FY2024

City-to-City Collaboration Program for Zero Carbon Society

C3P City-to-City Collaboration Program

Creating Sustainable Cities with Japan's Decarbonization Solutions

環境省
Ministry of the Environment

C3P
City-to-City Collaboration Program

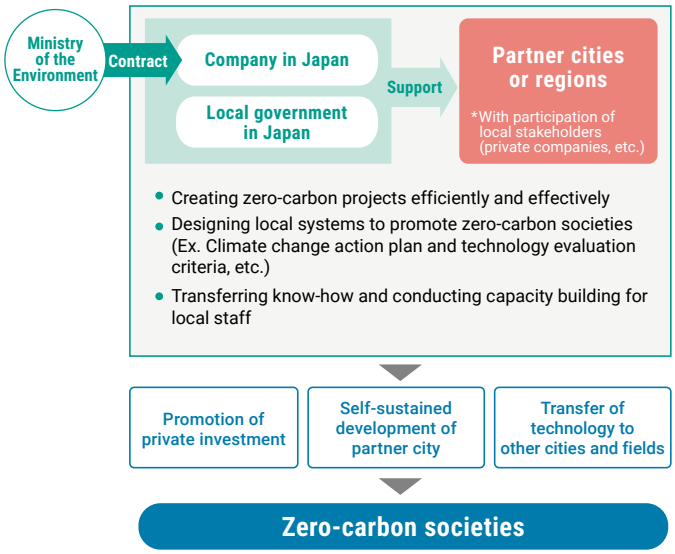
Program Overview

The City-to-City Collaboration Program for Zero Carbon Society (C3P) provides comprehensive support to local governments in Japan working in partnership with research organisations, private companies and other Japanese entities to identify low-/zero-carbon projects, conduct feasibility studies, develop institutions, and train human resources in partner cities overseas, in order to realise decarbonization.

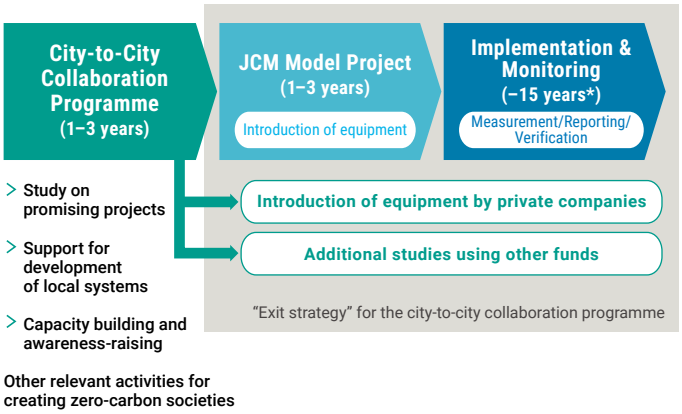
C3P has inspired carbon neutral declarations and the establishment of related systems in partner cities overseas, as well as the implementation of more than 20 environmental infrastructure projects through the JCM (BOX 1 and 2). The program's scope has expanded to encompass new areas of cooperation for the introduction of new technologies, such as hydrogen. Furthermore, this program is positioned as a core component of the Clean City Partnership Program (C2P2, BOX 3) launched jointly with JICA in February 2023, which provides comprehensive and synergistic support to partner cities in collaboration with international development finance institutions and other funders.

The program inspires local actors to implement policies to decarbonize their cities, creating a ripple effect that will drive decarbonization efforts around the world (also known as the decarbonization domino effect).

Program outline



Program exit strategies



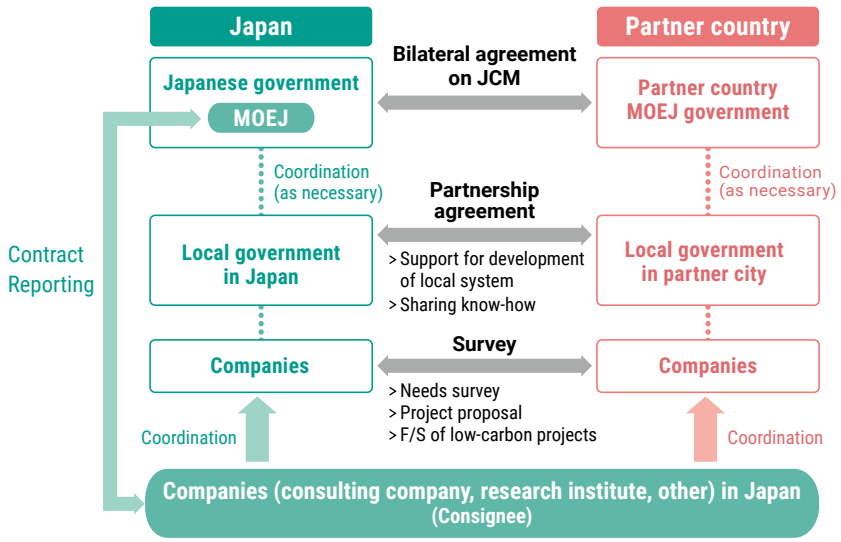
Program Support

Eligible activities:
Multi-stakeholder projects by Japanese local governments and partner cities overseas working together with research institutes, private companies and academic institutions in Japan to promote decarbonization at the local level in developing countries

Eligible countries:
Developing countries, with priority given to JCM partner countries

Target areas:
Diverse range of sectors in which decarbonization technologies such as energy saving, renewable energy, and hydrogen can be applied (i.e., projects that help reduce energy-related carbon dioxide emissions and promote the formation of a decarbonized society), including support for the establishment of systems to promote the introduction of facilities in each sector

Example of C3P project implementation system



Benefits of Participating in the Program

Benefits for cities

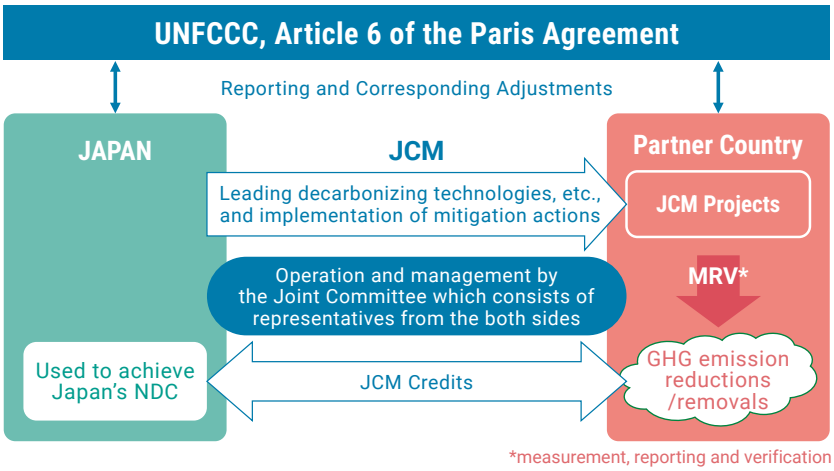
> Opportunity to establish a foundation for a zero-carbon society to lead to zero-carbon development at an earlier stage
> Realisation of co-benefits, such as improvements of the urban environment, and contributions to domestic policies and international agendas
> Creation of business opportunities by encouraging the participation of local companies
> Improved and enhanced urban environment to increase the appeal of the city and promote the development of industrial clusters and investment
> Opportunities to foster civic pride in residents as they learn about the efforts and actions of local governments and companies

Benefits for companies

> Use of the JCM to enable the introduction of superior zero-carbon technologies at low costs, and as a result, lower electric power and running costs. Companies will also be able to gain management know-how for the technologies introduced
> Improved corporate brand power as a result of being viewed as a company that is proactive on environmental measures
> Potential to acquire new sales channels

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

The JCM was established to quantitatively evaluate the extent of contributions by Japan and partner countries to the achievement of greenhouse gas emission reductions and removals in developing countries through the diffusion of advanced decarbonization technologies and implementation of mitigation actions in the form of JCM Model Projects and others. Credits acquired through these projects can be used to achieve the nationally determined contributions (NDC) for both countries under the Paris Agreement. To date, Japan has established partnerships with 29 countries under this mechanism*.



* Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Vietnam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand, Philippines, Senegal, Tunisia, Azerbaijan, Moldova, Georgia, Sri Lanka, Uzbekistan, Papua New Guinea, United Arab Emirates, Kyrgyz, Kazakhstan, Ukraine

Source: Government of Japan, Recent Developments of the Joint Crediting Mechanism (JCM) (May 2024)

BOX 2: What are JCM Model Projects?

JCM Model Projects are financed by the Japanese government through subsidies that cover a portion of the installation costs of facilities and equipment to reduce energy-related CO_2 emissions. To date, 252 projects have been developed that can contribute to a reduction in CO_2 emissions by approximately 3.1 million tonnes per year.

Source: MOEJ, List of JCM Financing Program by MOEJ (FY2013—2024) as of October 18, 2024

BOX 3: What is the Clean City Partnership Program (C2P2)?

Launched in February 2023 by the MOEJ together with Japan International Cooperation Agency (JICA), this program aims to address challenges faced by cities around the world from multiple perspectives. With the participation of Japanese local governments, private companies, financial institutions, and in collaboration with international development finance institutions (MDBs), the program aims to provide comprehensive and synergistic support to partner cities overseas to address urban challenges including climate change, environmental pollution, circular economy, and ending and reversing nature loss.

