NATIONAL REPORTING TO THE EIGHTEENTH SESSION OF THE COMMISSION ON SUSTAINABLE DEVELOPMENT

JAPAN

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THEME-SPECIFIC ISSUES

1. CHEMICALS

(1) Overview of Chemical Substances Control in Japan

(i) Chemical Substances Control Law (Revised in 2009)

The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (commonly referred to as the Chemical Substances Control Law: The Chemical Substances Control Law hereinafter, "CSCL" was enacted in 1973 with the purpose of preventing environmental pollution caused by chemical substances that are persistent and pose a risk of impairing human health or interfering with the inhabitation and/or growth of flora and fauna. Since its enactment, CSCL has undergone several revisions and when revised in 2003, a supplementary provision was added that requires the Government to review the status of enforcement of the Law after approximately five years from the enforcement. Meanwhile, the international context for chemical substances has also seen considerable changes including reaching an agreement in 2002 at the World Summit on Sustainable Development (WSSD) to minimize significant adverse effects of chemical substances on human health and the environment by 2020.

In response to these developments, the Joint Committee to Review the Chemical Substances Control Law, a council comprised of members from the Ministry of Health, Labour and Welfare, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment (three ministries with jurisdiction over CSCL) started to discuss the necessity of revision of CSCL and the establishment of a new control system, etc. in January 2008. The Committee compiled and released a report in December in the same year. Based on this report, the bill to revise CSCL was adopted at a Cabinet meeting in February 2009 and submitted to the ordinary Diet session for deliberation. The revised CSCL was promulgated on May 20, 2009.

The key features of the revised CSCL are as follows:

a) Introduction of a comprehensive control system that also covers the existing chemical substances

1) Businesses that have manufactured or imported any chemical substances, including existing ones, in excess of the specified amounts are newly obliged to notify the quantity and other information for every fiscal year.
2) The chemical substances that have higher priority in risk assessment will be designated as “Priority Assessment Chemical Substances”, based on the content of the notifications from businesses and the existing knowledge of the hazardous properties of these substances
3) Manufacturers and importers of Priority Assessment Chemical Substances” are required as necessary to submit information on Hazardous properties and businesses handling these substances are required as necessary to report their uses.
4) The substances that raise concerns about adverse effects on humans or flora and fauna, as a result of a phased implementation of information collection and risk assessment of “Priority Assessment Chemical Substances,” will be designated as “Specified Chemical Substances” as in the current CSCL, which are subject to regulations on manufacturing and uses.
5) In addition to the “chemical substances which is persistent in the environment,” which have been the target of regulations, “chemical substances which are easily degradable in the environment” will be the target of regulations.

b) Implementation of proper chemical substances control in the distribution process

In order to prevent environmental pollution caused by “Specified Chemical Substances” and products using these substances, businesses

handling them are required to adhere to certain handling standards and obliged to indicate information necessary for trade.

c) Rationalization of evaluation and regulation systems in light of international trends

Alignment of the evaluation and regulation systems with international standards will be promoted, including reviewing regulations on "Class I Specified Chemical Substances," to permit the exceptional use of the substances regulated under the Stockholm Convention on Persistent Organic Pollutants (POPs) under more strict control.

The revised CSCL will be enforced on April 1, 2010, except for the provisions relating the notification of the quantity of chemical substances to be manufactured or imported, the designation of Priority Assessment Chemical Substances, and the abolition of the Type II and III categories of Monitoring Chemical Substances (explained in (a) above from 1) through 4). These provisions will be enforced on April 1, 2011.

(ii) Law for PRTR and Promotion of Chemical Management (Cabinet Order Revised in 2008)

The Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (hereinafter, "the Law") was enacted in 1999 with the purpose of promoting voluntary improvement of the management of chemical substances by business operators and preventing any impediments to the preservation of the environment by taking measures for the confirmation of release amounts, etc. of specific chemical substances in the environment ("PRTR system") and measures for the provision of information concerning the properties and handling of specific chemical substances by business operators ("MSDS system"). Under the Law, approximately 40,000 businesses have been reporting annually on the amount of chemical substances released and transferred

from their facilities and the data of which have been compiled by the Government for publication.

The Law provides that when 7 years have elapsed since its enforcement, the Government should review the status of enforcement and take necessary measures based on the results of the review. In pursuant to this, the joint council of the Ministry of the Environment and the Ministry of Economy, Trade and Industry conducted a review and compiled a report. Following the suggestion in the report that the method/criteria for designation of specific substances be reviewed, a council comprising of members from the Ministry of the Environment, the Ministry of Economy, Trade and Industry, and the Ministry of Health, Labour and Welfare deliberated the matter and compiled a report.

As a result, the Cabinet Order was partly revised in November 2008 and the number of Class I Specified Chemical Substances, which are subject to both the PRTR system and the MSDS system and the number of Class II Specified Chemical Substances, which are subject to the MSDS system only, were increased from 354 to 462 and from 81 to 100 respectively. Furthermore, the medical industry was added among the types of industries that businesses obliged to confirm and notify the release amounts of chemical substances in the environment may engage in (23 industries had been previously specified).

The method of providing PRTR data was also reviewed. Specifically, it has been decided that the PRTR data provided by individual business facilities are disclosed by public announcement by the Government as well as being disclosed on request. The data from individual business facilities as well as national and prefectural aggregate data are disclosed on the PRTR website.

(2) ASSESSMENT OF CHEMICAL RISKS

(i) Mechanisms for systematic evaluation, classification, and

labeling of chemicals, including initiatives towards a harmonized system of classification and labeling of chemicals

(a) Implementation of GHS

Japan's inter-ministerial committee (Ministry of Health, Labor and Welfare, Ministry of Economy, Trade and Industry, Ministry of the Environment, Ministry of Interior and Communication, Ministry of Agriculture, Forestry and Fishery, Ministry of Land, Infrastructure and Transport and Ministry of Foreign Affairs) was established in 2001, and the Purple Book of United Nations has been translated into Japanese in 2004.

Some Japanese laws have been amended to introduce GHS (pictograms, MSDS, etc) such as "Industrial Safety and Health Law", "Poisonous and Deleterious Substances Control Law" and "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof".

One of the existing Japanese Industry Standards (JIS), JIS Z 7250 (MSDS), was revised along with GHS, and two JISs were newly drawn up, namely JIS Z7251 (labeling) and JIS Z 7252 (classification corresponding to the GHS).

(b) Classification by the Government

Some Governmental Projects are also put forward such as Classification of substances regulated by laws with the GHS Criteria (about 2,000 substances by 2008), developing "Classification Manual" & "Technical Guidance" (which were combined each other and revised as "GHS Classification Guidance for Japan's integrated Classification Manual & Technical Guidance"), "GHS Classification Guidance for chemical mixtures" and "Concept of risk assessment on consumer product exposure for GHS labeling". Classification results of substances can be found at http://www.safe.nite.go.jp/english/ghs_index.html)

(c)Comparison study of GHS classification results

Japan, China and Korea have started a comparison study among three countries on GHS classification results and labeling since 2008. The study revealed that there are some possible causes of differences of classification results such as information sources, building blocks and so on. The report of this study will be published in early 2010.

(ii) Initiatives for assessment of toxic chemicals, hazard and risk assessment, and participation in various international and regional initiatives

(a) Japan Challenge Program

Japan Challenge Program is a program to facilitate the collection and dissemination of safety information of 645 Priority Information Gathering Substances selected from among existing chemical substances as needing to collect and disseminate safety information with high priority. Information collection is to be conducted in cooperation between the public and private sectors. For the substances for which there is no plan to collect safety information through international initiatives including those led by OECD, the Government has sought sponsorship from private businesses.

The Program, launched in June 2005, has been promoted with advice from the Program Promotion Committee comprising of outside experts, etc. Among the Priority Information Gathering Substances, 532 substances have already been the target in overseas information gathering programs launched by June 2009. For the remaining 126 substances, sponsorship from private businesses has been sought and 93 of them as well as 3 substances for which sponsorship was not sought are now being investigated to obtain safety information under sponsorship of private enterprises and organizations.

In August 2009, the progress of the Program was reviewed and an interim assessment was published.

The outline of the interim assessment is as follows:

-As a whole, the program has been making steady progress although it is a bit behind schedule. The overall framework of the program can be considered as appropriate for the purpose.

