

City-to-City Collaboration for Low-Carbon Society

2019



Ministry of the Environment

Overview of City-to-City Collaboration for Low-Carbon Society

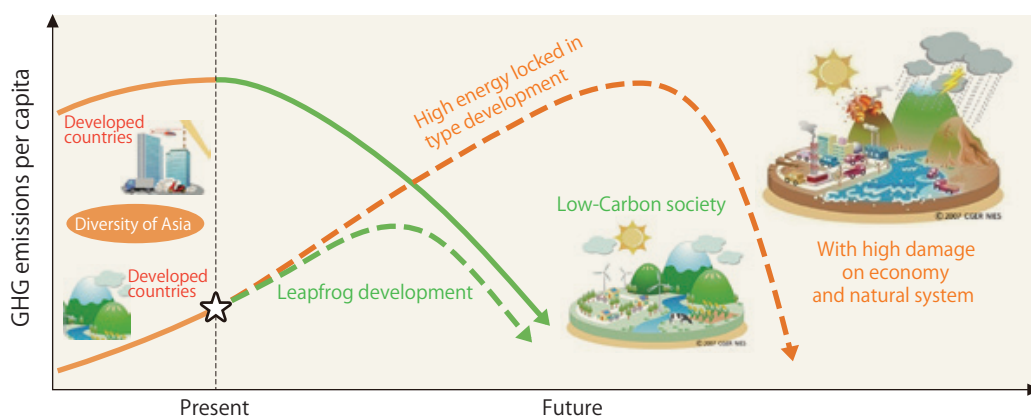
Programme background

The concentration of populations in urban areas is on the rise in developing countries where economic development is skyrocketing. To create low-carbon, resilient societies in these countries, low-carbon urban infrastructure and facilities that will be used for long periods of times should be introduced from the outset, and it is necessary to encourage a switch to low-carbon infrastructure and facilities when updating that which is already in place.

Under the Kyoto Protocol, the development of superior low-carbon technologies has gained ground and policies and measures have been introduced to expand the use of such technologies in Japan, which is promoting energy

conservation looking towards the creation of low-carbon societies, under its obligation to reduce greenhouse gas (GHG) emissions.

In order to contribute to the achievement of leapfrogstyle development in cities in developing countries through the development and packaging of knowledge and know-how on these technologies and policies, the Ministry of the Environment, Japan (MOEJ) launched the "City-to-City Collaboration for Low-Carbon Society" ("City-to-City Collaboration Programme") in 2013. Since then, Japan has made contributions to international society towards the achievement of the goals of the Paris Agreement in collaboration with a diverse set of entities both in Japan and abroad.



Conceptual diagram of leapfrog development

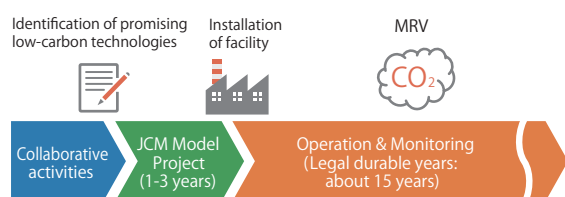
Source: National Institute for Environmental Studies

Programme Overview

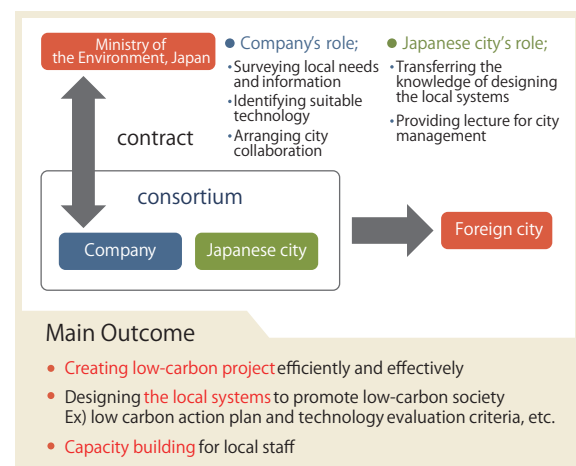
Under this framework where cities in developing countries collaborate with cities in Japan, support is provided for human resources development and the creation of institutional foundations in cities in developing countries by considering the development of low-carbon projects in collaboration with private companies and sharing knowledge and know-how on urban management in Japan through intercity collaboration. Due to the concentration of various infrastructure in cities, the introduction and development of superior low-carbon technologies, products, and systems in these facilities will not only help with the low-carbon development of cities, but are also expected to produce various co-benefits, such

as improving the environment and energy supply in cities.

When introducing low-carbon technologies on the ground, it will also be possible to utilize financial schemes (Box 2) under the Joint Crediting Mechanism (JCM, Box 1) promoted by the Government of Japan.



Low-carbon project development under the City-to-City Collaboration Programme (an example)



Outline of City-to-City Collaboration Programme

Benefits for Participating Stakeholders

Both Japanese cities and companies as well as partner cities and companies overseas that participate in this

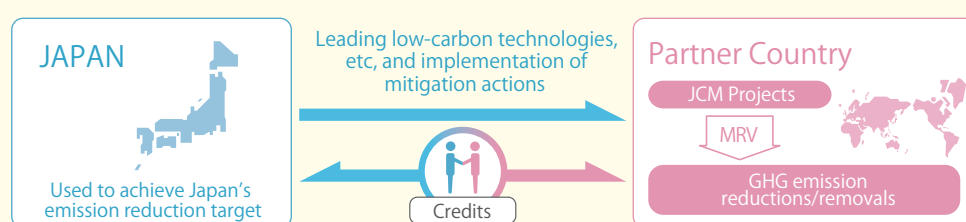
programme have the opportunity to gain various benefits. Many Asian cities participating in this project expect that their involvement will lead to the improvement of their urban environment and capacity of staff.

Benefits for cities overseas	<ul style="list-style-type: none"> ● Strengthen foundation to manage low-carbon cities through the transfer of superior systems, standards, experiences, and know-how ● Improve capacity of staff ● Formulation or implementation of low-carbon city plans ● Development of low-carbon cities at lower administrative costs as a result of public-private partnerships (PPP) ● Co-benefits, such as environmental improvement and energy supply
Benefits for companies overseas	<ul style="list-style-type: none"> ● Low-cost introduction of superior low-carbon facilities/equipment ● Reduced running costs as a result of low-fuel economy performance and fewer failures ● Strengthen linkages between cities and Japanese companies ● Improve capacity of staff
Benefits for cities in Japan	<ul style="list-style-type: none"> ● Promote overseas deployment of local companies and regional revitalization through these activities ● Improve capacity of employees ● Improve reputation of city and public awareness
Benefits for companies in Japan	<ul style="list-style-type: none"> ● Build business foundation through the sales of own products and showcases on site ● Ease of approaching markets and related institutions and acquisition of local information ● Improve capacity of staff

Box 1 : What is the Joint Crediting Mechanism (JCM)?