List of FY2024 Projects under the C3P

Ulaanbaatar City (Mongolia)—Sapporo City

01 Zero Carbon Society Development through the Introduction of Environmental Infrastructure Suitable for Cold Climates in Ulaanbaatar City

Main Proposer: Oriental Consultants Co., Ltd.

Kuala Lumpur City (Malaysia)–Tokyo Metropolitan Government & Saitama City

02 Developing an Institutional Framework for Zero Carbon Kuala Lumpur and Its Neighbourhoods

Main Proposer: Institute for Global Environmental Strategies (IGES)

Pekanbaru City (Indonesia)—Kawasaki City

03 Project to Promote a 2050 Zero Carbon City in the Riau Province Region through Cooperation with Pekanbaru City

Main Proposer: Nippon Koei Co., Ltd.

Bangkok Metropolitan Administration (Thailand)—Yokohama City

04 Project for Accelerating GHG Net Zero Emission under the Bangkok Master Plan on Climate Change

Main Proposer: Overseas Environmental Cooperation Center, Japan (OECC)

Makassar City (Indonesia)—Yokohama City

05 Zero Carbon City Project Focused on Transportation and Energy through City-to-City Collaboration between Makassar City and Yokohama City

Main Proposer: Nippon Koei Co., Ltd.

Renca Municipality, Santiago City (Chile)—Toyama City

06 Project to Promote Decarbonization and SDG Domino Effects through Participation in the Race to Zero by Renca, Santiago

Main Proposer: Nippon Koei Co., Ltd.

Bali Province (Indonesia)—Toyama City

07 City-to-City Collaboration Project to Realize a Decarbonized Society by Toyama City and Bali Province

Main Proposer: JAPAN NUS Co., Ltd.

Hue City (Vietnam)—Shizuoka City

08 City-to-City Collaboration Project for the Realization of a Decarbonized Society in Hue, Vietnam

Main Proposer: Nippon Koei Co., Ltd.

Quang Ninh Province & Hai Phong City (Vietnam)—Shiga Prefecture

09 Project to Support the Achievement of Green Growth and a Decarbonized Society through City-to-City Collaboration between Quang Ninh Province and Shiga Prefecture

Main Proposer: KANSO TECHNOS Co., Ltd.

Eastern Economic Corridor (EEC) (Thailand)—Osaka City

10 Support for Designing a Decarbonized Society with the BCG Economy in the EEC, Thailand

Main Proposer: Nippon Koei Co., Ltd.

Ho Chi Minh City & Thu Duc City (Vietnam)—Osaka City

11 Promotion of Carbon Neutrality Based on Climate Change Policies in Ho Chi Minh City and Thu Duc City

Main Proposer: Nippon Koei Co., Ltd.

Quezon City (Philippines)—Osaka City

12 Zero Carbon Development in Quezon City toward a Carbon Neutral Society

Main Proposer: Oriental Consultants Co., Ltd.

Ba Ria-Vung Tau Province (Vietnam)—Sakai City

13 Promotion of a Zero-Carbon Smart City through City-to-City Collaboration between Ba Ria-Vung Tau Province and Sakai City

Main Proposer: Nippon Koei Co., Ltd.

Da Nang City (Vietnam)—Sakai City

14 Zero Carbon Development in Da Nang City for the Realization of a Carbon Neutral Society

Main Proposer: Oriental Consultants Co., Ltd.

Dong Nai Province (Vietnam)—Kobe City

15 Green-Smart Industrial Park Development Project by City-to-City Collaboration between Kobe City and Dong Nai Province, Vietnam

Main Proposer: Nippon Koei Co., Ltd.

Makassar City (Indonesia)—Maniwa City

16 City-to-City Collaboration Project toward a Decarbonized Society between Makassar City and Maniwa City

Main Proposer: Yachiyo Engineering Co., Ltd.

Gorontalo Province (Indonesia)—Ehime Prefecture

17 Support Project for Achieving the SDGs and Developing a Sustainable Decarbonized Society

Main Proposer: JAPAN NUS Co., Ltd.

Ben Tre Province (Vietnam)—Ehime Prefecture

18 City-to-City Collaboration for the Realization of a Decarbonized and Circular Society by Ehime Prefecture and Ben Tre Province

Main Proposer: JAPAN NUS Co., Ltd.

Hanoi City (Vietnam)—Fukuoka Prefecture

19 Promotion of Environmental Infrastructure Introduction through City-to-City Collaboration in Hanoi City

Main Proposer: Nippon Koei Co., Ltd.

Koror State (Palau)—Kitakyushu City

20 City-to-City Collaboration Project for Promoting Decarbonized Cities and Achieving Co-benefits in Koror State, Republic of Palau

Main Proposer: ATGREEN Co., Ltd.

Cilegon City & West Java Province (Indonesia)—Kitakyushu City

21 Feasibility Study for Decarbonizing the Cement Industry in Indonesia

Main Proposer: Institute for Global Environmental Strategies (IGES)

Ubon Ratchathani Province, Warin Chamrap Town Municipality & Pibun Mangsahan Towm Municipality (Thailand)—Kitakyushu City

22 JCM Project Development Study for the Realization of Carbon Neutrality in Ubon Ratchathani Province, Thailand

Main Proposer: EX Research Institute Limited

Telengana State, Hyderabad City, etc. (India)—Kitakyushu City

23 Promotion of Decarbonized, Recycling-Oriented Eco-Towns in India

Main Proposer: EX Research Institute Limited

Gianyar Regency (Indonesia)—Osaki Town

24 Project to Promote the Establishment of a Decarbonized, Recycling-Oriented Society through the Osaki System in Gianyar, Bali Province, Indonesia

Main Proposer: Soo Recycle Center Co., Ltd.

Airai State (Palau)—Urasoe City

25 Support Project for Developing a Sustainable, Eco-friendly Smart City: An Intercity Collaboration between Urasoe City and Airai State

Main Proposer: JAPAN NUS Co., Ltd.

Connections

Web Portal for Zero Carbon Development in Asia

Information on policy trends and support systems for decarbonized development in Asia

www.env.go.jp/earth/coop/lowcarbon-asia/english

JAPAN PLATFORM for REDESIGN: SUSTAINABLE INFRASTRUCTURE

A comprehensive public-private partnership platform to encourage Japanese companies to develop environmental infrastructure overseas

jprsi.go.jp/en

JCM – The Joint Crediting Mechanism

Case studies of JCM Model Projects and information on the open application process

gec.jp/jcm

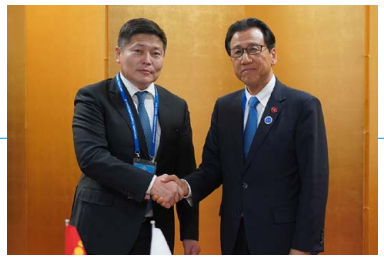
CARBON MARKETS EXPRESS

Information on the carbon market from the Japanese government with a focus on the JCM

carbon-markets.env.go.jp/eng

01 Ulaanbaatar City (Mongolia)—Sapporo City

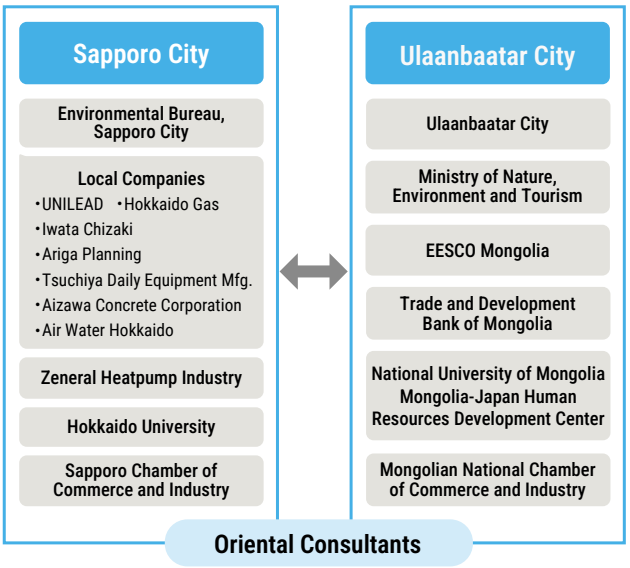
Main Proposer: Oriental Consultants Co., Ltd.



Zero Carbon Society Development through the Introduction of Environmental Infrastructure Suitable for Cold Climates in Ulaanbaatar City

Sapporo City and Ulaanbaatar City have joined forces to tackle the unique challenges of cold climates. During the 20th Winter Cities Mayors Conference held in Sapporo, the two cities engaged in a mayoral dialogue and conducted site visits to explore Sapporo's environmental infrastructure. They also carried out on-site investigations to assess the potential applications of cold-climate technologies.

Ulaanbaatar City, which relies heavily on coal as its primary energy source, is aiming to develop cleaner heating systems and sustainable housing plans. This project includes studies on transitioning to high-efficiency boilers and geothermal energy as part of a broader decarbonization effort. It also explores the feasibility of installing rooftop solar panels, introducing low-carbon buildings, and utilizing cold-climate-specific infrastructure such as ice shelters and biogas systems. The initiative seeks to incorporate locally sourced renewable energy solutions and aims to advance commercialization with potential support from the Joint Crediting Mechanism (JCM).



