

# What makes a city an Eco-City?

**Shigeru Matsuzaki**  
**Deputy Mayor**  
**City of Kitakyushu**

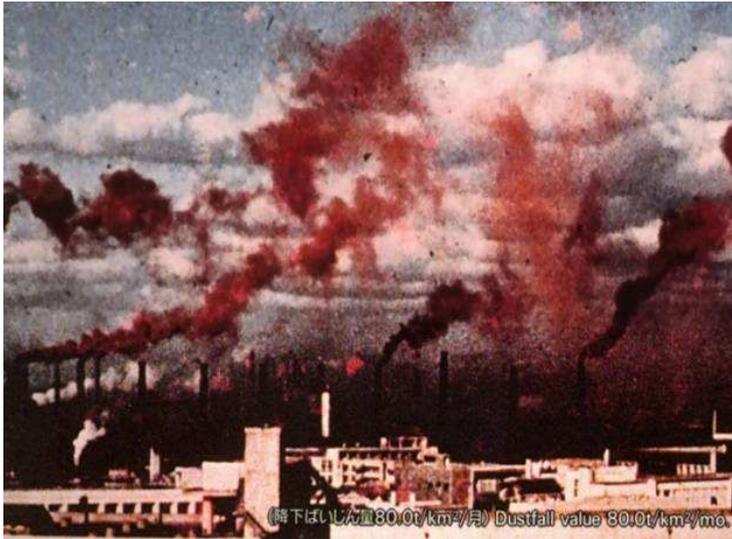
- Utilization of local resources and potentials based upon citizen participation and partnership
- Concrete Actions and visible outcomes
- Concerted Effort of Social (Citizens), Economic (Companies), Environmental (City or local government) aspects
- Promotion of Eco-Cities in Asian region
- Kitakyushu New Growth Strategy as further step-up of Eco-City
- Further Activities

# Location and Characteristic



***Industries, International Trade, Biodiversity, and Urban Development***

# From “Gray City” of “Eco-City” Overcoming Severe Environmental Pollution



**Severe Air Pollution**  
In 1950s & 1960s

(降下ばいじん量80.0t/km<sup>2</sup>/月) Dustfall value 80.0t/km<sup>2</sup>/mo.



**Present**

(降下ばいじん量7.6t/km<sup>2</sup>/月) Dustfall value 7.6t/km<sup>2</sup>/mo.



Residents  
enjoying blue sky



**“Dokai Bay, Sea of Death”**



**Recovered Blue Skies and Sea,**  
people enjoying the clean environment

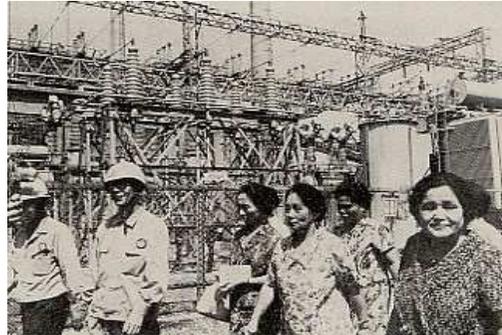
(COD 3.8mg/l)



Swimming at  
Dokai Bay

# Driving Force of Eco-City: 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**



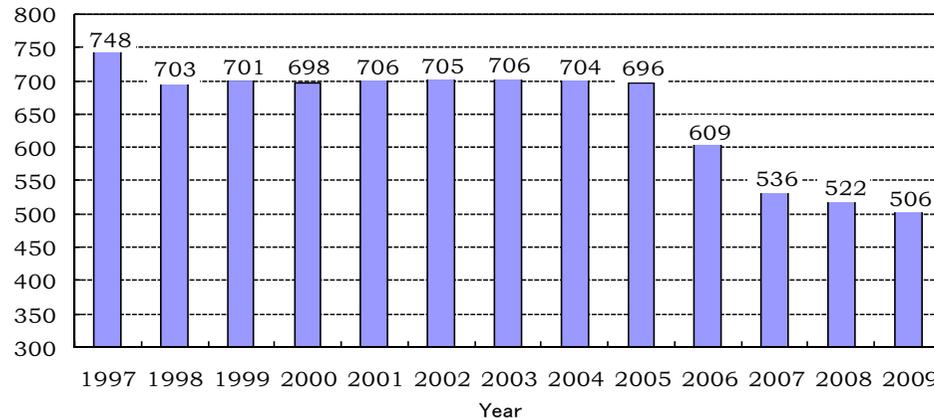
Cleaner Productions &  
pollution control equipment  
**Private Enterprises**

