Kitakyushu's Policies and Actions towards creating Sustainable Societies in Asian Region



# City of Kitakyushu, Japan

#### **City Profile**

## **Location and Characteristic**



#### **City Profile**

### **Chronology of Kitakyushu's Environmental Policy** ~*Green Frontier*~



# **Overcoming Severe Environmental Pollution**



"Dokai Bay, Sea of Death"

**Beautiful Sea** 



Residents enjoying blue sky



Swimming at Dokai Bay

# **Improvement of Murasakigawa River**



before

after



Sport Festival at Murasakigawa River

# **Improvement of Environmental Quality**



Changing Environment for 20 to 30 Years in Kitakyushu

# Partnerships among Local Multi-stakeholders Residents





Residents' observation of a private company

Learning how to measure air pollution from a university professor

# **Partnership**



#### Environmental control & environmental infrastructure Local Government

Cleaner Productions & pollution control equipment **Private Enterprises** 

Local Initiative & Partnership Environmental Technology & Environmental Investment Education & Participation of Residents Environmental Governance

Reference: UNESCAP "Kitakyushu Initiative for a Clean Environment

#### Changing Environment for 20 to 30 Years in Kitakyushu

#### Partnership among Main Stakeholders on Sustainable Development

Stakeholders		Role & Function	
	City of Kitakyushu	Strategy, Policy, Social System, Supporting System, Regulation, Urban Development, etc.	
Government	National	Law, National Strategy, Supporting Local Government, etc.	
	Prefecture of Fukuoka	Same as the City of Kitakyushu excepting Kitakyushu's Concern	
	surrounding municipalities	Cooperation in individual policy and project	
	Manufacturing Industries: TOTO, Yaskawa, Nippon Steel, etc.	Greening of Industry	
Drivoto	Eco Premium Supplying Companies	Development and Supply of Green Products	
Enterprise	Eco-Town Companies and Energy Companies	New Green Industry	
	Component Technology Supplying Companies	Supporting Industry for Green Companies	
Citizen	General Citizen	Reduction of Environmental Load in daily life and cooperation with Green Policy	
	Local Community	Environmental Activities and Enlightenment in community	
	Citizen Group	Organised Environmental Activities and Enlightenment	
University		Technology development, LCA Evaluation, etc. Social Development Study	
Oniversity.			
Institute	Kitakyushu International Techno- cooperative Association (KITA)	International cooperation for realising green growth in Asia	
	Japan International Cooperation Agency (JICA)		
	Kitakyushu Foundation for the Advancement of Industry, Science and Technology (FACE)	Bridge between Interface for Research and Development and Business	

## **Policies as the Means to realize Sustainable Development**

Fields	Policy and Project Concerned	
Pollution Control, Management on Toxic & Hazardous Substances	Pollution Control Policy, Pollutant Release and Transfer Register (PRTR), Risk Communication, etc.	
Environmental Quality	Air Management, Water Management	
Reclamation of Brown Field	Re-Development at Brown Field such as Factory site	
Resource-Recycling, Solid Waste	Solid Waste Management, Solid Waste Recycling, Eco-Town, etc.	
Energy / Global Warming Prevention	Renewable Energy, Energy Saving, ISO14001,	
Industry, Arts and Science	Eco-Material, Eco-Design, Long-Life Product, Community Business	
Nature	Nature Conservation Master Plan, Projects on Water Front, Urban Forestry, Bio-Diversity, Ecosystem, •••	
Education	Elemental Education, Environmental Education, •••	
Lifestyle	Green Consumer, Enjoying Life, Segregation of Solid Waste, Eco-Stage, Anti-Ownership, Slow in Fast, ···	
Social System	Industrialization of Environmental Management, •••	
Amenity / Pleasantness		
Community	Community Activity, Consumption of Local Agricultural Products	
Building	Environmental Building	
Urban Planning	Green Village Project, Urban Planning Master Plan	
Transportation	Modal Shift to Eco-Transportation, Eco-Car, etc.	
Integrated Environmental Management	Pollution Control Plan, Agenda 21 Kitakyushu, Environmental Master Ordinance	
Global View Point	International Environmental Cooperation, etc.	
Policy Making / Information	Open Forum such as the Programme on the World Capital of Sustainable Development (PWCSD)	
Stakeholders' Actions		