02 Kuala Lumpur City (Malaysia)– Tokyo Metropolitan Government & Saitama City

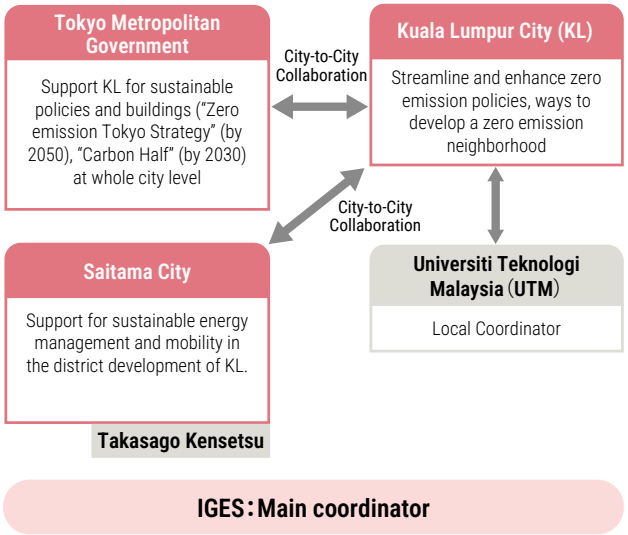
Main Proposer: Institute for Global Environmental Strategies (IGES)

Developing an Institutional Framework for Zero Carbon Kuala Lumpur and Its Neighbourhoods

During the first phase of this project (FY2019–FY2021), Tokyo Metropolitan Government shared its expertise with Kuala Lumpur City (KL City), providing practical guidance on implementing low-carbon building systems. This phase focused on supporting KL City in its efforts to promote low-carbon construction.

The second phase, which began in FY2022, has seen Tokyo and Saitama City collaborate to refine their low-carbon urban development strategies and assist in decarbonizing the Wangsa Maju district, designated as a carbon-neutral zone. A key initiative has been exploring the feasibility of introducing Japanese-style wooden houses with advanced insulation and airtightness in partnership with Malaysian research institutions. This work is part of ongoing efforts to support sustainable urban development.

At COP29, the governors and mayors of Tokyo, Saitama City, and KL City attended in person to showcase these initiatives at the Japan Pavilion.



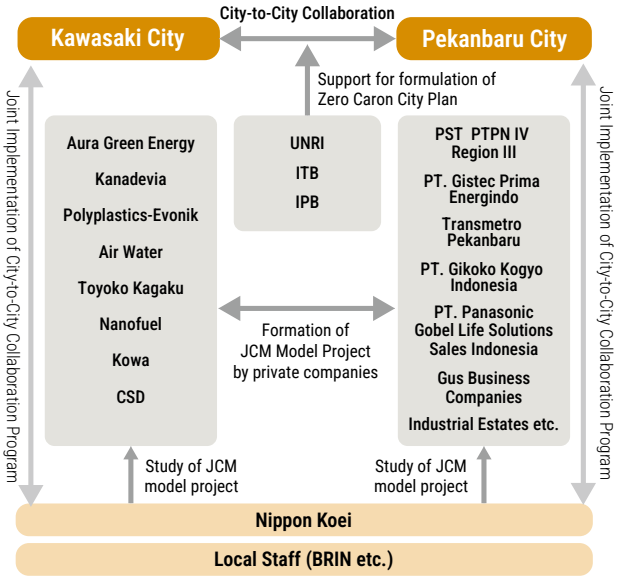
03 Pekanbaru City (Indonesia)—Kawasaki City

Main Proposer: Nippon Koei Co., Ltd.

Project to Promote a 2050 Zero Carbon City in the Riau Province Region through Cooperation with Pekanbaru City

This project, under City-to-City Collaboration between Kawasaki City and Pekanbaru City, aims to spark a decarbonization domino effect throughout Riau Province, starting with Pekanbaru City's goal of becoming a zero-carbon city by 2050. This year, Kawasaki City and Pekanbaru City worked together to host workshops aimed at expanding decarbonization efforts to other municipalities in the province.

In partnership with local businesses that prioritize environmental sustainability and human rights, the project is in its final stages of evaluating initiatives to repurpose waste from the palm oil industry—Riau Province's key sector—into a renewable energy source. Additionally, feasibility studies have been conducted to support the deployment of solar power systems with battery storage, energy management systems, and LED streetlights, particularly in industrial parks in Riau Province.

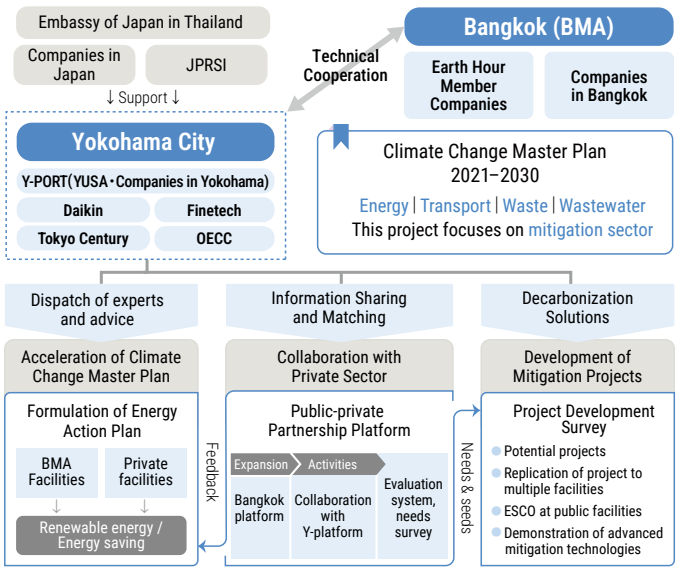


04 Bangkok Metropolitan Administration (Thailand)—Yokohama City

Main Proposer: Overseas Environmental Cooperation Center, Japan (OECC)

Project for Accelerating GHG Net Zero Emission under the Bangkok Master Plan on Climate Change

Thailand is striving to achieve carbon neutrality by 2050, with the capital, Bangkok, playing a crucial role in this effort. Bangkok has set an ambitious long-term goal of achieving "Net Zero by 2050" and is actively working on climate action. This project, based on the partnership between Yokohama City and the Bangkok Metropolitan Administration (BMA), provides policy support and strengthens public-private collaboration to advance the implementation of Bangkok's Climate Change Master Plan. Key initiatives include establishing and managing a platform to foster public-private partnerships, implementing an energy action plan to accelerate the Master Plan, and developing greenhouse gas reduction projects through the JCM.



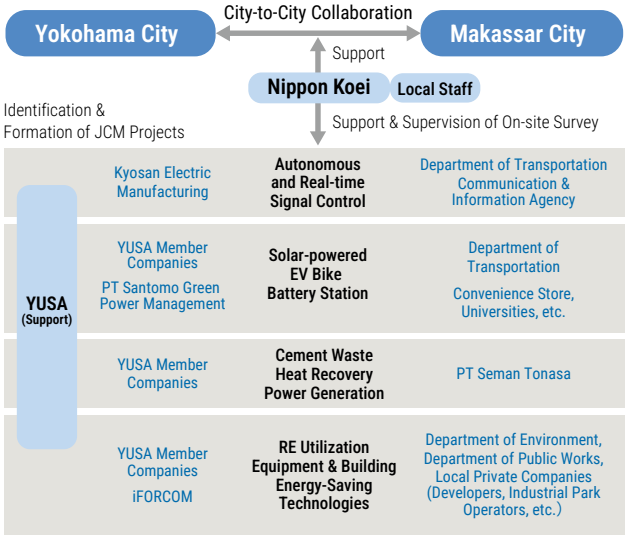
05 Makassar City (Indonesia)—Yokohama City

Main Proposer: Nippon Koei Co., Ltd.

Zero Carbon City Project Focused on Transportation and Energy through City-to-City Collaboration between Makassar City and Yokohama City

This City-to-City Collaboration project aims to transform Makassar into a decarbonized city by promoting decarbonization in the transportation sector as well as the adoption of renewable energy and energy efficiency measures. Yokohama City is sharing its knowledge and experience with Makassar, focusing not only on overall decarbonization policies but also on specific measures in the transportation sector.

As part of the JCM feasibility studies, the project is exploring several initiatives, including the introduction of autonomous decentralized traffic signal control systems at intersections in Makassar City; the installation of solar power systems at battery swapping stations for electric motorcycles; the implementation of waste heat recovery power generation systems at cement plants; and the adoption of renewable energy and energy-saving technologies in buildings throughout the city.



06 Renca Municipality, Santiago City (Chile)—Toyama City

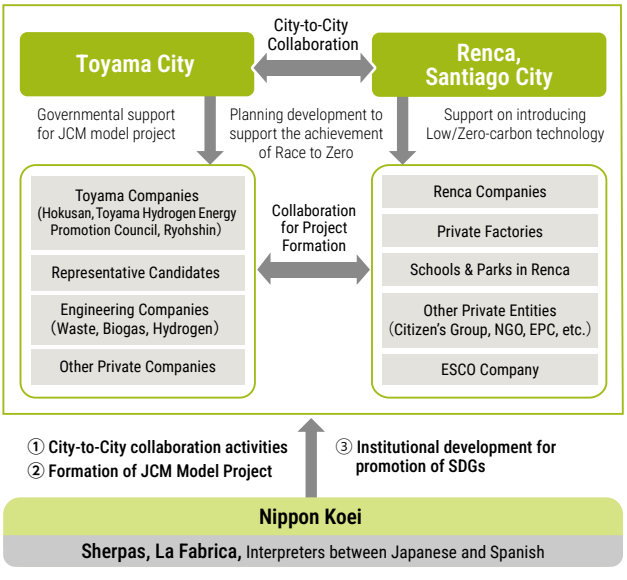
Main Proposer: Nippon Koei Co., Ltd.