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

# Potentials and Resources for Eco-City 1: Citizen Participation and Partnerships

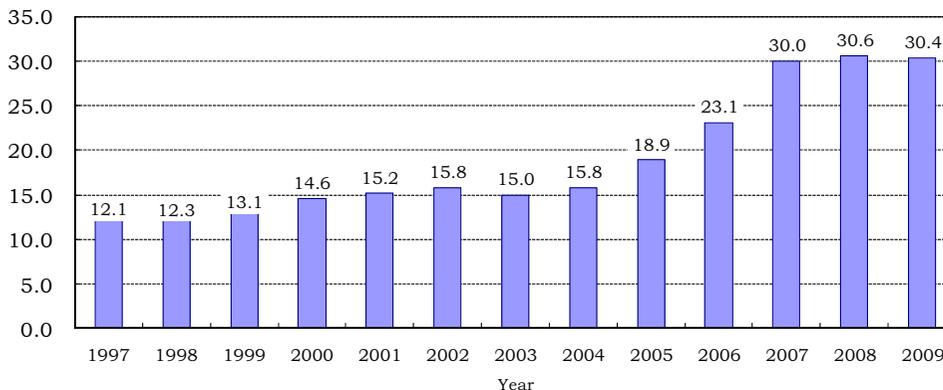
## Achievement of Least Solid Waste Generation among OECD Cities

Domestic Waste Generation (g/day/capita)

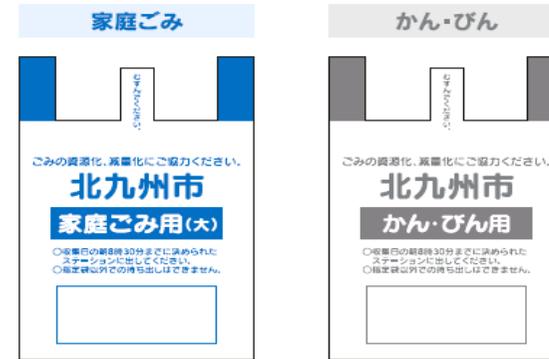


### Reduction of Domestic Waste Generation

Recycling Ratio(%)

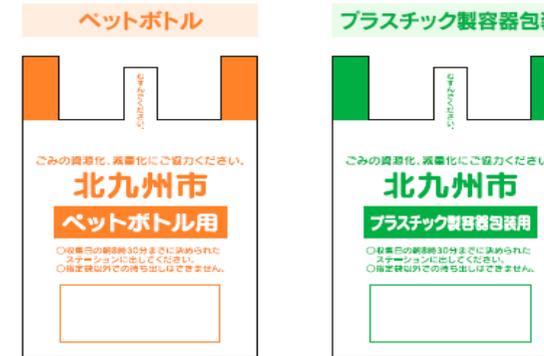


### Recycling Ratio of Domestic Waste from Households



Other Domestic Waste

Can & Glass Bottle



Waste Plastic PET Bottle

Waste Plastic Packaging

### Separation System of Domestic Waste for Resource-circulating started in 2006

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)

# Potentials and Resources for Eco-City 2: Private Companies' Capabilities and Powers

## Green Products produced from High Efficient Process



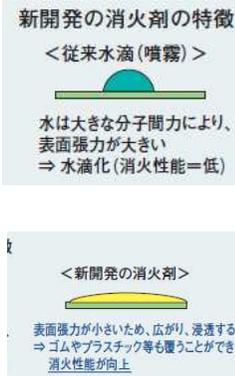
**Nippon Steel & Sumitomo Metals**  
Efficient electromagnetic plate and sheet  
which contributes to energy saving