### Administrative Organization of Kitakyushu City

		Bureau	Function
Mayor		Engineering Supervision Office	Greening of Public Construction
		General Affairs and Planning Bureau	Fundamental Plan and Strategy
		Finance Bureau	Financing/Budget
		Citizen Services, Culture and Sports Bureau	Policy and Support for Local Community
		Public Health and Welfare Bureau	Policy of Welfare and Elder People
		Child and Domestic Affairs Bureau	Social Participation
	ayor	Environment Bureau	Environmental Policy, Energy Policy, Waste Management, Resource- Circulation, Environmental Education, Nature Conservation, Green Growth in Asia (International Cooperation and Business)
	N	Industry and Economics Bureau	Industrial Policy, Employment Policy, R/D, International Trade
	puty	Construction Bureau	Infrastructure such as Sewerage, Road, Greenery, Contribution to Green Growth in Asia, etc.
	De	Buildings and City Planning Bureau	Urban Planning, Green Building, Transportation
		Seaport and Airport Bureau	Port, Distribution, Airport, Industrial Location
		Ward Office (7 offices)	Local Policy, Citizen Services
		Fire and Disaster Management Bureau	Development of Fire Fighting Technology with Low Environmental Load
		Waterworks Bureau	Water Supply System with Low Environmental Load, Power Generation by use of Water Supply Facility, Contribution to Green Growth in Asia
		Board of Education	School education Citizen Education
	Ī	Transportation Bureau	Public Transportation / Bus
		Municipal Hospitals Bureau	Greening of Hospital Facilities
		Others: Accounting office, Secretarial C City Election Administration C Agricultural Commission Offic	Office, Public Information Office, Contracts Office, City Assembly Secretariat, Commission Office, Personnel Commission Office, Auditing Office, ce

#### **Citizen's Activities towards Realising Resource-Circulating Society**





Resource-Circulation Station

#### Citizen's Activities towards Achieving Resource-Circulating Society



1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 Year



Successful waste management : Japan has one of the lowest rates for municipal waste production among OECD countries, 1.03kg per person per day (2008), and Kitakyushu produces less than half that amount, 506g per person per day (2009). *(Reference: OECD Green Growth Studies, Green Growth in Kitakyushu, Japan, 2013)* 

#### Recycling Ratio (%)

## **Public Transportations Connection Development**





Connections between Public transportation: Train, Monorail, and bus



Monorail



**Rental of Electric Bicycle** 

# **Kitakyushu Eco-Town:** Facilitating Resource Circulation and Eco-Industries



Practical Research Area Practical Research Facilities : 16 Practical Research Projects : 56

#### **Outcome of Projects**



Comprehensive Eco-Industrial Complex, Hibiki Recycling Area Industrial Plants: 29

Environment: Reduction of Environmental Impact/0.38 million ton CO<sub>2</sub>, Saving Resources and Energy

#### Economy: Investment: 66 billion yen Private sector: 71.7%, National Government: 18.2%, Local Government:10.1%) Employees: 1,340 people Visitors: 1million people (as of October 2011)

## Kitakyushu Smart Community



Realization of optimized energy use per region, through coordination between new and mainstay energy sources and introduction of a control system for both energy supply and demand.

#### Policy Making for Sustainable Development and Low Carbon Society

## Dialogue among Multi-Stakeholders and sharing philosophy on Sustainable Development



Multi-stakeholders Forum on the World Capital of Sustainable Development (October & December 2003)

Call for ideas and opinions to create "World Capital of Sustainable Development" • Period: April to December 2003

Receive 1000+ submissions

Discussions at Kitakyushu Committee on "World Capital of Sustainable Development"

- Members: 34 (industry/academia/govt)
- Period: March to October 2004
- Plenary Meetings (4 times)
- Workshops (10 times)
- Drafting committee (4 times), other



Kitakyushu Committee on "World Capital of Sustainable Development"

Declaration of the creation of the "World Capital of Sustainable Development" (9 October 2004) Policy Making for Sustainable Development and Low Carbon Society

# Commitment of the Residents of Kitakyushu to All People, The Earth and Future Generations

~Towards the creation of a "World Capital of Sustainable Development"~ (Grand Design)

(Basic Philosophy)
 Creation of a city with true wealth and prosperity, inherited by future generations
 In positioning this as the best set of standards for all actions, the following three pillars are put forth:

 Living together, creating together
 Developing economically through environmental actions
 Enhancing the sustainability of the city

Contents of the Grand Design: The following are also described.
 Preamble, Background and Resolve, 10 Principles of Environmental Action of the People of Kitakyushu
 Attachments: 250 projects and glossary of terms

Policy Making for Sustainable Development and Low Carbon Society

# Kitakyushu Green Frontier Plan

Made and Shared by Local Multi-Stakeholders

Target: Society with prosperity accumulated over generations

· Utilizing industrial infrastructure

· Elderly and Children Friendly Society

· International Cooperation for Asian Sustainable Development



Applicability of Experiences and Technologies to Asian Cities

# Economic Development & Environmental Achievement (Win-Win) in Kitakyushu



Source: World Bank, MEIP Report, 1996

# **Outcome of Cleaner Production Approaches**



**Energy Saving** in Industrial Sector in Kitakyushu

**Cleaner Production**: Improvement of Productivity and Reduction of Pollutant Applicability of Experiences and Technologies to Asian Cities

# **Improvement of Productivity:** CO<sub>2</sub> Emissions per Production in Kitakyushu

CO<sub>2</sub> Emissions per Net Domestic Product : 100 in 1963



# **Policies on Green Economy**



Shiraishi Iron Works: Desulfurization Facility, etc.

