

Japanese Policy on Sustainable Building

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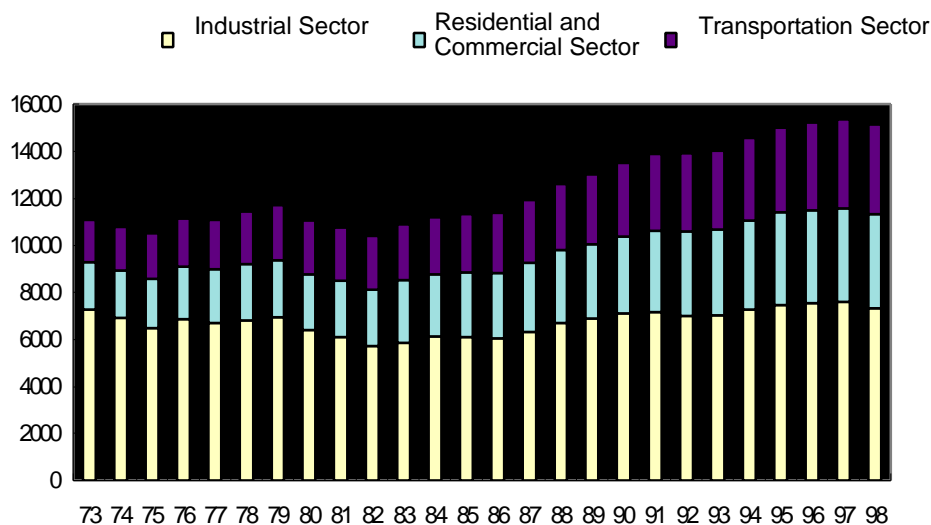
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1. Energy Conservation and Climate Change

(1) Energy Consumption in Japan

- Energy consumption in Japan once decreased due to a sudden rise in oil prices when the 1st and 2nd oil crisis had occurred. However, it turned to increase at the rate of about 3 % annually in 1980's, and it shows an increasing tendency at higher rate in recent years.
- Regarding energy consumption by sectors, energy consumption by the transportation (for passenger use) sector increases at the highest rate and the residential and commercial (for household use) sector is in the second place.
- Energy consumption by the residential and commercial sector accounts for about one quarter of the total energy consumption, and its share is expanding in recent decades, from 18.1 % in 1973 to 26.4 % in 1998.

Figure 1. Trends in Final Energy Consumption in Japan



- Energy consumption by both household use and business use shows an increasing tendency. The main reasons for it are the more popularization of electrical appliances, the increasing number of nuclear families and an increasing use of hot-water supply in household, and the more popularization of office automation system in business area.