The Joint Crediting Mechanism (JCM) is a mechanism jointly created and implemented under an agreement between the Government of Japan and a partner country's government to achieve Japan's GHG emissions reduction targets by quantitatively evaluating and understanding Japan's contributions to the reduction/absorption of GHG emissions achieved through the spread of superior low-carbon technologies (technologies/ products, systems, services, infrastructure, etc.) and the implementation of policies that can lead to a reduction in GHG emissions in

developing countries. The JCM also contributes to the achievement of the ultimate objective of the United Nations Framework Convention on Climate Change by promoting actions to reduce and absorb GHG emissions on a global scale. Japan is implementing the JCM with 17 countries: Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand, and the Philippines. (As of June 2019)



JCM outline figure

Box 2 : JCM financial mechanisms: What is the JCM Model Project?

The JCM Model Project is a program to measure, report, and verify (MRV) the implementation of projects to reduce and absorb GHG emissions, as well as Japan's contributions to the emission reduction effects with the use of superior low-carbon technologies in JCM partner countries and developing countries where the JCM is expected to be implemented. JCM credits are issued according to the calculated amount of emissions

reduced/absorbed, which are then applied to Japan's emissions reduction target. If adopted, financial support will be provided for the introduction of equipment and machinery that use superior low-carbon technologies.

As of September 2019, 139 projects (16 countries) have been adopted and a CO₂ reduction of more than 850,000 tonnes annually is anticipated.

Source: Ministry of the Environment, Japan. List of adopted JCM Model Projects in JCM partner countries (FY2013-2019)

List of City-to-City Collaboration for Low-Carbon Society in FY2019

Kuala Lumpur, Malaysia – Tokyo Metropolitan Government

01	Project Developing a Policy Framework for Building Energy Efficiency in Kuala Lumpur	Implementation Body Institute for Global Environmental Strategies
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Iskandar Regional Development Authority, Malaysia – Kitakyushu City

02	Promotion of Creation of Low-Carbon Society in Iskandar Malaysia	Implementation Body NTT Data Institute of Management Consulting, Inc.
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Riau Province, Indonesia – Kawasaki City

03	Project to Promote Circular Economy for Palm Industry in Riau Province Region	Implementation Body Nippon Koei Co., Ltd.
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DKI-Jakarta, Indonesia – Kawasaki City

04	Promotion of Green Innovation in DKI-Jakarta	Implementation Body Nippon Koei Co., Ltd.
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Bali Province, Indonesia – Toyama City

05	Support on Tourism Future City of Bali Province	Implementation Body Nippon Koei Co., Ltd.
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Semarang, Indonesia- Toyama City

06	Promotion of Clean-Energy based on Low-Carbon Society Scenario in Semarang City	Implementation Body Nippon Koei Co., Ltd.
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Sagaing Region, Myanmar – Fukushima City

07	Promotion Project of Low-Carbon Regional Development in Sagaing Region	Implementation Body Mitsubishi Research Institute, Inc.
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Ayeyarwady Region, Myanmar – Fukushima City

08	Promotion Project for Formulation of Circulating and Ecological Economy in Ayeyarwady Region	Implementation Body Mitsubishi Research Institute, Inc.
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Yangon City, Myanmar – Kawasaki City

09	Support for Low Carbon Development of Industrial Park	Implementation Body Nippon Koei Co., Ltd.
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Hlegu Township, Yangon Region, Myanmar – Kitakyushu City

10	Promotion of Low Carbonization in the Smart City Project in Yangon Province	Implementation Body NTT Data Institute of Management Consulting, Inc.
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Quezon City, Philippines – Osaka City

11	Low Carbon Development in Quezon City (Energy Saving and Proper Management of Fluorocarbons)	Implementation Body Oriental Consultants Co., Ltd.
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Davao City, Philippines – Kitakyushu City

12	Project to Realize Low Carbon Society in Davao City through a Support for a Development of Local Climate Change Action Plan	Implementation Body Institute for Global Environmental Strategies
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Port of Authority, Thailand – Yokohama City

13	Study on Support for Low-Carbon Development by Promoting a Modal Shift and Terminal Efficiency at Ports in Thailand	Implementation Body Yokohama Port Corporation
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Eastern Thailand (Eastern Economic Corridor), Thailand – Osaka City

14	Support for the Realization of Low Carbon Society to Achieve Thailand 4.0	Implementation Body Nippon Koei Co., Ltd.
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Ho Chi Minh City, Viet Nam – Osaka City

15	Promotion of Energy Saving by Introducing Energy Efficient Equipment	Implementation Body Nippon Koei Co., Ltd.
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Can Tho City, Viet Nam – Hiroshima Prefecture

16	Biomass Power Generation Project through the Conversion of Rice Husks Generated from Rice Mills into Compressed Solid Fuel	Implementation Body Tromso Co., Ltd.
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Hai Phong City, Viet Nam – Kitakyushu City

17	Support for the Establishment of a Model Project for the Eco-Industrial Park Concept	Implementation Body NTT Data Institute of Management Consulting, Inc.
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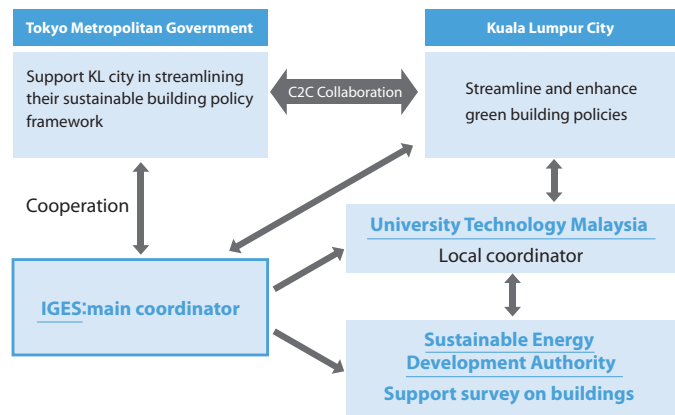
Project Developing a Policy Framework for Building Energy Efficiency in Kuala Lumpur



Implementation Body | Institute for Global Environmental Strategies (IGES)
 Partner Entities | Bureau of Environment, Tokyo Metropolitan Government

The Tokyo Metropolitan Government and Kuala Lumpur have built up a relationship as member cities of the “Asian Network of Major Cities 21 (ANMC21)” established in 2001 and as members of the C40 (Cities Climate Leadership Group). Both IGES, the proponent of this project, and the local coordinator, Universiti Teknologi Malaysia (UTM), are organisations that collaborated in the formulation of the “Kuala Lumpur Low Carbon Society Blueprint 2030” in 2018.

This project will help achieve the goals of this blueprint, which aims to reduce CO₂ emissions by 70% based on forecasts of the situation and events to 2030, and transfer the experience and expert knowledge of the Tokyo Metropolitan Government on systems to expand the use of energy-efficient buildings to Kuala Lumpur.

