Kitakyushu's Development Strategy
Based on its Experience in
Environmental Pollution Control

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Area
485.25km²

Population
990,748人
(1 Jul 2006)
Rainbow-colored smoke is trailing from forest of smokestacks in Kitakyushu Industrial District (Dokai Bay)

Postcard made in 1962
Tobata Ward in 1950’s

Fuel: Coal

Amount of dust fall: 80t/km²/month (FY1965)
Environmental Improvement in Kitakyushu (Yahatahigashi-ward)

The 1960’s

Air Pollution

The 1990’s

Dokai Bay
History of Environmental Pollution in Kitakyushu –(1)

+ 1901  Japan’s first state-owned Yawata Steel Works began operation
+ 1950’s～1970’s Severe industrial pollution
  – Air Pollution: Dustfall was 80 tons/km²/month in FY1965 (approx. 5 tons at present)
  – Water Pollution: Dokai Bay was dubbed “Sea of Death” (because there was no living things in the Bay) around 1969

• 1953  Dust fall monitoring was started at 10 observation points in Fukuoka Prefecture (Tobata-ward)
• 1955  Fukuoka Prefecture Pollution Control Ordinance was enacted
• 1960’s Citizens’ movement against pollution was started
• 1963  Kitakyushu City was established by merging 5 cities: (increased capacity for pollution control)
• 1967  Basic Law for Environmental Pollution Control was enacted by the state
• 1968  Air Pollution Control Law was enacted
  * The first smog warning was officially announced in Japan in 1969 (13 warnings in total were announced by 1970)
• 1968  Kitakyushu Pollution Control Funding System was established
Antipollution Activities by “Tobata Ward Women’s Association”

The origin of women’s antipollution movement

Spot inspection at local private factories

Study meeting on pollution (monitoring measures etc.) inviting a university professor as a lecturer

8mm documentary movie titled “We want blue skies!” was produced in 1965 to accuse serious pollution in Kitakyushu

Sending open letters to private enterprises
The first pollution control agreement was concluded in 1967 (Tobata Joint Thermal Power Plant)

Pollution Control Agreement
(Blanket agreement to control SOx, 1967)

Air Pollution Monitoring Center (1964, 1970)

Dredging Sludge in Dokai Bay (after 1974)

Sewage-treatment Plant

Antipollution Measures by the City of Kitakyushu
Promotion of Cleaner Production by Private Enterprises

- Necessity of countermeasures against pollution
- Necessity of saving resources and energy due to the oil shocks and dollar shock

End of Pipe Technology

- Electric Precipitation Machine (elimination of soot and dust)
- Flue Gas Desulfurization Unit (SOx)
- Wastewater Treatment Facility (organic wastewater)

Cleaner Production

+ Improvement of Production Efficiency
+ Reduction of Environmental Load

- Saving Energy and Resources
- Minimizing Environmental Load

* Pollution control
* Global Environmental Conservation
* Economic Benefit (Reinforcement of Management System)
Role of Cleaner Production in Reducing Sulfur Dioxide

- Reduced by 75% by introducing CP
  - Changing Fuel
    - (Heavy oil~Kerosene~LPG~LNG)
  - +Saving energy / resources
    - (Modernization of manufacturing process and CP)

- Reduced by 25% with End of Pipe technology
  - +Desulfurization equipment for fuel oil and gas
  - +Flue gas desulfurization equipment

Imai, S. Undated, Features of Pollution Control in Japan, Tokyo: Japan International Corporation Agency
Expenses Spent for Pollution Control in Kitakyushu City from 1972 to 1991 (20 years)

Total 804.3 billion yen
(7.5 billion dollars)

- **Sewerage**: 43.0%
- **Air Pollution Control**: 19.7%
- **Water Pollution Control**: 5.3%
- **Industrial Waste Treatment**: 4.6%
- **Solid Waste Treatment**: 6.0%
- **Parks/Green Areas**: 14.0%
- **Others**: 5.0%
- **Others**: 1.8%

Municipal government (68.6%)
551.7 billion yen
(5.2 billion dollars)
≒ almost equivalent to municipal budget for FY2004)

Private Sector (31.4%)
252.6 billion yen
(2.3 billion dollars)
Improvement of Air Quality

SOx & Dust Fall

[Graph showing Dust Fall [t/km²/month] and Sulfur Dioxide [ppm] over the years 1967 to 2002.]

- Dust falls [t/km²/month]
- Sulfur dioxide [ppm]

- 1967: Dust falls = 22.5 t/km²/month, Sulfur dioxide = 0.03 ppm
- 1972: Dust falls = 15.0 t/km²/month, Sulfur dioxide = 0.02 ppm
- 1977: Dust falls = 7.5 t/km²/month, Sulfur dioxide = 0.01 ppm
- 1982: Dust falls = 3.0 t/km²/month, Sulfur dioxide = 0.005 ppm
- 1987: Dust falls = 1.5 t/km²/month, Sulfur dioxide = 0.0025 ppm
- 1992: Dust falls = 0.75 t/km²/month, Sulfur dioxide = 0.001 ppm
- 1997: Dust falls = 0.375 t/km²/month, Sulfur dioxide = 0.0005 ppm
- 2002: Dust falls = 0.1875 t/km²/month, Sulfur dioxide = 0.00025 ppm

Overall, there has been a significant improvement in both Dust Fall and Sulfur Dioxide levels.
International Cooperation

Trainees Received: 1,233 people from 87 countries
Experts Dispatched: Over 94 people to 25 countries
Kitakyushu Eco-Town Project

- Investment: 52 Billion yen (Private: 69%, Public: 31%)
- Employee: 1,200
- Visitor: 500,000

The only Zero Emission Complex in Japan with material & thermal recycling

Comprehensive Environmental Industrial Complex
Towards the creation of a “World Capital of Sustainable Development”

BASIC PHILOSOPHY

Creation of the city with true wealth and prosperity, to be inherited by future generations

- Living together, creating together
- Developing economically with sound environment
- Enhancing the sustainability of the city
Thank you!

Central Part of Kitakyushu City