Applicability of Experiences and Technologies to Asian Cities

# **Cleaner Production in Private Enterprises** Success of Win - Win Approach (Economy and Environment)

### Example 1

Ingot Casting / rolling of blooms method



### **Example 2**





## NIPPON COKE & ENGINEERING COMPANY, LIMITED Coke Dry Quenching System





http://www.n-coke.com/corporate/environment.html

#### Human Development towards Realizing Sustainable development



Accepting International Trainees from Developing Countries: 146 countries, 7,059 people (as of 31 March 2013) In collaboration with JICA and KITA (Kitakyushu International Techno-cooperative Association) Applicability of Experiences and Technologies to Asian Cities

### Outcome of Environmental Cooperation with Dalian, China Dalian Environmental Demonstration Zone



air pollution



at present

- 1979 Friendship Cities Relation
- 1981 Pollution Control Seminar organized by Kitakyushu in Dalian, China

(Environmental Cooperation Activities)

- 1993 Kitakyushu proposed the "**Dalian Environmental Demonstration Zone**" as Chinese Cities' Model
- 1996 Development Study on Environmental Improvement Plan by using of Japanese ODA
- 1998 Dalian's Concrete Improvement Activities in cooperation with Kitakyushu

2001 UNEP Global 500 Award

#### Dalian Environmental Demonstration Zone

Concentrating Resources on a Model Project

Achieving Sustainable Development

Target : Kitakyushu's Environmental Level by the Year 2010

Successful Approaches Transferred to Other Cities in China

### Success Factors: Environmental Cooperation with Dalian, China

- Friendship Relations: face to face and mutual trust
- Sharing good practices and adjusting to local conditions
- Self-Effort by Cities
- Governance Capability and Improvement Plan
- Concrete Actions and Financial Resources
- Collaboration with National Government and International Community Development Study (ODA): JPY 600 million Yen Loan: JPY 8.5 billion Other Schemes



Applicability of Experiences and Technologies to Asian Cities

# **Outcome of Environmental Cooperation with Surabaya, Indonesia** Solid Waste Reduction and Composting



Environmental Pollution at Landfill Site (Before)



**Community-based Composting System**, an expert from Kitakyushu instructs how to make compost



Reduction of Reclaimed Solid Waste Amount

Compost from Solid Waste

Outcome: 30% reduction of solid waste landfill in Surabaya and Expanded to more than 60,000 households, as well as other cities and countries

#### Success Factors: Environmental Cooperation with Surabaya, Indonesia

- Friendship Relations: face to face and mutual trust
- Surabaya has traditional good community system and success experience on Kampung Improvement Programme (KIP) which is community participation programme
- Adding further know-how and technologies to traditional social system in Surabaya
- Active participation of citizen in Surabaya and friendship with Kitakyushu Expert
- Enthusiastic Actions by Surabaya City Government
- Appropriate Policy based upon Scientific Study and Plan
- Collaboration with National Government and International Community Development Study (ODA): JPY 25 million JICA's Grass roots assistance for some years



Applicability of Experiences and Technologies to Asian Cities

## Outcome of Environmental Cooperation with Phnom Penh, Cambodia Water Supply Improvement

in 1993	ightarrow Improvement $ ightarrow$	in 2006	
22 people	Number of Personnel / 1,000 Water Tap	4 people	
65,000	Water Supply in Maximum (m <sup>3</sup> /day)	235,000	
25%	Diffusion Ratio of Water Supply	90%	
10 hours	Operation Time	24 hours	
0.2 kgf/cm <sup>2</sup>	Average Water Pressure	$2.5 \text{ kgf/cm}^2$	Possible for Direct Supply up to 3rd Stories
26,881	Number of Household Serviced	147,000	
72%	Ratio of Non-Revenue Water	8%	Same level as Kitakyushu
48 <b>%</b>	Ratio of Payment for Water Charge	99.9%	

At present, there has been improvement in hygienic condition of water supply and **residents can drink water directly from the tap**. Success Factors: Environmental Cooperation with Phnom Penh, Cambodia