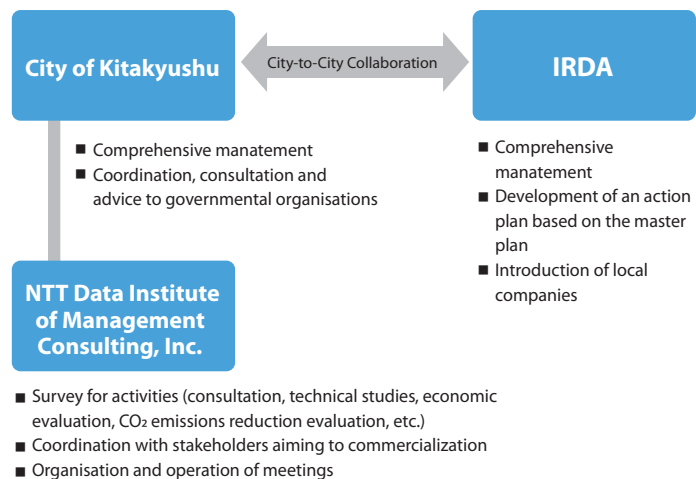
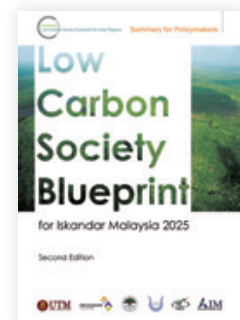


Promotion of Creation of Low-Carbon Society in Iskandar Malaysia

Implementation Body | NTT Data Institute of Management Consulting, Inc.
 Partner Entities | Kitakyushu Asian Center for Low Carbon Society

Kitakyushu City has a history of implementing city-to-city collaboration projects with the Iskandar Regional Development Agency (IRDA) in Malaysia between fiscal 2015 and 2016. Both cities signed a Letter of Understanding (LOU) in August 2016 based on the results of this collaboration.

In this study, a follow-up survey was conducted on potential projects that had been identified in studies on intercity cooperation projects in the past fiscal year, with the aim of formulating a detailed action plan based on the “Low-Carbon Society Blueprint”, a low-carbon scenario for the Iskandar region formulated by IRDA in 2012.



Project to Promote Circular Economy for Palm Industry in Riau Province Region

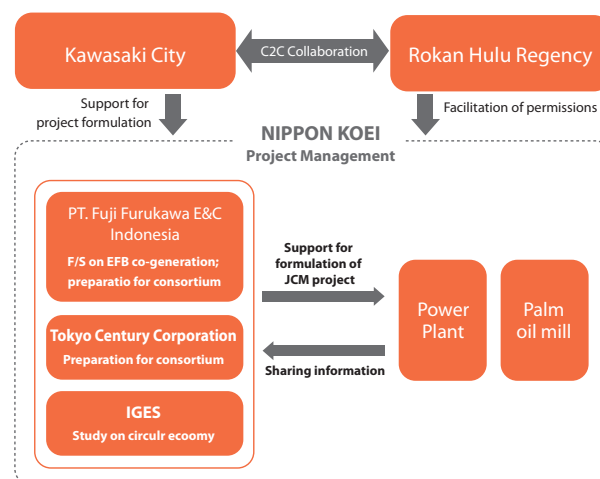
Implementation Body | Nippon Koei Co., Ltd.

Partner Entities | Kawasaki City, PT. Fuji Furukawa E&C Indonesia, IGES, Tokyo Century Corporation



In its aim to create an advanced sustainable city, Kawasaki City has positioned a “Zero Emissions Initiative” as its basic concept for the formation of a local sustainable economy and society and promoting it as the key to regional development.

This project examines how to supply the electricity and steam essential for producing palm oil through biomass power generation and waste heat recovery by local companies in Kawasaki City using empty fruit bunch (EFB) biomass in the Riau region, the world's largest palm oil production area. By utilising Kawasaki City's knowledge and experience to promote the development of a sustainable economy and society through its Eco-Town project, Kawasaki City is supporting the promotion of an eco-friendly economic and society centred on the palm oil production sector, one of the most important industries in the region.



Promotion of Green Innovation in DKI-Jakarta

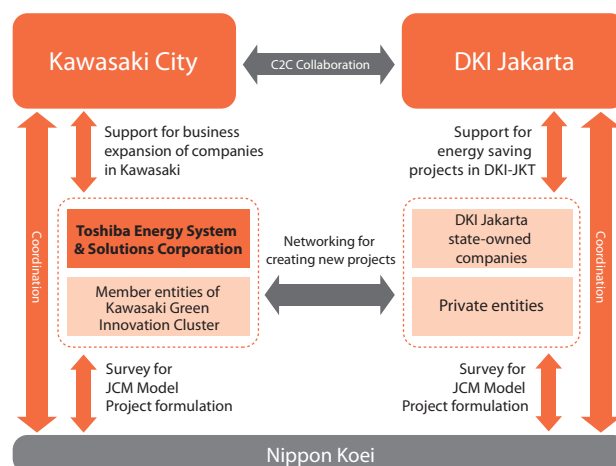
Implementation Body | Nippon Koei Co., Ltd.

Partner Entities | Kawasaki City, Toshiba Energy System & Solutions Corporation



Kawasaki City and the Special Capital Region of Jakarta have engaged in city-to-city collaboration since 2017 with the aim of promoting green innovation in Jakarta. In March 2019, the cities signed a letter of intent on city-to-city collaboration to achieve a decarbonised society. Activities are also being carried out to achieve the SDGs through intercity cooperation reflecting Kawasaki City's selection as an “SDGs Future City” in July 2019.

This fiscal year, a study is carried out for the application of a JCM model project in relation to projects on (1) energy savings through the installation of high-efficiency, once-through boilers and high-efficiency air conditioning systems in factories near the Special Capital Region of Jakarta and (2) stable power supply through the introduction of a stand-alone, hydrogen energy supply system on remote islands. The project also aims to promote green innovation in the Special Capital Region of Jakarta through the implementation of activities related to river purification and the achievement of the SDGs.





Support on Tourism Future City of Bali Province

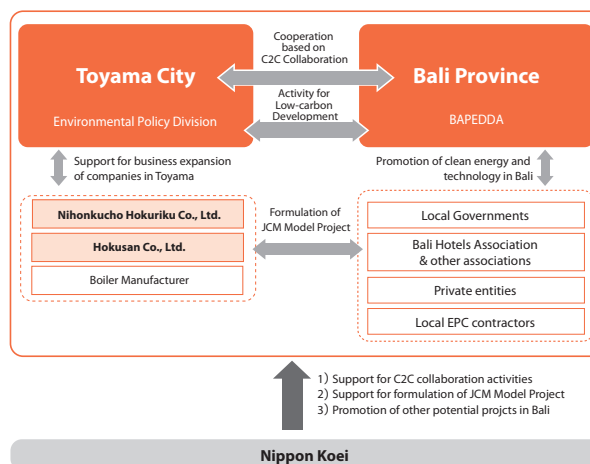
| Implementation Body | Nippon Koei Co., Ltd.

| Partner Entities | Toyama City, Nihonkucho Hokuriku Co., Ltd., Hokusan Co., Ltd.



Toyama City is engaged in a variety of pioneering approaches to enhance its value as an environmental future city, making it possible to share its know-how with Bali and local municipalities. Specific areas include administrative support and shared knowledge based on initiatives in Toyama City, such as the Compact City, Environmental Future City, 100RC, SE4ALL and others. In addition, the use of JCM model projects is being promoted with the aim to position municipalities in Bali as “tourism cities of the future” utilising the island's rich tourism resources.

