Asia-Pacific Economic Cooperation

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Kitakyushu's Policies and Actions Towards Sustainable City Development

Submitted by: Japan

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Policy Dialogue on Urbanization
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Kitakyushu's Policies and Actions towards Sustainable City Development

City of Kitakyushu, Japan

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City Profile

Location and Characteristics

Population: 1 million
Area: 488 km²
Designated City
(as same status as Prefecture Government)

Once a polluted industrial zone, Kitakyushu is now a modern industrial city pursuing green growth.
: from Green Growth in Kitakyushu, Japan, OECD Green Growth Studies, 2013, OECD

Industries, International Trade, Biodiversity, and Urban Development

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City Profile

Industrial Development and International Trade

1901 Yawata Steel Works

1920 TOTO

1925 Yasukawa

1950s Industrial area

Industries born in Kitakyushu

1935 Moji Port

Tachinoura Container Terminal

International Trade

Accumulated industries, technologies, infrastructures, and citizen participation for Sustainable Society

City Profile

Industrial Development (present)

Value of Product Shipments:

Approx. **US$ 20 billion** per year

Vehicle

Robot

Chemical

Iron and Steel

Sustainable Development Policies

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

1901

Government-run **Yawata Steel Works** → Kitakyushu has developed as an **Industrial City**

Industrial Wastewater — **Exhaust Emission**

1950

Aggravation of Pollution Problems

Women's Movement against Environmental Pollution

1960's

Pollution Control Policy

City Government
Organizational Arrangement, Ordinance, and Pollution Control Agreement with Companies

Private Enterprise
Cleaner Production Improvement of Production Process Treatment of Pollutant, Tree Planting

Overcoming Environmental Pollution

1980's

Establishment of "KITA" (1980) → KITA: Kitakyushu International Techno-cooperative Association

Local Diplomacy Policy

Environmental International Cooperation (1988～)

Agenda 21 Kitakyushu (1996)

Kitakyushu Eco-Town (1998) Environmental Preservation and Industrial Promotion

Resource-Circulating Society Policy

Reduction of Domestic Waste by Introducing New System and Citizen Participation (First one at Designated Cities)

2002

Sustainable Society Policy

Decision of Establishing PCB Treatment Facility (2001)

Johannesburg Summit (2002) identified **Kitakyushu Initiative for a Clean Environment**

Grand design on **World Capital of Sustainable Development** (2004)

2008

Low Carbon Society Policy

Implementation and Evaluation of Practical Activities

Eco-Model City (2008), Future City (2011), Green Asian" International Strategic Integrated Zone (2011) of Japan, and Model City of OECD's Green Cities Programme (2011)

Creation of Local and Global Sustainable Society

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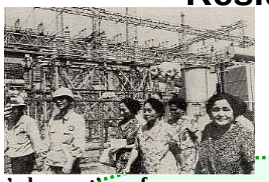
Factor of Sustainable Development

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

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Outcome of Environmental Improvement

Overcoming Severe Environmental Pollution

Severe Air Pollution

In 1950s & 1960s ⇨ *Present*

Blue Skies

Residents enjoying blue sky

"Dokai Bay, Sea of Death"

Beautiful Sea

Swimming at Dokai Bay

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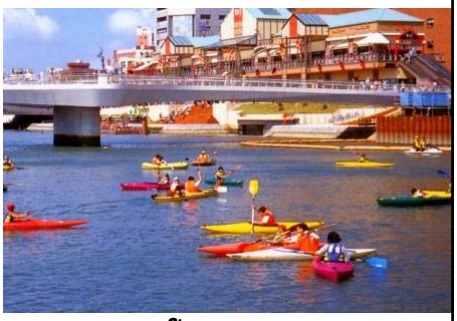
Outcome of Environmental Improvement

