

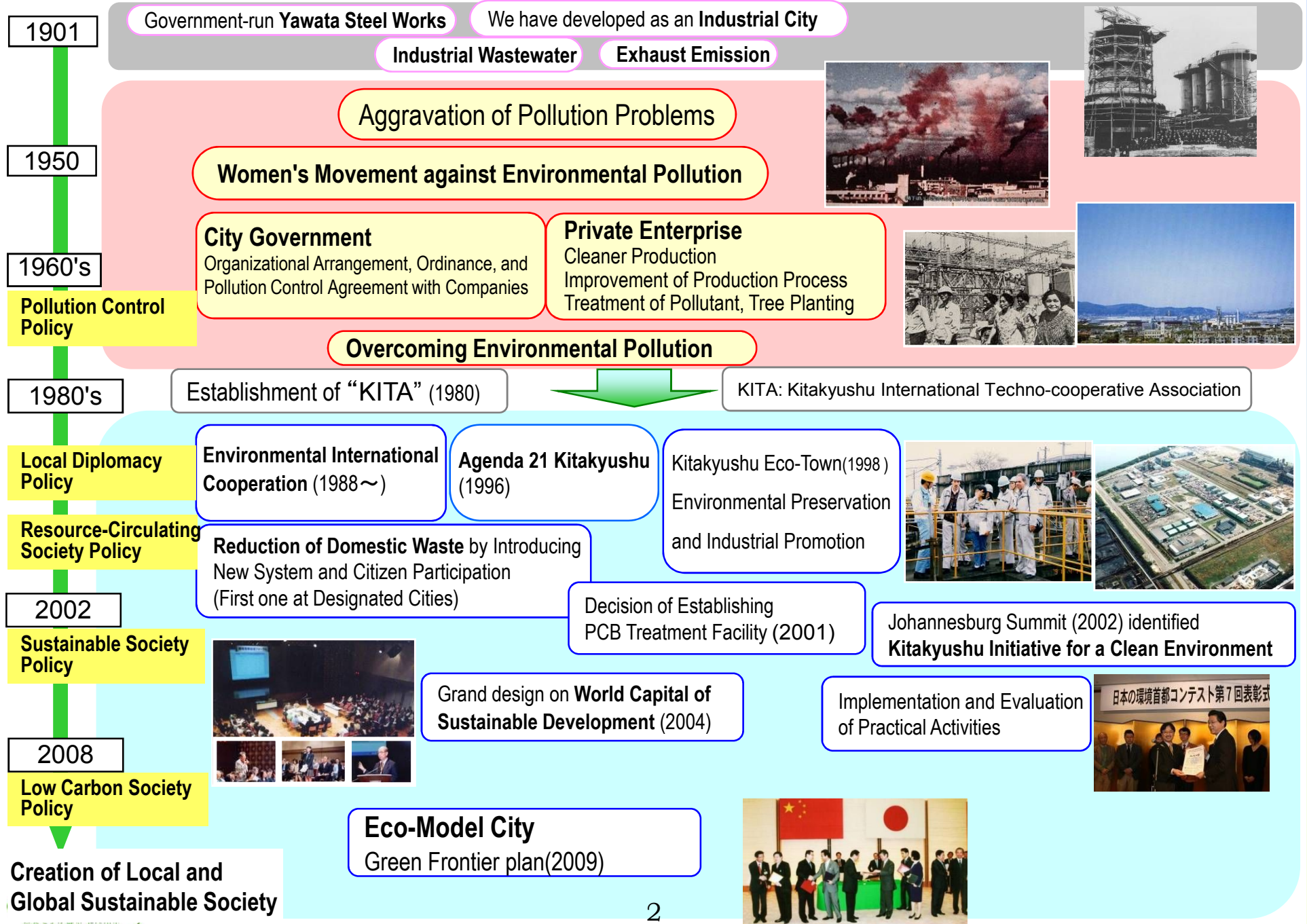
City of Kitakyushu's Policy and Actions towards utilizing Renewable Energy



GreenFrontier
環境モデル都市 北九州市

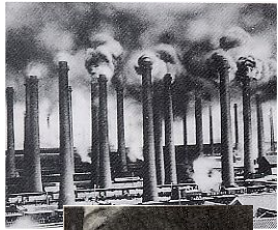
City of Kitakyushu
Japan

About Kitakyushu



About Kitakyushu

Overcoming Severe Environmental Pollution



Worst Air Pollution
caused closures a school



地下は1.76t/30.0t/km²/月 Dustfall value 30.0t/km²/mo.