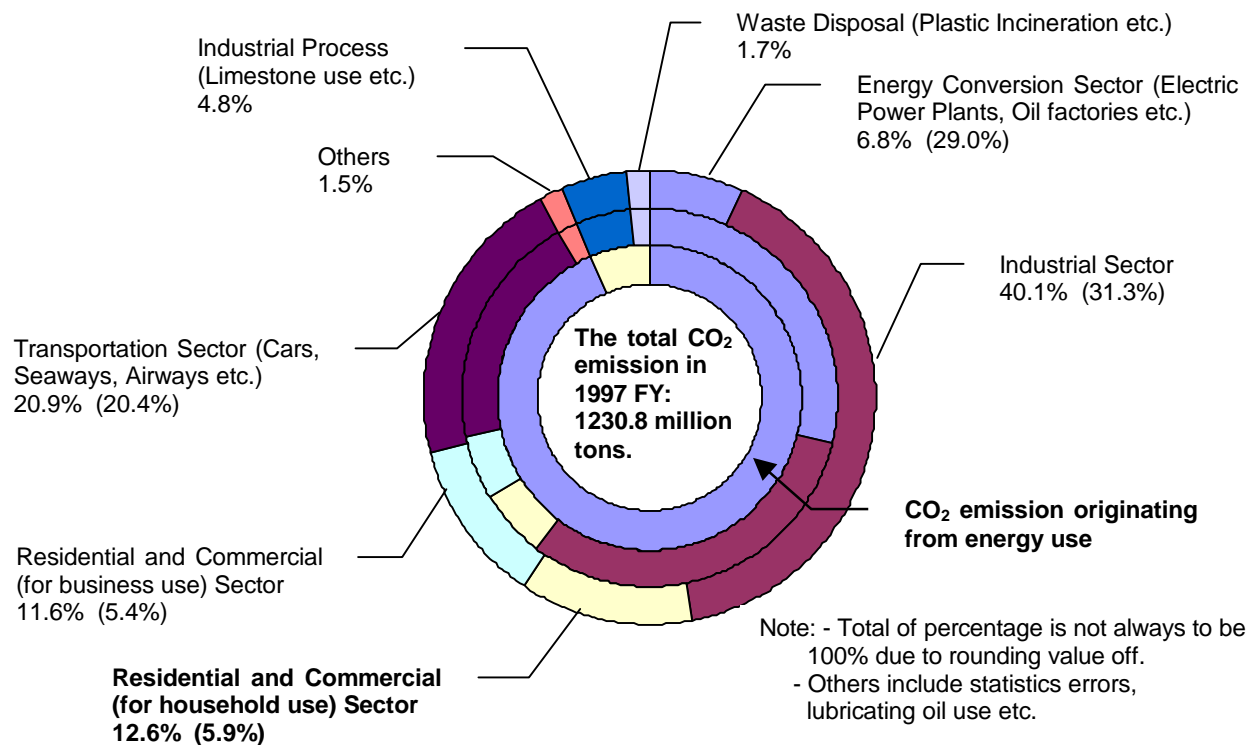
(2) CO₂ Emission

- CO₂ emission accounts for the maximum amount among greenhouse effect gases, which are thought to have global warming effect.
- As energy consumption increases, the amount of CO₂ emission shows an increasing tendency, and it increases by about 10 % in the period of 1990 – 1997.
- Regarding CO₂ emission by sectors, emission from the residential and commercial sector accounts for about one quarter of the total emission. And household sector accounts for a little more than half of it.

Figure 2. CO₂ Emission by Sectors in 1997 FY, Japan

An inside circle shows rate of actual amount of CO₂ gas emission by each sector to the total (% values in

parentheses). An outside circle shows rate of CO₂ gas emission by each sector to the total, calculated on condition that CO₂ emissions from Electric Power Generation is distributed among final demanding sectors according to the amount of electric power use by sectors.



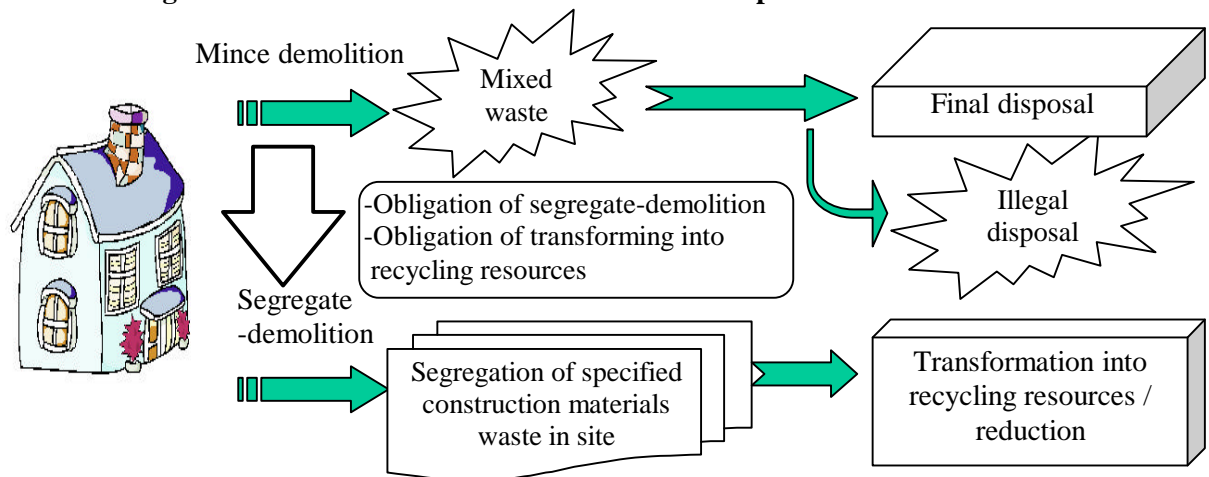
Source: Materials from the Cabinet meeting on conservation of global environment in July 1999.

2. Resource Use and Waste Disposal

(1) Resource Consumption in Japan

- Building industry uses 50% of resource used in all industry as building materials.
- The construction waste released from construction works occupies 20% of the waste amount released from all industry and 40% of the final disposal amount.
- According to the research by the Ministry of Health and Welfare, the construction waste occupies 90% of illegal disposal amount of industrial waste.