Project to Promote Decarbonization and SDG Domino Effects through Participation in the Race to Zero by Renca, Santiago

This project is actively advancing GHG reduction initiatives in Renca Municipality to achieve the Race to Zero goals by supporting the formulation of plans and expanding JCM Model Projects. One key initiative is the installation of rooftop solar power systems, which are in high demand locally. Additionally, the project is investigating the potential for deploying cutting-edge decarbonization technologies, such as biogas, hydrogen, and advanced waste management solutions.

To ensure these activities are effective and do not overlap with those of other nations supporting Renca Municipality, efforts are being made to collaboate closely with various international partners. The project also shares Toyama City's expertise and experience in decarbonization and SDG initiatives with Renca Municipality. Furthermore, Nippon Koei's digital transformation technology is being used through the SDG assessment tool, TSUMUGI@.

By leveraging Renca Municipality's strong communication network, this project will be used as a starting point to promote decarbonization and SDG initiatives across neighboring municipalities within Chile.



07 Bali Province (Indonesia)—Toyama City

Main Proposer: JAPAN NUS Co., Ltd.

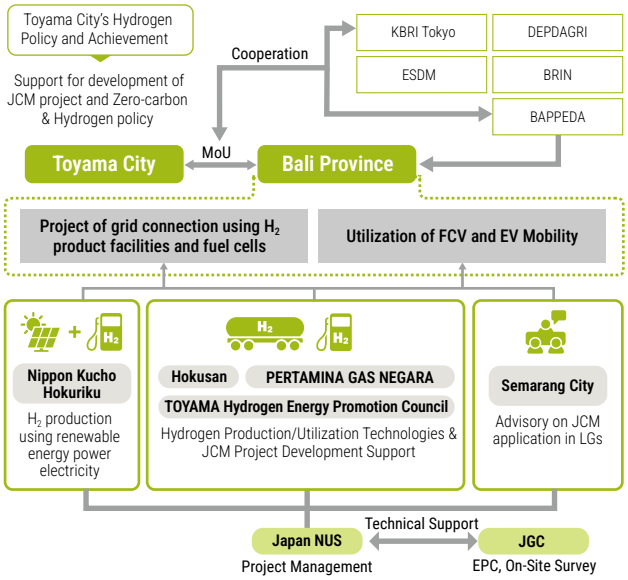
City-to-City Collaboration Project to Realize a Decarbonized Society by Toyama City and Bali Province

Based on Bali Province's decarbonization plans and local needs, this project conducts feasibility studies for (1) a grid integration project utilizing hydrogen production and fuel cells; and (2) a mobility utilization project involving FCVs (fuel cell vehicles) and EVs (electric vehicles).

For (1), a hydrogen production, supply, and utilization model is being considered, which involves renewable hydrogen and hydrogen derived from plastic waste, targeting both private and public facilities. The project is currently in the phase of examining framework development and financing strategies.

For (2), the study explores the renewal of small hydropower facilities previously introduced with support from Toyama City, aiming to utilize them for tourism-oriented EV bikes.

To facilitate these initiatives, this project leverages Toyama City's accumulated expertise in promoting decarbonization technologies to propose and support the development of policies and systems essential for project implementation in Bali Province.



08 Hue City (Vietnam)—Shizuoka City

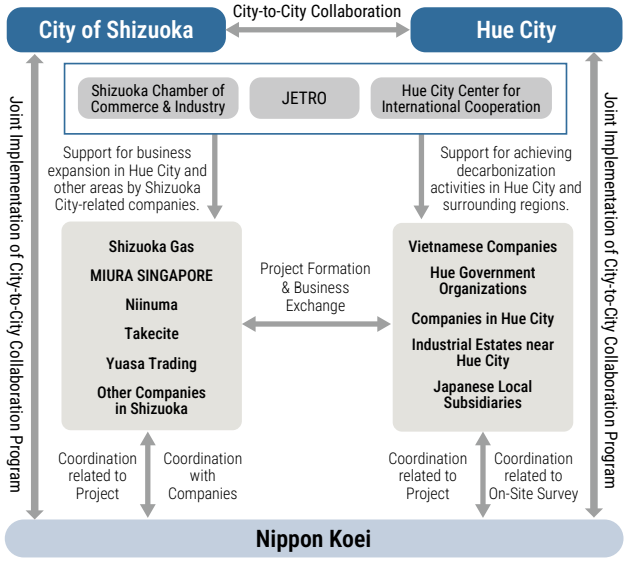
Main Proposer: Nippon Koei Co., Ltd.

City-to-City Collaboration Project for the Realization of a Decarbonized Society in Hue, Vietnam

This project aims to contribute to the realization of a decarbonized society in Hue City by sharing Shizuoka City's expertise as a leading decarbonization region, including its environmental policies based on its global warming countermeasure plan, while fostering exchanges between private companies from both cities and promoting the establishment of a corporate platform.

This project also aims to contribute to the realization of a decarbonized society in Hue City by identifying potential projects eligible for JCM Model Projects and supporting their implementation through these activities.

Specific initiatives include promoting the introduction of renewable energy and energy-saving measures at public facilities, factories, and tourist sites in Hue City, as well as exploring CO_2 capture and utilization projects using fresh concrete sludge. The project also supports JCM project formation and the creation of carbon credits.



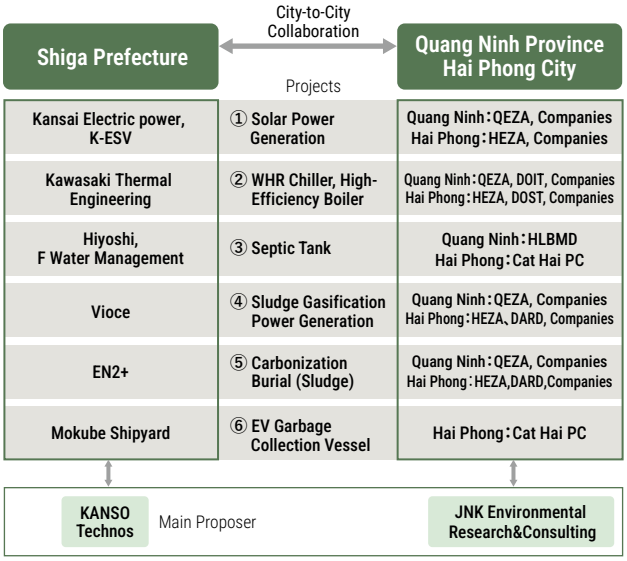
09 Quang Ninh Province & Hai Phong City (Vietnam)—Shiga Prefecture

Main Proposer: KANSO TECHNOS Co., Ltd.

Project to Support the Achievement of Green Growth and a Decarbonized Society through City-to-City Collaboration between Quang Ninh Province and Shiga Prefecture

This project promotes decarbonization initiatives in the key tourism and industrial hubs of Quang Ninh Province and Hai Phong City, supporting the realization of an environmentally conscious society (focused on decarbonization and water environment conservation). In urban areas, feasibility studies are being conducted for the introduction of solar power systems in industrial parks, waste heat utilization chillers, and high-efficiency boilers. In non-urban regions, we are assessing the potential for installing wastewater treatment tanks and sludge gas power generation facilities, as well as converting sludge residues into biochar to be buried in agricultural fields—an approach that simultaneously improves soil quality and contributes to decarbonization.

Additionally, in Hai Phong City, we are considering the introduction of electric garbage collection vessels to collect waste in marine areas, including those designated as world natural heritage sites.



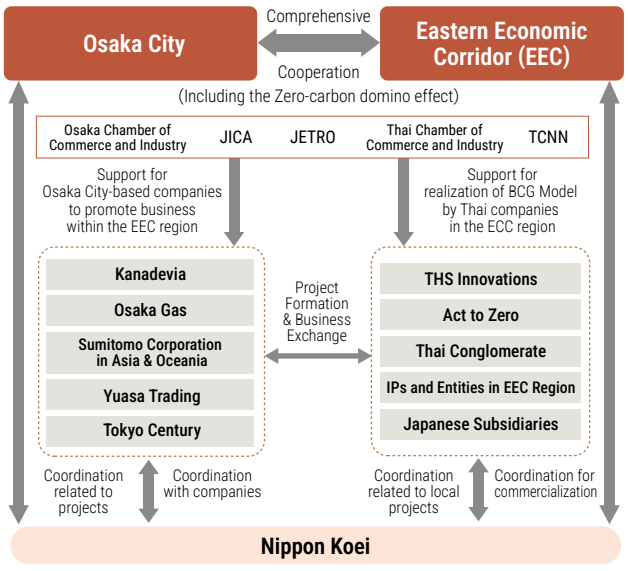
10 Eastern Economic Corridor (EEC) (Thailand)—Osaka City

Main Proposer: Nippon Koei Co., Ltd.

Support for Designing a Decarbonized Society with the BCG Economy in the EEC, Thailand

The City-to-City Collaboration Program between Osaka City and the Eastern Economic Corridor (EEC) is based on the "Memorandum of Understanding on Decarbonized Society Development" signed in February 2022. This project supports the realization of the EEC's Bio-Circular-Green (BCG) economy and net-zero goals by fostering institutional framework development through policy dialogues, as well as building networks and facilitating business matching between Japanese and Thai organizations.