In 1960s



Present



地下は1.51t/30.0t/km²/月 Dustfall value 7.6t/km²/mo.



Citizen enjoying blue sky



S.45. 5. 23 ©朝日新聞社



“The Dokai Bay, Sea of Death”

Corroded boat propeller and E. coli bacteria died.



(COD 3.8mg/l)

Recovered Blue Skies and Sea, people enjoying environment



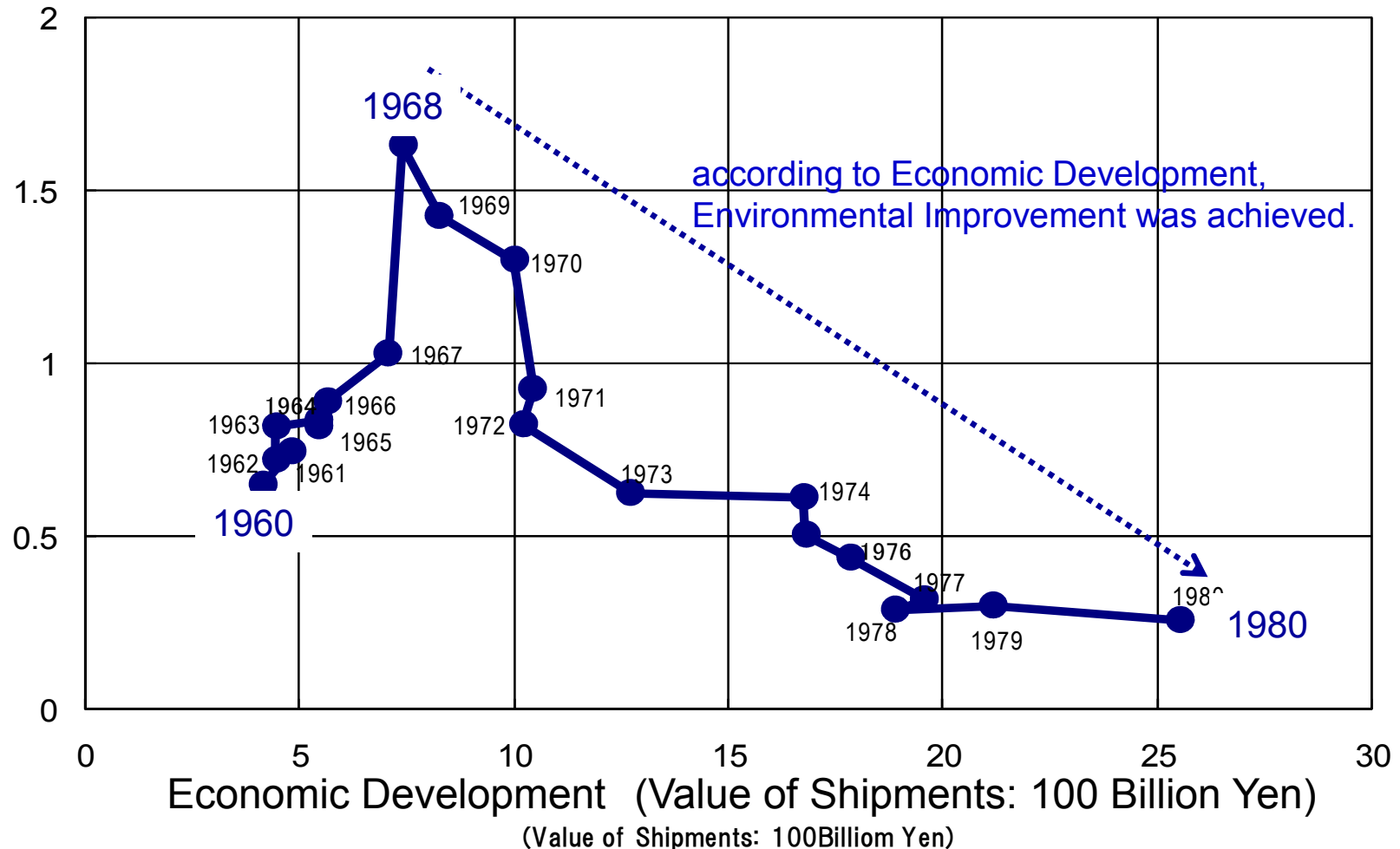
Swimming at Dokai Bay

Kitakyushu was introduced by the OECD's Environmental Report as “from Grey City to Green City” in 1985.

