Introducing Low Carbon Cities in Asia
Promotion of the Green City in Surabaya
by Intercity Cooperation

Kitakyushu Asian Center for Low Carbon Society
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
Aims of the Center

Needs of newly developing countries:
Constructing green cities, not only transferring technologies

Total power as a leading runner of an environment-friendly city (Kitakyushu City)

- Experience with overcoming pollution problems
- Advanced social system (Kitakyushu Eco-Town, etc.)
- Excellent environmental technologies

Responding to diversified needs of Asian cities and companies
Ex.: Eco-Cities and Smart Cities

- Greenhouse gas reduction
  Bilateral credits

- Custom-made
  Export of green cities

- Establishing a base Asian region
  for demonstration experiments and human resource development

Base for environmental business in the Asian region
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 business

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

Non-revenue water rate is improved.
72% (1993) → 8% (2006)

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.

End-of-Pipe (EOP) measures

Electric dust collector
Fuel-gas desulfurization facilities
Waste water treatment facilities

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

Recycling and waste treatment

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

Home appliance recycling
Bicycle recycling

Kitakyushu Eco-Town

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

Priority fields in technological transfer

Cooperation between government and the private sector

Transferring a package of environmental technologies and social systems

"Green Asia International Strategy CSZ" (including Kitakyushu City, Fukuoka Prefecture and Fukuoka City)

We aim at growing with Asian countries, utilizing the vitality of Asia.
Our additional proceeds target up to 2020 is 5000 billion (about 10% of national target)
Transition of city-to-city cooperation between Surabaya city and Kitakyushu City

2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
2003

National policy

City-to-city cooperation

Human Resource

Technology transfer

Institutional Development

Current

「Environmental Cooperation Network of Asian Cities」
(1997年～)
「Kitakyushu Initiative Network」
(2000年～2010年)

Kitakyushu Asian Center for Low Carbon Society
(2010.6)

City target: 150% of CO2 reduction in Asia by 2050

Receipt of trainees: JICA, CLAIR, Kitakyushu city budget, IGES
(2006~2011)

Receipt of Surabaya staff: CLAIR (2012)

Receipt of trainees from Surabaya
(2003, 2004)

Survey on sound waste management」
(2002~2004) GEF

「F/S study for manufacturing and selling composts」
(2007)

Energy

Waste

Water

Project for cogeneration & energy conservation
Nippon Steel & Sumikin Engineering Co., Ltd.:
(2012~)

Pilot project for establishing recycling-oriented intermediate waste processing facility
Nishihara corp. (2012~)

Sewage improvement project
Original Engineering Consultants etc.
(2012~)

Installation of small solar-powered desalination machine. Suido Kiko Kaisha Ltd.
Toray Industries Inc. etc (2011~)

F/S study project (MOEJ)
IGES etc. : (2013~)

Capacity building for water quality management : (2007~08)
JICA grassroots cooperation project

Waste water treatment project:
(2011~13) JICA grassroots cooperation project

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DKP Director (2005~)

BAPPEKO Director (2008~)

Mayor of Surabaya City (2011~)

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「Vision of Development Plan (2005-2025)」

「New Approach to Development Strategy」(2009.12~)
JICA projects
(PPP, BOP, Support for SMEs)

「Kitakyushu new approach to development strategy」
(2013.3)

「Joint statement on strategic environmental partnership」
(2011.3)

「Green Sister City」
(2012.11)

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International Environmental Cooperation in Surabaya

Waste management in Surabaya, Indonesia’s 2\textsuperscript{nd} largest city, started from 2004

Spread of organic waste composting techniques from Kitakyushu to over 20,000 households in Surabaya

30% reduction of waste

Koji Takakura of JPEC teaching about the composting technique

City in 2001
Streets overrun by garbage

Surabaya’s streets today
Increased greenery in parks and along roads using compost
A joint statement was made in March 2011 on a strategic environmental partnership between Surabaya and Kitakyushu.

“Green Sister City” agreement was signed in November 2012 between Surabaya and Kitakyushu.
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., KPMG Azusa LCC
  - Cooperation: Japan NUS Co., Ltd.
- F/S for energy saving and dispersed power system
- Cogeneration technology
- LED light for highways
- Local companies, city hall, universities, hospitals, shopping malls, data centres etc.
- PT SIER, local companies, National Electricity Company (PLN)
- National Highway Corporation (PERSERO)

**Solid waste sector**
- IGES
- Cooperation: Nishihara Corp. and NTT DATA Institute of Management Consulting Inc.
- Hitachi Zosen Corp.
- Amita Corp.
- Waste sorting, recycling, composting
- FS for incineration
- Waste to energy for industrial waste
- Dept. of Cleanliness and Landscaping (DKP), Environment Dept. (BLH)
- Local company, cement company

**Transportation sector**
- Public transportation,
  - Improvement of traffic system for waste collection vehicles, low emission vehicles
- ALMEC VPI Corp.
- Transportation Section, Taxi company, DKP
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- Cooperation: TOTO Ltd.

**Water resource sector**
- Matsuo Sekkei Corp., City of Kitakyushu, Kitakyushu City Waster and Sewer Bureau
  - Distributed sewage treatment
- PDAM, Keputih sludge treatment plant, Industrial Estate Company (PT SIER)
  - Introducing water-saving equipment
- Community, Hotels, etc.

**Ministry of Public Work, Ministry of Environment**

**Ministry of Energy and Mineral Resources**

**Ministry of Public Work**

**Ministry of Environment**

**Dept. of Cleanliness and Landscaping (DKP)**

**Environment Dept. (BLH)**

**Local company, cement company**

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Support of Social Platform Formation by Intercity Cooperation

Social Master Planning
(Concept integration of city plan, Reexamination of existing plan, Additional planning)

Building concept integration of city planning
Target of Surabaya City: Green City

C Master Plan
A Master Plan
B master Plan

Capacity building for foundation enhancement to grow

Government
Citizen
Technology

Review of measures to increase success probability

A Project
B Project
C Project

Support of plan & practice of pilot project

Self-help
Self-sufficiency

Mutual exchange & transfer (learning, elevation / association / cooperation)
We are aiming at creating a Showroom of the Green City in Surabaya by the activities based on the Green Sister-City.

1. Building a Model of Green & Low Carbon City
Build a model of Green & Low Carbon City in Indonesia, by using existing “Surabaya Vision Plan 2005 – 2025” (Urban Development Plan), by using the sectoral master plan and by preparing comprehensive city plan from “green and low-carbon” point of view. Dissemination of the model in every cities in Indonesia will contribute the CO2 reduction(26%) by 2020 which is the target of Indonesia.

2. Comprehensive support (from planning to implementation)
Past development & investigation ended by formulation of master plan and its implementation was entrusted to city’s autonomy. However, the project is comprehensive project covering preparation of unified concept of town management, backup of planning & implementation of pilot project and human resource development to encourage Surabaya City and feasibility enhancement of master plan.

3. Administrative cost reduction by PPP
Each project can be implemented with less administrative cost by helping entry of private companies using PPP to avoid all the costs borne by public administration as in the past. Therefore, we will, in addition, promote regulatory & system reformation to remove the entry barrier of private companies.
In addition to international environmental cooperation, when it comes to international environmental business development, our hope is to see the advancement of a uniquely Japanese approach, different from that of other countries, that will respect and bring joy to local residents.

Asian cities
Mitigate pollution and improve quality of life while reducing CO₂

Kitakyushu
Rejuvenate communities through overseas environmental business development primarily by Kitakyushu companies.