Joint Crediting Mechanism (JCM) utilized through City-to-City Collaboration

- Potential of collaboration between Japanese and Asian cities

City of Kitakyushu – City of Haiphong

City of Kawasaki – City of Yangon

Kitakyushu (Japan) - Haiphong (Vietnam) City-to-city collaboration in turning the city of Haiphong into a low-carbon society - Large scale JCM feasibility study in FY2014 and FY2015

Kitakyushu has an official sister-city agreement with Haiphong. Supported by close mutual tie based on this partnership, the two cities jointly developed "the Green Growth Promotion Plan of the City of Haiphong" based on the assistance of Kitakyushu Asian Center for Low-Carbon Society (the City of Kitakyushu). The cities are promoting pilot projects that are expected to help realize a massive reduction of greenhouse gas (GHG) emissions in key sectors.

City of Kitakyushu

Establishing a cross-sector partnership to facilitate the transfer of the Green Cities concept

The city of Kitakyushu is promoting low-carbon development in Asia through environmental business practices. Our city carried out basic surveys in Haiphong in 2013. In the following year, we helped in formulating "the Green Growth Promotion Plan" using the Kitakyushu Model. This model systematically organizes the environmental technologies and administrative know-how of Kitakyushu, which overcame serious pollution in the past.

One of the great advantages of JCM city-to-city collaboration is that it expands partnership with representative departments. In the past, our city focused on providing technological support in their water supply and sewerage system sectors. With the theme "Development of a Low-carbon City," our city has forged a new alliance with departments related to waste materials, energy, public transportation and others. This has led to the formulation of new project opportunities in a wider variety of sectors. Furthermore, the facility investment costs can be financially supported up to half through the JCM Model Projects and this has attracted the interest of local businesses and has boosted project feasibility.

Currently, while private business entities are conducting detailed surveys, there is also a need to develop local administrative systems. For instance, a plan to introduce resource circulation systems and electric buses to Cat Ba Island is now under consideration and we are suggesting introduction of island admission fee to secure the profitability of the projects. In this regard, Kitakyushu, which possesses know-how on ensuring reliable revenue sources and enhancement of local residents' awareness essential for stable project implementation, is pursuing a dialogue with Haiphong.

Our city will continue assisting Haiphong in developing a suitable environment to implement such projects, and will incorporate into our knowledge the experiences obtained through such efforts. Leveraging this knowledge, Kitakyushu will help other Asian cities make efforts toward developing a low-carbon society.

(Mr. Hironori Sakai, Kitakyushu Asian Center for Low Carbon Society)

City of Haiphong

Knowing and learning more about existing models, and utilizing such knowledge for Green Growth

Haiphong, which is the third-largest city in Vietnam, is known as one of main port cities in Vietnam. Our city, having evolved as a production base for domestic and overseas companies, is pursuing the goal of becoming a Green Port City, open to the world, based on the national Green Growth Strategy. Our city asked the city of Kitakyushu for its assistance with the formulation of a comprehensive plan, and the two cities jointly developed "the Green Growth Promotion Plan of the City of Haiphong"

In the course of the plan formation, we held in-depth workshops with stakeholders relevant to the plan, including business entities, and eventually marked out concrete, effective measures, including pilot projects, financing plans, environmental improvement, and specific projections for GHG emissions reduction. We are learning a great deal from the experience and expertise of Kitakyushu, which was able to overcome environmental pollution issues in the past, as Haiphong has suffered from similar environmental difficulties associated with the city's industrialization. What we have learned so far has helped our city make great strides toward our goal of becoming a Green Port City.

Our city will continue to learn from Kitakyushu knowledge in realization of the projects plans. For example, in a waste-to-energy project plan, GHG emissions reduction is highly expected and utilization of the JCM model project scheme is proposed, but there is a still need to examine in detail the finance mechanisms for the further operational phase. Also, depending on the future status of the projects, we would

like to seek further opportunities for more local companies to participate in the projects, and we will continuously work on those issues in close cooperation with Kitakyushu. (International Cooperation

- Division, Department of Foreign
- Affairs, City of Haiphong)



Cat Ba Island, aspiring to become a world heritage site



Development of the Green Growth Promotion Plan of the City of Haiphong,

Overview of pilot projects in the key sectors of the Green Growth Promotion Plan of the City of Haiphong, and GHG emissions reduction (projected)

Sector	Pilot Project
Waste	Household waste segregation and composting, waste-to-energy, etc.
Energy	Waste-to-energy at cement factories, energy saving in factories and commercial facilities, etc.
Transportation	Introduction of EV buses, diffusion of public transportation services, etc.
Conservation for Cat Ba Island	Introduction of resource circulation system, solar power generation projects, EV buses, etc.
Green Production	Introduction of electric furnaces in foundries, green agriculture, etc.

Total GHG emissions reduction (projected)) =132,860t-C02/year

New city-to-city collaboration project to promote low-carbon development in Yangon

-Large scale JCM feasibility study in FY2015

The City of Kawasaki has been promoting mutual interaction to identify local needs and to develop the City of Yangon to become a low-carbon society. The cities are aiming to establish a medium to long-term cooperative relationship.