-There are still some substances left without sponsors and the safety information collection and the submission of a report have been completed for only a few substances. It was pointed out that these facts are the result of a defect in the program such as not providing enough incentives for voluntary participation in the program.

-The Government should continue the efforts to obtain sponsorship until the end of March 2009, taking into account the priority levels of each substance.

-The online database titled "J-CHECK", which was compiled under CSCL and operated by the Government, needs improvement by enhancing the scope of information and user friendliness.

-For the substances for which safety information has been obtained through this program, the government is going to conduct hazard assessment of each chemical substance within fiscal 2012.

-Further discussion is necessary for future directions, taking into account the progress in reviewing CSCL.

(b) Contribution to the OECD Activities

OECD has been developing guidelines for testing chemical substances since 1981. Japan has been an active participant in the program, contributing by providing scientific knowledge required in revising the guidelines and by sending experts to participate in related meetings. The finalized guidelines have been effectively utilized where appropriate, including being adopted into national laws, etc.

In Japan, the Ministry of the Environment published a guideline ("Guidelines for preventing the environmental impact of manufactured

nanomaterials") for preventing adverse effect by manufactured nanomaterials in March 2009. The Ministry of Economy, Trade and Industry (METI) also published a report of The Expert Meeting on Safety Measures for Nanomaterial Manufactures etc. in March 2009. The Ministry of Health, Labour and Welfare notified on Measures for Prevention of Exposure etc. to Nano materials and published a report of the Expert Meeting on Safety Measures for Manufactured Nanomaterials in March, 2009. Japan has also been contributing to OECD's work on manufactured nanomaterials by, for example, presenting the outline of the Guidelines and the English version of the expert meeting report in a joint meeting of OECD Chemicals Committee, and also participating in the sponsorship programme to test representative manufactured nanomaterials organised by OECD Working Party on Manufactured Nanomaterials

Japan plans to continue its efforts in contributing to OECD's activities, including the program for developing test guidelines for screening endocrine-disrupting chemicals and the efforts toward issues related to nanomaterials.

(c) Initial Risk Assessment

In order to prevent adverse effect on human health and the ecosystem caused by chemical substances emitted into the environment, including the water, air, soil, etc., through human activities, it is necessary to quantitatively assess the risk of these chemical substances.

In the light of this, the Ministry of the Environment has been conducting environmental risk assessments to screen out the substances that could have adverse effect on human health or the ecosystem. The initial risk assessment has been performed from the standpoint of not overlooking the harmful effect, based on their hazard information and the data obtained from environmental monitoring.

About 20 to 30 substances that are potentially hazardous to human health or the ecosystem are selected and assessed annually. By September 2009, the assessment results on 250 substances have been published. For those which are potential candidates for further assessment, considerations will be made for the necessity of such further assessment with a view to implement regulations on these substances.

(iii) Strategies for exposure assessment and environmental monitoring and improvement in procedures for using toxicological and epidemiological data to predict and estimate the effects of chemicals on human health and the environment

In fiscal 1974, the Environmental Survey and Monitoring of Chemicals were launched with the purpose of grasping the persistence of existing chemical substances in the general environment. This survey has been incorporated into a broader framework of the Comprehensive Survey of Chemical Substances on Environmental Safety launched in fiscal 1979 for the target substances selected from among the Priority List (a list of chemical substances on which surveys are to be conducted with high priority). This comprehensive survey framework has been expanded with other related surveys such as Wildlife Monitoring, Follow-up Survey of the Status of Pollution by Unintentionally Formed Chemical Substances, Monitoring of Surface Water and Bottom Sediment and The Investigation and Survey of Designated Chemical Substances, etc.

In the meantime, a drastic review of the survey method based on the Priority List has been conducted in order to be able to respond more quickly and more appropriately to the changes in the situation surrounding the issues related to chemical substances in the environment, including the effectuation of the POPs Convention, as well as to the current political issues. As a result of the review, a new survey method has been adopted, where the target substances are selected on request from various policy making divisions of the Government so that

the survey results can be utilized in formulating policies and measures relating chemical substances in the environment. The new survey framework, titled the Environmental Survey and Monitoring of Chemicals, was also launched in 2002, which is comprised of three surveys with different purposes: the Initial Environmental Survey, the Environmental Survey for Exposure Study, and the Environmental Monitoring.

With the quantity of chemical substances currently distributed in Japan reaching several tens of thousands, in order to grasp the actual status of chemical substances in and their effect on the environment and to sequentially detect slight changes in ambient concentration, continuous improvements in analysis methods/survey frameworks are necessary and appropriate accuracy control needs to be ensured. It is also necessary to collect samples that enable accurate grasping of the actual condition in the environment. In considering the addition of the target substances for monitoring, it is necessary to continue the efforts to find the best and most appropriate balance between survey costs and the amount/quality of information to be obtained from the survey, noting the POPs Convention requirements as well as keeping an eye on the development of analysis methods by taking into consideration the property of each chemical substance and on the collection of appropriate samples.

One remaining issue is how to pass down the long-accumulated knowledge and skills of experienced and highly capable officials in major survey/assessment-conducting entities as their mass retirement approaches close.

(3) SOUND MANAGEMENT OF TOXIX CHEMICALS

(i) Progress within the larger framework of Strategic Approach to International Chemicals Management (SAICM)

(a) Internal Policies

Japan's Inter-ministerial committee has been arranged. The member ministries are Ministry of the Environment, Cabinet Office, Ministry of Foreign Affaires, Ministry of Finance, Ministry of Education, Culture,

Sports, Science and Technology, Ministry of Health, Labor, and Welfare, Ministry of Agriculture, Forestry, and Fisheries, Ministry of Economy, Trade, and Industry, and Ministry of Land, Infrastructure, Transport, and Tourism.

The Third Environmental Basic Plan (Cabinet decision in April 2006, based on the Basic Environmental Law) incorporated the SAICM objectives.

The information on SAICM itself and its implementation in other countries has been distributed through several channels e.g. national seminars for public on SAICM.

(b) International Policies

Japan had served as the Focal Point of Asia Pacific Region until May 2009 and has served as the Vice Chair of International Conference on Chemicals Management (ICCM) until 2012.

Japan's Ministry of the Environment has sponsored the SAICM regional meeting in Asia Pacific region held in 2007. Ministry of the Environment has also bilaterally supported Thailand and Bhutan to facilitate the implementation of SAICM in their countries under the Quick Start Program. Due to these activities, Japan received silver prize at the second session of International Conference on Chemicals Management.

(ii) Policy measures to phase out chemicals that pose unreasonable and unmanageable risk to human health and human environment, such as, for example, ozone-depleting substances

The Fourth Meeting of the Conference of the Parties of the Stockholm Convention (COP4) was held in May 2009, where delegates reached a decision to list nine substance groups (12 substances) in Annexes of the Convention. In order to ensure compliance with this decision, the Japan is to implement necessary measures under CSCL and other laws.

It was concluded at the joint council of the Ministry of Health, Labour and Welfare, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment held in June 2009 that in order to secure international consistency, it is appropriate to designate the nine substance groups (12 substances) as Class I Specified Chemical

Substances under CSCL and prohibit, in principle, their manufacturing and import. In the council held in July 2009, a conclusion was reached that it is appropriate to take measures enabling the use of perfluorooctane sulfonate acid (PFOS) and its salt, which is among the nine substance groups (12 substances) (Table 1), for specific purposes such as those related to semiconductors, etc.(Table 2).
In the future, the Order for Enforcement of CSCL will be revised based on the results of deliberation in these councils and through necessary procedures, including inviting public comments. After the nine substance groups (12 substances) are additionally designated as Class I Specified Chemical Substances, necessary measures will be formulated for manufacturing, importing and using of these substances.

(iii) Policies aimed at reducing the risks posed by lead, mercury and cadmium and other harmful heavy metals, including through a review of relevant studies, such as, for example, the United Nations Environment Programme global assessment of mercury and its compounds

In response to the UNEP (United Nations Environmental Programme) Mercury Programme launched in 2001 and the UNEP Lead and Cadmium Activities launched in 2005, Japan has been addressing the issues of mercury and other harmful heavy metals.

As for mercury, specific activities have been being conducted including surveys to clarify the material flows and emission inventory of Japan and the continuous monitoring on the atmospheric mercury levels in Japan. The results of the surveys and monitoring have been submitted to UNEP, which contribute to UNEP initiatives such as the Global Atmospheric Mercury Assessment (UNEP 2008), etc.