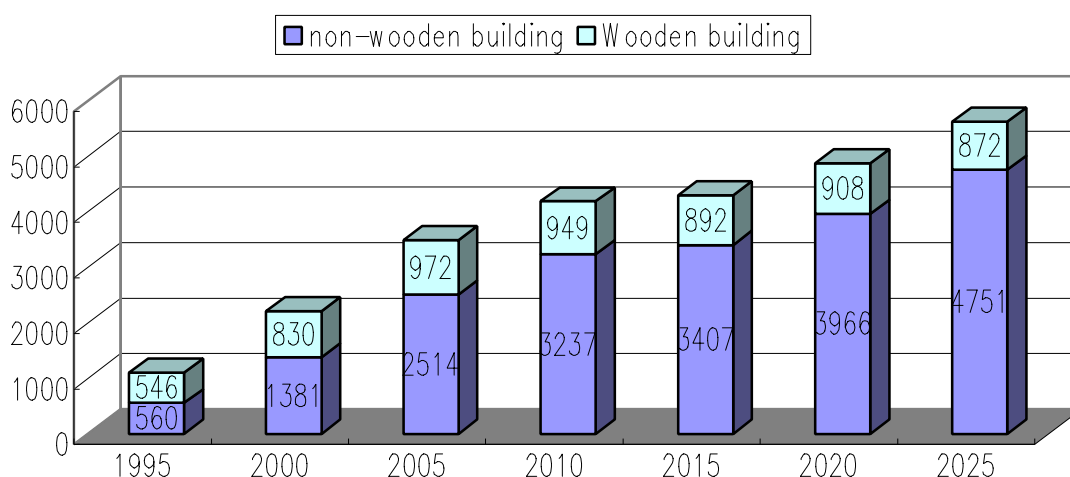
Figure 3. Flow Chart of Construction Waste in Japan



(2) Construction Waste

- The building demolishing waste occupies 60% of the building construction waste.
- Wood scraps occupy large ratio of illegal disposal amount of construction waste. It is said that most of them are released from demolishing of detached houses.
- Concerning the building demolishing waste, it is forecasted that the release amount will increase sharply hereafter as the buildings which were rapidly constructed after 1965 meet the time of renovation.
- The remaining capacity of the final waste disposal place is tight as total remaining capacity of Japan is equivalent to 1.6 years' amount in the end of fiscal year 1999. (Estimation by Ministry of Health and Welfare)

Figure 4 : Future estimation of waste release amount from building demolition



Document : Research by MOC
(subject : Metropolitan and 8 prefectures)

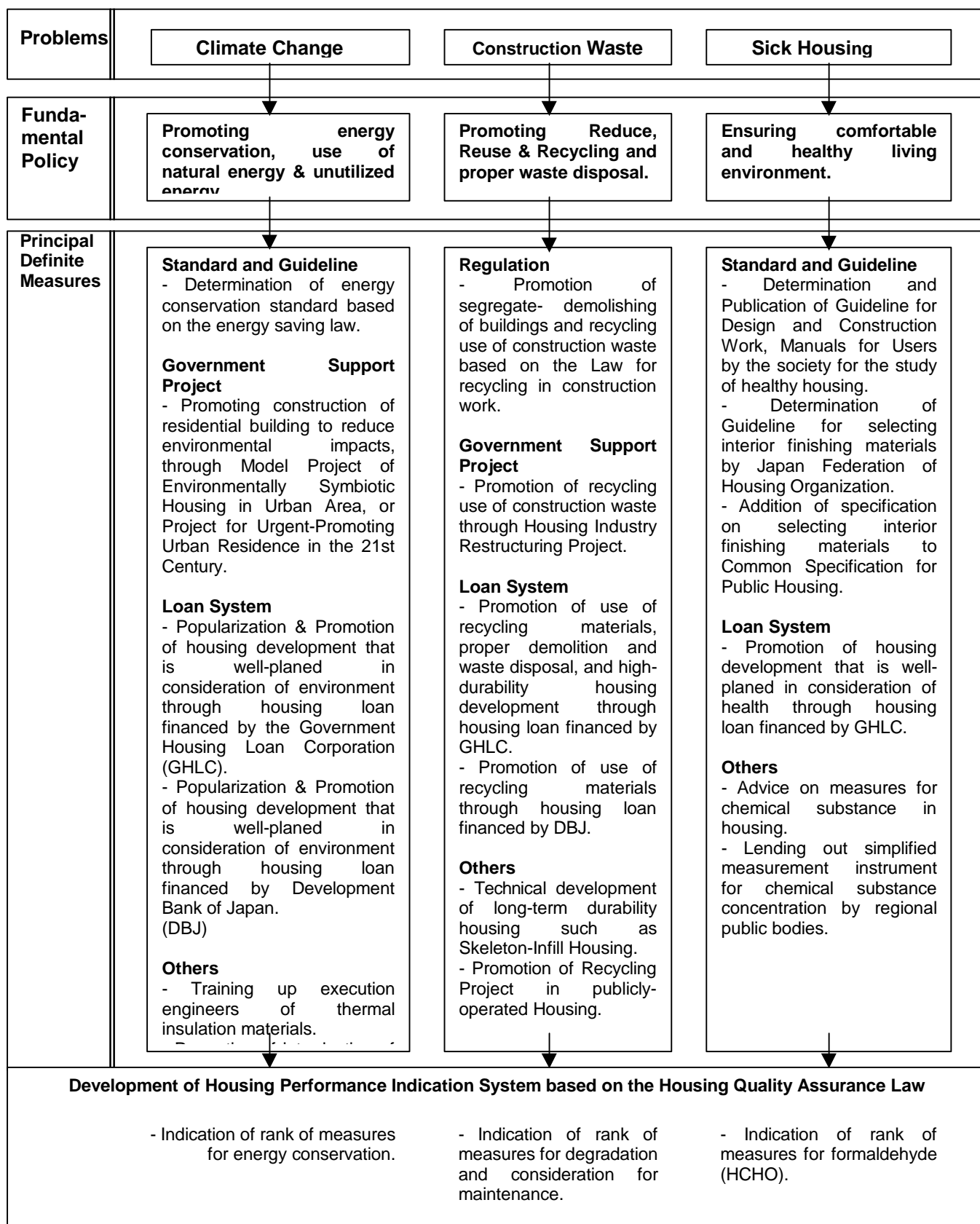
Waste release amount from building demolition increases by approx. twice in 2000, triple in 2005 and four times in 2010 as compared with that in 1995.

