2. WASTE MANAGEMENT

(1) Hazardous Waste

Specific actions and the implementation process

Special attention is required for disposing of waste with hazardous qualities, such as infectious, flammable, or poisonous waste, and thus these items are designated as "waste under special control" under Japan's Waste Disposal and Public Cleansing Law, and regulations implemented for these items are stricter than those for normal waste. Specifically, regulations consist of complying with strict processing standards during such processes as storage, collection, transport, and disposal, a permit system for professional processors and processing facilities, and the establishment of a Manager in Charge of the Special Control of Industrial Waste.

In a recent effort, as part of a response to the Stockholm Convention on Persistent Organic Pollutants (POPs) Japan established Technical Considerations regarding the Processing of POPs (established in 2004 and revised in 2009) that were previously buried in the ground, and is providing technical guidance to ensure their proper disposal.

In addition, efforts are currently being promoted for the proper collection and disposal of infectious waste, etc. that accompanies the new influenza and home healthcare by such means as establishing guidelines and manuals.

In order to process waste including polychlorinated biphenyl (PCB) with certainty and adequacy, the Law Concerning Special Measures Against PCB Waste was formulated in 2001, under which the Japan Environmental Safety Corporation (JESCO), a government funded corporation, is handling the processing of high-pressure transformers, capacitors, and other items that contain PCB.

In terms of asbestos waste, there is the possibility that the concerns of residents could lead to disposal sites rejecting the waste or illegal dumping. Therefore, in addition to conventional landfill disposal, an approval system was established in 2006 for the Minister of the Environment regarding the detoxifying processing of waste via advanced technology through such means as high temperature melting in order to safely and smoothly process asbestos waste.

Lessons and good examples

<Promoting the disposal of medical waste>

In regards to infectious waste that is produced in accordance with household healthcare, efforts were made in 2007 to spread awareness

and provide guidance to local governments based on the Handbook for Promoting Efforts to Dispose of Household Medical Waste, which was created in 2007 by an investigative committee composed of intellectuals.

In addition, in order to ensure the proper, safe, and stable disposal of waste during outbreaks of the new influenza, Japan established the Guidelines for Processing Waste During New Influenza Outbreaks in March 2009, revised the Disposal Manual for Infectious Waste Based on the Waste Disposal and Public Cleansing Law (revised version) in May 2009, and made efforts to thoroughly ensure the proper disposal of infectious waste.

Trends and new problems

While the proper disposal of substances that were used in the past and remain in products, such as asbestos and PCB, is a social problem, new chemical substances are being continuously manufactured and used despite the potential for inadequate technical knowledge on how to properly dispose of them. For this reason, from a preventive viewpoint there is a need for developing a system that allows for controlling the occurrence of and properly disposing of hazardous waste throughout the entire lifecycle of these new chemical substances, in addition to efforts based on this system.

It is also necessary to consider how to properly handle waste coming from products that use said substances or from their development process in response to efforts for establishing international frameworks related to mercury management, as well as international trends of chemical substances that contain hazardous characteristics, such as newly added regulated substances in the POPs Convention.

Constraints and difficulties

Considerations must be made on proper role sharing between manufacturers and businesses using products that contain these substances in accordance with hazardous waste types and characteristics, and meticulous disposal systems must be established.

(2) Urban Waste

Specific actions and the implementation process

Municipal governments, the primary municipalities in Japan, are in charge of disposing municipal waste and the national government establishes basic policies on reducing the volume of waste and provides financial assistance to municipalities via grants based on the Waste Disposal and Public Cleansing Law.

The basic policy for promoting measures for waste management focusing on waste reduction, which was revised in May 2005, indicates that municipalities are to make efforts towards controlling the discharge of and for the adequate cyclical use of municipal waste. In addition, municipal waste that must be disposed of should be processed properly while conducting heat recovery. Moreover, the policy notes that efforts are to be made for analyzing costs related to municipal waste managers, promoting charging, and explanations provided to residents, and the national government is providing assistance via these guidelines and other means.