Japan has also been providing its knowledge on lead and cadmium to UNEP, which has been included in such documents as “Reviews of

scientific information on lead" (UNEP 2008) and "Reviews of scientific information on cadmium" (UNEP 2008).

These efforts have been reviewed by convening an investigative committee of experts and the inter-ministerial committee for addressing the issues of heavy metals, etc.

In recent years, Japan as the country having the experience of Minamata disease has been making an active contribution to international discussions on mercury. For example, Japan served for the Bureau as a representative of the Asia-Pacific region at UNEP Ad Hoc Open-ended Working Group on Mercury, an international forum to discuss on international actions including a legal binding instrument on mercury. Japan also has been serving the lead country in the waste management area of UNEP Global Mercury Partnership.

(iv) Initiatives to reduce overdependence on the use of agricultural chemicals

Japan has been promoting sustainable agriculture, which aims to reduce environmental impact of agricultural chemicals and chemical fertilizers.

Table 1: Substances that are considered appropriate for addition to Class 1 Specified Chemical Substances

Substance	**Purposes**
1. Perfluorooctane sulfonate acid (PFOS) and its salts	Water repellent, Lipid repellent, Surfactant
2. Perfluorooctane sulfonyl fluoride (PFOSF)	Starting material for PFOS
3. Pentachlorobenzene	Agricultural chemicals, Byproduct
4. r-1, c-2, t-3, c-4, t-5, t-6-hexachlorocyclohexane (Alpha hexachlorocyclohexane)	Byproduct of substance 6
5. r-1, t-2, c-3, t-4, c-5, t-6-hexachlorocyclohexane (Beta hexachlorocyclohexane)	Byproduct of substance 6
6. r-1, c-2, t-3, c-4, c-5, t-6-hexachlorocyclohexane (Gamma-hexachlorocyclohexane)	Agricultural chemicals, Pesticides
7. Decachloropentacyclo [5.3.0.0.0.0] decan-5-one (Chlordecone)	Agricultural chemicals, Pesticides
8. Hexabromobiphenyl	Flame retardants
9. Tetrabromo(phenoxybenzene) (Tetrabromodiphenyl ether)	Flame retardants
10. Pentabromo(phenoxybenzene)(Pentabromodiphenyl ether)	Flame retardants
11. Hexabromo(phenoxybenzene)(Hexabromodiphenyl	Flame retardants

ether)	
12. Heptabromo(phenoxybenzene)(Heptabromodiphenyl ether)	Flame retardants

* In the Annexes to the Stockholm Convention on POPs, the total of 9 substances were determined to be added to the lists, considering No.1 and 2 as one, No. 9 and 10 as one, and No. 11 and 12 as one.

Table 2: Measures that will become necessary in consequence of the addition of Class I Specified Chemical Substances

Products that are prohibited from import when Class I Specified Substance is used

Class I Specified Chemical Substance	Products*
PFOS and its Salt	Aviation hydraulic fluid
	Treating agent for yarn
	Etching agents for compound metals and semiconductors (excluding high-frequency compound semiconductors that enable radio devices to transmit/receive the frequency of 3 MHz or over);
	Surface treatment agents or additives/adjustment agents for metal plating
	Anti-reflective coating for semiconductors
	Abrasive compound
	Fire extinguishers and fire-extinguishing fluid/foam
	Insecticide (Restricted only to termite and ant control products)
	Printing paper
Tetrabromodiphenyl ether	Paints
	Adhesive agents

Pentabromodiphenyl ether	Paints
	Adhesive agents

Purposes for which Class I Specified Chemical Substance can be used

Class I Specified Chemical Substance	Purposes*
PFOS and its Salt	Manufacturing of etching agents (Restricted only to agents for piezoelectric filters or for compound semiconductors that enable radio devices to transmit/receive the frequency of 3 MHz or over)
	Manufacturing of semiconductor resists
	Manufacturing of photographic films for industrial use

Products that are subject to the technical guideline when Class I Specified Chemical Substance is used

Class I Specified Chemical Substance	Products
PFOS and its Salt	Etching agents (Restricted only to agents for piezoelectric filters or for compound semiconductors that enable radio devices to transmit/receive the frequency of 3 MHz or over)
	Semiconductor resists
	Photographic films for industrial use
	Fire extinguishers and fire-extinguishing fluid/foam

* Applicable only for the time being

2. TRANSPORT

(1) REGIONAL AND GLOBAL TRANSPORT SYSTEM INTEGRATION (ENCOURAGING EFFICIENT MODES)

Concrete actions taken and specific progress made in implementation

In the transportation sector CO2 emissions have been declining since 2001. But even in this sector there is an urgent need for the formulation of more effective distribution policies that can contribute to global warming countermeasures, in order to achieve Japan's reduction commitments under the Kyoto Protocol.

Global warming countermeasures in the distribution field cannot be implemented only through the owners of the freight and distributors acting alone. It is necessary for them to share their wisdom with each other and collaborate and coordinate (form partnerships) to advance the improvement of distribution systems based on cross-industry initiatives. With the cooperation of the related industrial organizations the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism established the Green Logistics Partnership Conference in FY2005 as a forum for deepening these kinds of collaboration.

The Green Logistics Partnership Conference provides support for businesses that carry out cutting-edge initiatives, surveys, demonstration experiments, etc. that contribute to environmental measures. It is still continuing to support businesses that are working to develop green logistics.

Currently over 3000 companies and organizations, etc. are registered members of the Green Logistics Partnership Conference and 236 projects have been approved for promotion as projects that have a CO2 emissions reduction effect (as of FY2009).

Lessons Learned and Excellent Examples

The Green Logistics Partnership Conference is providing support for CO2 emissions reduction projects implemented by the partnership between the owners of the freight and the distributors. Both of the ministries run the conference in cooperation with the Japan Institute of Logistics Systems and the Japan Federation of Freight Industries.

The Green Logistics Partnership Conference awards prizes for

particularly excellent initiatives in its main conference held at the end of each year. The details of these prizes can be seen on the web site of the conference (http://www.greenpartnership.jp/), etc.

Trends and Newly Emerging Problems

The details of the projects that have been approved for promotion by the Green Logistics Partnership Conference are as follows.

Cumulative total	FY2005	FY2006	FY2007	FY2008	FY2009	Total
Consolidation of bases	4	14	9	12	4	43
Joint transportation and delivery	9	10	6	7	0	32
Modal shifts	15	39	18	14	3	89
Larger vehicles	0	2	5	17	4	28
Utilization of electronic tags, etc.	0	3	0	1	0	4
Other	5	11	13	10	1	40
Total	33	79	51	61	12	236

(2) VEHICLE EFFICIENCY AND EMISSIONS POLICIES

Specific Actions Taken and the Implementation Process

CO2 emissions from automobiles account for approximately 20% of Japan's total CO2 emissions. Reducing CO2 emissions from automobiles has become an important challenge for the promotion of global warming countermeasures. Improving the fuel efficiency performance of automobiles is an extremely important part of this approach.

Japan was the first country in the world to formulate fuel efficiency standards, based on the 1979 Act on the Rational Use of Energy (Energy Saving Act), and in 1999 Japan introduced the "Top Runner standards* approach."

* Top Runner standards: standards formulated based on automobile

currently commercially available that has the best fuel efficiency performance, and taking into consideration the future prospects for technology development, etc.

Under the Energy Saving Act, automobile manufacturers, etc. (automakers and importers) are required to improve fuel efficiency performance so that the average fuel efficiency figures for their automobiles in each category (the figure calculated by taking the weighted harmonic average of the fuel efficiency figures for the automobiles using the number of units shipped) are higher than the fuel efficiency standard value by the target fiscal year. Moreover, the Energy Saving Act stipulates matters regarding labeling of the fuel efficiency figures so that automobiles users are able to select automobiles with outstanding fuel efficiency, and the fuel efficiency figures of each automobile are displayed in the product catalog for that automobile.

Finally, the Ministry of Land, Infrastructure, Transport and Tourism implements evaluations of the fuel efficiency performance of automobiles and actively publishes the results of the evaluations, with the objectives of increasing the interest of automobile users in energy saving and promoting the greater use of automobiles with a good fuel efficiency performance.

