey recipients applying for the new MOEJ project, "Demonstration project for application of new decarbonizing technology". The feedback received will be used not only to identify and nurture potential projects, but also to improve the way the JCM is operated.

- **JCM Consultation Meetings**

Throughout the year GEC met companies who were preparing to submit a JCM proposal. The number of these meetings was 188 in 2022, which was similar to the number in 2020.

#### (2) Renewal of JCM Global Match

For further improvement in convenience, GEC continued to improve the user interface of the JCM Global Match such as enhancement of the search function and renaming of user groups. GEC also strived hard to gain new users by active public relations activities such as introduction in seminars, and the number of users reached 887 as of March 2023.



Top page of the new JCM Global Match

#### (3) Cooperative Approach with Financial Institutions

It is essential that financial institutions provide funds to JCM Model Projects. It should be also noted that they could help representative and cooperative participants of Model Projects to set up international consortiums. From this point of view, GEC has been enhancing its cooperative approach with financial institutions by promoting awareness of JCM, and sharing information of business partners. GEC has been successful in establishing good relationships with major multilateral development banks and international and Japanese financial institutions. GEC will keep enhancing the relationships with more financial institutions.

#### (4) Survey on Contribution to SDGs

In order to assess the effectiveness of the “Guideline on Gender Equality for the JCM”, a survey was sent to all the JCM project implementers whose projects had been selected by FY2022. The results showed that most of the implementers were aware of the gender issues and had been tackling such issues regardless of the selected year of the project. However, there were those who were not planning or taking any specific actions to accommodate the guideline even though the selected year was after the issuance of the guideline.

In addition, a survey was sent to partner participants of the JCM projects for the first time to find out their activities on SDGs through the JCM projects. The survey result showed that their activities were wide ranged and their attitude seemed positive. GEC also conducted on-line interviews to those whose activities were unique and notable, to gain additional information to showcase their projects on the GEC’s website as excellent examples to follow.

GEC will conduct a survey to partner participants again in FY2023 and will share more good examples of the activities contributing to SDGs through the JCM projects.

#### (5) Cooperative Approach with Non-JCM Country Entities

In several of the JCM Projects selected during FY 2022, advanced decarbonizing technologies were provided by manufacturers of non-Partner Countries, including, but not limited to, the US and Europe. Seemingly companies of those non-Partner Countries have been showing larger presence in the JCM projects in more diversified ways, like being a joint venture partner. Such international participation could be accelerated by our raising awareness of JCM and soliciting horizontal development.



Commissioned by the Ministry of the Environment, Japan (MOEJ), GEC worked to support the formulation of the technical assistance projects to be implemented through the Climate Technology Centre and Network (CTCN) established under the UNFCCC, to promote the transfer and deployment of Japanese advanced climate (decarbonization) technologies owned by Japanese entities and their overseas subsidiaries.

Under this project, GEC implemented the information dissemination activities related to CTCN and its functions, through GEC website (<http://gec.jp/jp/category/ctcn/>) with online brochures and other digital media such as email newsletters and information on other websites. In parallel, GEC undertook individual interviews with Japanese private-sector companies and other relevant entities interested in CTCN technical assistance projects. In addition, GEC provided advice to some entities who had already begun their preparatory work to develop CTCN technical assistance projects. The advice from GEC was related to the drafting of CTCN request forms as well as the technical assistance implementation structures and the roles of experts.

Through these information dissemination activities and individual interviews, a promising potential technical assistance project for the transport sector in Thailand has been identified. For this potential project, GEC undertook the following activities:

- Kick-off meeting with host country’s stakeholders,
- Internal strategic meeting with experts, and
- Development of a draft CTCN request form and Capacity enhancement for the host country.

For the existing potential project developed in past two years which is related to the promotion of appropriate waste management in the Philippines, GEC undertook further follow-up activities to finalize the draft CTCN request form.

## Support for Japan Fund for Joint Crediting Mechanism (JFJCM)



The Ministry of the Environment, Japan has been funding the Japan Fund for Joint Crediting Mechanism (JFJCM) established within the ADB since 2014 to accelerate the uptake of advanced low-carbon and decarbonising technologies in developing countries in the Asian region. Commissioned by the Ministry of the Environment, Japan, GEC provided assistance on the evaluation process for the following projects:

- Countries (Multiple): Strengthening Knowledge and Actions for Air Quality Improvement – Additional Financing
- Maldives: Accelerating Sustainable System Development Using Renewable Energy (ASSURE) Project
- Mongolia: Introduction of Clean District Heating System in Kharkhorin Soum

## Support for Japan Platform for Redesign: Sustainable Infrastructure (JPRSI)

Japan Platform for Redesign: Sustainable Infrastructure (JPRSI) was launched in August 2020 by the Ministry of the Environment, Japan as a place for ministries, local municipalities, the private sector, financial institutions, international organisations, experts, and others to network and share information. This year, GEC collected and organised information of 217 technologies developed by JPRSI members and published a list of them on the JPRSI website in both Japanese and English.