About Kitakyushu

Co-Benefit: Economic Development & Environmental Achievement

Environmental Pollution
(mg-SO₃/100cm²/day)



Source: World Bank, MEIP Report, 1993

About Kitakyushu

Kitakyushu Green Frontier Plan

made and shared by Local Multi-Stakeholders

Target: Society with accumulated prosperity over generations



Whole System of Renewable and Potential Energy in Kitakyushu



Power generation : 150,000kW → equivalent to the consumption of 30,000 households
 Heat supply quantity is approximately 70TJ/year

Urban Development with Renewable Energy

Murasakigawa Eco River Project

CO₂ reduction 10,000 tons/5 years + Active economy



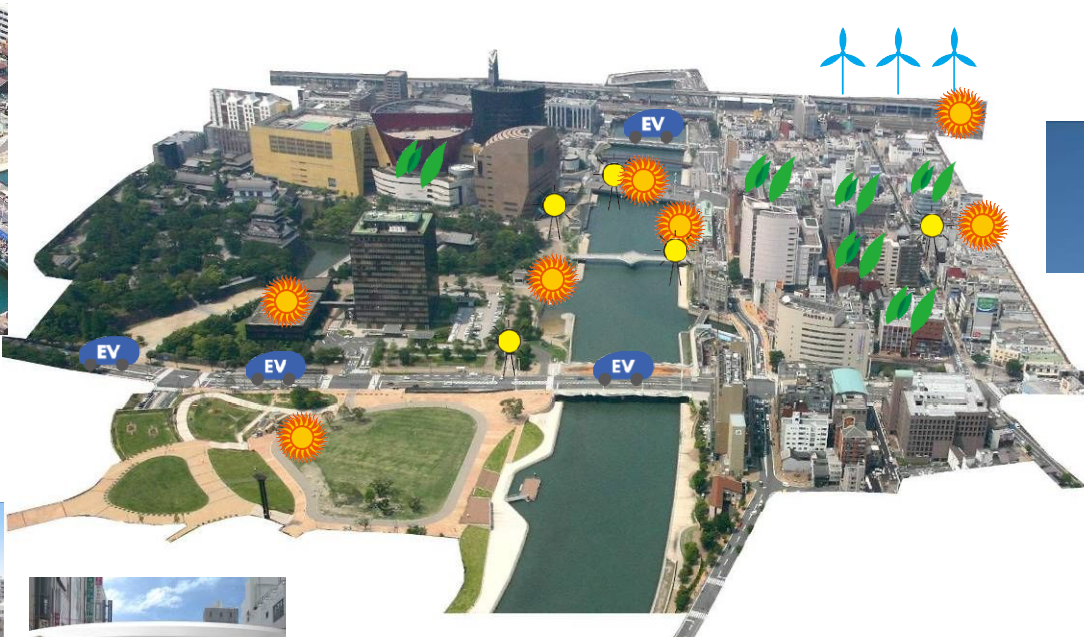
 Photovoltaic Generation



PV Roof



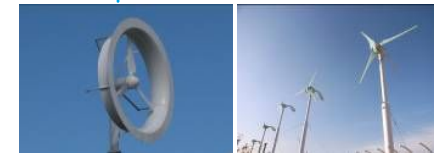
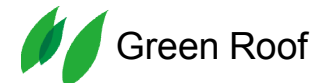
PV at Promenade