Improvement of Murasakigawa River

before



after

Sport Festival at Murasakigawa River

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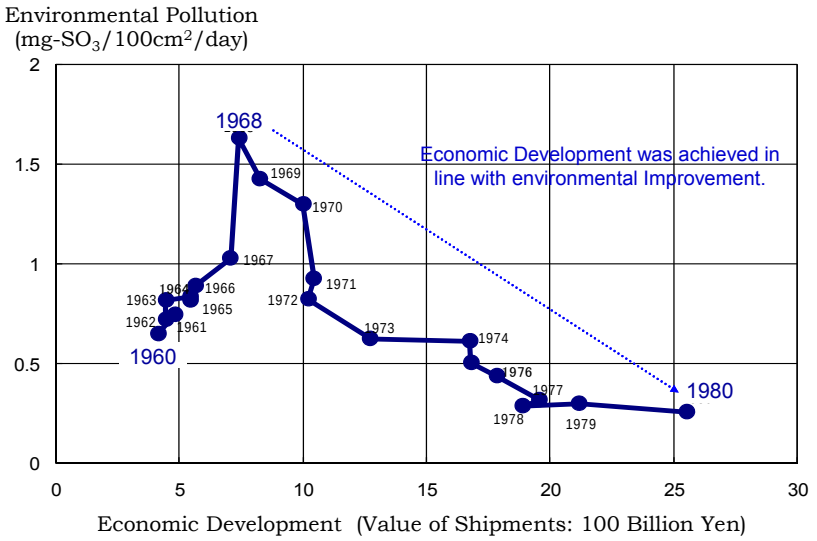
Factor of Sustainable Development

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



Source: World Bank, MEIP Report, 1996

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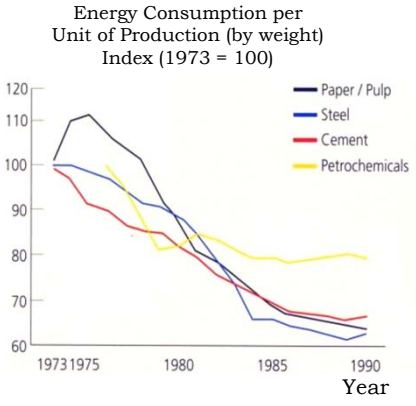
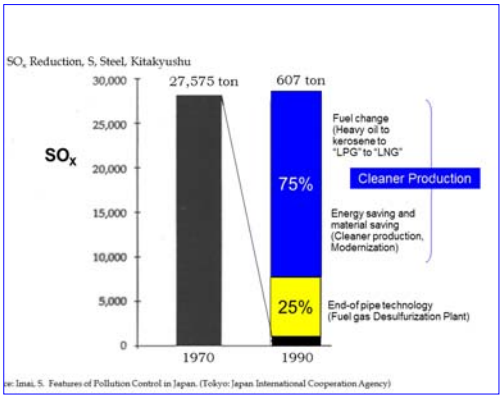
Factor of Sustainable Development

Outcome of Cleaner Production Approaches



Energy Saving
in Industrial Sector
in Kitakyushu



Cleaner Production:
Improvement of Productivity
and Reduction of Pollutant

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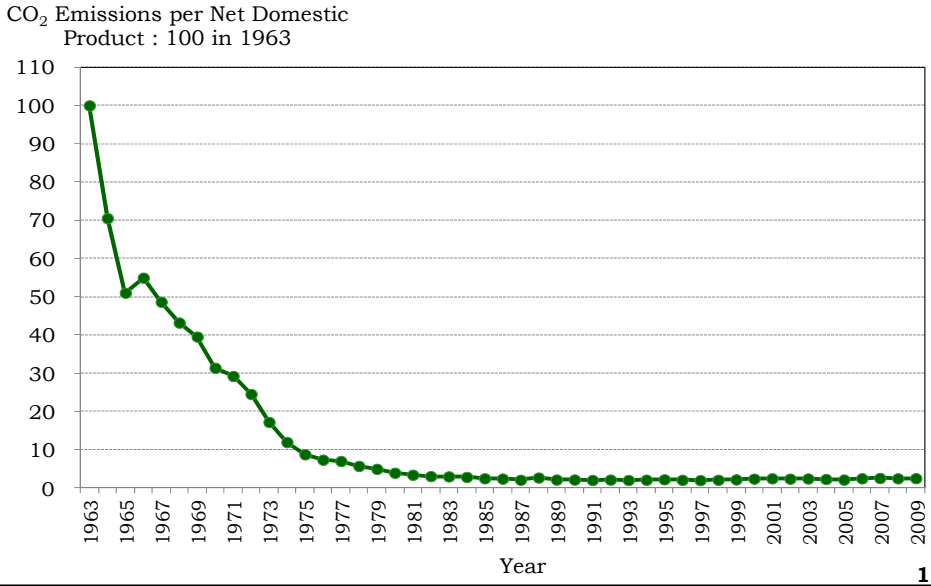
Factor of Sustainable Development

Improvement of Productivity:
CO_2 Emissions per Production in Kitakyushu



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Policies and Strategies Towards Realising Sustainable City