## Japan International Cooperation Agency (JICA) Group Training Project



Commissioned by JICA, GEC has carried out training courses for Improvement of Urban Solid Waste Management (Emphasis on Collection, Transportation and Final Disposal) in English as well as in French.

Due to the Covid-19 pandemic, the training programmes in English language course delivered in the first half of FY2022 was all provided online via on-demand materials with periodical real-time face-to-face sessions. On the other hand, the training programmes in French conducted in the second half of FY2022 was offered in a hybrid style, combining distance learning and face-to-face sessions in Japan. In the hybrid training programme, basic lectures were provided as distance training with on-demand materials, while the programmes in Japan provided mainly on-site visits and practical training.

We will continue and strengthen the cooperation with the research institutions and other relevant organizations in order to meet the diverse range of needs in developing countries as well as to improve programme contents.

### Urban Solid Waste Management (Emphasis on Collection, Transportation and Final Disposal) (A), (B)

Training Dates / Participants	Programme
<p><b>&lt;Course A (English)&gt;</b></p> <ul style="list-style-type: none"> <li>1st distance learning: 1 July 2022 – 31 July 2022</li> <li>2nd distance learning: 15 August 2022 – 20 September 2022</li> <li>4 participants from 3 countries: Dominica Republic, Haiti (2), Nepal</li> </ul>	<p><u>Objective</u> To develop leaders and core people who will play a major role in the planning and execution of waste management projects in their own countries.</p> <p><u>Collaborators</u> Osaka City Environment Bureau, Kyoto City, Osaka Metropolitan University, Osaka Environmental Facilities Association, Nantan City Yagi Bioecology Centre, Senri Recycle Plaza, EX Research Institute Ltd., Kokusai Kogyo Co. Ltd., Takakura Environment Research Institute, Daiwa Itagami Co. Ltd., Kansai Recycling Systems Co., Ltd., Nomura Kohsan Co. Ltd., Kobe Environmental Creation Co., Ltd., Hitachi Zosen Corporation, etc.</p>
<p><b>&lt;Course B (French)&gt;</b></p> <ul style="list-style-type: none"> <li>Distance learning: 3 October 2022 – 23 November 2022</li> <li>Face-to-face sessions in Japan: 24 November 2022 – 16 December 2022</li> <li>5 participants from 5 countries: Cote d'Ivoire, Djibouti, Niger, Madagascar, Mali</li> </ul>	<p><u>Lectures</u> Waste Management Administration, Environmental Administration and Waste Disposal of Japan; Waste Management in Osaka City; Environmental Hygiene in Developing Countries; Introduction of Takakura Composting Method, Outline of Hazardous Waste Management; 3Rs Approach, etc.</p> <p><u>Site Visit</u> Observation of Former Landfill Site; Bio-gas and Composting Facilities; Observation of Resource Recycling Facility; Observation of Medical Waste Treatment Plant; Observation of Separation Collection in Kyoto City</p>

## GEC Networking Project for Former Training Course Participants



Since FY1998, GEC has established a GEC Overseas Ex-participant Network in order to provide follow-up and accurately understand the current needs in developing countries. We are working to reinforce the network by operating a member (former trainee) website (renamed 'JICA-GEC Network' in FY2005) and organising local follow-up seminars. Since 2018, the system has been separated from the GEC website and operated independently. Continuous communication with ex-participants and relevant partners has been conducted through the distance learning management system (LMS) from FY2022. We are currently using this system as well to strengthen our network.

In FY2022, 4 members from course A (English) and 3 members from course B (French) respectively were newly registered.

### Distance learning

Due to the Covid-19 pandemic from 2020, an online training programme using the Internet is being implemented to substitute for the training in Japan. It consists of self-study via on-demand learning materials and real-time sessions for presentations and discussions among participants.



Observation of Resource Recycling Facility



Observation of Separation Collection in Kyoto City



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