Eco-Model City
Kitakyushu

Developing a Low-carbon Advanced Model District

Kitakyushu
Population: Approx. 983,000
Discharge of smoke and soot

Inauguration of the government-managed Yawata Steel Works

Development as a steel town

Drainage of industrial wastewater

Increasingly serious pollution damage

Anti-pollution campaigns by women’s associations

Initiatives of local government
Establishment of an office to combat pollution, enactment of a pollution control ordinance, and conclusion of pollution prevention agreements with the private sector

Initiatives of the private sector
Improvements to production processes, installation of facilities to remove pollutants from waste streams, “greenification” of plants, and development of low-pollution production technologies

Victory over pollution
From Anti-pollution Measures to the Environment (1980s and on)

1980s
- United Nations Environment Programme Global 500 Award (June 1990)
- Establishment of KITA (July 1980)

1990s
- Earth Summit
- UN Local Government Honours (June 1992)
- Agenda 21 Kitakyushu (March 1996)

2000s
- Asian Environmental Award (October 1995)
- Kitakyushu Eco-Town (1998 and on)
- Measures to reduce residential waste volume (2000, 2006)
- Selection of site for PCB treatment facility (2001)
- Environmental Capital Grand Design (October 2004)
- Adoption of first fee-based program by an ordinance-designated city: revision of fee
- Plan to Promote Kitakyushu Measures against Global Warming (October 2006)
- Kitakyushu Basic Environmental Plan (October 2007)

Implementation of programs and international praise
- Sustainable Development Award (August 2002)
- Japan’s Top Eco-City Contest First-place finishes in 2007 and 2008
- Approval as an Eco-Model City (July 2008)
- The Action Plan of Kitakyushu Eco-Model City (April 2009)
- Earth Summit
- Johannesburg Declaration
- Sustainable Development Award (August 2002)
- Agenda 21 Kitakyushu (March 1996)
- Regional diplomacy policies
- Policies conceived to form a sound material-cycle society
- Policies conceived to form a sustainable society
Creation of a low-carbon society based on the concept of a stock-oriented society

**CO₂ emissions: 15.6 million tons (base year: 2005)**

**Short-term goals: 2009 to 2013**

**Laying a foundation**
- Develop a specific vision for a low-carbon society.
- Implement projects that can be seen and experienced by residents.
- Set goals and develop campaigns that involve all residents.
- Develop a world-class environmental learning system.
- Have City Hall and city workers set an example for residents.

**Medium-term goals: 2014 to 2030**

**Pursuing full-dress social change** 2030 reduction target: 30%
- Effect a transformation to a truly low-carbon society.
- Communicate the results of initiatives to the world.
- Combine the concepts of low-carbon society and economic society.

**Long-term goals: 2031 to 2050**

**Paving the way for new values and culture to take root** 2050 reduction target: 50%
- Across Asia: 150%
- Establish a dynamic society in which residents will be able to live in peace ever after.
Advanced Model of a low-carbon district in Jono

Jono district

Location of the Jono district

JR Kokura Station

Monorail Jono Station

JR Jono Station

Municipal housing

UR Jono housing development

Prefectural police riot squad

Government official housing

Jono Sub-base site

National Route 10

JR Jono Station

Jono today
Scope of low-carbon transformation

**Housing** is the most common use of land. Focus on low-carbon initiatives that address CO₂ emissions from households (daily life).

Key considerations in reducing CO₂ emissions from households

Approximately 80% of CO₂ emissions from households derive from:
- Automobile use
- Power, etc.
- Hot water
- Heating

Step 1: Limit energy use.
Restrain automobile use as well as power and heat use at home.

Step 2: Transition from fossil energy to renewable energy (natural energy).
Transition to renewable energy to provide the necessary level of energy that remains after its use has been restrained.

**Drastic CO₂ reductions**
Creating an Advanced Model of a low-carbon district

Concept: Creating a zero-carbon next-generation "amenity town"

- Energy-saving analysis
- Solar panels
- Participating area
- Insulation and high-efficiency equipment
- Fuel cell
- Storage batteries, heat storage layer, passive and active solar, geothermal heating
- Detached Houses
- Protection of the natural environment
- Road for exclusive use of pedestrians, etc. (with roof)
- Detached Houses
- Parks, Pedestrian roads
- Car sharing, Cycle sharing
- Mid-rise apartments
- Solor panels, Solar thermal panels
- Storage batteries
- "Eco-supermarket"
- "Eco-kitchens" (locally produced, locally consumed)
- "Spa powered by passive solar"
- Amenities

Transportation
- Public transportation, walking and cycling, car sharing, cycle sharing

Energy demand
- Energy-saving houses built to last
- Diverse range of renewable energy

Energy supply
- Energy monitoring with smart meters and other technologies
- "Greenification" and use of nature
- Water-retaining pavement, use of trees as windbreaks, etc.
Future Schedule and Issues

**Schedule**

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
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<tbody>
<tr>
<td>FY2009</td>
<td>Draw up a basic plan. Consult with the national government, which owns the sub-base site, about use of the land.</td>
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<tr>
<td>FY2010</td>
<td>Draw up a development plan.</td>
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<tr>
<td>FY2011</td>
<td>Begin work.</td>
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**Issues**

1. **Resident involvement with urban planning**
   How to pursue urban planning in a way that incorporates the opinions of future residents and residents of surrounding areas.

2. **Selection of low-carbon technologies**
   Optimal combination of low-carbon technologies and systems that are likely to enter into widespread use.

3. **Operation and management**
   Development of mechanisms for smoothly facilitating two-dimensional operation and management in order to introduce a variety of renewable energy sources in a two-dimensional manner.

4. **Cost**
   National subsidies for increased costs associated with low-carbon initiatives, etc.

5. **Expansion of use in the city**
   Methods for validating the achievements of initiatives in this advanced model and applying them in low-carbon urban planning throughout the city.