This fiscal year, in collaboration with the Industrial Estate Authority of Thailand (IEAT) and other partners, efforts are being made to promote decarbonization in the industrial sector within the EEC region. Specifically, activities include conducting energy efficiency audits for factories to introduce high-efficiency equipment and exploring waste-to-energy projects, thereby supporting the formation of JCM projects and the creation of carbon credits.



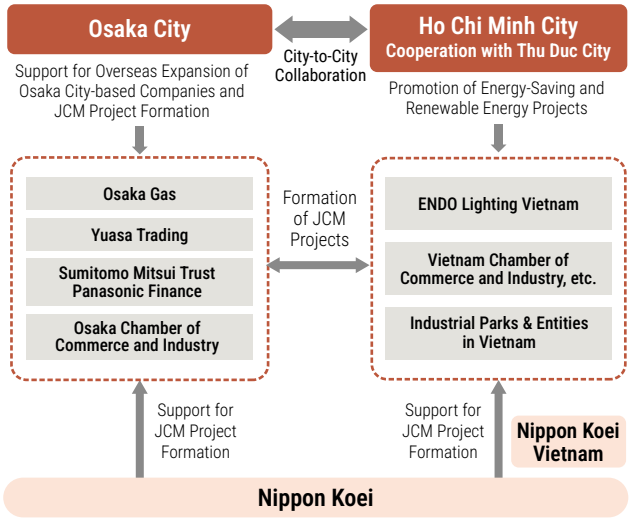
11 Ho Chi Minh City & Thu Duc City (Vietnam)—Osaka City

Main Proposer: Nippon Koei Co., Ltd.

Promotion of Carbon Neutrality Based on Climate Change Policies in Ho Chi Minh City and Thu Duc City

This project aims to promote carbon neutrality in Ho Chi Minh City and Thu Duc City, based on the "Memorandum of Understanding on the Formation of a Decarbonized and Low-Carbon City" signed between Osaka City and Ho Chi Minh City. Specific efforts include providing administrative advice and sharing case studies of Osaka City's climate change initiatives to support the implementation of the "Ho Chi Minh City Climate Change Action Plan (CCAP)" through annual policy dialogues and local workshops held in both cities.

In response to a request from Ho Chi Minh City, Osaka City also shares its environmental education content. Additionally, by leveraging the experience of participating companies involved in the "JCM Model Project" and "JCM Eco-Lease" initiatives, Japanese energy-saving and renewable energy technologies are being expanded horizontally to promote decarbonization in other cities and regions.



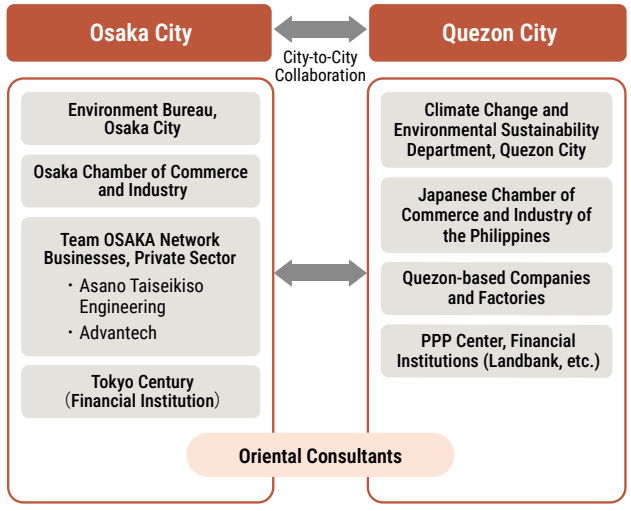
12 Quezon City (Philippines)—Osaka City

Main Proposer: Oriental Consultants Co., Ltd.

Zero Carbon Development in Quezon City toward a Carbon Neutral Society

The project contributes to achieving carbon neutrality by 2050, based on Quezon City's Enhanced Local Climate Change Action Plan 2021-2050 as a participating city in C40. The project outlines a clear pathway for the implementation of specific JCM projects in Quezon City by targeting the building sector, identified in the plan as a major source of GHG emissions, and facilitating the formation of JCM business models by Japanese companies within and around the city.

Specifically, the project considers the commercialization of JCM Model Projects for public and private facilities, focusing on initiatives such as rooftop solar power systems and technologies that utilize waste heat and geothermal heat. Based on the Memorandum of Cooperation for Environmental Partnership between Osaka City and Quezon City, efforts to promote environmental infrastructure development include policy dialogues at the mayoral and director-general levels, environmental infrastructure site visits, and business matching activities in collaboration with the Osaka Chamber of Commerce and Industry.



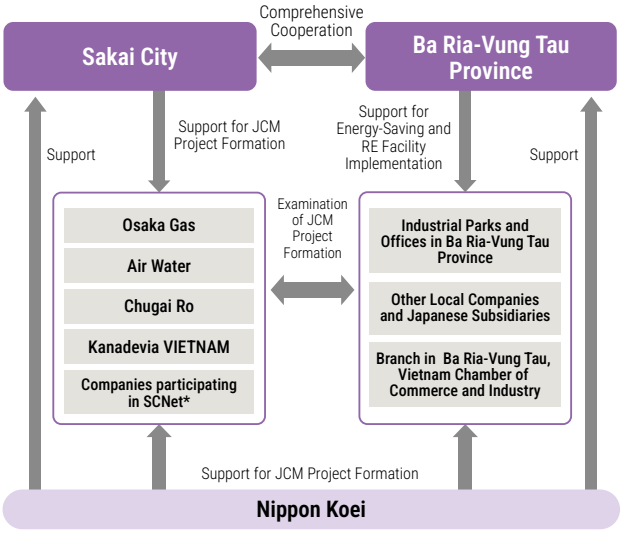
13 Ba Ria-Vung Tau Province (Vietnam)—Sakai City

Main Proposer: Nippon Koei Co., Ltd.

Promotion of a Zero-Carbon Smart City through City-to-City Collaboration between Ba Ria-Vung Tau Province and Sakai City

This project aims to develop a sustainable urban environment and a smart city in Ba Ria-Vung Tau Province, based on the City-to-City Collaboration Program with Sakai City. In response to the province's needs, foundational surveys and workshops are conducted, focusing on three key areas where Sakai City excels: decarbonization, circular economy, and smart city initiatives.

In addition to sharing knowledge and providing support for surveys and institutional framework development, the project considers a wide range of initiatives, such as renewable energy, energy efficiency, waste-to-energy systems, hydrogen-based decarbonized combustion technologies, and the utilization of biomass energy. Through these efforts, the project aims to comprehensively promote decarbonization of the urban environment in Ba Ria-Vung Tau Province, utilizing programs such as the JCM Model Project.



*SCNet : Sakai Carbon Neutral Overseas Expansion Network

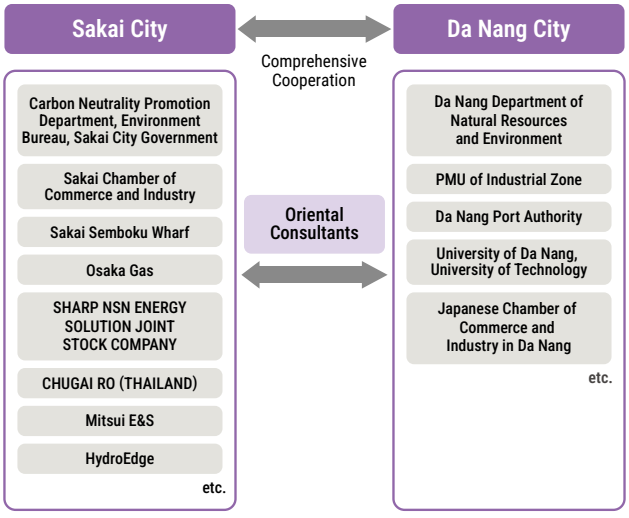
14 Da Nang City (Vietnam)—Sakai City

Main Proposer: Oriental Consultants Co., Ltd.

Zero Carbon Development in Da Nang City for the Realization of a Carbon Neutral Society

Da Nang City is one of Vietnam's leading cities and serves as the economic hub of the central region. This project aims to contribute to the realization of a decarbonized society by supporting initiatives focused on the city's key infrastructure, such as its port, and industrial parks where the city is promoting energy efficiency and renewable energy initiatives.

In the first year of the three-year plan, foundational surveys are being conducted to support the realization of a Carbon Neutral Port (CNP), the promotion of energy efficiency and renewable energy in industrial parks, and the development of institutional frameworks and plans to advance decarbonization and low-carbon initiatives. Additionally, seminars are being held to share Sakai City's expertise in developing roadmaps with Da Nang City, along with business matching events aimed at promoting decarbonization and the utilization of JCM projects.