PV Arcade in noon



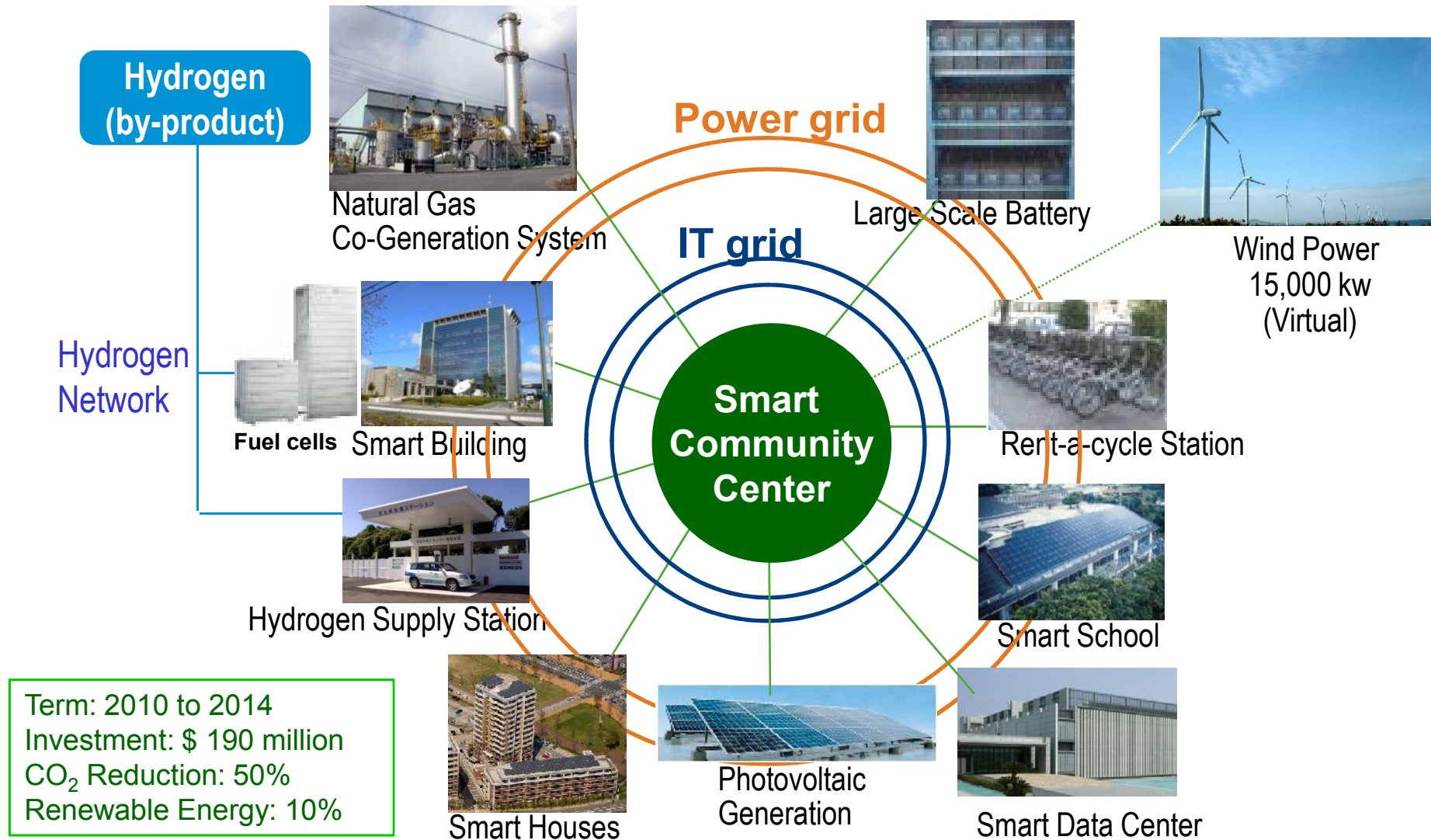
LED Arcade in night



City Bicycle with Electric Assistance

Urban Development with Renewable Energy

Kitakyushu Smart Community Project

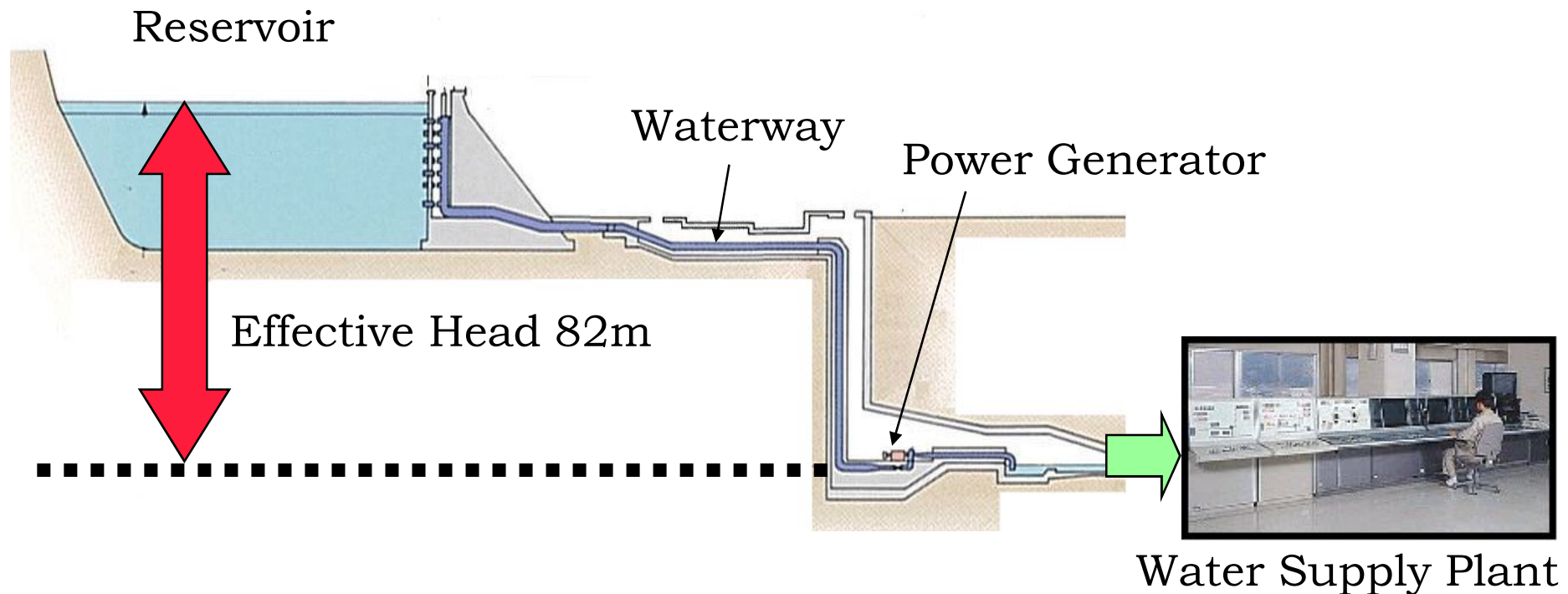


Realization of optimized energy use per region, through coordination between new and mainstay energy sources and introduction of a control system for both energy supply and demand.

Urban Development with Renewable Energy

Waterway Generation (3 locations) 1,370 KW

Water Supply Bureau, City of Kitakyushu



✓ Generated power is being used at the plant and also sold to a power company.

Urban Development with Renewable Energy

RIVERWALK ~Complex Facility

Natural Ventilation

Long-Lasting Building Materials

Rain Water Usage

Thermal Insulation

Green Roof

Natural Materials

Heat Pump using River Water
for Air Conditioning

Energy Saving : 13%

Tidal Current Power Generation

(under development study)



Kanmon Strait



Darrieus-Typed Turbine

Industrial Development with Renewable Energy

Kitakyushu Eco-Town (First one in Japan)

facilitating Resource Circulation and Eco-Industries



Practical Research Area
Practical Research Facilities : 15



Comprehensive Eco-Industrial Complex,
Hibiki Recycling Area
Industrial Plants: 26

Outcome of Projects

Environment: Reduction of Environmental Impact / 0.2 million ton CO₂,
Saving Resources and Energy

Economy: Investment: 60 billion yen (Private sector: 68.6%, Government Sector: 31.4%)
Employees: 1,300 people Visitors: 840,000 people (as of March 2010)

The KITAKYUSHU ECOENERGY CO., LTD.

