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Environmental Issues

Japan's high economic growth in the 1950s and 1960s was accompanied by serious industrial water and air pollution, which caused such tragedies as Minamata disease. To combat this problem, the government enacted the Basic Law for Environmental Pollution Control in 1967, and the Environment Agency was established in 1971. With the sweeping reform of Japan's administrative system in January 2001, the Environment Agency was upgraded to ministry status as the Ministry of the Environment.

Today's Japan faces various forms of environmental problems, including air pollution caused by nitrogen oxides in big cities, water pollution caused by household effluent, and both household and industrial waste disposal. On top of these, the issues of dioxin emission from incinerators and endocrine-disrupting chemicals have recently become a major concern for ordinary Japanese.

In 1993 the government enacted the Basic Environmental Law, which charts the general direction of Japan's environmental policies, envisioning a society capable of sustaining development with the minimum burden on the environment. The Environmental Impact Assessment Law came into force in 1999, aiming at preventing damage to the environment by requiring assessment of the potential impact of large-scale construction projects.

In June 2000 the Basic Law for Establishing a Recycling-based Society came into effect, aimed at transforming Japan's socioeconomic system, which has been based on mass production, mass consumption, and mass disposal, into an eco-friendly and sustainable one.

Waste Management and Recycling

The volume of waste discharged in Japan has remained at almost the same level since the beginning of the 1990s, but the shortage of landfills and the illegal dumping of industrial waste have become serious problems.

In order to cut down the volume of waste, a law promoting recycling of containers and packaging was enacted in 1995 and came fully into force in 2000. The scope of recycling has expanded with the introduction of such laws as the Household Electric Appliance Recycling Law (effective in April 2001), which makes the recycling of televisions, refrigerators, washing machines, and air conditioners obligatory; the Food Recycling Law (April 2001); the Construction Materials Recycling Law (May 2002); the Personal Computers Recycling Law (October 2003); and the Automobile Recycling Law (January 2005). In April 2001 a law promoting "green" purchasing, which makes it compulsory for central government and related organizations to procure eco-friendly goods and services, went into effect.

Volume of Waste

(million tons)

FY	General waste		Industrial waste
	Total	Per person per day (g)	
1975	42.1	n/a	236.5
1980	43.9	n/a	291.1
1985	43.5	n/a	311.0
1990	50.4	1,120	393.5
1995	50.7	1,105	393.8
2000	52.4	1,132	406.0
2003	51.6	1,106	412.0

Source: Ministry of the Environment.

Note: Figures since 1997 are based on a new calculation method.

Recycling Ratios for Solid Waste

(%)

FY	General waste	Steel cans ^a	Aluminum cans	Used paper ^a
1990	5.3	44.8	42.6	51.5
1995	9.9	73.8	65.7	53.4
1996	10.3	77.3	70.2	53.6
1997	11.0	79.6	72.6	54.0
1998	12.1	82.5	74.4	54.9
1999	13.1	82.9	78.5	56.1
2000	14.3	84.2	80.6	57.0
2004	n/a	87.1	86.1	60.4
2005	n/a	n/a	n/a	60.3

Source: Ministry of the Environment; Japan Steel Can Recycling Association; Aluminum Can Recycling Association; Paper Recycling Promotion Center.

a. Calendar year.

Air Pollution

In order to tackle the problem of air pollution, the government in 1968 enacted the Air Pollution Control Law and in 1970 and 1996 revised that law to tighten regulations.

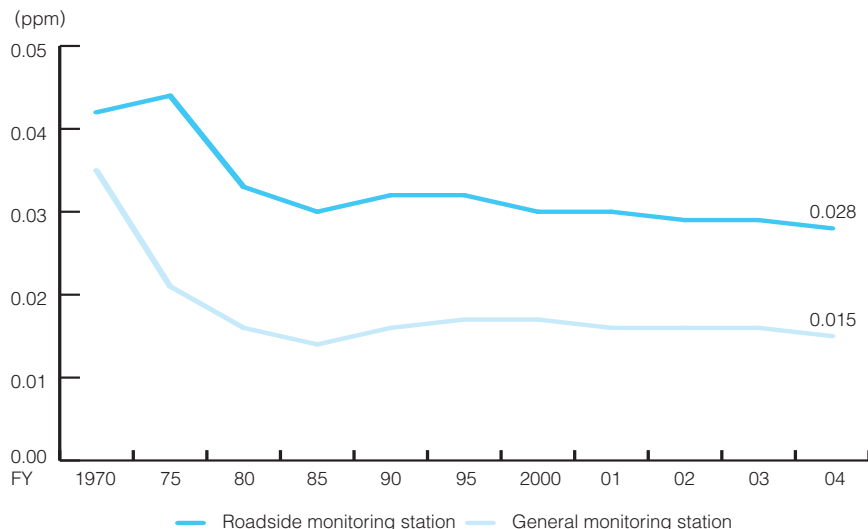
There has been a remarkable improvement in the atmospheric levels of sulfur dioxide and carbon monoxide since the law came into force. In fiscal 2002 most of the sulfur dioxide monitoring stations and all the carbon monoxide monitoring stations met the environmental quality standards of 0.04 ppm and 10.0 ppm per day, respectively.