- Understanding of Common Issues : Water supply is indispensable social system for supporting citizen's life. This is worldwide recognition.
- Long-term Collaboration Activities for improving Water Supply Infrastructure and Management Capability
- Joint Activities between Phnom Penh and Kitakyushu with common goal
- Realizing concrete improvement outcome (step by step)
- Assistance (Providing scheme and financing) by JICA 1999 Dispatching Kitakyushu's Experts to Phnom Penh 2003 Human Development Programme, and etc. Number of expert dispatched: 44 staffs of Kitakyushu
- Called as "Phnom Penh's Miracle"



#### International Cooperation Towards Shared Prosperity and Sustainable Development





**Paris**, France



OECD Report on Kitakyushu's Green Growth Issued in 2013



Chicago, U.S.A.



Stockholm, Sweden



Kitakyushu, Japan

31

#### **Benefits from OECD Green Cities Programme**

- Recommendation for Green Growth
- Enhancing International Reputation on Cities
- Sharing Best Practices among Green Growth Cities such as the above Cities
- Encouraging Local Multi-Stakeholders such as citizen, private enterprise, university, and etc.
- Strengthening relationship with International Organizations
- <u>These benefits will accelerate cities</u>' <u>green growth.</u>

http://www.oecd-ilibrary.org/urban-rural-and-regional-development/green-growth-in-kitakyushu-japan\_9789264195134-en

# **Knowledge Sharing Platform**



Special Side Event at 7th Open Working Group on Sustainable Development Goals Sustainable Future Cities We Want

Ministry of Foreign Affairs and JICA in collaboration with UN Agencies In UNHQ on 6 January 2014

#### Mayors Forum: Urban Green Growth in Dynamic Asia

OCED organized in collaboration with UNCRD and City of Kitakyushu in Kitakyushu on 20 October 2013,

#### International Cooperation Towards Shared Prosperity and Sustainable Development

#### **International Conferences / Forums during the Kitakyushu Eco Month** Kitakyushu, Japan 18<sup>th</sup> – 20t<sup>h</sup> October 2013

## OECD Green Cities Programme Commemorative Meeting on the Publication of the Kitakyushu Report

October 18, 2013, 15:00~17:00 Main Hall, Kitakyushu International Conference Center Organizer: City of Kitakyushu, OECD Green Cities Programme Kitakyushu Team Co-organizer: OECD

#### 3rd International Forum on the "FutureCity" Initiative

October 19, 2013, 10:00~18:00 Main Hall, Kitakyushu International Conference Center Organizers: Cabinet Secretariat, Cabinet Office, Promotion Council for "FutureCity" Initiative

#### Realizing a Sustainable City: Looking Towards the Post-2015 Development Agenda

October 20, 2013, 10:00~12:30 Main Hall, Kitakyushu International Conference Center Organizer: Ministry of Foreign Affairs

#### Promotion of Eco-Cities Network in Southeast Asia

October 20, 2013, 14:00~17:00 Main Hall, Kitakyushu International Conference Center) Organizer: UNIDO

#### Mayors Forum: Urban Green Growth in Dynamic Asia

October 20, 2013, 13:30~17:00 Int'l Conference Room, Kitakyushu International Conference Center Organizer: OECD, Co-organizers: UNCRD, City of Kitakyushu

#### Asia-Pacific Regional Centres of Expertise (RCE) on ESD Meeting

October 20, 2013, 13:00-17:00, Nishinippon Institute of Technology (Kokura Campus) Organizers: United Nations University Institute of Advanced Studies

# Asia-Pacific RCE on ESD Meeting: International Symposium on Inspiring Sustainable Lifestyles

October 21, 2013, 13:00~17:00, Main Hall, International Conference Center Organizers: RCE Kitakyushu (Kitakyushu ESD Council, City of Kitakyushu)

#### www.**youtube**.com/watch?v=IDn0MdpFYwc

Number of Participants: 2,300

Overseas: 50 countries

Seminar on "FutureCity" Initiative TRAINING AND DIALOGUE PROGRAMS of the Japan International Cooperation Agency (JICA)





Report on the conferences and forums by the Mayor of Kitakyushu City



International Cooperation Towards Shared Prosperity and Sustainable Development

### UN Second High Level Political Forum on Sustainable Development UN New York, 8 July 2014

Kitakyushu's input into "Ministerial Dialogue"



# Sustainable Society

Your willingness and actions will shape the future and save

## the human race and the earth.

We Can Create Sustainable Society Together!



For further information, please contact: **Reiji Hitsumoto** 

Executive Director

Office for International Environmental Strategies

City of Kitakyushu

E-mail: reiji\_hitsumoto01@city.kitakyushu.lg.jp