In March 2008, a new Waste Treatment Facility Development Plan was formulated for the period between 2008 and 2012. The plan sets new targets* for reducing municipal waste amounts, recycling, total power generation of refuse incineration plants, and other elements, and stipulates that coordination with global warming countermeasures and the stock management of waste treatment facilities should be promoted. In response to this plan, the national government is providing assistance for raising the rate of highly efficient waste power generation facilities and for the establishment of plans that will ensure the long-term operation of such facilities.

*Targets in the Waste Treatment Facility Development Plan

-Total amount of solid waste generation
50,820,000 tons (FY2007, actual figure)
Approx. 50,000,000 tons (2012, target figure)

-Recycle rate
20.3% (2007, actual figure)
25% (2012, target figure)

-Total power generation of refuse incineration plants
1,604 megawatts (2007, actual figure)
Approx. 2,500 megawatts (2012 (target figure)

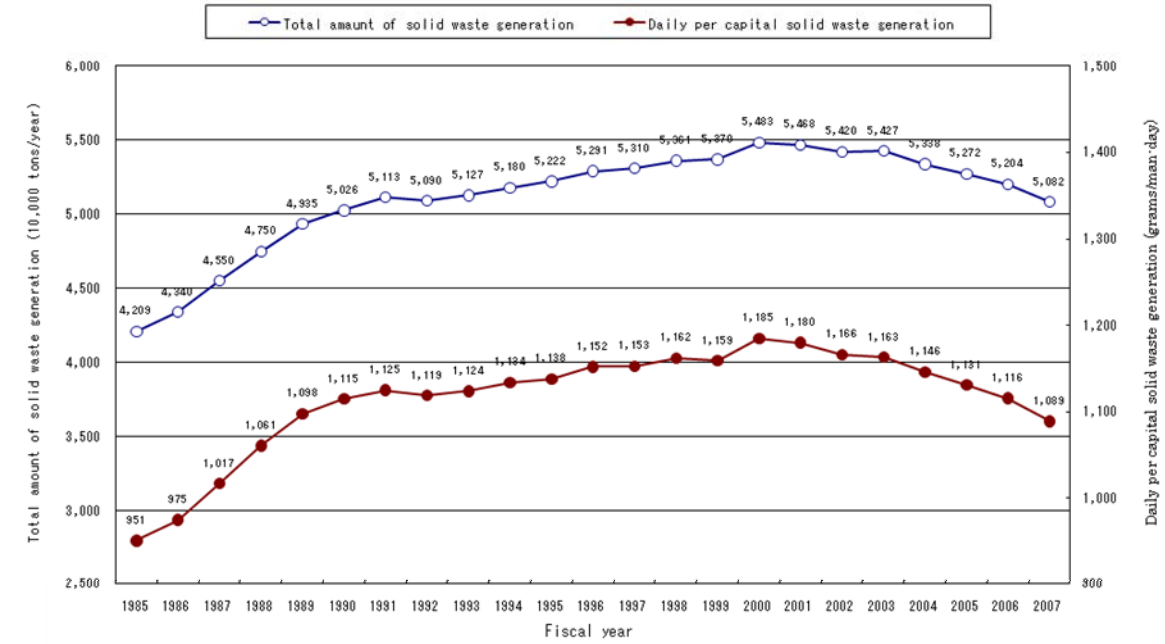
Lessons and good examples

According to municipal waste statistics in 2007, the total amount of solid waste generation was 50,820,000 tons (2.3% less than the previous year) and daily per capita solid waste generation was 1,089 grams (2.4% less than the previous year). Both figures are on a downward trend. The total recycling amount was 10,300,000 tons, while the ratio of recycling against the total amount of solid waste generation (recycling rate) was 20.3% (a 0.7 point increase on the previous year), thus steadily increasing.

Meanwhile, the final disposal amount was 6.35 million tons (6.8% less than the previous year) and the remaining landfill capacity at final

disposal sites decreased to 122.02 million m³ (6.4% less than the previous year). As the final disposal amount is also decreasing, it is continually difficult to secure final disposal sites despite a leveling out of remaining years.