Under this project, studies are being conducted under city-to-city cooperation to develop JCM projects, such as the introduction of energy-efficient and renewable-energy equipment, as well as fuel conversion projects targeting hotels and transportation, both sectors that demonstrate significant potential in reducing GHG emissions, in cooperation with local companies in Toyama city to achieve the creation of eco-friendly tourism cities (tourism future cities) in Bali.



Promotion of Clean-Energy based on Low-Carbon Society Scenario in Semarang City

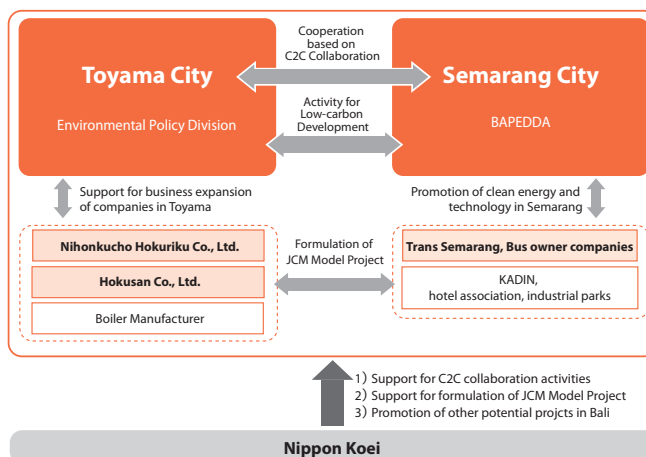
| Implementation Body | Nippon Koei Co., Ltd.

| Partner Entities | Toyama City, Nihonkucho Hokuriku Co., Ltd., Hokusan Co., Ltd.



The cities of Toyama in Japan and Semarang in Central Java, Indonesia have both been selected for the Rockefeller Foundation's 100 Resilient Cities programme (100RC). In fiscal 2017, they launched a study on city-to-city collaboration in the fields of disaster prevention, environment, energy and transportation, and concluded a cooperation agreement on the environment and transportation.

Based on the “Low Carbon Society Scenario for Semarang 2030”, projects in this fiscal year utilised technologies from local companies in Toyama City to promote the use of renewable energy, such as solar power and biomass power, energy-saving equipment, such as high efficiency chillers and boilers, and the use of clean energy, such as natural gas, and develop proposals for JCM model projects.



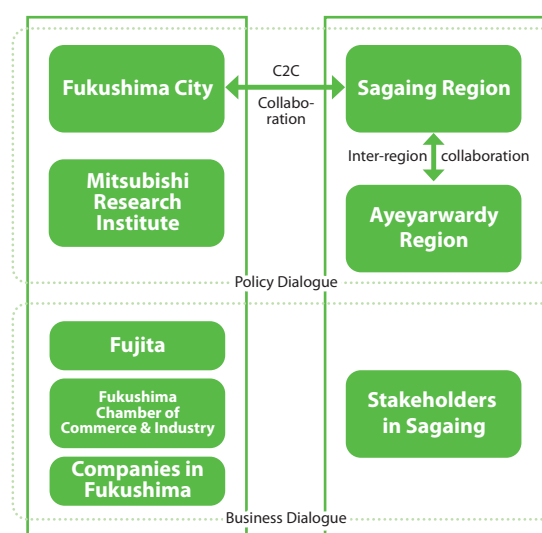
Promotion Project of Low-Carbon Regional Development in Sagaing Region

Implementation Body | Mitsubishi Research Institute, Inc.
 Partner Entities | Fukushima City, Fujita Corporation,
 Fukushima Chamber of Commerce & Industry



City-to-city collaboration between Fukushima City in Japan and the Ayeyarwady region in Myanmar started in 2015, with the Sagaing region joining this collaborative project in 2017. As in the Ayeyarwady region, Sagaing is a region where rice production is thriving, and the area is now faced with the issue of how to dispose of the overwhelming amount of rice husk. In 2018, the Minister of the Sagaing region sent a request to the Mayor of Fukushima City for cooperation, and workshops, surveys and visits have been conducted by both areas since.

This fiscal year, the programme focuses on providing support for the development of a system for waste treatment and disposal in the Sagaing region (formulation of master plan, proposals for related systems, awareness raising, etc.) and examines measures for the phased deployment of a power generation system using rice husks, separation of municipal solid waste and proper treatment systems in the region, with the aim of constructing a low-carbon waste treatment and disposal system that takes advantage of local characteristics.



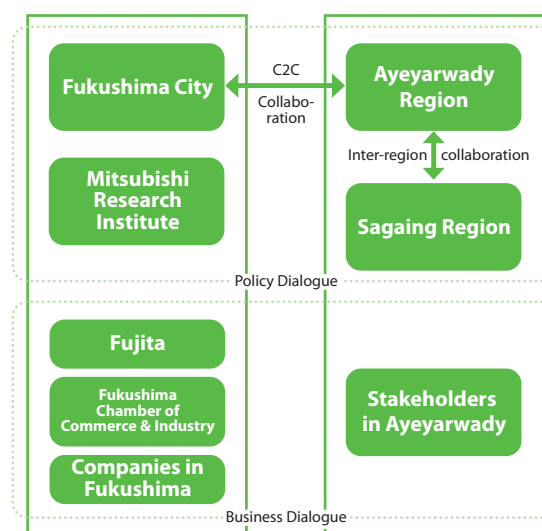
Promotion Project for Formulation of Circulating and Ecological Economy in Ayeyarwady Region

Implementation Body | Mitsubishi Research Institute, Inc.
 Partner Entities | Fukushima City, Fujita Corporation,
 Fukushima Chamber of Commerce & Industry



City-to-city collaboration was set into motion with the submission of a request for cooperation from the Minister of the Ayeyarwady region to the Mayor of Fukushima City in 2015. In 2017, the Ayeyarwady region sent a request for developing cooperation under a collaborative scheme between the Sagaing and Ayeyarwady regions, marking the start of collaboration with both regions in Myanmar.

In this fiscal year's programme, support is provided for the development of low-carbon, SDGs-based communities using local resources in the Ayeyarwady region by creating Regional Circular and Ecological Spheres in cooperation with municipalities in Fukushima Prefecture. Support will be provided for system and capacity development to create Regional Circular and Ecological Spheres, in consideration of the development of decentralised regional power supply systems combining biomass power generation, solar power generation, and control and management systems.



Support for Low Carbon Development of Industrial Park

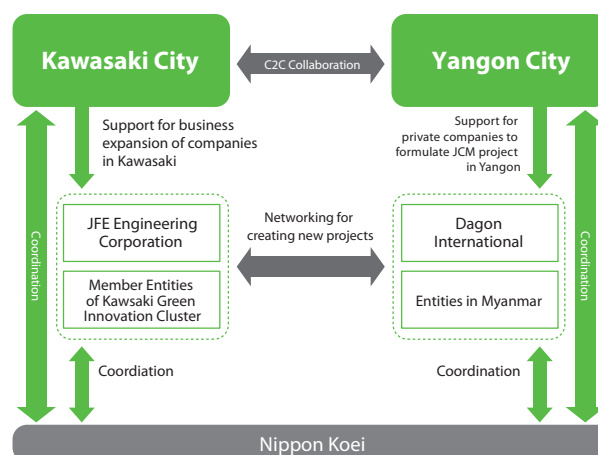
| Implementation Body | Nippon Koei Co., Ltd.

| Partner Entities | Kawasaki City, JFE Engineering Corporation



The cities of Kawasaki and Yangon launched a city-to-city collaboration project in the field of climate change in 2015 and signed a memorandum of understanding on creating low-carbon cities in Kawasaki and Yangon in March 2016. Since then, both cities have shared knowledge in the field of waste management, exchanged information and held regular meetings with staff from both cities. To date, energy-saving equipment has been installed in waste-to-energy plants and food factories through a JCM model project.