<History of Fuel Efficiency Standards>

- June 1979: Act on the Rational Use of Energy (Energy Saving Act) established
- December 1979: Formulation of the Fuel Efficiency Standards for Gasoline-fueled Passenger Vehicles (FY1985 target)
- January 1993: Revision of the Fuel Efficiency Standards for Gasoline-fueled Passenger Vehicles (FY2000 target)
- March 1996: Formulation of the Fuel Efficiency Standards for Gasoline-fueled Freight Vehicles (FY2003 target)
- June 1998: Revision of the Energy Saving Act… introduction of the "Top Runner standards" approach
- March 1999: Formulation of Top Runner standards for passenger vehicles and small freight vehicles (FY2010 target for gasoline vehicles and FY2005 target for diesel vehicles)
- July 2003: Formulation of Top Runner standards for LP gas passenger vehicles (FY2010 target)
- March 2006: Formulation of Top Runner standards for heavy vehicles (trucks, buses, etc.) (FY2015 target)

- July 2007: Formulation of new fuel efficiency standards for passenger vehicles, small buses, and small freight vehicles (FY2015 target)

Lessons Learned and Excellent Examples

The formulation of fuel efficiency standards has produced steady results. For example, there has been a 50% improvement in fuel efficiency over the last 20 years. Furthermore, it is expected that the new fuel efficiency standards formulated in 2007 for passenger vehicles will produce an average improvement in fuel efficiency of 23.5% from FY2004 to the target fiscal year of 2015. Moreover, it is expected that the fuel efficiency standards for heavy vehicles (buses and trucks) formulated in 2006, the first of their kind in the world, will produce an average improvement in fuel efficiency of more than 12% for heavy vehicles by 2015.

(3) DEVELOPMENT OF VEHICLE TECHNOLOGY RESEARCH AND DEVELOPMENT

Specific Actions Taken and the Implementation Process

Regarding technology development for automobile transportation vehicles, the Ministry of Land, Infrastructure, Transport and Tourism has been implementing the Next-Generation EFV Development and Commercialization Project since FY2002 with the National Traffic Safety and Environment Laboratory as the core research institution. The objectives of the project are to improve the bad atmospheric pollution situation primarily in large cities, to prevent global warming, and to reduce Japan's oil dependence by using new fuels. It aims to achieve these objectives by promoting the development and commercialization of next-generation, low emission vehicles with outstanding environmental performance that can replace large diesel vehicles such as trucks, buses, etc.

Specific models currently being developed include DME trucks, CNG trucks, LNG trucks, FTD trucks, super clean diesel engines, hydrogen engines and inductive power transfer hybrid buses.

The project includes the development and test production of vehicles with the cooperation of automakers, and the Demonstration Model Projects in which the vehicles are used in actual transport projects, etc. to improve

their practicality.

Lessons Learned and Excellent Examples

Development outcomes to date include the successful commercialization of hybrid buses and trucks, and their subsequent launch onto the market. Furthermore, regarding the vehicles that are currently under development, there are good prospects for the commercialization of DME trucks, CNG trucks, etc. before long.

Trends and Newly Emerging Problems

At the time of the initial commencement of the project the major goal was to deal with the atmospheric pollution problem but over the last few years the importance of preventing global warming has been growing, and it has become necessary to shift the direction of technology development for automobile transportation vehicles toward development that contributes to the reduction of carbon dioxide emissions.

(4) Environmentally Sustainable Transport Co-benefit Approaches and Practices in Asian region

Concrete actions taken and specific progress made in implementation

The United Nations Center for Regional Development (UNCRD) and the Government of Japan have established the Asian Regional Environmentally Sustainable Transport (EST) Forum with the aim of making EST a reality in the Asian region, and is working in cooperation with other Asian countries by conducting high-level policy dialogues with their governments.

The First Meeting of the Forum was held in Nagoya City, Aichi Prefecture, in 2005. This was followed by three Meetings (Second Meeting - Fourth Meeting) in Yogyakarta, Singapore, and Seoul respectively. The Fourth Meeting of the Forum, held in February 2009, welcomed representatives from 22 countries in the Asian region (10 ASEAN countries, 8 South Asian countries, China, Japan, Republic of Korea, and Mongolia). Here, each country participated in the sharing of best practices by presenting reports on their undertakings toward the realization of EST, and held discussions concerning the provision of support for developing countries

through the co-benefit approach, which involves institutions such as the World Bank and the Asian Development Bank.

The Government of Japan, in cooperation with the Ministry of the Environment and the Ministry of Land, Infrastructure, Transport and Tourism, has introduced Japan's EST-related efforts, and is working toward the realization of EST in the Asian region through actual implementation of EST activities.

Lesson learned

The “Aichi Statement,” drawn up and adopted at the First Meeting of the Regional EST Forum in Asia, lays out the fundamental concepts of the EST that the Asian region is aiming for, as well as the continuous implementation of EST-related activities. Further to that, the “Seoul Statement,” which focuses on promoting EST activities for achieving of low-carbon society and green growth , was drawn up and adopted at the Fourth Regional EST Forum in Asia.

Within the framework of the Forum, and as part of the efforts taken toward the materialization of EST in each country, Asian countries, which are in various stages of development, are separated into different phases based on their characteristics and progress status, national EST strategies are being formulated for each country, and follow-ups on their progress status are conducted on a regular basis. Specifically, EST strategies have been drawn up for Vietnam, Laos, and Cambodia, and plans for the Philippines and Indonesia have been in the works since 2008.

In addition, the spotlight has also been put on activities implemented at the city level so as to enhance the synergistic effect with efforts taken at the national level. In 2007, the “Asian Mayors' Policy Dialogue for the Promotion of Environmentally Sustainable Transport in Cities” was held in Kyoto. Mayors from 23 cities in 14 Asian countries participated in the event, sharing best practices and engaging in policy dialogues aimed at realizing EST for urban transportation in Asia. The “Kyoto Declaration,” stating the intention to further promote the implementation of

comprehensive measures for the realization of EST, was drawn up and adopted as a result of these discussions. In November 2008, 12 more cities signed the Kyoto Declaration in a ceremony held in Bangkok, Thailand, as the EST movement continues to expand and penetrate the Asian region.

(5) International initiative to combat climate change and air pollution in the transport sector

Concrete actions taken and specific progress made in implementation

Japan takes the initiative to enhance global efforts to combat climate change and air pollution in the transport sector through the Ministerial Conference on Global Environment and Energy in Transport (MEET) process, an open forum among transport ministries of major countries and relevant international organizations.

The first Ministerial Conference on Global Environment and Energy in Transport (MEET) was convened in January 2009 in Tokyo, hosted by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Government of Japan. Transport ministers and delegates of 21 countries, with the participation of representatives from 9 international organizations, discussed the challenges that the transport sector faces and a required course of actions to tackle climate change and air pollution issues. The ministers shared the long-term global vision of realizing low-carbon and low-pollution transport systems, and adopted the Ministerial Declaration that delivers political messages on future actions and international cooperation in the sector.

Furthermore, MLIT Japan hosted the MEET Follow-up Meeting in June 2009 in Hakodate, Hokkaido, to share experiences and expertise to accelerate concrete actions by individual countries as well as to further facilitate international cooperation. The meeting shed light upon the importance of assisting efforts of developing countries, particularly to formulate strategic action plans and employ a variety of financial sources, as well as the necessity of enhancing capacity building for such areas as statistical data development, fuel efficiency standards and public transport systems.

The way forward

The second MEET ministerial conference is expected to be held in early 2010 under the auspices of Italy, which would discuss further actions in the transport sector based on the result of COP15. In collaboration with other governments and international initiatives, Japan will continue to take the lead in fostering a network of transport ministries and experts, sharing experiences and best practices across countries, and assisting efforts of developing countries, paving the way for a low-carbon future of transport through the MEET process.

