Kitakyushu City’s Activities for Low Carbon Society in Asia

January 2018

Kitakyushu Asian Center for Low Carbon Society
Kitakyushu City was selected as Eco-Model City in 2008.
CO2 reduction: -200% (50% inside city, 150% overseas) by 2050 based on CO2 emission in 2005.

Kitakyushu Asian Center for Low Carbon Society opened in June 2010.

Utilization of the environmental technologies developed through the solution of pollution problems and manufacturing processes, and the inter-city network established by international cooperation in the past.

Accumulating environmental technologies in Kitakyushu City and throughout Japan, for building low carbon societies in Asia through environmental business skills.
Priority Fields in Technological Transfer

Energy management
Regional management of energy by placing city and regional electricity plants at the core

Kitakyushu Smart Community Project (Higashida Area)

Yahata Higashida District, where an environmentally conscious town is under construction

Water recycling demonstration plant combining sewage water membrane treatment and seawater desalination

Water Plaza
Water created from sewage: 1,000 m³/day
Water created from seawater: 400 m³/day

How to maintain and manage a water distribution network
Non-revenue water rate is improved. 72% (1993) → 8% (2006)

Water business

Cooperation between government and the private sector
Transferring a package on environmental technologies and social systems

Cleaner production and prevention of pollution
Introduction of cleaner production (CP)

* Evaluation and improvement of raw material and fuel use
* Improvement of manufacturing processes
* Thorough implementation of maintenance and management
* Human resources development, etc.

Achievement of energy saving and resource saving
Reduction of environmental loads + Higher productivity

End-of-Pipe (EOP) measures

Economic effects (25 projects):
* Direct investment: approx. 60 billion yen
* Generated employment: approx. 1,300 jobs
* CO₂ reduction: approx. 200,000 tons/year

Recycling and waste treatment

Kitakyushu Eco-Town

Home appliance recycling
Bicycle recycling

Most advanced facilities for waste treatment
Shaft-gasification furnace

Shin-Moji Plant
Safe facilities that achieved recycling of waste and effective utilization of heat energy

Kitakyushu Smart Community

Kitakyushu Eco-Town

Kitakyushu Smart Community Project (Higashida Area)

Electric dust collector
Flue-gas desulfurization facilities
Waste water treatment facilities
We have carried out 154 projects in close cooperation with 106 Japanese companies in 57 Asian cities.
Kitakyushu’s actions attract international attention

Visits by World Leaders

Xi Jinping
President of PRC
(Dec. 2009)

Samdech Hun Sen,
Prime Minister of Cambodia
(Jul. 2015)

Arkhom Termpittayapaisith
Minister, Ministry of Transport
(Oct. 2013)

Amitabh Kant
CEO & MD, DMIC Development
Corporation (Feb. 2010)
Collaborative Projects with International Organizations


Seminar for Eco Town Manager (SETM)
95 Trainees from 25 countries (2010-2017)

MOU with WORLD BANK under City partnership Program (Mar. 2017)
(Theme: Green Growth and Waste management)
Conduct joint research, identify good practice, facilitate knowledge exchange and link Japanese expertise with World Bank projects

“Supporting project development using Kitakyushu Model”
~Kitakyushu Model is a manual to make City Master Plan~

Kitakyushu’s Story
- Overcoming pollution
- Becoming green city
- Developing Kitakyushu Model

Sustainable urban development (Sustainability Framework)
For achieving sustainable project, this model shows direction (visions) of solutions with the balance of social, economic and environmental factors.

1) Understand current situation
2) Develop strategies
3) Develop specific policies
4) Verify & measure policies
5) Implement project

Kitakyushu’s case

① Waste
② Energy
③ Water
④ Pollution
⑤ Transportation
⑥ Flood
### 15 Pilot Projects

<table>
<thead>
<tr>
<th>Category</th>
<th>Projects/Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td>(1) Separation and composting of household waste</td>
</tr>
<tr>
<td></td>
<td>(2) Waste heat recovery power generation system in cement factory and production of</td>
</tr>
<tr>
<td></td>
<td>raw materials for cement from waste</td>
</tr>
<tr>
<td></td>
<td>(3) E-Waste recycling</td>
</tr>
<tr>
<td>Energy</td>
<td>(4) Promotion of energy savings for factories and buildings etc.</td>
</tr>
<tr>
<td>Transportation</td>
<td>(5) Introduction of low-emission buses</td>
</tr>
<tr>
<td></td>
<td>(6) Promote use of public transportation</td>
</tr>
<tr>
<td>Cat Ba island</td>
<td>(7) Development of comprehensive resource recycling system</td>
</tr>
<tr>
<td>Water, sewage, and storm water drainage</td>
<td>(8) Energy savings, introduction of renewable energy and introduction of EV buses in</td>
</tr>
<tr>
<td></td>
<td>remote island</td>
</tr>
<tr>
<td>Environmental conservation</td>
<td>(9) U-BCF expansion</td>
</tr>
<tr>
<td></td>
<td>(10) Handicraft village wastewater measures</td>
</tr>
<tr>
<td></td>
<td>(11) Introduction of sewerage registry system</td>
</tr>
<tr>
<td>Green Production</td>
<td>(12) Restoration of Tay Nam canal</td>
</tr>
<tr>
<td></td>
<td>(13) Development of air and noise monitoring systems</td>
</tr>
<tr>
<td></td>
<td>(14) Installation of high-efficiency electric furnaces in foundries</td>
</tr>
<tr>
<td></td>
<td>(15) Promotion of green agriculture</td>
</tr>
</tbody>
</table>

**Sister City Agreement**

(April in 2014)

“Green Growth Promotion Plan” of the City of Hai Phong

This plan was handed over from the Mayor of Kitakyushu to The Chairman of Hai Phong City in May 2015

- Waste separation work
- Solar power generation
- EV bus
Cooperation for E-Waste Recycling with Cebu City in the Philippines

History of Cooperation between Cebu and Kitakyushu

1997  Asian City Network for Environmental Cooperation
1999  Capacity building for government officer on environmental management (JICA)
2000 ~ 2010  Cleaner Production, Solid Waste Management
                (Transferring used garbage trucks), Water Pollution in the rivers,
2010 ~ 2012  Improving Waste Management System (Takakura compost)

Achieved 30% reduction of waste in landfill site!

Memorandum of Understanding for Environmental Technical Cooperation in February 9th in 2017

Article 1 Objective
The objective of this MoU is to establish an Environmental Technical Cooperation in order to promote and expand effective and mutually beneficial cooperation in the development of the two cities.

Article 2 Scope
Promotion of resource recycling by proceeding with the management of special waste Development of a green economy and environment conservation with pollution control of water, air and soil.

Research project for E-waste recycling was reported in the local newspaper in 2014
MoU for Environmental Technical Cooperation in Feb 2017
Activities we are broadcasted by Japanese TV program in Oct 2017

2015 Mayor’s Special Award
The City of Davao and The City of Kitakyushu concluded MOU to establish Green Sister City Cooperation on November 28, 2017. The parties shall implement projects in accordance with the laws and regulation of their respective countries in the environmental fields as follows: Low Carbon Society; Resource recycling; Capacity Building for the officials of each city.

Map of the Phillippines

Davao

Memorandum of Understanding for Green Sister City Between the City of Davao and the City of Kitakyushu
November 28th, 2017

Left: SARA Z. DUTERTE, MAYOR of DAVAO
Right: KENJI KITAHASHI, MAYOR of KITAKYUSHU
Mayer of DAVAO visited KITAKYUSHU in 2017
Thank You
Hiroshi YASUTAKE, Deputy Director
City of Kitakyushu