In this fiscal year, the programme examines ways to share Kawasaki City's ideas on zero-emission industrial parks and Eco-Towns based on industrial parks in Yangon City, along with the application of a JCM model project for measures to deal with treating and disposing of the increasing amount of waste that Yangon City is facing through the actual development of an industrial park.



Promotion of Low Carbonization in the Smart City Project in Yangon Province

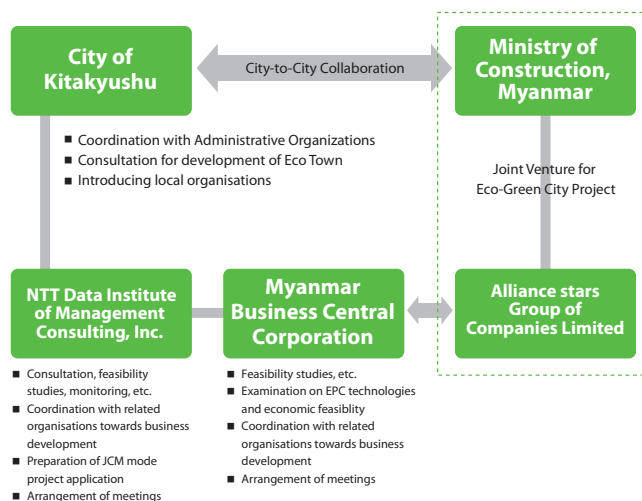
| Implementation Body | NTT Data Institute of Management Consulting, Inc.

| Partner Entities | Kitakyushu Asian Center for Low Carbon Society, Myanmar Business Central Corporation



This study, a spin-off project of research activities based on city-to-city collaboration between the cities of Kitakyushu in Japan and Mandalay in Myanmar implemented until fiscal 2018, aimed at achieving low-carbon development by recycling resources in the area under a large-scale smart city development project in Yangon City called the "Eco-Green City Project" promoted by the Ministry of Construction of Myanmar in cooperation with Kitakyushu City.

The Eco-Green City Project is the first of its kind for large-scale urban development in line with the Yangon Metropolitan Master Plan formulated in cooperation with JICA, which has attracted a great deal of attention within Myanmar and is expected to lead to linkages between JICA projects and city-to-city collaboration.





Low Carbon Development in Quezon City (Energy Saving and Proper Management of Fluorocarbons)

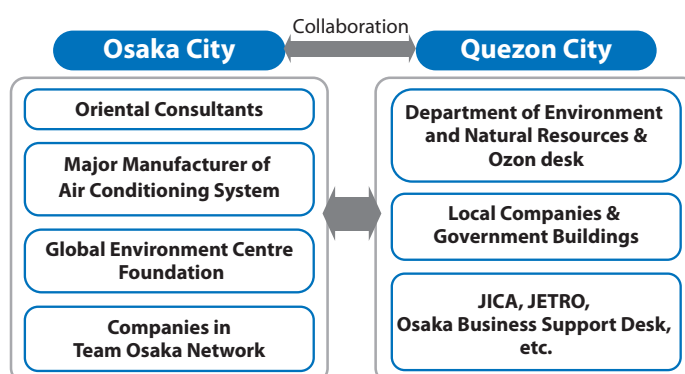
Implementation Body | Oriental Consultants Co., Ltd.

Partner Entities | Osaka City, Global Environment Centre Foundation (GEC),
Tokyo Century Corporation



The cities of Osaka and Quezon engaged in city-to-city collaboration in fiscal 2017 and 2018 and held a mayor-level policy dialogue, starting with a Ministry of the Environment project in fiscal 2015. In August 2018, they signed a memorandum of understanding (MOU) on cooperation to develop low-carbon cities in Osaka and Quezon. To date, a team with the involvement of Osaka City and IGES helped draft a low-carbon society (LCS) scenario connected with the Quezon City Climate Change Action Plan, which was presented at COP24.

In fiscal 2017, a business model formulation survey was conducted on the introduction of non-fluorocarbon type air-conditioning and energy-efficient air-conditioning equipment, and on recovering, recycling and destroying chlorofluorocarbons (CFCs) through support for Quezon City's Climate Change Action Plan and LCS scenario, as well as sharing measures on CFCs in Japan.



Project to Realize Low Carbon Society in Davao City through a Support for a Development of Local Climate Change Action Plan

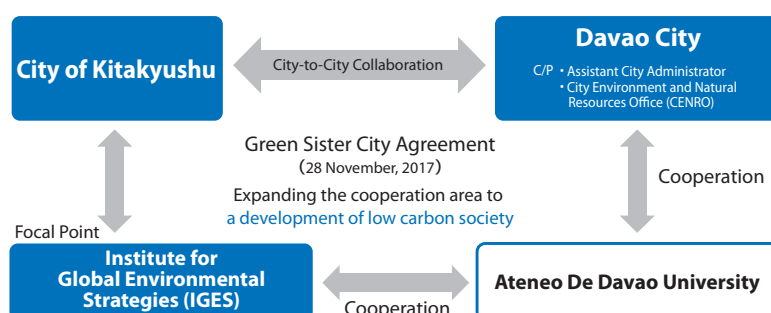
Implementation Body | Institute for Global Environmental Strategies (IGES)

Partner Entities | Kitakyushu Asian Center for Low Carbon Society,
Nippon Steel Engineering Co., Ltd., Dhowa Technos Co., Ltd.



The cities of Kitakyushu in Japan and Davao in the Philippines concluded a memorandum of understanding on establishing a green sister city partnership in 2017 based on the results of collaboration and cooperation to date with the aim of further expanding and enhancing cooperation, including the creation of a low-carbon society.

Under this partnership, a review was carried out on (1) support for the creation of a Local Climate Change Action Plan (LCCAP), (2) the feasibility of applying the JCM model project scheme to a waste-to-energy project, (3) the feasibility of implementing a JCM model project for converting street lights to LED lights, and (4) the feasibility of implementing a JCM model project for the introduction of EV buses and natural energy projects.





Study on Support for Low-Carbon Development by Promoting a Modal Shift and Terminal Efficiency at Ports in Thailand

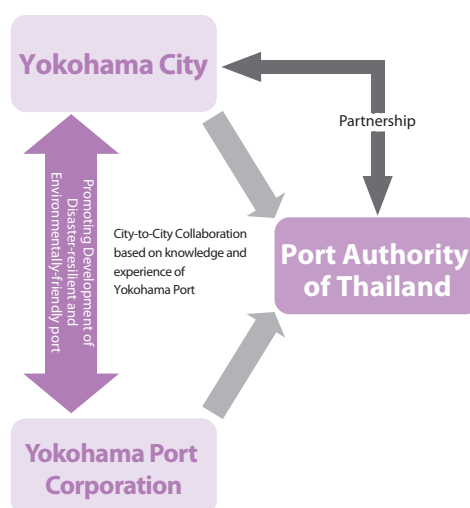
Implementation Body | Yokohama Port Corporation

Partner Entities | Yokohama City, Green Pacific Co., Ltd.