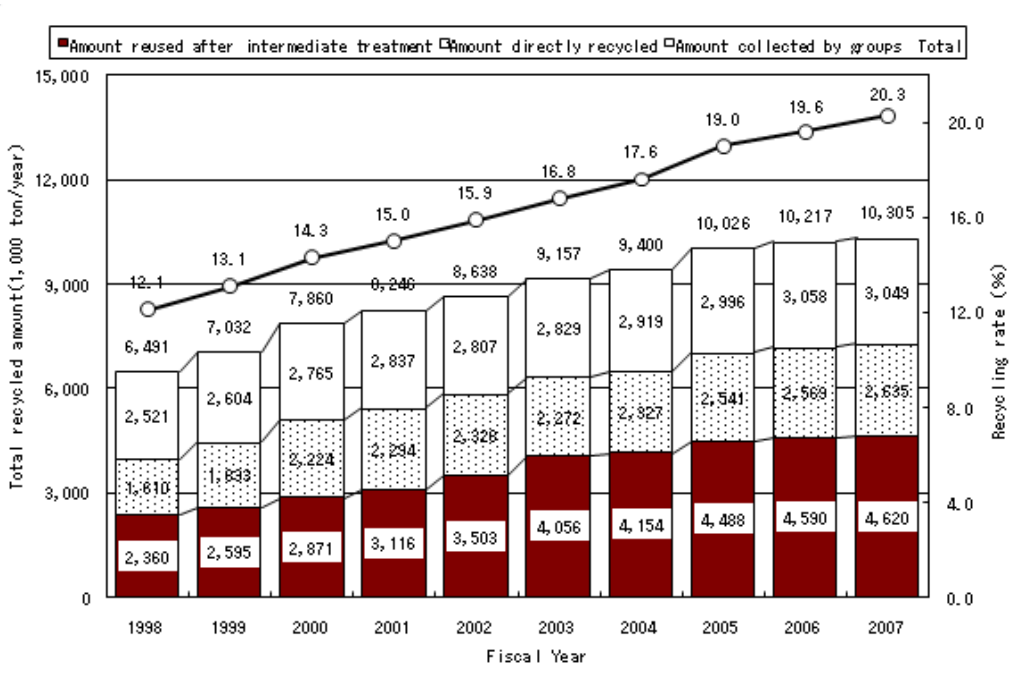
-Total amount of solid waste generation and daily per capital solid waste generation



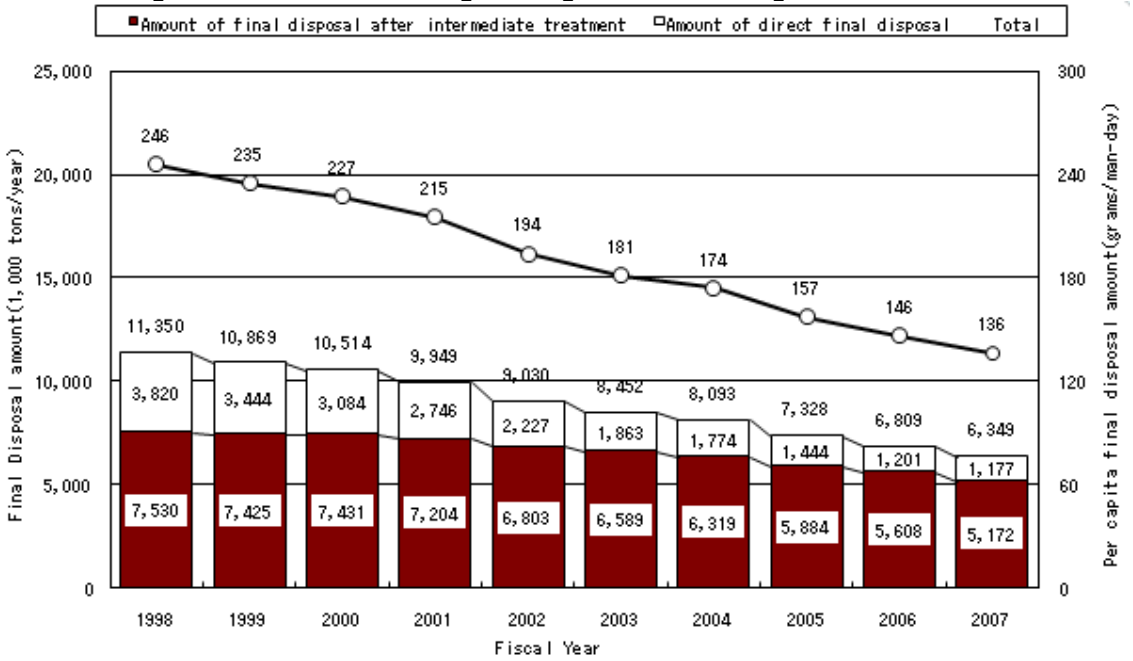
・Note: The “Total amount of solid waste generation” from FY2007 data is the same as “Total municipal waste (planned collection amount, direct collection amount, and group collection amount of resource waste)” from within the “Basic policy for promoting measures for waste management focusing on waste reduction” based on the Waste Disposal and Public Cleansing.