**YASKAWA Electric Corporation**  
Inverter to contribute  
energy saving in production process



**TOTO, Ltd.**  
Water-saving automatic faucet  
with a self-power generation



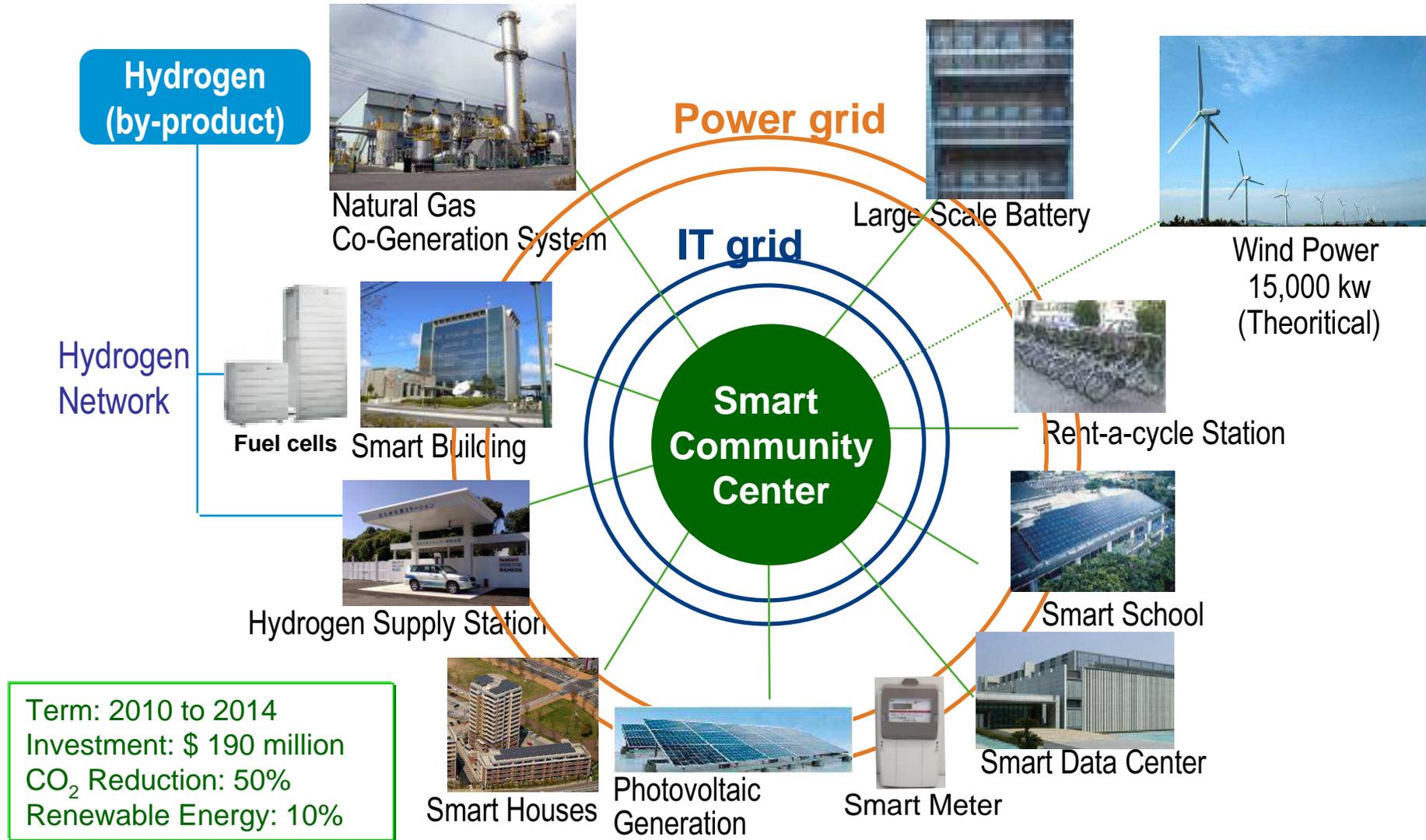
**Shabondama Soap CO. & Kitakyushu City Fire  
and Disaster Management Bureau**  
Development of Small Amount Typed Fire  
Extinguishing Compositions with Less Environmental  
Load and New Fire Fighting Strategy

### World's Most Energy-Efficient

High energy efficiency is a key asset for Kitakyushu's heavy industry. Japan's steel manufacturing ranks as the world's most energy-efficient steel industry. Moving the iron and steel manufacturing products from Kitakyushu or Japan to another country would be likely to create more CO<sub>2</sub> emissions for same output. Kitakyushu's iron and steel industry offers a range of products with advanced energy performance