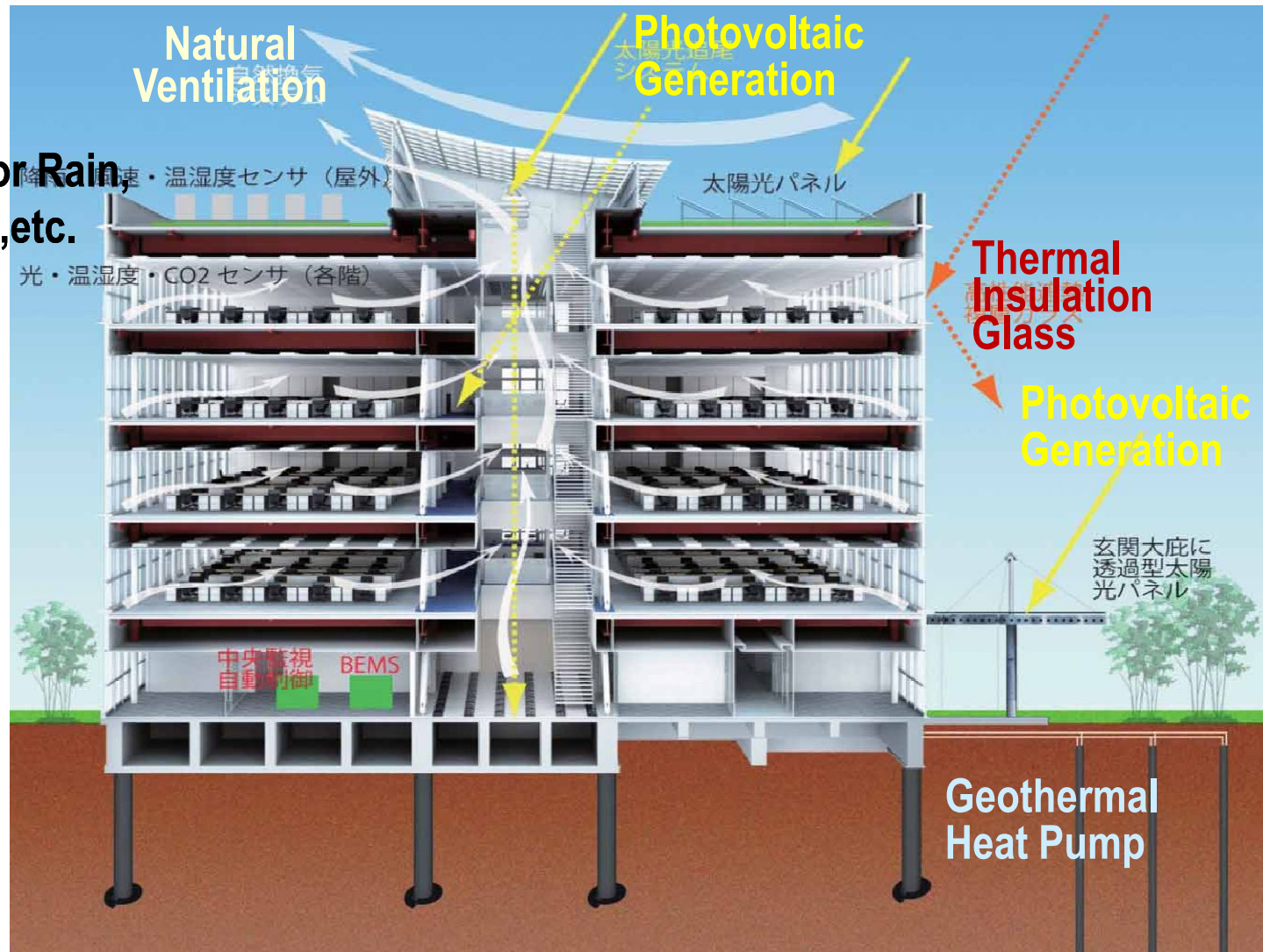


Waste substances from other industries within the Kitakyushu Eco-Town are collected and thermally recycled to supply electricity for industries.

Industrial Development with Renewable Energy

The NIPPON STEEL ENGINEERING's Eco-Building with Renewable Energy

Sensors for Rain,
Light, CO₂, etc.



Kitakyushu Eco Premium



Rented type Eco-Apartment House
with Photovoltaic Power Generation,
First in Japan



Water-saving automatic
faucet with a self-power
generation function

The technology and the product (eco-products), and service (eco-service) which lead to environmental impact reduction in the city are designated as the “Eco-Premium”. Environmental consideration activity of the whole city through industrial field is promoted to its expansion and osmosis.

Point: Saving Energy, Saving Resources, Maintenance Free, etc.

Mobilizing Citizens for Sustainable Development

**Common Goal, Philosophy, and Means
to create Sustainable Society**

Dialogues at
Community, Open Forum, Workshop, etc.