Yokohama City signed a memorandum of understanding on developing a partnership with the Port Authority of Thailand in April 2014 and concluded a basic agreement on specific activities in January of the following year. Since fiscal 2016, activities have been promoted based on these agreements to leverage city-to-city collaboration in developing smarter ports in Thailand.

This fiscal year, in its aim of achieving low-carbon development, the programme again provides support to promote the efficient operation of railway and coastal shipping terminals at Laem Chabang Port, which is managed and operated by the Port Authority of Thailand, and to promote a modal shift in wide-area distribution based on the achievements of activities to promote a modal shift at Yokohama Port. In the medium- to long-term, this project aims to shape ports in Thailand as smart, low-carbon logistics bases in the ASEAN region.



Malaysia

Indonesia

Myanmar

Philippines

Thailand

Viet Nam



Support for the Realization of Low Carbon Society to Achieve Thailand 4.0

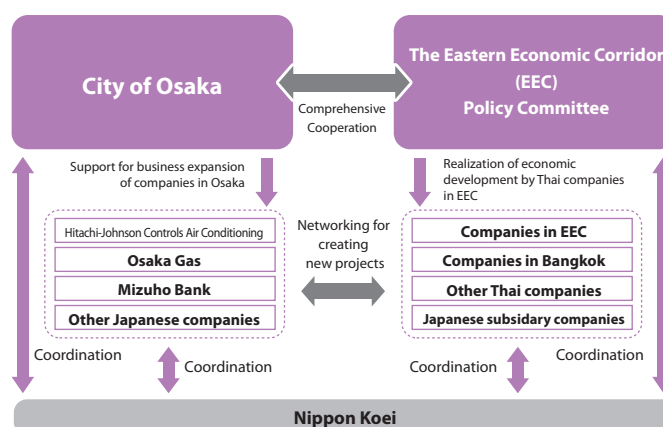
Implementation Body | Nippon Koei Co., Ltd.

Partner Entities | Osaka City, Hitachi-Johnson Controls Air Conditioning, Osaka Gas Co., Ltd., Mizuho Bank Ltd.



The Thai government has positioned the Eastern Economic Corridor (EEC), which is located in the eastern region of Bangkok and encompasses three provinces (Chonburi, Rayong and Chachoengsao), in its “Thailand 4.0” policy for industrial development and advancement. Large amounts of energy are being consumed in the jurisdiction of the EEC where key industries are concentrated, infrastructure and new urban areas are being developed, and an assortment of small and large factories and industrial parks are located.

This fiscal year, Osaka City collaborated with the EEC secretariat to conduct various studies targeting the formulation of a JCM project with companies linked to Osaka City, such as biogas purification technologies and energy-saving air conditioning systems in the industrial sector. Cooperation will also be strengthened with the aim of attracting private companies to the EEC.

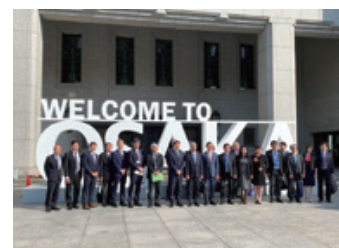




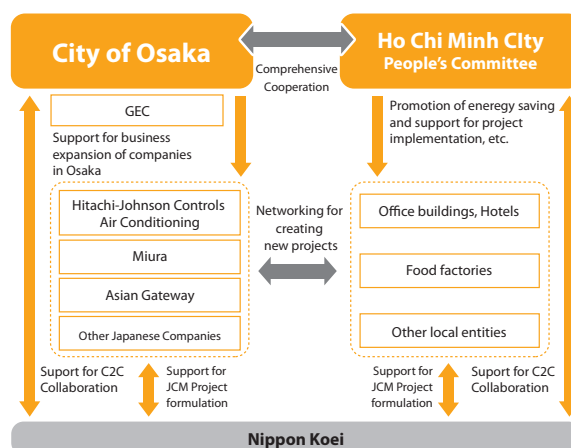
Promotion of Energy Saving by Introducing Energy Efficient Equipment

Implementation Body | Nippon Koei Co., Ltd.

Partner Entities | Osaka City, Hitachi-Johnson Controls Air Conditioning, Asian Gateway Co., Ltd., Global Environment Centre Foundation (GEC)



Cooperation between the cities of Osaka and Ho Chi Minh originated with a memorandum of understanding signed in 2009 on technical cooperation with the Saigon Water Corporation (SAWACO), which has continued with city-to-city collaboration projects in the environmental field. In October 2013, the cities concluded a memorandum of understanding on the development of low-carbon cities in Ho Chi Minh and Osaka and formulated the "Ho Chi Minh City Climate Change Action Plan 2017-2020 and 2020 Outlook" (CCAP 2017-2020) with support from Osaka City and other stakeholders. The two cities promote effective and efficient city-to-city collaboration through the organisation of policy dialogues every year to clarify issues and needs in Ho Chi Minh City. In this project, the feasibility of developing JCM projects is being examined to introduce high-efficiency air conditioning equipment and high-efficiency gas boilers in the industrial and commercial sectors in Ho Chi Minh City under city-to-city collaboration between both cities and to promote CCAP2017-2020 by encouraging the spread of energy-efficient technologies.



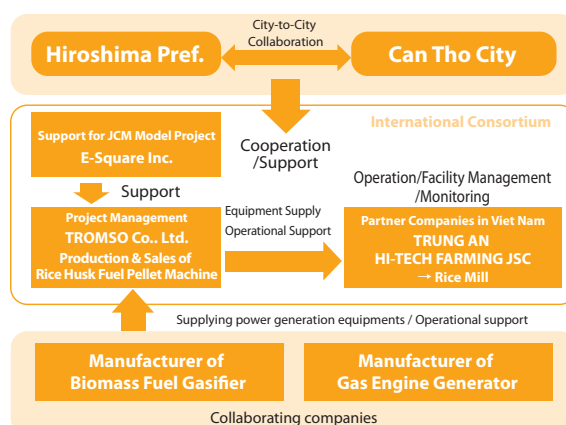
Biomass Power Generation Project through the Conversion of Rice Husks Generated from Rice Mills into Compressed Solid Fuel

Implementation Body | Tromso Co., Ltd.

Partner Entities | Hiroshima Prefecture, E-Square Inc.

Hiroshima Prefecture and Can Tho City have continued to carry out business exchanges, such as the organisation of business meetings in the field of environmental purification, since 2013. In 2017, the cities signed a cooperation agreement aiming to implement projects that help improve the environment. With Can Tho City planning to develop a master plan and implement measures with the aim of becoming a low-carbon city, Hiroshima Prefecture will offer its support to these activities as part of a cooperative project focussed on the introduction of low-carbon technologies.

This fiscal year, the project examines potential initiatives capable of enhancing profitability from residual coal by compressing and solidifying rice husks discharged from rice mills during the rice milling process for use as fuel to generate electricity through gasification, which can provide 100% of the electricity used in rice mills and be used as a gasifier for fuel.