3. 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)

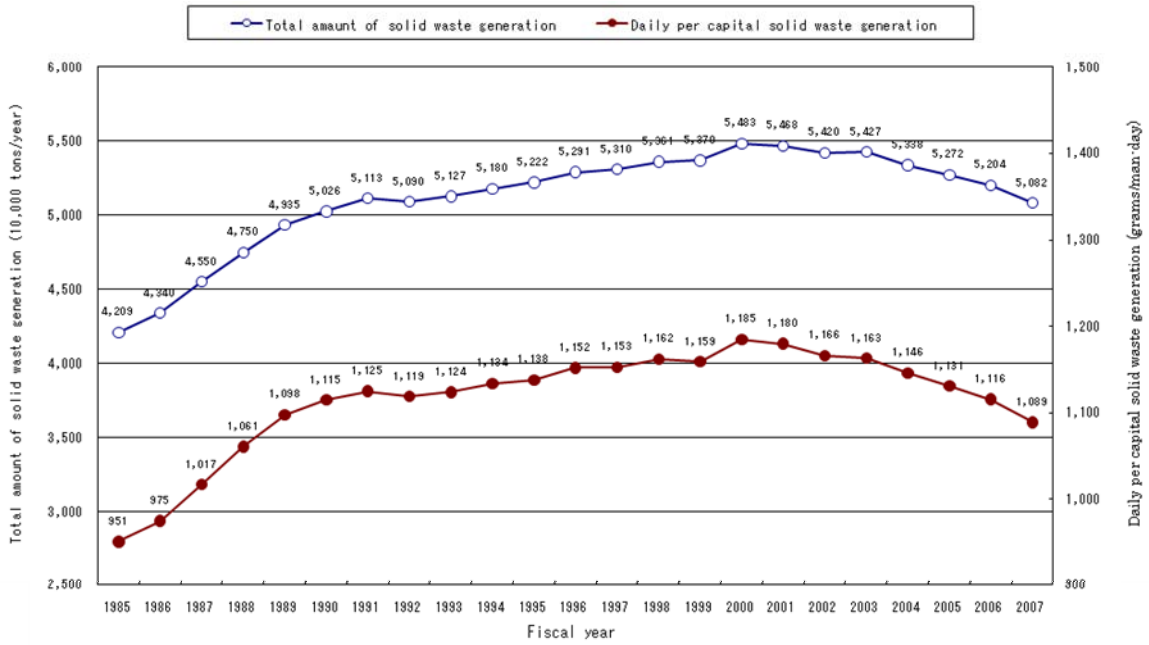
Lessons and good examples

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.

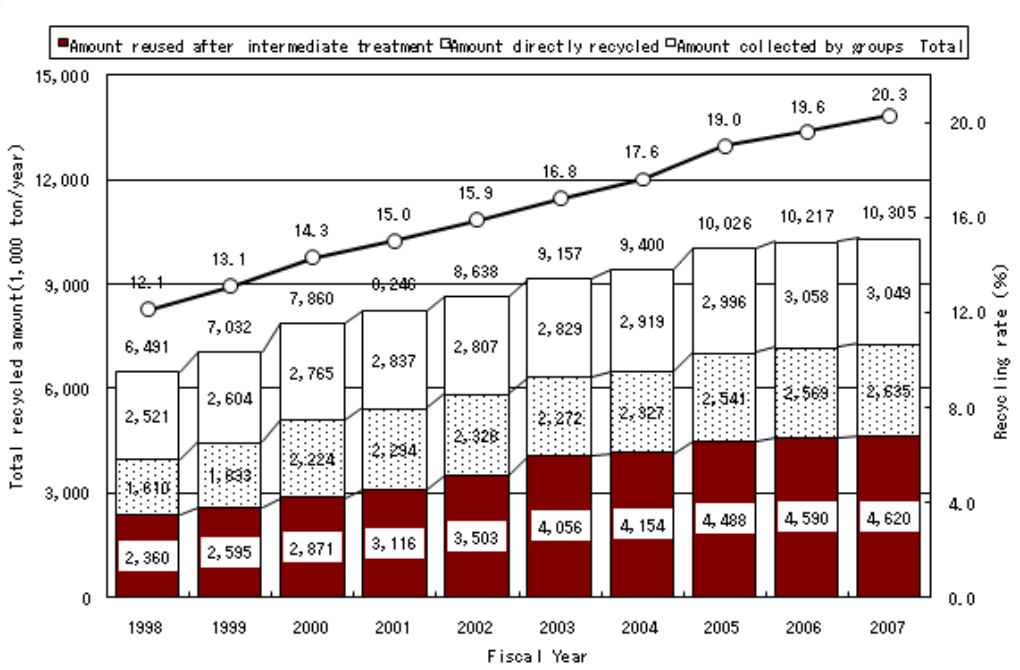
-Total amount of solid waste generation and daily per capital solid waste generation



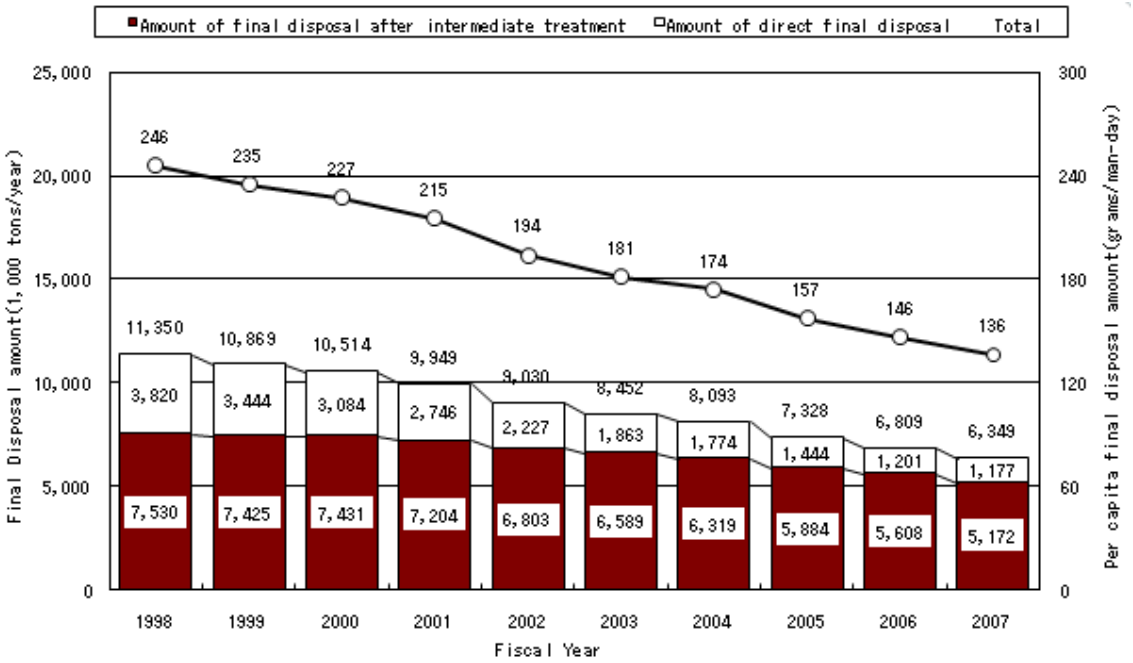
・Note: The “Total amount of solid waste generation” from FY2007 data is the same as “Total municipal waste (planned collection amount, direct collection amount, and group collection amount of resource waste)” from within the “Basic policy for promoting measures for waste management focusing on waste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

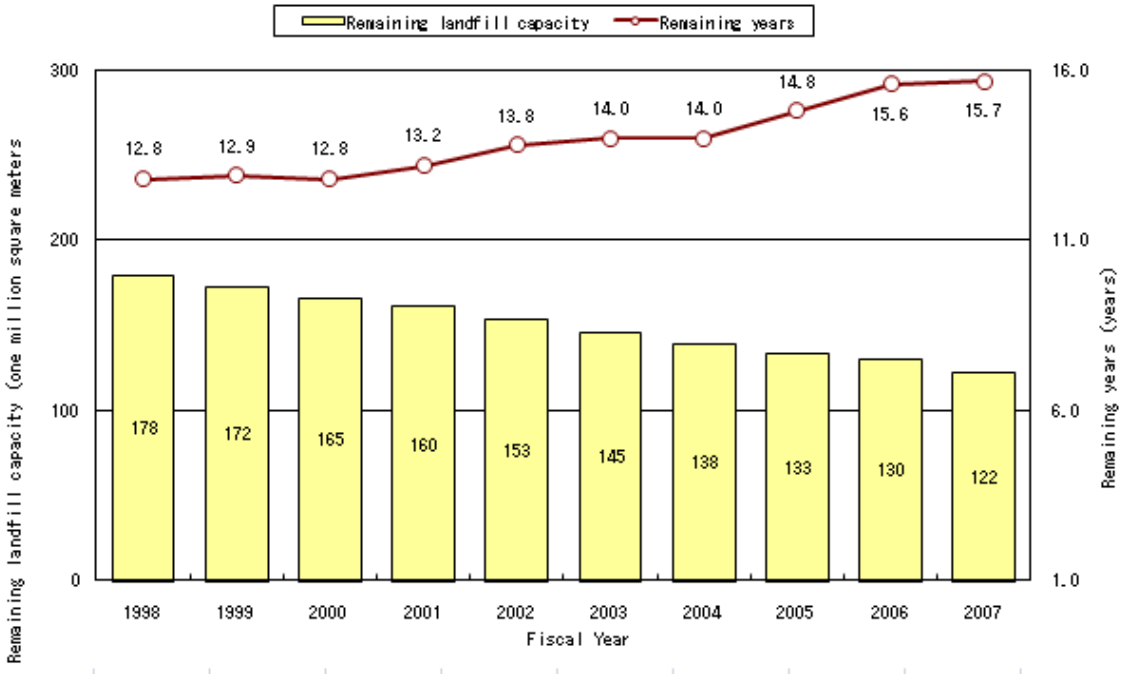
-Total recycled amount and recycling rate



-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.

