Project on Low-Carbon and Environmentally Sustainable City Planning in Surabaya, Indonesia

Inception Meeting

10 July 2013, BAPPEKO Surabaya
Toshizo Maeda, IGES Kitakyushu Urban Centre
Objectives of the Project

- Assist Surabaya City in developing **low-carbon and environmentally sustainable city plans** in energy, transport, waste and water sectors
- **Identification of projects** which can reduce CO2 emissions (save energy and cost) **in a short term**
- **Identification of projects** which can reduce CO2 emissions and bring about multiple social, economical and environmental benefits **in a long run**
- Support development of **a data management system** to measure CO2 emission reductions and establish a CO2 measurement methodology

Purpose of today's Inception Meeting

- Introduction of the **project outline**
- Confirmation of the **project objectives** and **expected outputs**
- Confirmation of each sector’s **implementation plan** and **relevant actors**
- Confirmation of **upcoming works and events**
Project on Low-Carbon and ESC Planning in Surabaya

**Japan-side**

City of Kitakyushu

- Project Management
  - IGES
  - Kitakyushu Asian Center for Low Carbon Society

**Indonesia-side** (counterpart)

City of Surabaya

- Development Planning Agency (BAPPEKO)
  - Cooperation Div.

**Green Sister City** (Nov. 2012)

**Energy sector**

- NTT DATA Institute of Management Consulting Inc.
  - Cooperation: Japan NUS Co., Ltd.

- Cogeneration technology
- FS for energy saving and dispersed power system

**Solid waste sector**

- IGES
  - Cooperation: Nishihara Corp. and NTT DATA Institute of Management Consulting Inc.
  - Hitachi Zosen Corp.
  - Amita Corp.

- Waste sorting, recycling, composting
- Waste to energy for industrial waste

**Transportation sector**

- ALMEC VPI Corp.
- Transportation Section, Taxi company, DKP

**Water resource sector**

- Matsuo Sekkei Corp., City of Kitakyushu, Kitakyushu City Waster and Sewer Bureau
  - Cooperation: TOTO Ltd.

- Energy saving at water and sewage plant
- Distributed sewage treatment
- Introducing water-saving equipment

**Cooperation:**

- Nishihara Corp. and NTT DATA Institute of Management Consulting Inc.
- Hitachi Zosen Corp.
- Amita Corp.
- Dept. of Cleanliness and Landscaping (DKP), Environment Dept. (BLH)
- Local company, cement company
- Public transportation, Improvement of traffic system for waste collection vehicles, low emission vehicles
- Local companies, city hall, universities, hospitals, shopping malls, data centres etc.
- National Highway Corporation (PERSERO)

**Other cooperations:**

- Entertainment integration of digital data science
- PDAM, Keputih sludge treatment plant, Industrial Estate Company (PT SIER)
- Community, Hotels, etc.
Project on Low-Carbon and ESC Planning in Surabaya

Targeted sectors and expected GHG emissions reduction

**Energy sector**
- Co-generation system at SIER Industrial Park
  - 38,000 t-CO2/year
- Energy saving in buildings
  - 10,000 t-CO2/year
- LED highway lights
  - 630 t-CO2/year

**Transportation sector**
- Fuel switch for vehicles (public buses, public vehicles, taxis)
  - 26,000 t-CO2/year
- Waste hauling vehicles replaced with low-emission vehicles and operation management improvement
  - 3,000 t-CO2/year

**Solid waste sector**
- Solid waste sorting and recycling
  - 21,000 t-CO2/year
- Waste-to-energy project
  - 8,000 t-CO2/year
- Industrial waste incineration at cement kilns
  - 12,000 t-CO2/year

**Water resource sector**
- Energy saving at water purification plants and pumping stations
  - 3,200～4,200 t-CO2/year
- Water supply leakage reduction
  - 3,800～7,700 t-CO2/year
- Sewage treatment in SIER and Keputih sludge treatment plant
  - 60 t-CO2/year