-Daily per capital solid waste generation is the total amount of solid waste generation divided by total population times 365 days, or divided by 366 days.

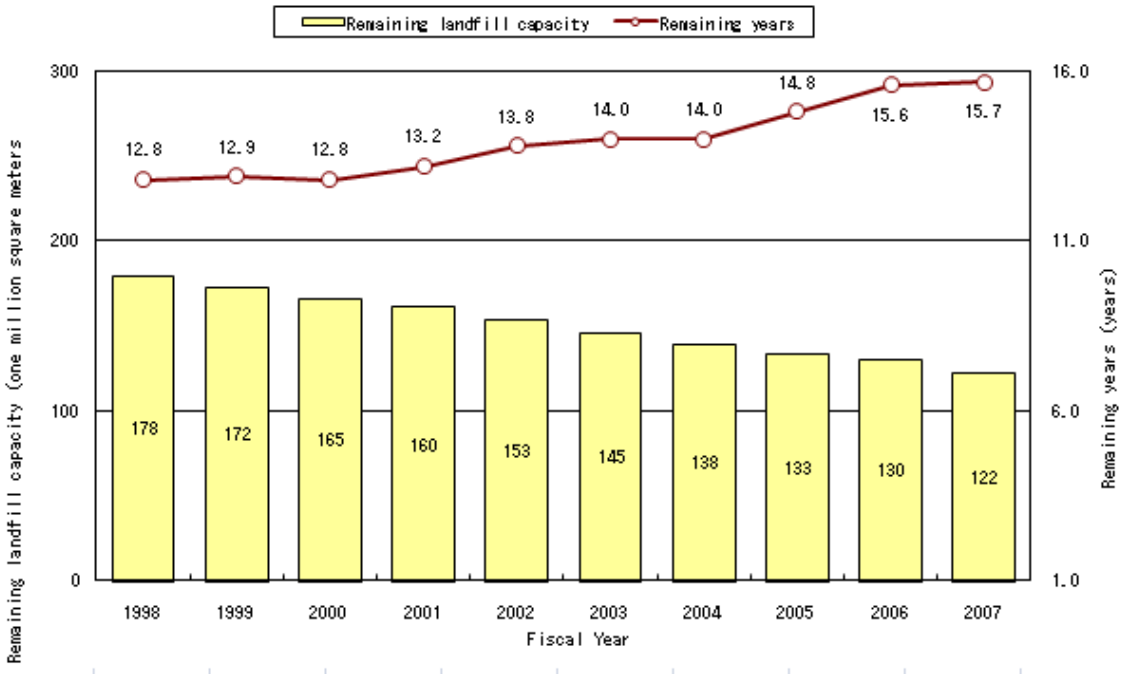
-Total recycled amount and recycling rate



-Final disposal amount and per capita final disposal amount



-Remaining landfill capacity and remaining years of final disposal sites



Trends and new problems

From the perspective of realizing a recycling-oriented society and low-carbon society, there are efforts underway aimed at expanding the use of waste-type biomass including raw garbage. Greenhouse gas emission amounts coming from the waste sector increased by 15% in 2007 compared with 1990, and further preventive countermeasures against global warming are necessary in the waste sector, including the three Rs (reduce, reuse, and recycle).