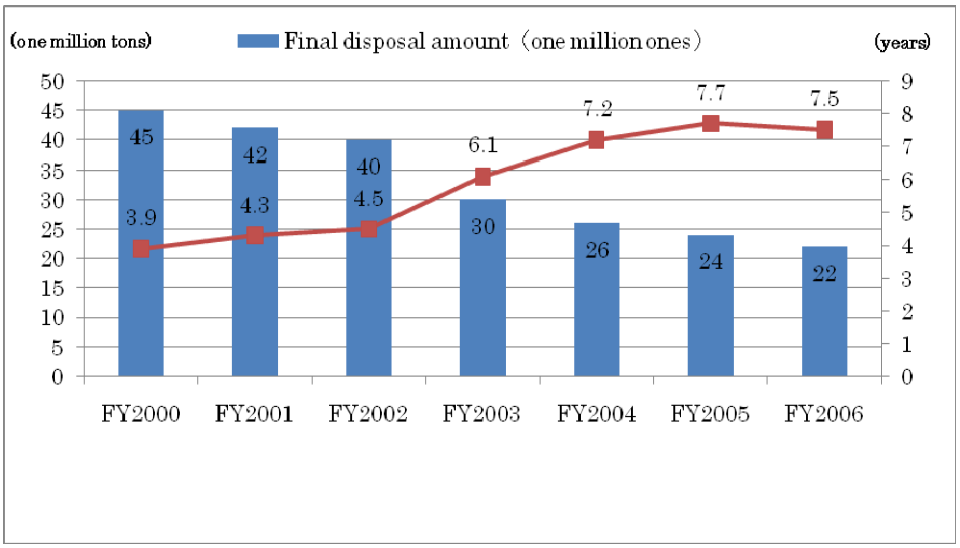
In addition, projects are being implemented to enhance the quality of industrial waste treatment businesses with the participation of a wide range of related individuals to industrial waste, in addition to strengthening the permit requirement for industrial waste treatment businesses. In 2005, evaluation 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).

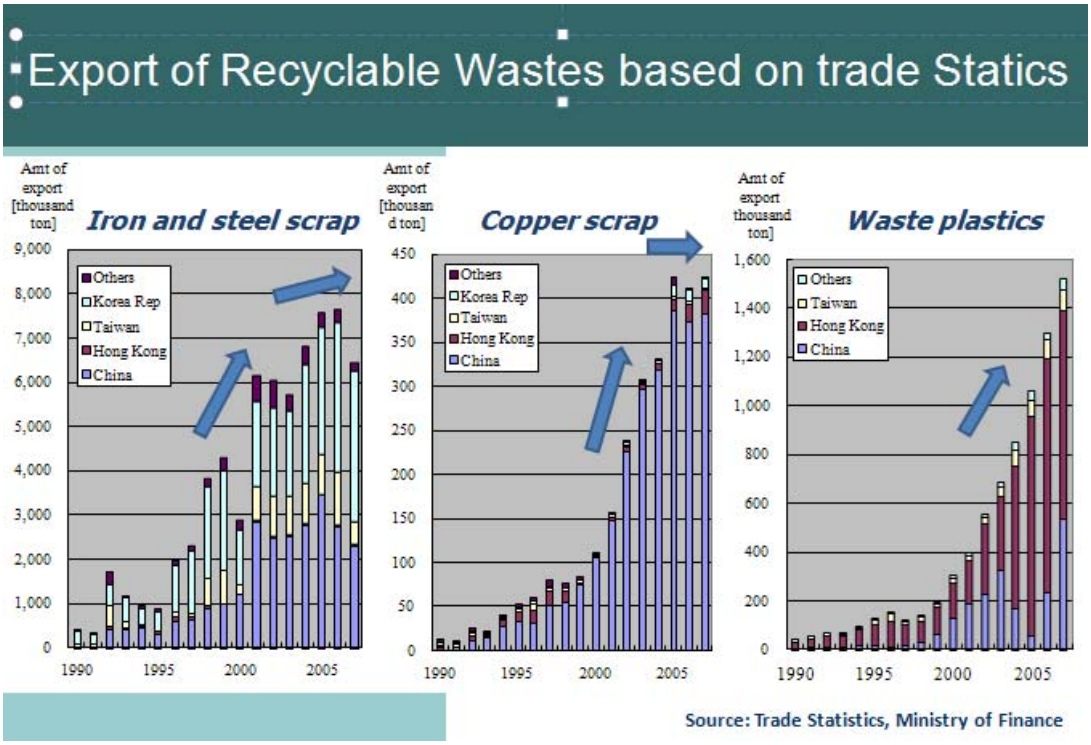
Trends and new problems

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.

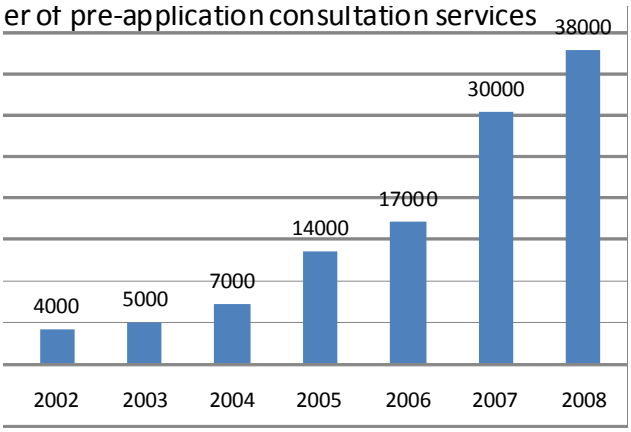
Constraints and difficulties

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.

4. THE TEN YEAR FRAMEWORK OF PROGRAMMES ON SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS (SCP)

(1) Generic issues relating to the inclusion of SCP in national policies: 3R

Specific Implemented Actions and Implementation Process

The Basic Law for Establishing the Recycling-based Society was promulgated in June 2000 and put into effect in January 2001 to reform the society and the people's lifestyles based on mass production, mass consumption and mass disposal, to secure the material cycle in society and to form a "recycling-based society" where the consumption of natural resources will be restrained to reduce the load on the environment.

The law targets the whole of wastes including valuable and invaluable ones and calls for Japan to realize the "recycling-based society" where "the consumption of natural resources will be restrained and the environmental load will be reduced as far as possible," by restraining products from becoming wastes, by paying attention to the usefulness of wastes and reviewing wastes as recyclable resources, by promoting appropriate recycling (reusing, material recycling and heat recovery) of recyclable wastes, and by securing appropriate disposal of wastes failing to be recycled.

The Basic Law for Establishing the Recycling-based Society provides for the responsibility of waste generators and the extended producer responsibility as the basic concepts for policy measures.

The Basic Law for Establishing the Recycling-based Society also calls for the government to establish the basic plan for establishing the recycling-based society.

The basic plan for establishing the recycling-based society is a central mechanism for the comprehensive and systematic promotion of the policies for establishing the recycling-based society. In March 2003, the government established the "First Basic Plan for Establishing the Recycling-based Society" that indicated the image of the desirable recycling-based society, set quantitative targets for the resource productivity, cyclical use rate, final disposal amount as material flow indicators, and the people's relevant efforts, and gave the directions of measures being taken by the central government and other entities.