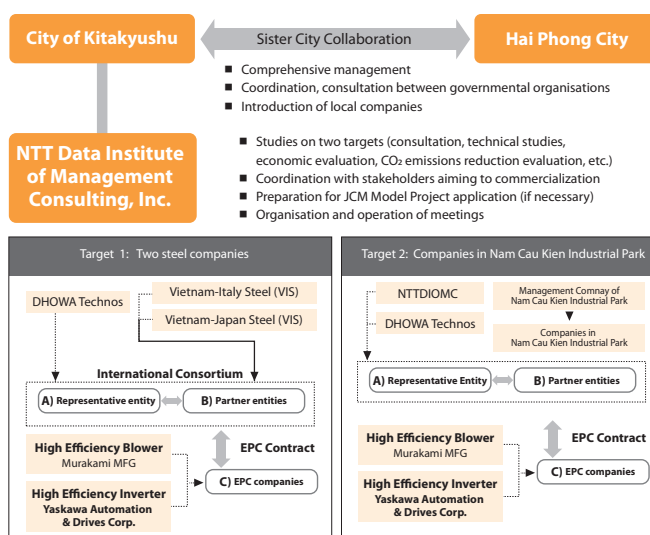


Support for the Establishment of a Model Project for the Eco-Industrial Park Concept

| Implementation Body | NTT Data Institute of Management Consulting, Inc.
| Partner Entities | Kitakyushu Asian Center for Low Carbon Societ



The cities of Kitakyushu in Japan and Hai Phong in Viet Nam signed a sister city agreement in 2014. Out of several pilot projects identified in the Hai Phong Green Growth Promotion Plan, which was formulated in collaboration between the two cities, individual projects are being developed in seven areas. In this study, the feasibility of improving the efficiency of energy-intensive equipment in industrial parks is being examined to develop an eco-industrial park in Nam Cau Kien Industrial Park in Hai Phong in order to further position Hai Phong as a low-carbon city. Specifically, the study will examine the introduction of high-efficiency blowers, high-pressure inverters and high efficiency pumps, and high-pressure inverters.



Relevant Websites



Web Portal for Low Carbon Development in Asia



<http://www.env.go.jp/earth/coop/lowcarbon-asia/english/>

This portal provides information regarding related policy trends and support systems for achievement of low-carbon development in Asia.



JCM – The Joint Crediting Mechanism



<http://jec.jp/jcm/jp/>

This site introduces JCM Model projects and provides information on call for proposals.



Carbon Markets Express



<https://www.carbon-markets.go.jp/>

This website will introduce JCM and carbon markets in the world, based on the information released by the government of Japan.



The Joint Crediting Mechanism



<https://www.jcm.go.jp/>

This official platform provides information and updates for the JCM.

Yokohama – Da Nang, Viet Nam

Application of Projects to Install High-efficiency Pumps in Water Utilities in Viet Nam

Achievements in C2C Collaboration

Yokohama Water Co., Ltd. disseminates extensive know-how on water supply technologies and business management developed in the city to other areas in Japan and overseas in cooperation with the City of Yokohama to help secure a stable supply of safe water. Since fiscal 2013, Yokohama Water has taken part in city-to-city collaboration, resulting in the development of a project in 2016 to replace pumps inside a water treatment plant owned by the Da Nang Water Supply Company (DAWACO) with high-efficiency pumps.

This achievement has been well-received by stakeholders in Viet Nam and is being applied to JCM model projects utilizing subsidy schemes, such as the installation of inverters in intake pump facilities at a water supply plant in Ho Chi Minh City in 2018.

Expected GHG Emission Reductions

2,191 t-CO₂ per year

Integrated values of estimated emission reductions in JCM model projects utilizing subsidy schemes developed in Da Nang and Ho Chi Minh

Project Implementer

- | Japan | Yokohama Water Co., Ltd.
- | Viet Nam | Danang Water Supply Company (DAWACO) (Project in Da Nang)
- Thu Duc Water B. O. O. Corporation (TDW) (Project in Ho Chi Minh)

City-to-City Collaboration Project (Yokohama City-Da Nang City)

JCM Model Project (Project for Danang Water Supply Company)

Lateral Expansion of the JCM Model Project (Project for TDW in HCMC)

Expansion to other regions / countries

Stakeholders from water utilities in Viet Nam also taking part in a ceremony to mark the completion of the project

Creating new intercity partnerships



Ceremony marking the completion of the project



Installed high-efficiency pumps

Knowledge Exchange and Dissemination of the Program

MOEJ provides learning opportunities for cities and other stakeholders participating the City-to-City Collaboration Programme through workshops held in Japan. Those were held in Yokohama (October 2018), Kitakyushu City and Fukuoka City (January 2019) in FY2018, which participants from 19 cities of 7 countries joined the presentation of progress report, discussion about future developments and site visit to learn Japanese low-carbon technology. Taking these opportunities,

participants from Asian cities also visited their Japanese partner cities to strengthen linkages each other by individual meetings with relevant stakeholders and local companies.

The progress and outcomes of the Program are shared with a wider audience on such occasions as side-events at the UNFCCC-COP and seminars in Japan.



A City-to-City Collaboration Programme for Supporting the Development of Plans in Partner Cities

Osaka – Ho Chi Minh, Viet Nam

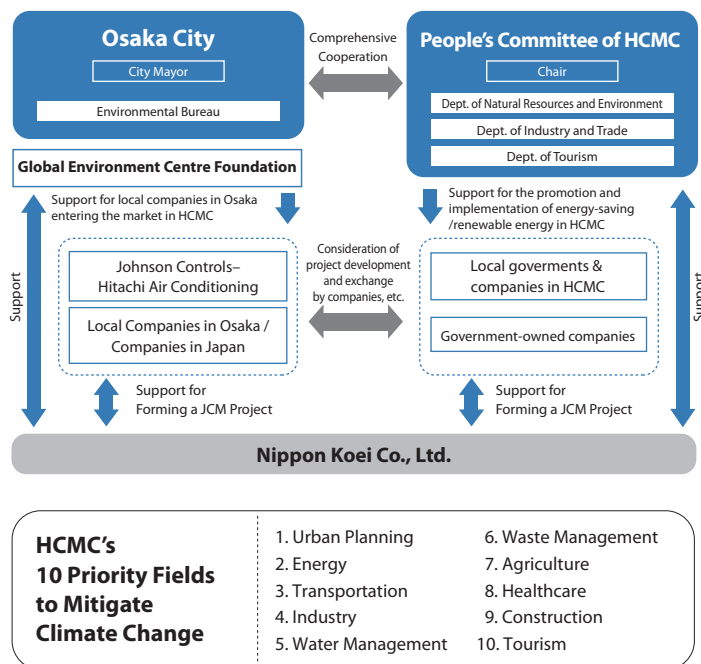
Support for the Formulation of the Climate Change Action Plan of Ho Chi Minh City in cooperation with the City of Osaka

Overview of City-to-City Collaboration

The cities of Ho Chi Minh and Osaka have promoted intercity cooperation on the basis of a memorandum of understanding on the Ho Chi Minh City–Osaka City Cooperation Project for Developing a Low-Carbon City signed in 2013 and renewed in 2016. In 2017, Ho Chi Minh formulated the “Ho Chi Minh City Climate Change Action Plan 2017-2020 and Prospects until 2030” with support from Osaka. The two cities have conducted a number of policy dialogues at the mayoral level and consultations at the practitioner level, created projects, developed human resources, organizations and systems, shared technologies and expertise, raised awareness and disseminated information for the steady implementation of the action plan.