In regards to cost analysis method, as noted in the first section, guidelines have been established and they are being promoted to local municipalities. However, the level of awareness and implementation of those guidelines in municipalities remains low.

Constraints and difficulties

Overall, the proper disposal and recycling of municipal waste is progressing steadily, however additional costs for further recycling and warming countermeasures are necessary. Additional assistance from the national government to local governments is also necessary.

(3) Industrial Waste

Specific actions and the implementation process

The Waste Disposal and Public Cleansing Law requires that businesses producing industrial waste to dispose of said waste. Efforts have also been made to apply concrete and clear dimensions to these requirements

via numerous revisions of the law. A revision in 1997 required all industrial waste-producing businesses to issue their control manifest of industrial waste. A 2000 revision required waste-producing businesses to handle everything up until the confirmation operations of final disposal, and, in the event that the disposal of industrial waste was not carried out properly up until the final disposal, the waste-producing business will become subject to certain required measures and orders. In addition, disposal facilities for industrial waste are basically created by the private sector, however, as industrial waste treatment facilities are not necessarily adequate due to such reasons as a lack of final disposal sites in cities, a subsidy system was established in 2000 for allowing a public body (waste treatment centers) to provide assistance for such activities as developing industrial waste treatment facilities.

At the same time, measures are also being gradually enhanced for preventing illegal dumping. A 2003 revision allotted investigative authority to prefectures for investigating items thought to be waste and measures were implemented for strengthening penalties related to dumping. A 2004 revision implemented measures for making the collection and delivery of waste with the purpose of illegal dumping a crime. Moreover, a 2005 revision allowed for implementing measures that strengthened the control manifest system for industrial waste and enhancing penalties related to unconfirmed exports.

In addition, projects are being implemented to enhance the quality of industrial waste treatment businesses with the participation of a wide range of related individuals to industrial waste, in addition to strengthening the permit requirement for industrial waste treatment businesses. In 2005, evaluation criterion for industrial waste processors were set into law and a system is being constructed to allow for the prefectural governor to grant processors that comply with the evaluation criterion an omission of a portion of the application documents submitted when treatment businesses renew their permits.

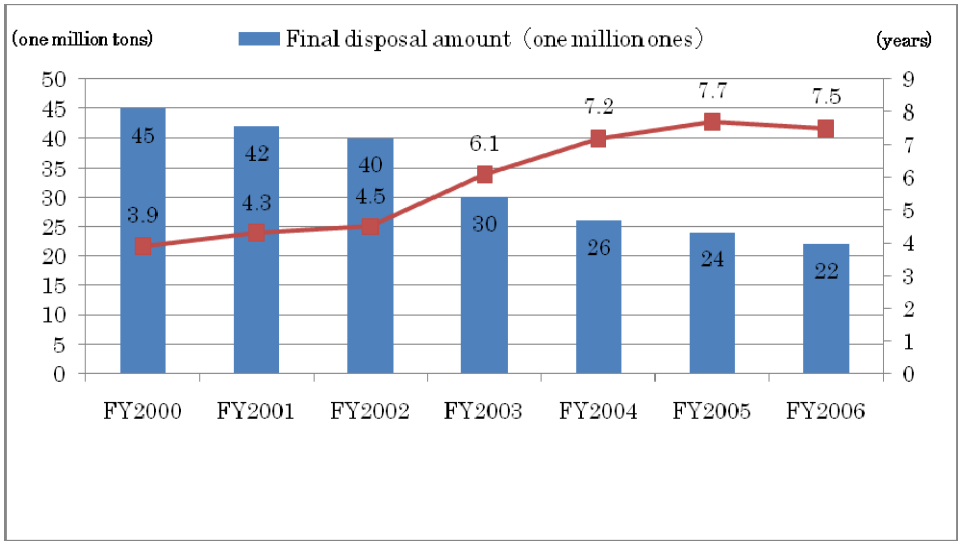
Lessons and good examples

The remaining number of years for final disposal sites was 7.5 years in FY2006, and efforts are underway for more steadily improving this number by promoting disposal control undertakings by waste-producing businesses as well as recycling. The remaining years for Tokyo is 4.4 years, displaying a particularly low amount of remaining years for a metropolitan area (Graph).