In March 2008, the government made a cabinet decision to revise the first plan into the second one. The plan calls for the general public, business organizations, NGOs, NPOs, universities, local governments, the central government and all other actors to cooperate in forming the recycling-based society. Particularly, it urges the central government to comprehensively implement (1) integrated efforts to create a low-carbon society or a natural symbiosis society, (2) the promotion of the formation of regional recycling-based zones, (2) national 3R campaigns, (4) the promotion of recycling-based society businesses through such measures as the thorough diffusion of green purchasing, (5) the expansion of 3R mechanisms to curb waste generation, (6) the advancement of 3R technologies and systems, (7) information collection and human resources development, and (8) the construction of an international recycling-based society.

In order to secure the steady implementation of the basic plan for establishing the recycling-based society, the Central Environment Council is required to check up the progress of measures based on the plan every year and give reports on the future policy direction as necessary. In FY 2008, the council conducted the first check-up of the progress in the second basic plan.

Lessons and Good Practices

The second basic plan for establishing the recycling-based society set tougher quantitative targets for the three indicators regarding the inlet, outlet and cycle of material flow and set up indicators to supplement and monitor the three indicators.

The target year for each indicator is FY 2015. Following are the latest data

for the indicators:
i) Resource productivity (= GDP/natural resources input)
The plan sets a target for the resource productivity of about 420,000 yen per ton for FY 2015 (almost double the FY 1990 level of about 210,000 yen per ton and up about 60% from 260,000 yen per ton in FY 2000). In FY 2006, the productivity stood at 348,000 yen per ton.
ii) Cyclical use rate (= cyclical use amount/cyclical use amount plus natural resources input)
The plan sets a target for the cyclical use rate of about 14% to 15% for FY 2015 (up about 80% from about 8% in FY 1990 and up 40% to 50% from about 10% in FY 2000). In FY 2006, the rate stood at about 12.5%.
iii) Final disposal amount (= Final disposal amount of wastes)
The plan sets a target for the final disposal amount of about 23 million tons for FY 2015 (down about 80 percent from about 110 million tons in FY 1990 and down about 60 percent from about 56 million tons in FY 2000). In FY 2006, the amount stood at about 29 million tons.

The plan also sets a per capita daily waste generation target for the general public.

Trends and New Challenges
After the first check-up of the progress in the second basic plan for establishing the recycling-based society, the council indicated such future challenges as the further promotion of efforts to attain the quantitative targets, faster statistics reports, the combination of low-carbon and natural symbiosis society policies, the development of systems and the enhancement of cooperation for strategic uses of useful resources including rare metals, the further promotion of "reduce and reuse" campaigns, the promotion of local government efforts to develop regional recycling-based zones while invigorating regional economies, and the demonstration of Japan's leadership in building a recycling-based society in Asia.

Constraints and Difficulties
While steady progress has been found in measures under the second basic plan for establishing the recycling-based society, various challenges including the need for further policy cooperation have been highlighted in regard to specific measures. In future, we should deepen consideration of various challenges specified through the check-up and promote the plan, while grasping the trend of each indicator.

(2) GREEN PUBLIC PROCUREMENT POLICIES, LAWS AND

REGULATIONS

(i) Green public procurement policies, laws and regulations

Concrete actions taken and specific progress made in implementation

The Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities, also known as the "Green Purchasing Law", was enacted on May 31, 2000 and generally implemented on April 1, 2001.

The government, based on this law, created the "Basic Policy Concerning the Promotion of Procurement of Eco-Friendly Goods and Services" in a Cabinet decision in order to promote the procurement of products and services contributing to the reduction of environmental impact, and each institution has created a procurement policy in line with this basic policy, obliging the promotion of such procurement. There were originally 14 categories with 100 specific procurement items regulated by this policy, but 8 years after implementation of the law this has increased to 246 items in 19 categories.

Meanwhile, the law has obliged the efforts of local public entities, and because the systematic green purchasing initiatives established in large-scale municipalities such as prefectures and major cities have been observed to be insufficient in some local municipalities here and there, National public awareness initiatives are being made, such as the "Green Procurement Initiative Guidelines for Local Public Entities" (established in March 2009). Additionally, in a 2009 survey, 85.5% of towns and 64.4% of villages said that they are systematically implementing the initiatives.

Lesson learned

When the amount of reduction in greenhouse gases in the calculable specific items purchased by government agencies was calculated, the resulting reduction in CO_2 gases came to about 125,000 tons.

Recent trends and emerging issues

In the latest "Basic Policy Concerning the Promotion of Procurement of Eco-Friendly Goods and Services", 10 items have been added, 1 item deleted, and the standards for 39 items reviewed, to total 246 items in 19 categories. The Cabinet decision for this was on February 13, 2009, it was publicly announced on March 5 and brought into effect on April 1. Regarding standards for waste paper, since the problem of concealing waste paper was brought to light in January 2008, it is planned to continue giving the highest priority to waste paper, using certified forest material, thinnings and unused material, etc. and also environmentally

friendly raw materials.

Additionally, because of the unreliability of specific purchasing products and their environmental labeling, there is an urgent need to restore this reliability through further diffusion / expansion of green purchasing.

Major constraints and challenges

The purchasing of environmentally friendly products, etc. is an obligatory regulation for local municipalities engaging in about 3 times their share of the nation's economic activities. In prefectures, major cities, and local municipalities, green purchasing initiatives have already penetrated, but at the village level they have remained at about a 6% rate of implementation. Diffusion / promotion in these local non-implementing municipalities are becoming a big topic.

(ii) Recycling Promotion Laws

(Container and Packaging Recycling Law)

Specific Implemented Actions and Implementation Process

The Law for Promotion of Sorted Collection and Recycling of Containers and Packaging was established in June 1995 and put into effect in April 1997 to reduce wastes and make effective use of resources by promoting recycling of container and packaging wastes that account for some 20% to 30% of the weight for wastes from households and for about 60% of their cubic content. The law was amended in June 2006 to enhance relevant measures.

Lessons and Good Practices

Sorted collections of PET bottles and plastic containers have increased year by year. Thanks to an increase in the number of municipalities implementing sorted collections, plastic container collections in FY 2007 rose by some 6% from the previous year to 644,000 tons and PET bottle collections by about 6% to 283,000 tons. In the year, the PET bottle collection rate (municipalities' sorted collections/output) for municipal sorted collections came to 49.4%, increasing slightly from 49.3% in the previous year.

Trends and New Challenges

While consumers have grown conscious of recycling year by year, they have not necessarily well informed of products into which these containers are recycled. How sorted collections are treated should be made public to consumers who cooperate in sorted collections. The recycling process should be made transparent.

(iii) Home Appliance Recycling Law

Specific Implemented Actions and Implementation Process

Waste home electric appliances include abundant useful resources including iron, aluminum and glass, while Japan's space for final waste disposal has been limited. The reduction of such wastes has become an urgent challenger. Wastes must be reduced and recycled. Based on such conditions, the Law for Recycling of Specified Kinds of Home Appliances was established in June 1998 and put into effect in April 2001 to provide for a new product recycling mechanism to impose new requirements on manufacturers and retailers of home electric appliances in order to realize a recycling-based society through the reduction of wastes and the sufficient utilization of recycled resources to secure appropriate disposal of wastes and effective utilization of resources.

Lessons and Good Practices

Home appliance manufacturers' recycling rate in FY 2008 stood at 89% for air conditioners, at 89% for televisions, at 74% for refrigerators/freezers and at 84% for washing machines, remaining above statutory levels as seen in the previous year. The recycling rate rose by 2 percentage points for air conditioners, by 3 points for TVs, by 1 point for refrigerators/freezers and by 2 points for washing machines. This may be because recycling technologies have been improved to expand the range of materials for recycling and promote recycling of plastic materials.

(iv) Construction Waste Recycling Law

Specific Implemented Actions and Implementation Process

Concrete blocks, asphalt concrete blocks, wood and other wastes generated from construction accounted for about 20% of industrial waste emissions and their final disposal amount (in FY 2001) and about 60% of their illegal dumping amount (in FY 2002). As buildings constructed in a decade from 1965 end their service lives, construction waste emissions are expected to increase in future. As a solution to the problem, the Law Concerning Recycling of Materials from Construction Work was established in May 2000 to recycle these wastes to secure effective utilization of resources.