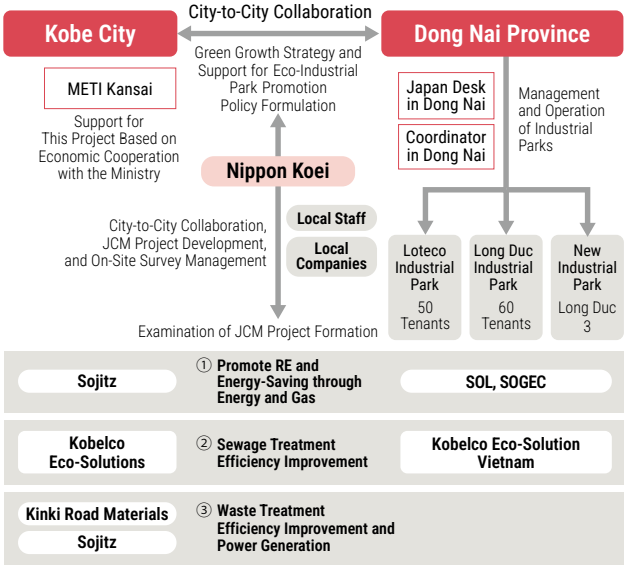
15 Dong Nai Province (Vietnam)—Kobe City

Main Proposer: Nippon Koei Co., Ltd.

Green-Smart Industrial Park Development Project by City-to-City Collaboration between Kobe City and Dong Nai Province, Vietnam

This project establishes and promotes a new City-to-City Collaboration Program between Kobe City and Dong Nai Province to implement a green and smart industrial park development initiative targeting both existing and new industrial parks funded by Kobe-related companies, including Sojitz and Kobelco Eco-Solutions.

Under the collaboration between Kobe City and Dong Nai Province, the project aims to materialize the urban vision of "Green Growth Strategy," where industrial development coexists with living and environmental infrastructure, and to support the formulation of the "Policy for Promoting Eco-Industrial and Smart Industrial Parks." Additionally, the project focuses on introducing technologies held by Kobe-related companies in three key areas: "promotion of renewable energy and energy efficiency through the utilization of energy and gas," "improvement of wastewater treatment efficiency," and "waste management efficiency and power generation."



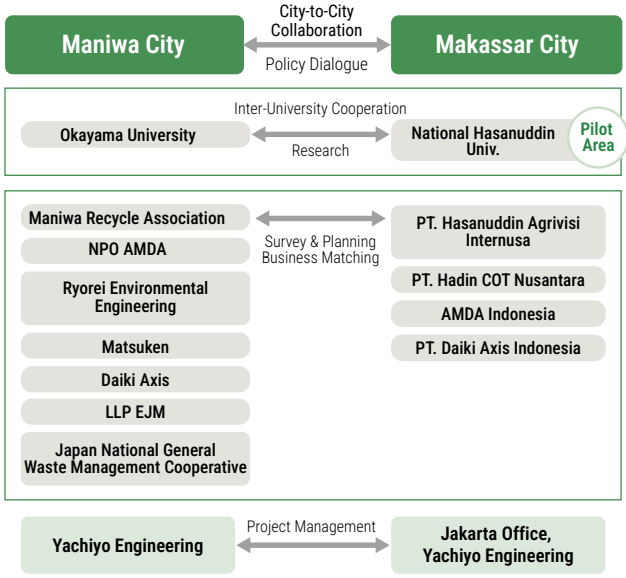
16 Makassar City (Indonesia)—Maniwa City

Main Proposer: Yachiyo Engineering Co., Ltd.

City-to-City Collaboration Project toward a Decarbonized Society between Makassar City and Maniwa City

Maniwa City in Okayama Prefecture formulated the "Concept of Biomass Town Maniwa" in the early 2000s, aiming to utilize woody resources for energy, and has been a pioneer in the use of biomass resources. In recent years, the city has been focusing on projects such as power generation using woody biomass and the reuse of organic waste resources, with the goal of realizing its "Declaration of Zero Carbon City Maniwa."

This project applies the "Maniwa Model," developed in Maniwa City, to Makassar City in Indonesia, with the objective of achieving a low-carbon society in the city. Specifically, the project includes surveys on the potential use of organic waste and septic sludge, support for formulating Makassar City's "Plan for Biomass Circulation," and feasibility studies for resource circulation projects using organic waste.



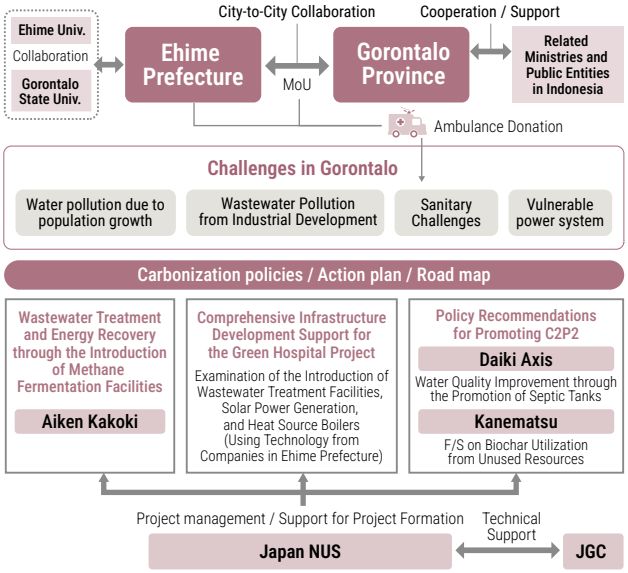
17 Gorontalo Province (Indonesia)—Ehime Prefecture

Main Proposer: JAPAN NUS Co., Ltd.

Support Project for Achieving the SDGs and Developing a Sustainable Decarbonized Society

Gorontalo Province in the Republic of Indonesia has requested support from Ehime Prefecture, which possesses expertise in addressing environmental and development challenges through decarbonization policies. In this project, Ehime Prefecture, local companies specializing in decarbonization technologies, and Ehime University collaborate to support the formulation of Gorontalo Province's decarbonization policies and plans.

The project also includes a survey on the promotion of methane fermentation facilities targeting industrial wastewater, infrastructure development for hospitals with green hospital plans, the introduction of septic tanks for domestic wastewater treatment to promote the Clean City Partnership Program (C2P2), and the installation of leachate treatment systems at final disposal sites. Furthermore, the project involves proposals and institutional development to facilitate the smooth implementation of these facilities, taking into account applications for Japanese government subsidies, including the JCM Model Project.



18 Ben Tre Province (Vietnam)—Ehime Prefecture

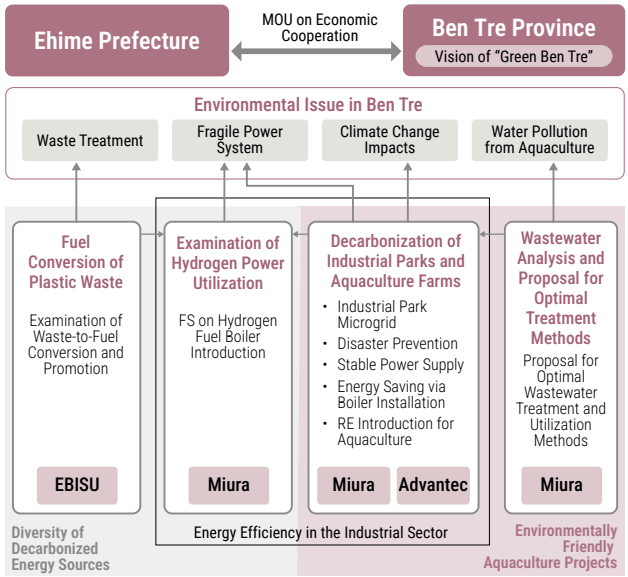
Main Proposer: JAPAN NUS Co., Ltd.

City-to-City Collaboration for the Realization of a Decarbonized and Circular Society by Ehime Prefecture and Ben Tre Province

Since signing a memorandum of understanding on economic cooperation in August 2022, Ehime Prefecture and Ben Tre Province have strengthened economic ties through initiatives such as business-to-business exchanges. In 2023, Ben Tre Province requested support for its decarbonization efforts, leading to the launch of the City-to-City Collaboration Program.

This project advises Gorontalo Province on policy implementation and offers recommendations for decarbonization plans, utilizing the policy development expertise cultivated by Ehime Prefecture. The program also includes feasibility studies on introducing solar power systems in industrial parks, low-carbon fuels like CNG, and hydrogen boilers.

To address the province's waste management challenges, the program assesses the feasibility of waste-to-fuel initiatives and provides analyses and proposals for optimal treatment technologies and the use of aquaculture wastewater.



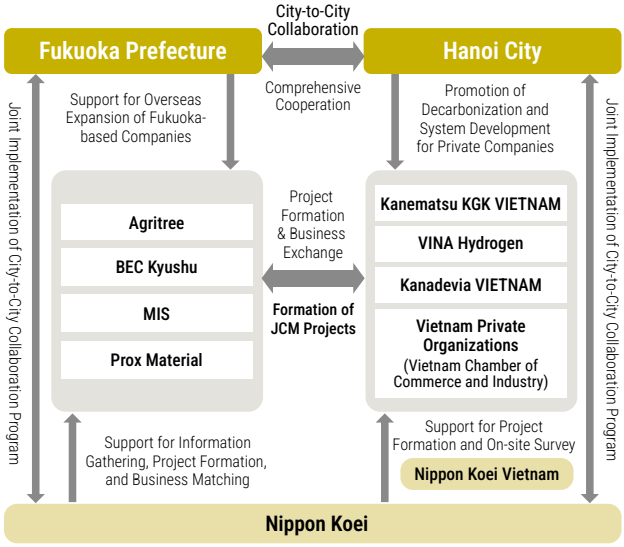
19 Hanoi City (Vietnam)—Fukuoka Prefecture

Main Proposer: Nippon Koei Co., Ltd.