Various measures are in place to prevent the inappropriate disposal of waste, including illegal dumping. The number of cases of newly detected

illegal dumpings and dumping amounts are decreasing. Nevertheless, in FY2007 382 instances of illegal dumping were detected during the year (excluding sulfate pitch and Ferrosilt,, which contains specific waste, hexavalent chromium), thus cases of illegal dumping have yet to be eradicated in their entirety.

The number of positive criterion compliance evaluations was 2,081 at the end of 2008, which is an increase of 672 on the previous year. Also, the diffusion rate of digital manifests increased to 14% from 9% in the previous year, and the education of positive processors and spread of digital manifests is progressing.



Graph: Final disposal amounts of industrial waste and remaining years of industrial waste final disposal sites

Trends and new problems

Currently the world faces marked resource constraints, and there is an ever-increasing need to formulate a recycling-oriented society that minimizes the burden put on environment through resource collection and waste. In addition, it is becoming increasingly important to integrate into a low-carbon society in accordance with constructing a sustainable society. At the same time, inappropriate disposal including illegal dumping is still observed today, and there is a need to further enhance the responsibility of waste-producing businesses and ensure that processors dispose of waste properly. In consideration of these circumstances, in September 2008 a committee of specialists was established in the Central Environmental Council, where reviews and evaluations of the Waste Disposal and Public Cleansing Law are underway.

Constraints and difficulties
Various measures are being employed, however waste is an unneeded thing and there is no working incentive to spend money on treatment costs. Thus inappropriate disposal such as illegal dumping has yet to be eradicated.

In addition, residents' sense of distrust and insecurity about industrial waste disposal are difficult to cast aside, and it is thus difficult to construct industrial waste processing facilities.

(4) Transborder Movement of Waste

Specific actions and the implementation process
The Waste Disposal and Public Cleansing Law and Law for the Control of Export, Import and Others of Specified Hazardous Wastes and Other Wastes (Basel Law) are used to ensure that waste is imported and exported in a proper fashion.

Domestic efforts are underway between related ministries and agencies, while also utilizing regional environmental offices, to hold explanatory sessions and preliminary consultations for businesses and to strengthen waterfront countermeasures such as on-site inspections.

From an international perspective Japan is promoting efforts in concert with other Asian countries and the Secretariat of the Basel Convention while also promoting a surveillance network for illegal imports and exports for the entire Asian region. These efforts include presiding over the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes from 2004 and contributing to projects related to proper environmental management for E-waste (electronic waste) in the Asia-Pacific region via the Basel Convention from 2005.

Lessons and good examples
<Enhancing surveillance of illegal imports and exports at waterfront areas>
In October 2008, the participation of Ministry of the Environment staff in customs document inspections was strengthened and awareness was spread about waste import and export control systems and the preliminary consultation system. This was achieved by distributing pamphlets to import and export related businesses and providing information about explanatory sessions on the Basel Law. These undertakings were conducted as an effort to strengthen the surveillance

of illegal imports and exports of waste with the cooperation of customs during the “3R" Reduce, Reuse, Recycle Promotion Month.