*Reference: OECD Green Cities Programme Kitakyushu Report*

# Potentials and Resources for Eco-City 3: Sustainable Urban Infrastructures 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.*

# Expansion of Eco-Cities: International Environmental Cooperation for Sustainable Development in Asian Countries



**City-to-City International  
Environmental Cooperation  
Network in Asia**

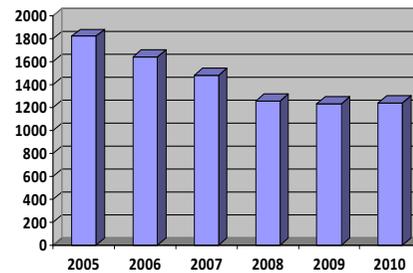
**Number of Participants from Overseas to Kitakyushu**



in 1994

Present

**Air Pollution Improvement  
in Dalian, China**



**Reduction of Solid Waste  
in Surabaya, Indonesia**

in 1993	→ Improvement →	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 kgf/cm <sup>2</sup>
26,881	Number of Household Served	147,000
72%	Ratio of Non-Revenue Water	8%
48%	Ratio of Payment for Water Charge	99.9%

**Water Supply Improvement  
in Phnom Penh, Cambodia**

# Step up of Eco-City: Kitakyushu New Growth Strategy

【Target】 Leading Industrial City with New Technologies and Happy Lives in Asia

**Key Words: “Environment” and “Asia”**  
~Economic Development through Environmental Actions  
and Realizing Shared Prosperity in Asia~

<Five Directions>

I :Conditioning of  
Local Industrial Activation

II :Promoting Service Industries  
adequate to Domestic Potential

III :Establishing Cluster for  
High Valued-Production

IV :Overseas Business Base for  
Global Needs

V :Kitakyushu Regional Energy Base Programme

Promotion of New Growth based upon Local Partnership

Recommendations towards promoting Further Green Growth by **OECD Kitakyushu Report**: Utilization of Local Resources such as Green Innovation Technologies and Strengthening Governance

# New Challenge: Kitakyushu Regional Energy Base Programme

## Objectives:

- Energy System with Low Carbon Emission, Stability, and Economic Advantage
  - Energy to Citizens' and Industrial Sustainable Activities
  - Preferable Situation for Private Enterprises
  - Contribution to not only Kitakyushu but also across the Kyushu Region
- ⇒ Towards promoting Green Growth

## Contents:

- Feasibility Study on Power Project (2.5 million kW ) and Environmental Impact
- High Efficiency Power Plant and Renewable Energy including Offshore Wind
- Regional Energy Management System including Demand Management



# Supporting Eco-Cities Promotion in Asia by Kitakyushu Asian Center for Low Carbon Society

Projects and Related Companies	Used Scheme
Energy Saving Project in Beijing, China YASKAWA Electric Corporation, <i>Largest World Share in the field of Industrial Robots and Inverters in Kitakyushu</i>	Ministry of Economy, Trade and Industry of Japan
Promoting Water Saving Equipment in Dalian, China TOTO Ltd., <i>International Housing Equipments Company in Kitakyushu</i>	Ministry of the Environment of Japan
Promoting Waste Water Purification with Provision of License for Nitrate Nitrogen Removal Technology to Chinese Company in Dalian, China Nippon Steel Chemical CO., Ltd., <i>Coal Chemical Company in Japan</i>	Providing the license of pollutant removal technology to Chinese companies
Promoting Recycling Business in India Nippon Magnetic Dressing CO., Ltd., <i>Rare Metal Recovery and Circulation Company in Japan</i>	Ministry of Economy, Trade and Industry of Japan
Promoting Recycling Business in Tianjin, China Eco-Material Corporation, <i>International Recycling Business Company in Japan</i>	Ministry of the Environment of Japan
Received an order on the City of Siem Reap, Cambodia, related to water works planning project Kitakyushu Water Supply Bureau and Hamagin Research I Institute, Ltd.	Japan International Cooperation Agency



# Collaboration between Kitakyushu and UNIDO ~Promoting Eco-Cities~



**MOU: Mr. Kandeh K. Yumkella, Director –General of UNIDO and Mr. Kenji Kitahashi, Mayor of Kitakyushu at Headquarter of UNIDO**