(v) Food Recycling Law

Specific Implemented Actions and Implementation Process

The Law Concerning the Promotion of Recycling Food Cyclical Resources was established in May 2000 and put into effect in May 2001 to provide for basic measures for recycling of food cyclical resources and restriction and reduction of food wastes and to promote recycling of food cyclical

resources. Amendments to the Food Recycling Law were enacted and promulgated in June 2007 and put into effect on December 1, 2007, to toughen the guidance and controls on food-related businesses and facilitate recycling.

(vi) End-of-life Vehicle Recycling Law

Specific Implemented Actions and Implementation Process

In terms of weight, about 80% of vehicles made from iron and other useful metals have been recycled with the remainder disposed as shredder dusts mainly at landfill sites. But landfill space shortages and rising disposal costs have led to concerns about illegal dumping and inappropriate disposal of end-of-life vehicles over the recent years. Fluorocarbons used as coolants for vehicle air conditioners may deplete the ozone layer and cause global warming unless they are appropriately recovered and disposed. Special skills are required for handling airbags when vehicles are scrapped. Therefore, the Law Concerning Recycling Measures for End-of-life Vehicles has been created as a new vehicle recycling system,

Lessons and Good Practices

Vehicle crushing residues as industrial wastes of vehicle crushers are recycled and disposed while wide-area regulations and coordination are conducted amid the uneven distribution and shortage of recycling and disposal facilities. Under the situation, local governments' regulations on inflow of industrial wastes could affect wide-area regulations and coordination for vehicle crushing residues.

(3) INSTRUMENTS FOR SUSTAINALE CONSUMPTION

(i) Awareness-rising programmes/campaigns on SCP, including water conservation, energy efficiency, waste minimization and recycling

Concrete actions taken and specific progress made in implementation

In order to build a sustainable society, it is necessary for each individual citizen to view environmental problems as their own, switching to an environmentally friendly lifestyle while promoting voluntary environmental conservation activities for people of all walks of life.

Main purpose of this "Ministry of the Environment at home" is to improve the awareness of environmental preservation in activities close to home through providing a place / opportunity to disseminate environmental information to families around the country in order to promote an eco-lifestyle, reducing greenhouse gases, etc. emitted s a result of

domestic life.

Specifically, the “environmental household account book” provided on the project website provides information on the status of CO_2 reduction that can be browsed in graphs, etc. by having each household record the amounts of their utility usages.

In addition, information on activities and achievements are solicited from households around the country for our family’s “eco declaration☆”, giving public recognition to households who have implemented outstanding activities, spreading word of the activities around the country.

Environmental education in corporate activities is being promoted through instruction tools for employees and their families.

Lesson learned

The content of information related to the eco-lifestyle that could be enjoyed while being put into practice was not fully maintained in the case of households.

There were few households who grasped the factors in carbon dioxide (CO2) emissions from the household, emission amounts, etc. and many households were not even aware of the existence of the environmental household account book itself.

Recent trends and emerging issues

“Recent Trends”

Addition of new content to the website, providing information from a one-click survey used on the website, along with an analysis of trends related to heightened awareness and knowledge related to people’s eco-lifestyle.

A “Green Household Appliances Eco-Point System” was implemented from May 15, 2009, and the application procedures for eco-point registration and product exchange began on July 1 of 2009. With these trends, new content has been added to the website in the form of opinions and impressions of people who have used the eco-point system, with regard to how much energy was saved in the green household appliances purchased, how helpful it was to exchange eco-points for something and how that helped their eco-lifestyle, eco-lifestyle initiatives in households using the eco-point system, etc.

“Various New Problems That Occurred”

In July 2009, due to the unexpected rapid growth of households

registering for eco-family, penetrating some 100,000 households, the space on the server hosting the website ran out, causing some system trouble such as some online content becoming unavailable, etc.

Major constraints and challenges
The location of the main activities of this project is on the Web, and so those who don't have IT equipment such as a computer, and those in an environment where Internet access is unavailable, cannot access this project.

It is necessary to have individuals actively make use of the focal content of this project, the "environmental household account book", but the habit of continually making records in it has not yet taken hold.

A strong incentive for individuals to continuously make records in the environmental household account book cannot be introduced.

(ii) Policies and/or infrastructure to support citizen's choices for responsible consumption of products and services, including consumer information tools

Concrete actions taken and specific progress made in implementation
An "Eco-Action Point Model Project" has been put in place since 2008 to stimulate choices regarding purchase of energy-saving products, energy-saving actions, etc., using points as a financial incentive when choosing products / services and actions that are connected to the prevention of global warming. It is planned to promote diffusion of this system in the future so that more businesses and individuals will participate.

Furthermore, in 2009, the "Project for Promotion of Green Household Appliances through Eco-Point Activities" was started, giving points that can be exchanged as a financial incentive for various products, such as televisions, air conditioners, and freezers with high energy-saving functionality. As of 8/31, applications worth about 1,500,000 points have been received, showing steady results.

Lesson learned
It is important to make a fair, easy to understand system, where the purpose and awareness of the policy are widely known common knowledge, and which involves both businesses and individuals.

Recent trends and emerging issues
The number of applications for the "Project for Promotion of Green

Household Appliances through Eco-Point Activities" has been steadily increasing and it can be said that the level of familiarity of individuals with the project has been heightened through obtaining points as a financial incentive for sustainable consumption and for household appliances labeled as energy-saving. In the future, the task will be to establish this familiarity even further.

Major constraints and challenges

The implication of the"Project for Promotion of Green Household Appliances Through Eco-Point Activities" is also that of an emergency economic package, with the source of the points being covered by government expenditure, but through promotion of an eco-action point model project where points are paid for by the private sector, an independent business model is established and it becomes necessary to establish an eco-point system.

(4) SCP IN NATIONAL PRIOPRITY AREA

(i) Promotion of Corporate Social Responsibility in the sector

Concrete actions taken and specific progress made in implementation

Looking at the progress of corporate initiatives for independent societal responsibility, efforts are being made to publish environmental report guidelines and environmental accounting guidelines, and to spread environmental reports and environmental accounting. In basic plans to promote the model of a recycling society, about 50% of listed companies and about 30% of non-listed companies are aiming to publish environmental reports by fiscal 2010, and to implement environmental accounting. In a survey in fiscal 2007, about 48.9% of listed companies and about 26.9% of non-listed companies published environmental reports, with 37.2% of listed companies and about 20% of non-listed companies implementing environmental accounting, but the steady increase in previous years has slightly reduced and in the future it is desirable to spread these practices to a much greater extent.

(ii) R&D incentive or support provided

Concrete actions taken and specific progress made in implementation

With the "Third Basic Environmental Plan" and the "Third Basic Program for Science and Technology"(both Cabinet decisions) established in 2006, the promotion and establishment of nationally important investments in environment research / technology development have come about with regard to each of 4 important areas (low carbon, recycling, harmony between people and nature, peace / safety) mentioned in "Promotional Strategies for Environment Research / Environment Technology Development" (Central Environment Council Report).

The general evaluation for these plans is that there has been a steady increase in implementation.

Specifically, both policy-based research /technology development and implementation of proposals from researchers have been realized through the allocation of competitive research investment chosen from research institutions, universities and business.

In addition, in order to disseminate environment technology developed especially by small and medium sized companies, an "Environmental Technology Verification (ETV) Project" has been implemented, to verify objectively the performance of the advanced environmental technologies by third parties.

Regarding specific progress in important set areas, there is the example in the area of low carbon of the launch of the "IBUKI" (GOSAT) greenhouse gas monitoring satellite, the data of which has strengthened core functions in global warming research and other national global warming research achievements are reflected in IPCC Report No. 4, etc.

Lesson learned

It will be even more necessary to clarify priority tasks meeting the environmental policy demand, to enrich cross-disciplinary research / technical development and policy research, and to work together with other government agencies.

Recent trends and emerging issues

In the last few years, attention has been focused on initiatives for the realization of a low-carbon society worldwide, which has largely affected policy decisions including science and technology policy. Also looking toward the construction of a sustainable society, the promotion of integrated research / technical development (for example, research / technical development that will give concrete shape to mitigation and adaptation strategies for climate change, etc.) that has been imperative.

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[i] Figures include inspection under the Customs law.

[ii] Calendar year based data. Not Fiscal.