Promotion of Environmental Infrastructure Introduction through City-to-City Collaboration in Hanoi City

Fukuoka Prefecture and Hanoi, the capital of Vietnam, established a friendship city agreement in 2008 and have since promoted exchanges in various fields, including the environment, economy, and agriculture. This project aims to improve Hanoi's environment and promote decarbonization by introducing advanced environmental and decarbonization technologies from Japanese companies and exploring the potential of new technologies, such as digital transformation (DX) and hydrogen.

Specifically, the project introduces examples of environmental policies and initiatives implemented in Japan to Hanoi City. Additionally, surveys and interviews are conducted with companies located in industrial parks to propose technologies held by Japanese companies. In local workshops, Japanese companies present their energy-saving, renewable energy, and waste management technologies to Hanoi City and local businesses, promoting the adoption of environmental infrastructure.



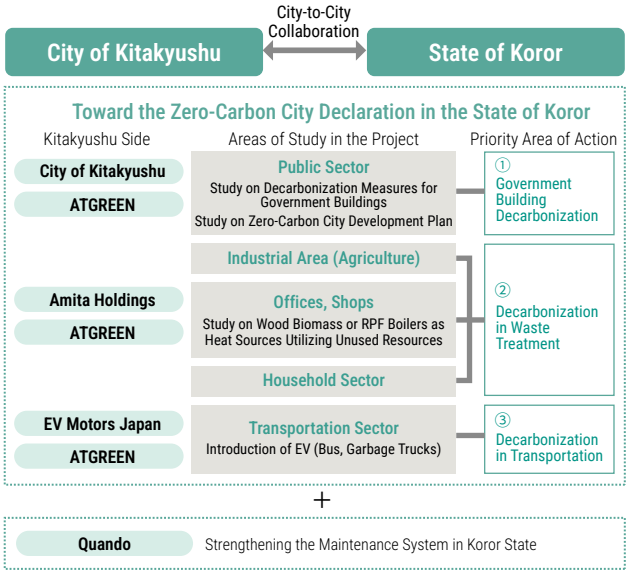
20 Koror State (Palau)—Kitakyushu City

Main Proposer: ATGREEN Co., Ltd.

City-to-City Collaboration Project for Promoting Decarbonized Cities and Achieving Co-benefits in Koror State, Republic of Palau

This project conducts a survey on a biomass and RPF heat supply model that utilizes pruned branches and unused resources from resort hotels and public institutions in Koror State, building on the ongoing City-to-City Collaboration between Kitakyushu City and Koror State. The survey examines factors such as the available resource volume, heat demand and supply, fuel collection models, and the potential co-benefits, such as industrial promotion through the use of heat demand.

In addition, the project investigates the feasibility of introducing renewable energy and energy-saving systems in public facilities, as well as electric vehicles (EVs) in the transportation sector. It also presents specific proposals for decarbonization initiatives in Koror State.

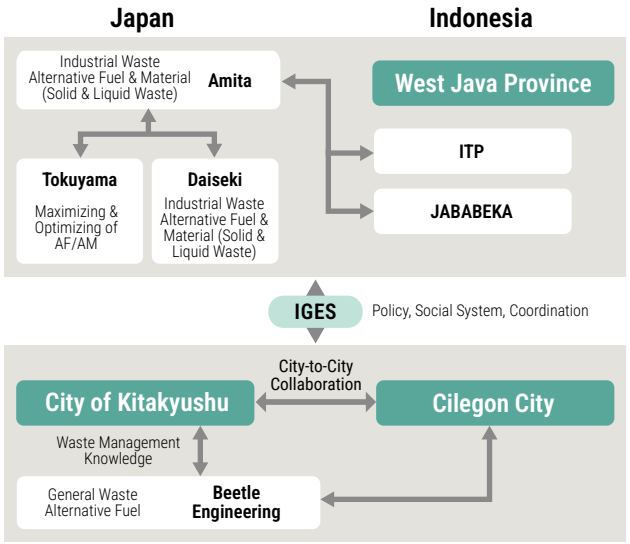


21 Cilegon City & West Java Province (Indonesia)—Kitakyushu City

Main Proposer: Institute for Global Environmental Strategies (IGES)

Feasibility Study for Decarbonizing the Cement Industry in Indonesia

The cement industry is known to be the third-largest energy consumer in the world and the second-largest emitter of CO_2. This project aims to explore and assess the potential for decarbonization in the cement industry through CO_2 emissions reduction across the entire supply chain, focusing on Cilegon City in Banten Province and West Java, Indonesia. Key activities include utilizing industrial waste as raw materials and fuel for cement production; converting municipal waste into fuel; improving waste management through city-to-city collaboration; introducing energy-saving technologies to cement plants; and supporting the establishment of regulatory frameworks to promote the use of waste as raw materials and fuel. Through these efforts, the project seeks to provide diverse co-benefits to the target cities.

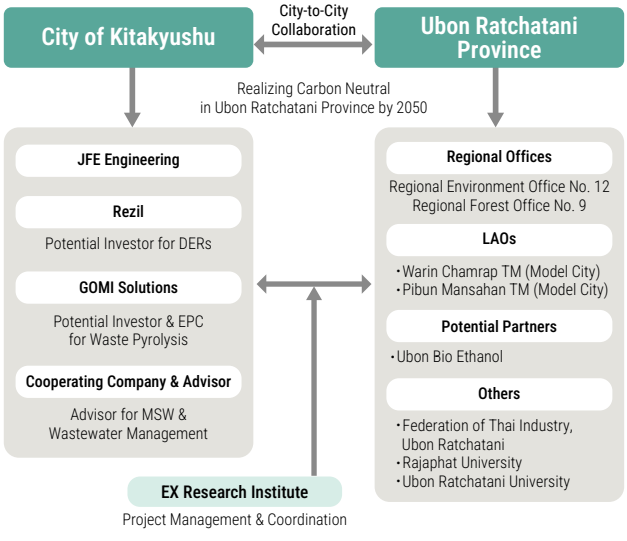


22 Ubon Ratchathani Province, Warin Chamrap Town Municipality & Pibun Mangsahan Towm Municipality (Thailand)—Kitakyushu City

Main Proposer: EX Research Institute Limited

JCM Project Development Study for the Realization of Carbon Neutrality in Ubon Ratchathani Province, Thailand

This project focuses primarily on Ubon Ratchathani Province and Warin Chamrap City in Thailand, supporting the formulation of decarbonization plans tailored to regional characteristics. Through the implementation of decarbonization projects outlined in these plans, the initiative aims to help the province and the city achieve carbon neutrality by 2050. Specific activities include promoting the commercialization of waste-to-energy incineration projects and renewable energy generation projects within the province's municipal waste management zones. Additionally, by expanding these decarbonization models to other cities and regions within the province, the project aims to create a "decarbonization domino effect" throughout Ubon Ratchathani Province.



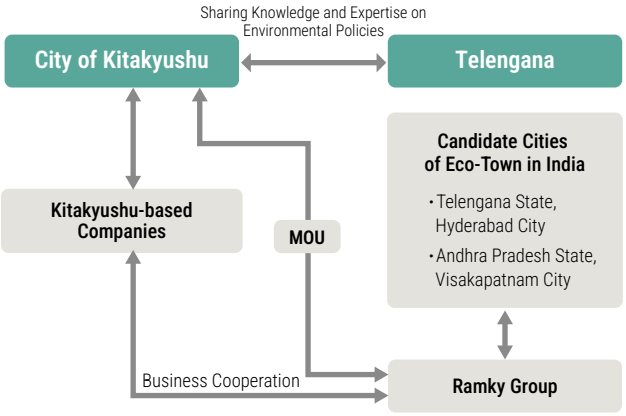
23 Telengana State, Hyderabad City, etc. (India)—Kitakyushu City

Main Proposer: EX Research Institute Limited

Promotion of Decarbonized, Recycling-Oriented Eco-Towns in India

In September 2023, Kitakyushu City signed a partnership agreement with the Ramky Group, a company that operates waste management businesses across India, to promote international environmental business. This project targets the cities of Hyderabad in Telangana State and Visakhapatnam in Andhra Pradesh State, both candidates for eco-town development in India. By leveraging the technologies of companies based in Kitakyushu City and the city's expertise in public awareness initiatives, the study aims to assess the feasibility of establishing a decarbonized and circular eco-town. The study includes promoting waste recycling, utilizing renewable energy, and introducing energy-efficient facilities.

This fiscal year, the project is conducting surveys on the use of solid and liquid waste; the introduction of high-efficiency medical waste treatment systems; and the installation of coke dry quenching equipment.



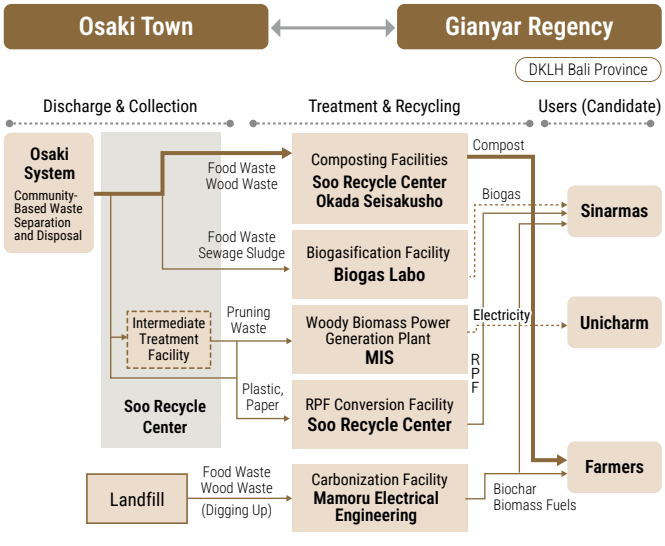
24 Gianyar Regency (Indonesia)—Osaki Town

Main Proposer: Soo Recycle Center Co., Ltd.