Total reduction: 130,000 t-CO2/year
Past and Ongoing Collaboration Projects between Surabaya and Kitakyushu

Waste disposal
Surabaya has requested assistance for waste disposal project development. Additionally, Nishihara Corporation is looking into operations related to improving the livelihoods of waste recyclers and waste pickers. (Overseas development support for smaller businesses, utilizing the Ministry of Foreign Affairs and the ODA)

Wastewater treatment (river cleanup)
A master plan related to wastewater management for the Kali Mas river, with a focus on the Gundy area, is being developed, basic dispersal wastewater treatment is being expanded under the management of model community residents, and an operation for constructing and managing medium-sized treatment facilities is underway. (JICA Grassroots Cooperation Project)

Project for cogeneration (steam + electricity) & energy conservation

Surabaya Industrial Estate Rungkut (SIER)
Export of technology and knowledge from Yahata Higashida Smart Community project

Local Management Company
- Local Management Company
- Co-generation plant planning/construction
- Co-generation plant management & upkeep
- Raw materials coordination for management & upkeep, steam supply services
- Energy conservation (and more)

Investigating methods for quantifying CO2 reduction
As for operations being conducted in Surabaya, methods for quantifying reducible volumes of CO2 are being investigated. (IGES)

Drinking water supply operations through solar power and small desalinization/water purification equipment
In areas that do not yet have electrical and waterworks infrastructure, Toray Industries, Inc. and Suido Kiko Kaisha, Ltd. will be using solar panels and water purification equipment (reverse Osmosis filters) with desalinization capabilities to provide inexpensive clean drinking water. Installation and maintenance centers for drinking water supply equipment will be built in Surabaya. (JICA BoP project)

Tap-water purification
Ishikawa Engineering Corporation, which successfully implemented well-water purification systems, is currently looking into operations involving the installation of water supply equipment in the community that could purify tap-water (though not drinkable) and provide safe, reliable water.

Source: Kitakyushu City
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 26</td>
<td><strong>Kick-off Meeting in Kitakyushu</strong></td>
</tr>
<tr>
<td>June 17 -  July 5</td>
<td>JICA NAMA/MRV Capacity Development Training in Kitakyushu  (2 officials from BAPPEKO Surabaya attended)</td>
</tr>
<tr>
<td>July 8 - 12</td>
<td>1st Field Survey, July 10 (Wed): <strong>Inception Meeting</strong></td>
</tr>
<tr>
<td>July 23 - 24</td>
<td>International Forum for Sustainable Asia and the Pacific (ISAP) 2013, Yokohama  (4 officials from Surabaya City will attend)</td>
</tr>
<tr>
<td>Sep. 2 - 6</td>
<td>2nd Field Survey, progress report</td>
</tr>
<tr>
<td>Sep. 26 - 27</td>
<td>ASEAN + 3 Environment Ministers Meeting and East Asia Summit Environment Ministers Meeting <strong>in Surabaya</strong></td>
</tr>
<tr>
<td>Oct. 18 - 21</td>
<td>Kitakyushu City 50th Year Anniversary, co-jointly organized with International Forum on Future City and OECD Green City Forum  <strong>(Surabaya to be invited)</strong></td>
</tr>
</tbody>
</table>
| Oct. 21 - 25 | 3rd Smart City Week, Yokohama  
Oct. 22 - 24: Low-Carbon and ESC Planning Sessions  **(Surabaya to be invited)** |
| Nov. 18 - 22 | 3rd Field Survey, Project Meeting (**Interim Meeting**)                |
| Jan. 27 - 31 | 4th Field Survey, **Project Outputs Seminar**                          |
| Feb. or Mar.| International Seminar on Low-Carbon and ESC Planning in Japan  
5th High Level Seminar on ESC?  **(5th Regional 3R Forum in Asia, in Surabaya ?)** |