On the other hand, more effort is still needed to control nitrogen dioxide and suspended particulate matter (SPM), particularly in large cities. In fiscal 2003 the percentage of monitoring stations that met the environmental quality standard of 0.06 ppm for nitrogen dioxide was 99.9% for general monitoring stations and 85.7% for roadside monitoring stations. As for SPM, 92.8% of general and 77.2% of roadside

monitoring stations met the standard of 0.10 mg/m³.

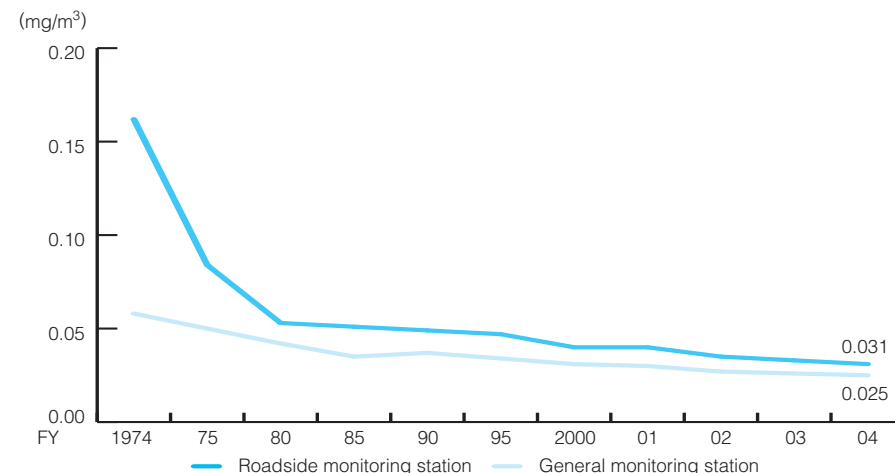
In an attempt to clean up the polluted air in the traffic-heavy metropolitan area, Tokyo and three neighboring prefectures (Kanagawa, Saitama, and Chiba) in October 2003 introduced tougher regulations targeting diesel-powered trucks and buses, which are major sources of SPM and nitrogen oxide.

Average Nitrogen Dioxide Level



Source: Ministry of the Environment.

Average Suspended Particulate Matter Level



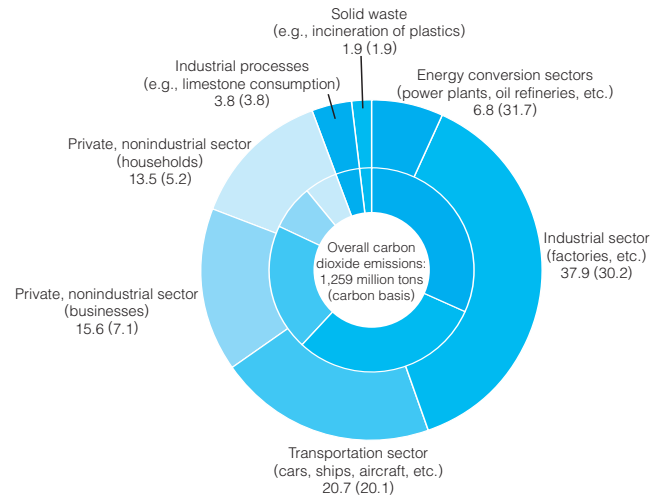
Source: Ministry of the Environment.

Global Warming

The Kyoto Protocol, which was adopted at the Third Session of the Conference of the Parties (COP3) to the UN Framework Convention on Climate Change held in December 1997 in Kyoto and went into effect on February 16, 2005, explicitly sets an overall reduction target of more than 5% below the 1990 emission levels for carbon dioxide and five other greenhouse gases among industrial countries during the commitment period between 2008 and 2012. The protocol, which Japan ratified in June 2002, imposes a 6% reduction target on Japan, which was estimated to be responsible for 4.9% of world CO₂ emissions in 2000, the fourth highest figure after the United States, China, and Russia.

The total volume of greenhouse-gas emissions in Japan in fiscal 2003 was 1,339.1 million tons (carbon dioxide equivalent), an increase of 8.3% over fiscal 1990 and a 0.7% increase over the previous year. Of the total emissions, 1,259.4 million tons were carbon dioxide.

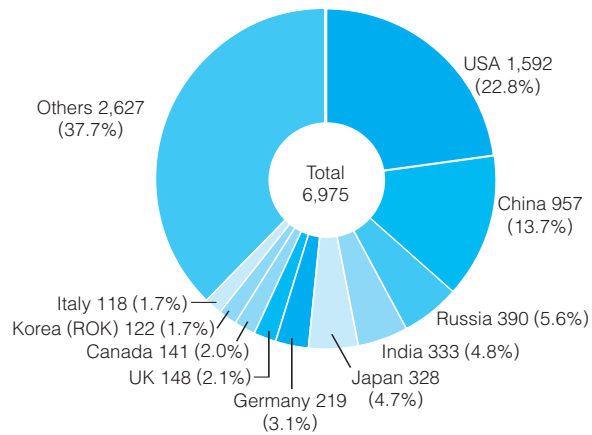
Japanese CO₂ Emissions by Economic Sector, FY 2003 (%)



Source: Ministry of the Environment.

Note: The inner circle indicates the proportion of total direct emissions represented by each sector (figures in parentheses), and the outer circle gives the proportion of total emissions arrived at by assigning CO₂ emissions associated with power generation according to power consumption by the final demand sector.

CO₂ Emissions by Country, 2002 (million tons, carbon equivalent)



Source: Oak Ridge National Laboratory; US Department of Energy.