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

CO_2 Reduction Target with 40% Economic Growth in 2050

☑ City Area : **50%**

☑ Asian Region: equivalent to **150%** of Kitakyushu's Emission

5 Strategies

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

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

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

Outcome of Projects

Environment: **Reduction of Environmental Impact／0.38 million ton CO_2,** Saving Resources and Energy

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

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Promoting Eco Industry and Resource-Circulation in Eco-Town

Plastic PET Bottle Recycling Project

Office Equipment Recycling Project

Home Appliance Recycling Project

Automobile Recycling Project

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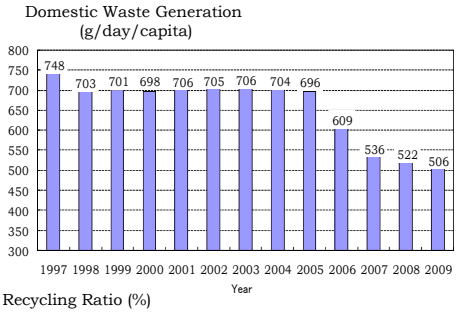
Social Development : Citizen

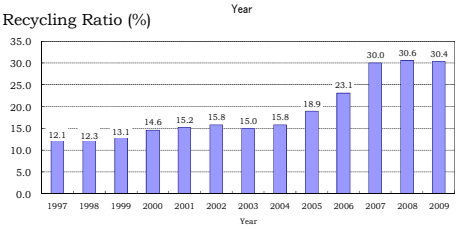
Citizen's Activities towards Realzing Resource-Circulating Society

Waste Separation at Home

Resource-Circulation Station

Citizen's Activities towards Achieving Resource-Circulating Society





Reduction of Domestic Waste & Increasing of Recycling

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

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Urban Development: Transportation

Public Transportations Connection Development

Connections between Public transportation: Train, Monorail, and bus

Monorail

Rental of Electric Bicycle

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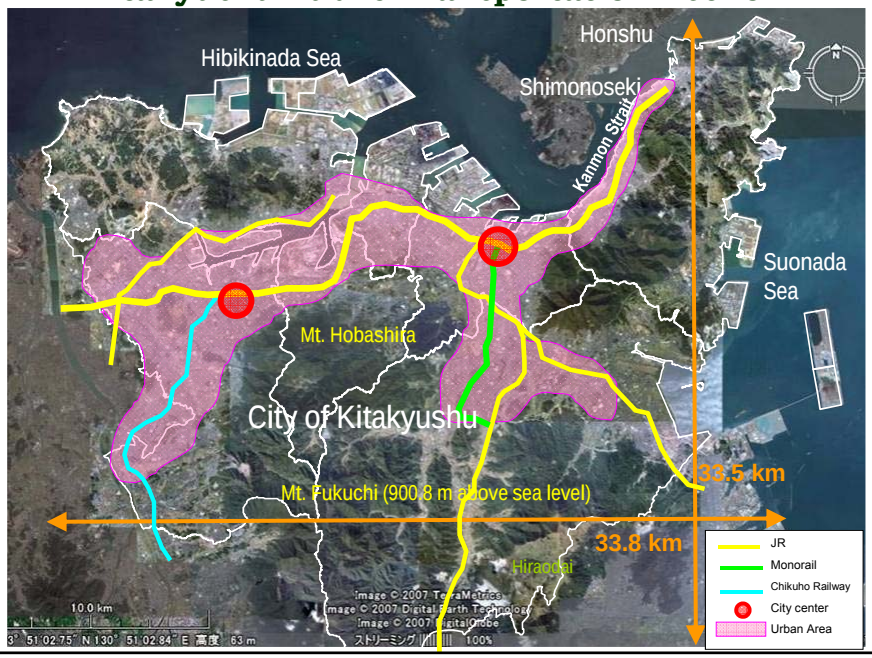
Urban Development: Transportation

Kitakyushu Public Transportation Network



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Urban Development: Transportation

Introduction of Eco Vehicles and Driving with Low Emission

TOYOTA's Fuel Cell Vehicle

Electric Vehicle and Quick Charger

Charger Network for EV

Kokurakita-Ward Office
Every day and 24 hours
Free of Charge

Kitakyushu ECO DRIVE project
ECO DRIVE soft acceleration idling stop, etc. Effect Increasing of fuel efficiency reduction of cost and pollutants) reduction of traffic accidents

IT technology development on EV driving
Feasibility Study: Supplying EV charger information by car navigation system, etc.
Institutes: Yaskawa Information CO., Nissan CO., Zenrin CO.
Cooperation: City of Kitakyushu, FAIS

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Urban Development : Energy

Kitakyushu Smart Community

Target:
Term: 2010 to 2014
Investment: $ 190 million
CO_2 Reduction: 50%
Renewable Energy: 10%

Outcome as of Oct. 2013:
・World's first FS project on Dynamic Pricing
・Peak cut:20%
・CO_2 reduction

Domestic &Overseas Expansions

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.