Achievements in City-to-City Collaboration

Both Ho Chi Minh and Osaka are creating projects aiming at the formation of low-carbon cities in 10 target areas included in Ho Chi Minh's Climate Change Action Plan. To date, planning studies (PS) and technical assistance projects have been adopted for eight projects in the areas of transportation, waste and energy. Additional studies are being carried out to develop more concrete projects for the steady implementation of the action plan, designed to ensure that Ho Chi Minh City realizes the formation of a low-carbon city.



Transportation

Eco-Driving by Utilizing Digital Tachograph System

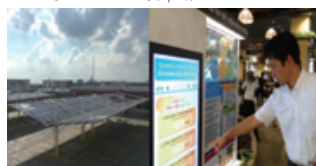
JP: Nippon Express Co., Ltd.
VN: Nippon Express Viet Nam



Energy

Introduction of Solar PV System at Shopping Mall in HCMC

JP: AEON RETAIL Co., Ltd.
VN: AEON VIETNAM Co., Ltd.



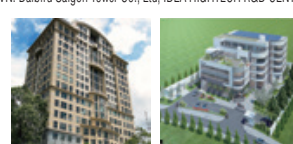
Energy Saving in Factories with AC Control System

JP: Yuko-Keiso Co., Ltd.
VN: Nidec Vietnam Co., Nidec SERVO Co., etc.



Introduction of High Efficiency AC System and Air Cooled Chillers to Office Buildings

JP: Hitachi-Johnson Controls Air Conditioning, Inc.
VN: Daibiru Saigon Tower Co., Ltd, IDEA HIGHTECH R&D CENTER



Guidebook

“Creating Sustainable Low-Carbon Cities through City-to-City Collaboration”

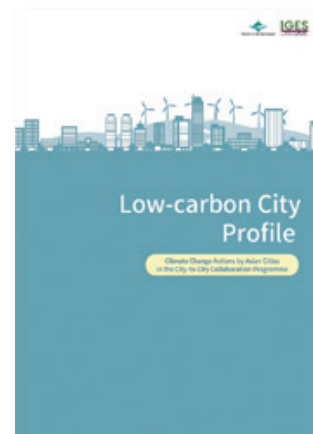
MOEJ published the guidebook titled “Creating Sustainable Low-Carbon Cities through City-to-City Collaboration” for promotion of the program. It was prepared for city officials and the private sector within cities in developing countries interested in the Programme.



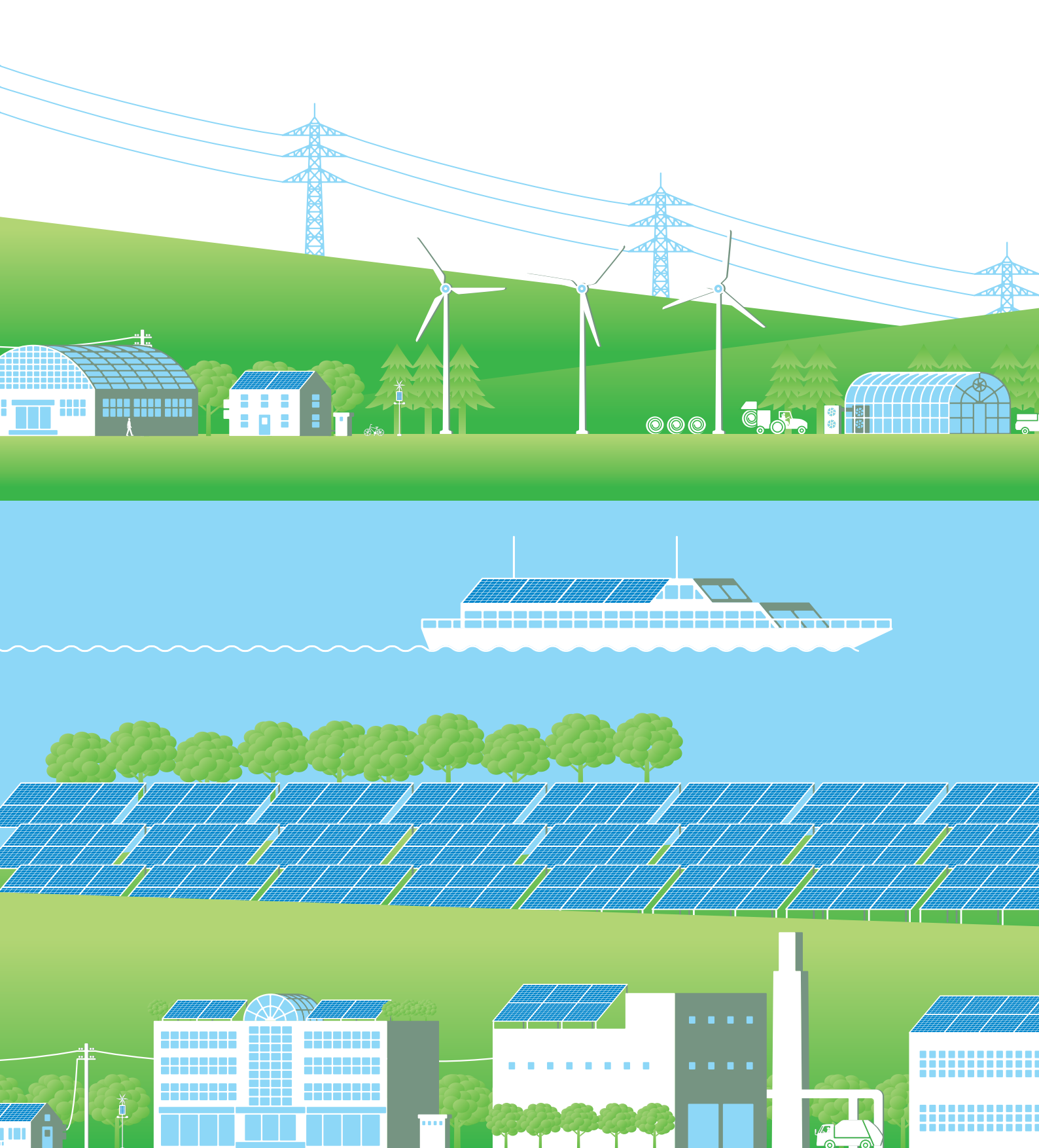
This guidebook is available from the Web Portal for Low Carbon Development in Asia (P.12)

Low Carbon City Profile -Climate Change Actions by Asian Cities in the City-to-City Collaboration Programme-

This booklet takes a look back on the past five years of the City-to-City Collaboration Programme and introduces the policies being implemented by the cities in Japan and overseas participating in this programme in order to create low-carbon cities.



This booklet is available from the Web Portal for Low Carbon Development in Asia (P.12)



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