Citizens, NGO

**Private
Enterprises**

Professors

**Local
Government**



Mobilizing Citizens for Sustainable Development

Decision of the “Grand Design” 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)**

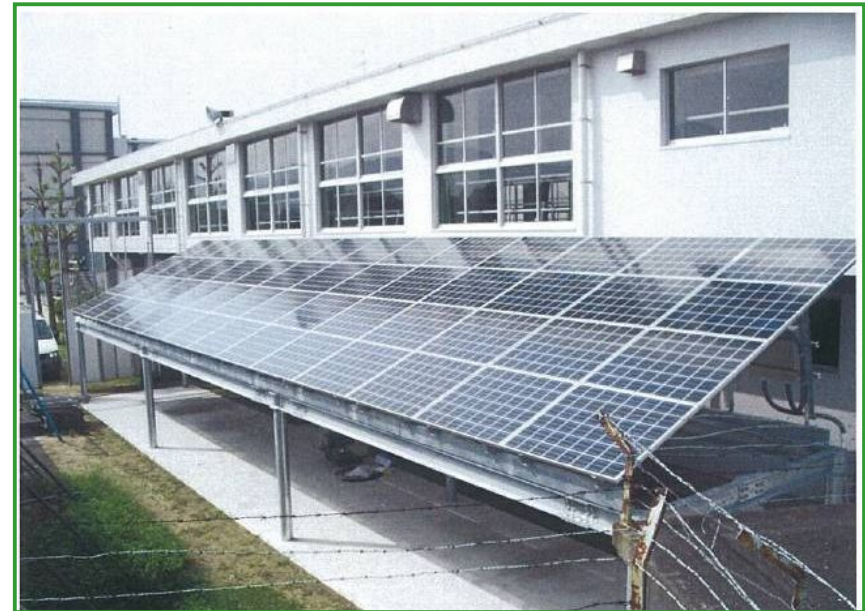
Mobilizing Citizens for Sustainable Development

Overall Learning System on Renewable Energy



Centre of the System
Environmental Museum & Eco-House

Kitakyushu is introducing PV into
every elementary school and
Junior High school



Photovoltaic Generation at School

Mobilizing Citizens for Sustainable Development

Renewable Energy Park for Future Generation



Photovoltaic Power Generation



Wind Power



Bio-Ethanol made from organic solid waste



RDF Power Plant



Mobilizing Citizens for Sustainable Development

Kitakyushu Eco-Life Stage



Citizens make the “stage” for making presentation on environmental activities.
Through exchanging information, environmental awareness and actions is being spread

Participants: 150,000 people / 2 days

Mobilizing Citizens for Sustainable Development

Subsidies for Citizens & Private Enterprises on Introduction of Renewable Energy

Subsidies for Citizens



Photovoltaic Generation



Solar Heat



Geothermal Energy

Subsidies for Private Enterprises



LED



Photovoltaic Generation



Green Roof

International Cooperation for Sustainable Development in Asia

Asian Partnership Programme towards Shared Prosperity

Trainees Received: 137 countries 5,805 people,
Coordinating Cities' Cooperation Network in Asia ,

Experts Dispatched: 34 countries 200 people
Promoting Environmental Projects in Asia



City of Dalian's Environmental Improvement, China
with reduction of CO₂ emission



Exchange of
Memorandum on
Cooperation for
establishing
Eco-Town with Tianjing
at Prime Minister's Office

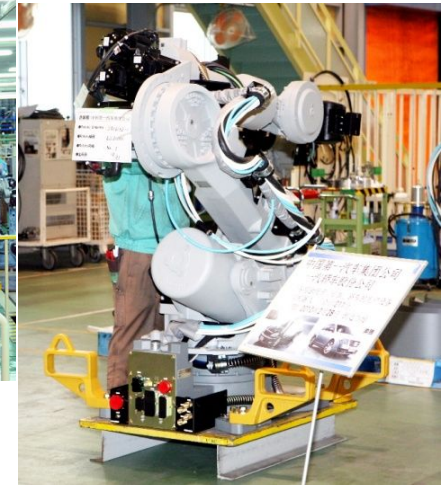


Composting Project
In City of Surabaya,
Indonesia
Spreading to other
cities and countries



Water Supply
Improvement
in Phnom Penh, Cambodia
Water Supply Efficiency:
28% in 1993 →
92% in 2006

International Attention to Local Actions



Mr. Xi Jinping, Vice President of the People's Republic of China, visited Kitakyushu on 16 December 2010.

People's Daily on 17 December 2009:

The City of Kitakyushu has rich experiences on environmental conservation and advanced technologies, and Kitakyushu would be worth the model for Chinese cities.

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:

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