(3) Outline of Law for Recycling Resources Transformed from materials of construction work

- Obligation to segregate each material from specified construction materials used in specified buildings by means of segregate-demolition in accordance with certain technical criteria, in case of the intended construction work which means construction work for buildings and other constructions exceeding a certain scale.
- Promotion of recycling by obligating to transform into recycling resources from construction waste of specified materials resulted from segregate-demolition.
- Ensure the proper practice of segregate-demolition by the prior work report by client, the final report from general contractor to client, putting up a notice of the sign on construction site, etc.
- Ensure the payment of proper cost for contractor, by preparing contract procedure between client and contractor.
- Ensuring of the practice of proper demolishing work by the registration system of demolishing contractor and disposition of technical manager on demolishing work site.
- Promote transformation into recycling resources and utilization of construction materials produced by transformation

(See Reference 2)

Reference 1: System of Measures for Environment in Housing and Building



Reference 2: Whole image of the Waste-recycle Laws in Japan

Basic Environment law

(Environment agency)

- › State the basic policy for the environmental preservation

Basic law of Promotion for formation of recycling society

(Environment agency)

- State the basic principles concerning formation of recycling society

Waste disposal law

(Ministry of Health and Welfare)

- › Stipulate the issues of waste disposal
- Measures for inappropriate waste disposal
- Promote the preparation of safety-appropriate facilities by Public participation
- Tighten the regulations of permission for facility

Container/Package recycle law

(Ministry of Health and Welfare, Ministry of International Trade and Industry, etc.)

- › Stipulate measures for promotion to collect containers and packages separately and to re-commercialize

Electronic appliances recycle law

(Ministry of Health and Welfare, Ministry of International Trade and Industry)

- › Stipulate measures for promotion to re-commercialize abolished electronic appliances as television set, etc.

Law for recycling resources transformed from materials of construction work

(Ministry of Construction, Ministry of Health and Welfare)

- Promote to segregate-demolish construction material waste and to promote recycling

Law for promotion to reclaim the food recycling resources

(Ministry of Agriculture, Forestry and Fisheries, Ministry of Health and Welfare)

- Promote to control release of the food recycling resources, to reduce quantity and to reclaim

Law for the promotion of efficient use of resources

(Ministry of International Trade and Industry, etc.)

- › Stipulate measures of the promotion of the utilization of recycling resources
- New stipulation of measures to reduce the waste release by addressing resource- saving product, longer life product, etc. and to reuse the parts from withdrawal products in addition to reinforcing measures of withdrawal-recycling of products for producers.

Law for promotion to reclaim the food recycling resources of environmental articles by Government

(Ministry of Agriculture, Forestry and Fisheries,

- Promotion to procure environmental articles by Government