Project to Promote the Establishment of a Decarbonized, Recycling-Oriented Society through the Osaki System in Gianyar, Bali Province, Indonesia

Osaki Town has made efforts to build a resource-circulating waste management system that does not rely on incinerators by promoting waste recycling. The town's recycling rate exceeds 80%, and more recently, in pursuit of achieving its "Zero Carbon Promotion Declaration," new initiatives are being considered, including wood biomass power generation, biogas production, and the conversion of waste into RPF (refuse-derived fuel), in addition to the recycling of organic waste.

This project aims to expand the "Osaki System," developed in Osaki Town, to Gianyar Regency in Bali Province, Indonesia, with the goal of improving waste management and reducing GHG emissions in the regency. Specifically, the project includes surveys on the potential use of organic waste, inorganic waste, and sewage sludge, as well as studies to realize resource circulation projects utilizing these materials.



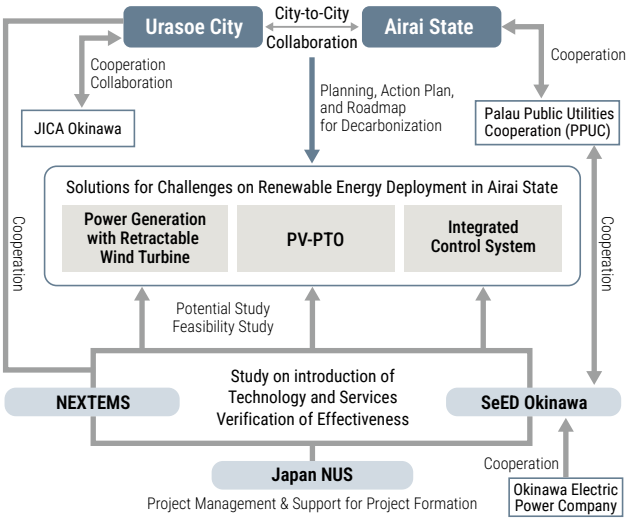
Other Japanese Partners: Kanseiren, National Institute for Environmental Studies Japan, Mitsubishi Research & Consulting

25 Airai State (Palau)—Urasoe City

Main Proposer: JAPAN NUS Co., Ltd.

Support Project for Developing a Sustainable, Eco-friendly Smart City: An Intercity Collaboration between Urasoe City and Airai State

In Palau, the widespread adoption of renewable energy is considered essential for achieving the government's NDC (Nationally Determined Contribution) targets. However, progress has been hindered by vulnerabilities in the power grid and a lack of control technologies. This project aims to establish a model initiative for independent grids as a successful example of optimal renewable energy management, contributing to the expansion of renewable energy adoption. Additionally, a study on the introduction of tiltable wind power generation technology will be conducted to promote diverse renewable energy utilization. The project will also develop an energy-saving model initiative to demonstrate its effectiveness and encourage further adoption. By supporting the implementation of integrated control technologies for the comprehensive management and operation of renewable energy systems, the project seeks to contribute to sustainable regional development not only in Airai State but across Palau as a whole.



C3P cities FY2013–2024

Maldives

Malé City	Toyama City

India

Bangalore City	Yokohama City
Telangana, Hyderabad City	Kitakyushu City *

Myanmar

Yangon Region	Kitakyushu City
Yangon City	Kawasaki City
Ayeyarwady Region	Fukushima City
Sagaing Region	Fukushima City
Mandalay City	Kitakyushu City
Yangon City	Fukuoka City

Mongolia

Ulaanbaatar City	Sapporo City · Hokkaido Government
Ulaanbaatar City · Tuv aimag Prefecture	Sapporo City
Ulaanbaatar City	Sapporo City *

Lao PDR

Vieng chan City	Vieng chan City

* Ongoing projects in FY2024

Fifty-six cities and regions in **13** countries and **23** municipalities in Japan have participated in this program since it was launched in 2013.

Vietnam

Hai Phong City	Kitakyushu City
Da Nang City	Yokohama City
Ho Chi Minh City · Thu Duc City	Osaka City *
Kiên Giang Province	Kobe City
Can Tho City	Kobe City
Soc Trang Province	Hiroshima Prefecture
Hanoi City	Fukuoka Prefecture *
Quang Ninh Province	Shiga Prefecture *
Ba Ria-Vung Tau Province	Sakai City *
Ben Tre Province	Ehime Prefecture *
Dong Nai Province	Kobe City *
Hue City	Shizuoka Ci* *
Da Nang City	Sakai City *

Thailand

Bangkok Metropolitan Administration	Yokohama City *
Rayong Prefecture	Kitakyushu City
Chiang Mai Prefecture	Kitakyushu City
Eastern Economic Corridor (EEC)	Osaka City *
Ubon Ratchathani Province・Warin Chamrap Town Municipality Pibun Mangsahan Towm Municipality	Kitakyushu City *

Cambodia

Phnom Penh Capital Administration	Kitakyushu City
Siem Reap Province	Kanagawa Prefecture

Malaysia

Iskandar Development Area	Kitakyushu City
Iskandar Development Area · Kota Kinabalu City	Toyama City
Penang State	Kawasaki City
Kuala Lumpur City	Tokyo・Saitama City *
Iskandar Development Area	Toyama City

Indonesia

Denpasar City	Clean Authority of Tokyo
Surabaya City	Kitakyushu City
Batam City	Yokohama City
Semarang City**	Toyama City
Bandung City	Kawasaki City
Special Capital Territory of Jakarta	Kawasaki City
Bali Province**	Toyama City *
Rokan Hulu Prefecture, Riau Provice · Pekanbaru City	Kawasaki City *
Gorontalo Province	Ehime Prefecture *
West Java Province	Kitakyushu City *
Makassar City	Maniwa City *
Makassar City	Yokohama City *
Gianyar Regency	Osaki town *

**Joint project for Bali and Semarang

Philippines

Quezon City	Osaka City *
Davao City	Kitakyushu City

Palau

Koror Province	Kitakyushu City *
Airai Province	Urasoe City *

Chile

Renca Municipality, Santiago City	Toyama City *

Dissemination of Local Decarbonization Initiatives and Policies to the World

COP29 Japan Pavilion Seminar

Clean City Partnership Program (C2P2) Seminar: Urban Agenda on Climate Change, Pollution and Biodiversity Loss

13 November 2024

Organiser: Ministry of the Environment, Government of Japan (MOEJ);
Co-Organisers: Japan International Cooperation Agency (JICA),
Institute for Global Environmental Strategies (IGES)

In February 2023, MOEJ together with JICA, launched the Clean Cities Partnership Program (C2P2) to address today's challenges faced by cities around the world from multiple perspectives. In this seminar, MOEJ and JICA presented their initiatives, and then Japanese local governments and their partner cities shared the collaboration project between Yokohama and Bangkok as well as the one between Ehime and Gorontalo as good practices of C2P2.

Net-Zero and NDCs: Science-based Climate Policymaking And Implementation in Asia

18 November 2024

Organisers: Ministry of the Environment, Government of Japan (MOEJ);
Institute for Global Environmental Strategies (IGES)
Co-Organisers: Japan International Cooperation Agency (JICA);
National Institute for Environmental Studies, Japan (NIES);
Universiti Teknologi, Malaysia (UTM)

Japan has been working with Asian countries to contribute to the formulation of long-term strategies and the updating of NDCs in each country, as well as to the development of more ambitious plans in cities by using the Asia-Pacific Integrated Model (AIM), which assesses policy options and presents reduction scenarios. This seminar brought together policymakers, practitioners and aid agencies from several Asian countries to share the progress, and discussed what kind of support is needed to achieve a Net-Zero Asia.

Seminar on City-to-City Collaboration for Zero Carbon Society

26–27 February 2024

Organiser: Ministry of the Environment, Government of Japan (MOEJ)
Co-Organiser: Institute for Global Environmental Strategies (IGES)

On the occasion of the 10th anniversary of the C3P, cities participating in C3P the project shared the significance of the decarbonization transition in light of recent international trends and concrete measures in this seminar, and aimed to build momentum for the expansion and horizontal deployment of integrated climate action at the city level. The participants deepened their understanding of the significance of environmental infrastructure and technology, as well as how to collaborate with local stakeholders through a workshop and site visit in Yokohama.

Office of Director for International Cooperation for Transition to Decarbonization and Sustainable Infrastructure,
Global Environment Bureau, Ministry of the Environment, JAPAN
No. 5 Godochosha, 1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975 Japan
TEL: +81-3-3581-3351 / FAX: +81-3-3581-3423

[Editor]
Institute for Global Environmental Strategies,
Kitakyushu Urban Centre
International Village Center 3F, 1-1-1, Hirano, Yahatahigashi-ku, Kitakyushu,
Fukuoka, 805-0062 Japan
TEL: +81-93-681-1563 / FAX: +81-93-681-1564