Collaboration with Quezon City (Philippines) and Ho Chi Minh City (Viet Nam)

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Memorandum of Understanding (MOU) on Developing Low-Carbon City in Cooperation between Ho Chi Minh City and Osaka City (22 October 2013, Updated 6 September 2016)

Both Mayors signed MOU on City to City Cooperation toward realization of low-carbon city in Ho Chi Minh.

Memorandum of Understanding (MOU) on Developing Low-Carbon City in Cooperation between Quezon City and Osaka City (30 August 2018)

Hirofumi Yoshimura, Mayor of Osaka City and Herbert M. Bautista, Mayor of Quezon City signed MOU on City to City Cooperation toward realization of low-carbon city in Quezon.
City to City Cooperation with Quezon City (1)

Efforts based on MOU
(i) Establishing standards and systems,
(ii) Sharing professional skills and knowledge,
(iii) Promoting public-private partnership projects,
(iv) Proceeding with capacity development, and
Hold a mayor-level policy dialogue once a year

Major Field

Efforts for Creating Low Carbon City

Efforts against Air Pollution
Air Quality Monitoring

Efforts for Solid Waste Management
Waste to Energy
Waste collection Vehicle maintenance
Clarification of efforts toward Low Carbon Scenario (LCS) in Quezon City with Asia-Pacific Integrated Model (AIM)

Asia-Pacific Integrated Model (AIM) can help making a quantitative Low Carbon Society (LCS) scenario with concrete mitigation projects based on Quezon City Local Climate Change Action Plan (QC-LCCAP)
Low Carbon Project in Quezon City

**Project**

➤ Energy Saving in Factories
➤ Installing Solar Power Generation System in the Landfill
➤ Improving Garbage Trucks

**Role**

- **International Consortium**
  - **Representative Entity** (Japanese Company)
    - Monitoring data
    - Technical assistance
  - **Co-implementer** (Companies in Quezon City)
  - **Technology Providers** (Japanese companies)
  - **JCM consulting service provider**

- **MOEJ**
  - Finance up to half of the investment cost
  - Deliver at least half of the issued JCM Credits

- **Heat Exchanger**
  - Energy Saving in Factories

- **Solar Panel**
  - Installing Solar Power Generation System in the Landfill

- **Overload Garbage Truck**
  - Improving Garbage Trucks
Energy Saving at Factories

- As a large amount of hot water has been discharged into the sewer system in textile factories in Quezon City, installation of heat recovery system can improve the thermal efficiency and contribute to the CO₂ emission reduction.
- Heat exchanger was proposed as one of the applicable and promising energy saving technologies.
• Through the field survey, the FS team identified that the specific landfill seems to have the highest potential.

• The progress has been made in accordance with the Quezon city’s climate change policies to install solar power facility.
Improvement of Garbage Trucks

- Based on the condition of the trucks, introduce energy saving practices in terms of technology, operation and energy management.
  (i) Vehicle replacement
  (ii) Engine renovation (Overhauling)
  (iii) Diesel-Duel-Fuel System (DDF)

**Diesel-Duel-Fuel System (DDF)**: DDF engine can use LPG in Diesel Engine.

*Expected Effect*
- Fuel consumption can be reduced about 10 to 30%.
- DDF can help to reduce particulate matter (PM) by about 70%, Nitrogen Oxide (NOx) by about 40%, Carbon Monoxide (CO) about 90%.
  (comparing to Euro I standard)

Source: Japan International Cooperation Agency (JICA)
City to City Cooperation with Ho Chi Minh City

Outcomes of City to City Cooperation to Date

(i) Formulation and Implementation of Ho Chi Minh City Climate Change Action Plan
(ii) Creating Low-Carbon Project through Public-Private Cooperation (6 Projects)

Efforts based on MOU / Ho Chi Minh City Climate Change Action Plan

10 Fields (Urban planning, Energy, Traffic, Industry, Water management, Waste management, Construction, Health, Agriculture and food security, Tourism and raising community awareness), and Adaptation for Climate Change
Low Carbon Project in Ho Chi Minh City

Project Outline

➤ Energy Saving on Water Treatment Facility

< Energy Saving Technology: Inverter >
Realizing less waste operation of pumps and fans by controlling rotation speed of motor, we aim energy conservation.

Role

Osaka City
NIPPON KOEI
Support for JCM Project Development

HITACHI
Technical Cooperation

Ho Chi Minh City
Saigon Water Corporation (SAWACO)

Schedule

➤ FY2018
Feasibility Study

➤ FY2019—FY2022
Equipment Installation Work

➤ After Installation
Monitoring on CO₂ Reduction
Through the field survey, the FS team is considering to deploy Inverter for Wastewater Treatment Plants, Sugar Mills, Power Plants, etc.

Energy saving is one of the major efforts listed in Ho Chi Minh City Climate Change Action Plan (HCMC-CCAP).

Equipment with electric motor: Pumps, Fans

< Operation >
There must be fluctuation in the pace of equipment operation.

< Capacity >
Larger Equipments are suitable for Inverter.
It is effective 130 kW or more.
Thank You for Your Attention!