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Urban Development : Energy

Higashida Green Village

Integrated Local Energy System with Reduction of CO_2

Higashida Co-Generation System with high efficiency operated by Nippon Steel Corporation

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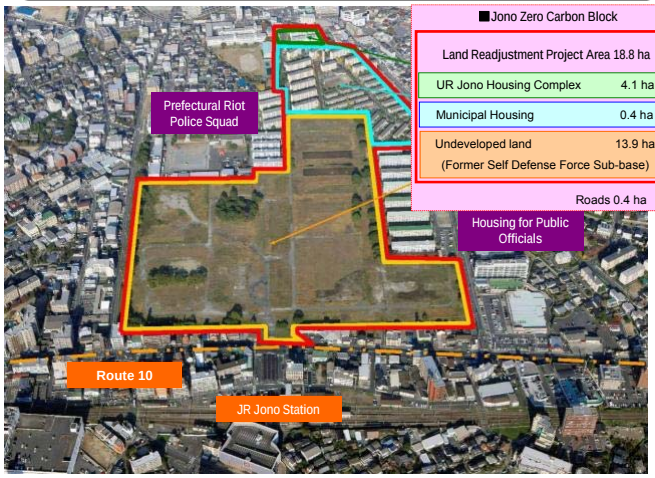
Urban Development: Energy

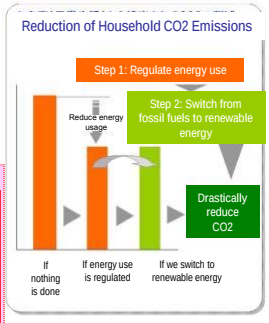
Zero Carbon District

Kitakyushu is in the process of developing the UR Jono Housing Complex and the undeveloped public land north of JR Jono Station in the center of Jono District (approx. 19 ha) into a “zero carbon community." A number of low-carbon technologies and measures are being incorporated to accomplish this, including promoting the construction of energy creation/energy saving eco-houses, optimizing energy use by implementing an energy management system, and facilitating the use of public transportation.



■Jono Zero Carbon Block

Land Readjustment Project Area	18.8 ha
UR Jono Housing Complex	4.1 ha
Municipal Housing	0.4 ha
Undeveloped land (Former Self Defense Force Sub-base)	13.9 ha
Roads	0.4 ha



Land Readjustment Project Schedule

2012: Start Construction

2013: Sell several housing lots

2015: Inauguration of Carbon-free Residential Area

2016: Project complete

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Urban Development: Energy

Image of Jono Zero Carbon District

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Urban Development: Energy

Kitakyushu Regional Energy Policy

- **High Efficiency Power Plant & Renewable Energy in Hibikinada Area**
- **Regional Energy Management System including Demand Management**

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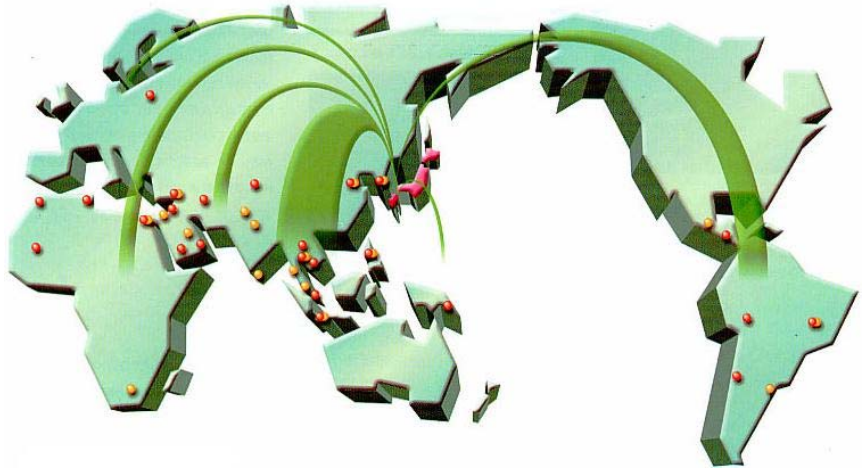
International Cooperation Towards Shared Prosperity and Sustainable Development