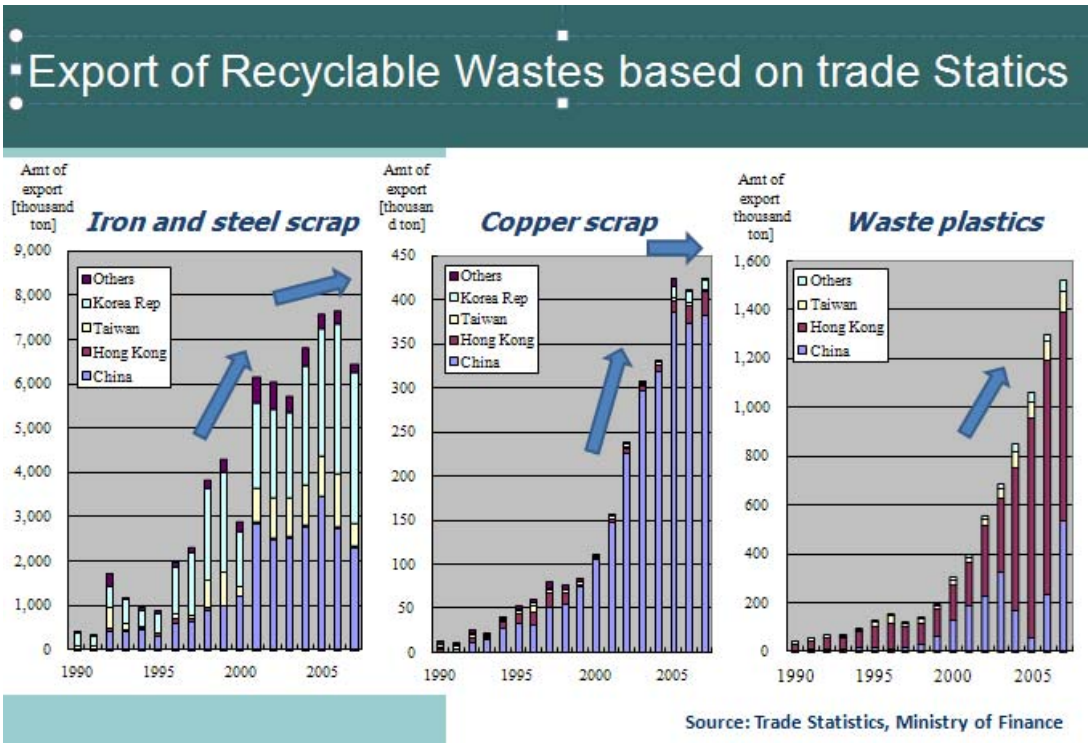
<Assisting the development of proper disposal systems in developing countries>
The Project for Proper Environmental Management of E-waste in the Asia Pacific, a project funded by Japan and promoted in the Asia Pacific region, is an undertaking proposed and approved at the fourth Open-ended Working Group of the Basel Convention in 2005 with the objective of technologically and financially assisting the construction of proper environmental management systems for hazardous waste and others in developing countries. Japan and the Secretariat of the Basel Convention worked together to create inventories of E-waste in Asian countries, implement training, and conduct projects such as for holding regional workshops in eight Asian countries as of present (Cambodia, China, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand, and Vietnam).

Trends and new problems
Against a backdrop of increasing demand for resources due to the globalization of economic activities and rapid economic growth of Asian countries in recent years, the international movement of recyclable resources for the purpose of reusing or recycling is becoming increasingly active, while at the same time it is pointed out that there are instances of attempts to illegally export waste and other items overseas and problems arising due to improper environmental disposal in partner countries. Amidst this situation, the number of preliminary consultations on hazardous waste and other items as well as the number of suspicious imports and exports is increasing by the year.

In Asia, informal centers oversee the roles of collecting and recycling E-waste and serve to promote economic activity as well, however environmental pollution and health damage have been pointed out due to improper environmental disposal. At the same time, there are companies even in developing countries that properly collect resources from E-waste and discussion is underway on such topics as the necessity for considering the implementation of an E-waste control system in various countries, environmentally appropriate recycling, and regarding the import and export of waste to disposal facilities.

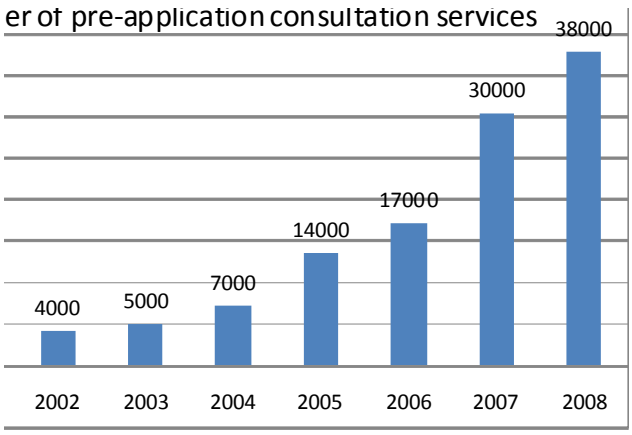
Constraints and difficulties
In order to prevent the illegal import and export of hazardous waste, there is a need to promote international training and awareness raising for staff that oversee legal enforcement and waterfront surveillance as

well as partnerships between related institutions such as customs. At the same time, the different definitions and criterion for hazardous waste of countries engender difficulties when enforcing laws, and this has been pointed out as one cause for inappropriate imports and exports. In order to address these problems, guidelines have been formulated under the Conference of the Parties to the Basel Convention and efforts are being made to promote the sharing of regulatory information via Asia network activities. These efforts must be continued in the future.