City of Kawasaki

Connecting Kawasaki's business entities with local needs through a new city-to-city collaboration

The city of Kawasaki, located in Keihin Industrial Zone, has developed as a leading industrial city, and for the meanwhile, experienced through severe pollution issues in the past which the city tackled with government-business partnership. The city conclusively has grown to be a model environmental city. Today, the city has adopted "Green Innovation" as one of the pillars of its growth strategy, undertaking greening initiatives in both the economic and social sectors. Through these initiatives, our city is making an effort to develop the environmental industries and, through environmental technologies, promote the city's contribution to the international community. As a platform to boost such efforts, the Kawasaki Green Innovation Cluster, which consists of companies and relevant organizations, was established in April 2015. We believe that the JCM city-to-city collaboration project between Kawasaki and Yangon will offer us a great chance to establish a framework that promotes environmental cooperation in Asia with companies participating in the cluster.

What makes the JCM project so attractive is that we are able to have the chance of participating in large scale programs and receiving external financial assistance from the feasibility study phase. The on-site surveys have just started in Yangon. During the course of the surveys, we carefully focus our efforts on understanding local needs and demonstrating our technologies, in order to identify areas where Kawasaki can contribute. Our ultimate goal is to realize the commercialization of projects in such sectors. In order to carry out projects based on the local needs, cooperating with Yangon city is essential. Our city will continue the dialogue with Yangon with regard to challenging issues to develop a low-carbon society, and strive to actively provide our support in the sectors where our city can make the most of its expertise on environmental administrative activities.

Going forward, Kawasaki would like to support Yangon with environmental improvement through this mutually beneficial cooperative relationship. (Mr. Takahiro Fukahori, International Economic Office, Economic and Labor Affairs Bureau, City of Kawasaki)

City of Yangon

Applying the city's experiences in introducing the preceding model plant in a wide range of sectors

Yangon is the largest city in Myanmar, with a population of more than 6 million. As the population is on an upward trend due to the recent rapid urbanization, there is an urgent need to establish and develop the bases of people's daily lives, such as infrastructure. Meanwhile, the city is increasingly facing environmental challenges, including air pollution and an increase in GHG emissions.

With the massive generation of waste materials posing a serious problem, Yangon has started construction of a small waste-to-energy plant in October 2015, subsidized as JCM Model Project. Yangon generates about 1,600 tons of garbage a day, which is disposed of at two landfill sites. Under such circumstances, the overloaded landfill sites and the damaged underground water have severely affected the environment in surrounding areas. To help overcome these difficulties, Yangon received financial support from the Japanese government to cover a part of the initial installation costs and introduced a cutting-edge waste incineration plant.

This plant is capable of both improving waste treatment and reducing GHG emissions. Our efforts to introduce this plant are expected to provide effective guidance for other projects in the different sectors. In light of these experiences, we are aiming to extend the feasibility of the application of advanced environmental technologies and further improve our city in terms of not only technologies, but also environmental management and administration systems. With these aims in

mind, starting from this year, we have been engaging in JCM city-to-city collaboration project with the city of Kawasaki.

Our city will strive to facilitate mutual interaction with Kawasaki city, absorb its environmental expertise and technologies, and implement effective measures and initiatives so that we can improve the state of the environment and develop a low-carbon city.

(Pollution Control & Cleansing Department, Yangon City Development Committee)



Yangon City Hall (Yangon City Development Committee)





JCM model project in the city of Yangon The waste-to-energy plant and projected GHG emissions reduction

(Supported by JCM feasibility studies in FY 2014 followed by JCM Model Project in FY2015)

Implemented by	Yangon City Development Committee
Site	Mingaladon area, Yangon City, Myanmar
Operation starting year	FY2017
Capability	60 tons/day
Electric generation	700kW
GHG emissions reduction (projected)	4,732t-CO2/year
	*(Emissions from existing landfill sites, emissions from electricity replaced) – Emissions from the project
	*Calculated based on 24 operation hours/day and 85% operating rate in a year
(Business entities responsible: JFE Engineering Corporation)	

What is the Joint Crediting Mechanism (JCM)?

The JCM is a mechanism whereby Japan helps developing countries reduce GHG emissions through introducing and facilitating the diffusion of leading low-carbon technologies, products, systems and services in the countries concerned. Actual contributions from Japan for GHG emissions reductions and removals are appropriately evaluated as credits, and Japan utilizes them to attain its emission reduction targets.

What is the Large Scale JCM Feasibility Study?

This is a program to promote the development and formation of larger unit JCM projects such as cities and regions. A Japanese city working together with other partner Asian city, takes advantage of JCM programs and aims to transfer its expertise and advanced low carbon technologies acquired based on its experiences. The project is carried in partnership with research institutes and private companies.



The Ministry of the Environment has opened a Web portal intended to support the formation of large-scale JCM projects, provide detailed information on the JCM projects and introduce case studies, and enable local governments and business entities and their stakeholders, all of whom play an important role in low-carbon development in Asia, to exchange information with each other. For more information, visit the websites below.

Ministry of the Environment's Web Portal for Low Carbon Development in Asia

http://www.env.go.jp/earth/coop/lowcarbon-asia/english/index.html

This website provides information regarding international negotiations and related policy trends, policies and support systems.





Business Collaboration Support Platform for Low-Carbon Development in Asia

http://lowcarbon-asia.org/english/index.html

This website provides information regarding the Japanese companies' low-carbon technologies, business support schemes and case studies on relevant business development.

Asia Low-Carbon Cities Platform

http://lowcarbon-asia.org/english/city.html

This website provides information regarding support schemes for local governments' engagement in international cooperation, case studies on the usage of JCM, and case studies on the development of a low-carbon society.





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