Human Development towards Realizing Sustainable development



Accepting International Trainees from Developing economies:

146 economies, 7,059 people **(as of 31 March 2013)**

In collaboration with JICA and KITA (Kitakyushu International Techno-cooperative Association)

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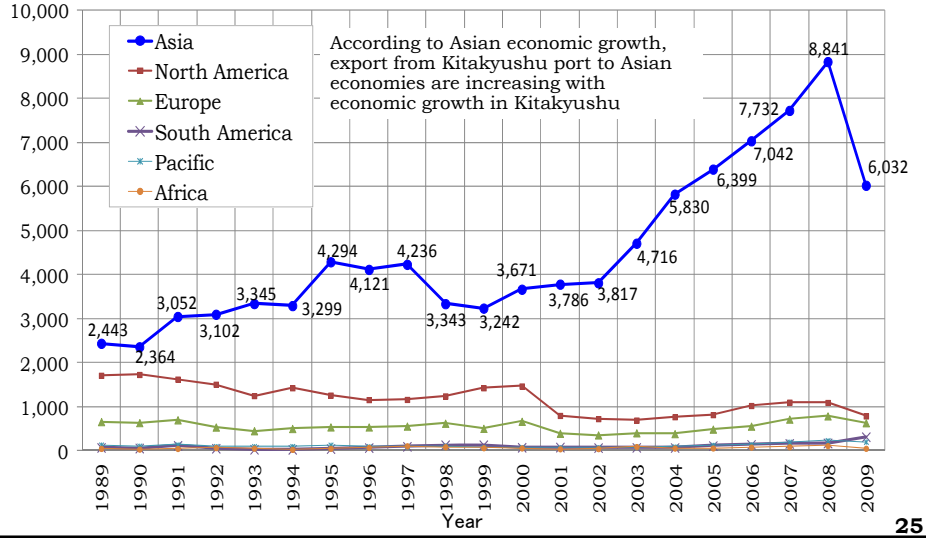
Export of Green-Products from Kitakyushu Port to Asian Economies

(Contribution to Asian Green Growth through Export of Green Products)

Hundred Million Yen (= Million US Dollar)



Green Products being exported for Global Contribution

Nippon Steel and Sumitomo Metal's **Electrical Steel Sheet**

Nippon Steel offers high function steel in order to contribute to the weight reduction and higher energy efficiency of automobiles, ships, and so on; thereby helping to conserve energy and reduce CO_2 emissions.

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

http://www.nsc.co.jp/eco/warming/product.html

OECD Green Growth Studies: Green Growth in Kitakyushu, Japan, 2013, OECD

Moving the iron and steel production from Kitakyushu or Japan to another economy would be likely to create more CO_2 emissions for the same output. Kitakyushu's iron and steel industry offers a range of products with advanced energy performance, such as flat rolls, magnetic steel sheets, thin sheets or surface-treated steel sheets. These products represent over 80% of iron and steel exported from Kitakyushu to China and about 75% of all products shipped.

International Cooperation Towards Shared Prosperity and Sustainable Development

International Projects implemented by private enterprises

in collaboration with the Kitakyushu Asian Center for Low Carbon Society

Projects and Related Companies
Energy Saving Project in Beijing, China YASKAWA Electric Corporation, *Largest World Share in the field of Industrial Robots and Inverters in Kitakyushu*
Promoting Water Saving Equipment in Dalian, China TOTO Ltd., *International Housing Equipment Company in Kitakyushu*
Promoting Waste Water Purification with Provision of License for Nitrate Nitrogen Removal Technology to Chinese Company in Dalian, China Nippon Steel Chemical CO., Ltd., *Coal Chemical Company in Japan*
Promoting Recycling Business in India Nippon Magnetic Dressing CO., Ltd., *Rare Metal Recovery and Circulation Company in Japan*
Promoting Recycling Business in Tianjin, China Eco-Material Corporation, *International Recycling Business Company in Japan*
Received an order on the City of Siem Reap, Cambodia, related to water works planning project Kitakyushu Water Supply Bureau and Hamagin Research Institute, Ltd.



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Sustainable City

Your willingness and actions will shape the future
and harmonise the environment and city development.
We Can Create Sustainable City Together!

For further information, please contact:

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