Status of Implementation of Basel law and Waste management law

As the import and export amount of recyclable resources increases, number of pre-application consultation and administrative disposition also rises.



Fiscal Year

Number of annual administrative disposition

	FY2005	FY2006	FY2007	FY2008
Mandatory cargo inspection i	10	18	43	82
Mandatory reporting ii	2	4	5	8
Verbal reprimand	4	6	9	17
Written reprimand	3	4	3	8
Written strict reprimand	0	3	3	6
Total	7	13	15	31

(5) International Cooperation

(i) Promotion of the 3R Initiative

Specific actions and the implementation process

Japan proposed the 3R Initiative in 2004 at the G8 Sea Island Summit, where it won agreement as a new initiative for G8 nations. Meetings were held from 2005 onward in order to follow-up on the initiative.

In May 2008, the G8 Environmental Ministers' Meeting was held in Kobe, where discussion was held between the environmental ministers from participating countries to confirm that global efforts are advanced for 3R following the 3R Initiative's inception, and the Kobe 3R Action Plan, which dictates concrete actions to be taken by G8 nations in aim for further promoting 3R, was agreed on. This plan was supported by the leaders of G8 nations at the G8 Hokkaido Toyako Summit, which was held in July 2008 in Toyako, Hokkaido.

In addition, Japan's New Action Plan towards a Global Zero Waste Society was also announced at the G8 Environmental Ministers' Meeting. This plan details international undertakings to be advanced by Japan in aim of constructing a recycling-oriented society in Asia and other regions.

(ii) Efforts in Asia

(a)Assistance for formulating national 3R plans and strategies

Japan works with the United Nations Centre for Regional Development (UNCRD), United Nations Environment Programme (UNEP), Office for Asia and the Pacific (OAP), and the Institute for Global Environmental

Strategies (IGES) in countries such as Vietnam and Cambodia. Thereupon, Japan has provided assistance for Thailand, Vietnam, Indonesia, Bangladesh, Cambodia, and Philippines for formulating plans and strategies for promoting 3R in accordance with their respective national circumstances.

(b) Dialogue on countermeasures

Japan actively progresses dialogue on countermeasures between offices overseeing waste treatment and 3R in countries that have begun activities aimed at strengthening domestic structures and implementing countermeasures in a planned fashion, and especially with China and Korea.

In October 2008 at the East Asia Summit Environment Ministers Meeting held in Hanoi, Vietnam, Japan proposed the launch of the Asia 3R Promotion Forum, which aims to be a platform for regional cooperation to promote 3R. Participating countries voiced their approval and the Forum is planned to begin in November of this year.

(c) Developing 3R information offices and research networks

In order to promote 3R that is adapted to the situations of Asian nations as well as the spread and system development of technology related to waste treatment, Japan is providing assistance for content creation at the 3R Knowledge Hub, an information office created and operated under the initiative of such entities as the Asian Development Bank and the United Nations Environment Programme (UNEP) Regional Office for Asia and Pacific.

Lessons and good examples

Policy for promoting 3R must be placed as a major issue in Asian countries. Therefore, Japan assists the formulation of national strategies to promote 3R in various countries, thus proving useful in the multidimensional promotion of 3R in various countries.

Trends and new problems

Regarding international cooperation for waste control, cooperation is particularly important for Asian countries that possess problems such as environmental pollution and inefficient resource use spawning from a lack of technology and inadequate compliance with laws and ordinances. International cooperation undertakings in the waste control sector centered on Asia must continue to be advanced in the future.

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[i] Figures include inspection under the Customs law.

[ii] Calendar year based data. Not Fiscal.