7 Transboundary Movement of Recyclable Resources: Current Management System and Practices in Japan

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Transboundary Movement of Recyclable Resources: Current Management System and Practices in Japan

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An Example of Used TV Ship-backed to Japan.
Provided by Ministry of Environment, Japan.

Michikazu Kojima ed., *Promoting 3Rs in Developing Countries: Lessons from the Japanese Experience*, Chiba, IDE-JETRO, 2008.

Introduction

The problem of transboundary movement of hazardous waste had already been highlighted in the international community in the mid-1980s, when quantities of hazardous waste generated in developed countries were dumped in developing countries.

In Japan, this issue became apparent in the early 1990s when Japan exported waste lead acid batteries and metal scrap to Taiwan. It was disclosed in Taiwan that the recycling process had polluted the environment and had had a negative impact on human health. After Taiwan tightened regulations on the import of hazardous waste, the destination of such waste simply switched to other countries. Thus, Indonesia became a major destination of Japanese waste lead acid batteries in 1991.

The Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal was adopted in March 1989 to protect human health and the environment from the adverse effects of the generation, management, transboundary movement and disposal of hazardous and other waste. The councils of several government agencies have discussed the Japanese policy on transboundary movement of hazardous waste. In December 1990, the Central Environmental Council recommended that Japan ratify the Basel Convention as soon as possible and establish a system to control such transboundary movement. Based on this recommendation, Japan ratified the Basel Convention in 1993.

While the transboundary movement of hazardous waste has been controlled under this international agreement, the volume of internationally-traded nonhazardous recyclable waste has been increasing since the late 1990s. Large quantities of recyclable waste, such as waste plastic and metal scrap, have been exported from Japan to Asia. Due to the rapid increase in demand for raw materials in Asian countries, many other developed countries are also exporting recyclable waste to this region. Along with the increasing volume of exported recyclable waste, the export of recyclable waste and secondhand goods which may contain hazardous substances and materials is fast becoming a public concern.

The purpose of this paper is to review the legal framework and implementation of regulations on the transboundary movement of waste in Japan. In Section 1, the Japanese regulations on the transboundary movement of waste is explained. In Section 2, the current enforcement of the regulations, and several activities and measures for preventing illegal transportation are explained. Section 3 describes some specific examples for determining the hazard level of waste and secondhand goods. Section 4 explained Japan's international activities aimed at establishing a Sound Material-Cycle Society in Asia. Finally, the main findings from a review of the current regulation system of transboundary movement of waste in Japan are summarized.

7.1 Japanese Regulatory Systems on Transboundary Movement of Waste

7.1.1 Japanese Regulations based on the Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal (hereafter, the Basel Convention) came into force in 1992. There are currently 170 states party to the Convention, as of May 2007. The principle of the Basel Convention is to restrict the movement of hazardous waste within and outside of the territory where the waste is generated.

The exporting state is required to notify and receive consent from the importing state and all transit states prior to the transportation of specified hazardous materials. The export or import of hazardous waste to or from nonmember states is prohibited. In the event of an illegal shipment, the exporting state or a third party is obligated to reimport the illegally transported hazardous waste. Basel waste must be accompanied by movement documents at all times.

The Basel Convention restricts the transboundary movement of hazardous waste between party countries. Based on Article 11 of the Basel Convention, if any regional or bilateral agreements are in place aside from the Convention, the regulations stipulated in these agreements apply. For example, although the United States has not ratified Basel Convention, the US may trade hazardous waste between OECD countries for recycling purposes based on the regulations of the Organization for Economic Cooperation and Development (OECD) Council Decision. Table 1 shows the regulations applied depending on the partner country in the transaction. Most Asian countries have already ratified the Basel Convention, but not all countries have done so. (Notably, North Korea and Myanmar have not ratified the Convention.) This explains how the procedure of the Basel Convention is applied.)

To implement the Convention domestically, the Law for the Control of the Export, Import and Others of Basel Wastes and Other Wastes (Basel Law) was enacted in Japan in May 1992, coming into effect in December 1993. The Japanese government revised the Waste Management and Public Cleansing Law (Waste Management Law, WML) at the same time. The current regulations on waste import and export are controlled by these two laws.

The focal point of the Convention is the Ministry of Foreign Affairs, while the competent authority is the Ministry of the Environment under the framework of the Basel Convention. Regarding the regulation of the transboundary movement of waste, the Ministry of the Economy, Trade and Industry (METI) and the Ministry of the Environment (MOE) are the two presiding ministries.

7.1.2 Definition of Waste

(1) *Definition of hazardous waste under the Basel Law*

The definition of waste under the Basel Law is identical to that under the Basel Convention which basically quotes Annex I (waste streams) and Annex II (household waste) to define hazardous characteristics, and Annex IV (disposal operation) to define waste. The government also uses Annex VIII and Annex IV for clarification of specified hazardous waste, as does the convention.

Definition of Waste Controlled under the Basel Law

1. Waste which is imported or exported for disposal or recycling purposes, and falls under one of the following categories:
   - Waste which falls into the category of Annex III (hazardous characteristics) and Annex I (waste streams), which do not correspond to Attached Table I or correspond to Attached Table II or III in the Ordinance of 1998.
   - Waste which falls under the category of Annex II (household waste).
   - Waste which Japan had already regulated prior to the Law, and of which it has notified other countries through the secretariat of the Convention (Article 3).
   - Waste notified by another country through the secretariat based on Article 3 of the Convention and which is also regulated by the Environmental Ministerial Ordinance.
2. Waste restricted based on bilateral or regional agreements between two or more countries (Article 11).

In Japan, waste which is subject to control under the Basel Law is specified in the Announcement of the Basel Law. In principle, Attached Table I includes noncontrolled waste, while Attached Table II includes controlled waste. Waste which is not listed in either of these two lists is judged based on Attached Table III (Figure 1). Hereafter, waste which is judged as a specified hazardous waste by the Basel Law is referred to as "Basel waste."

(2) Definition of non-valuable waste under the Waste Management Law

Under the Waste Management Law, "waste" refers to "something that is rendered useless because it cannot be used by itself or sold to others." MOE adopts a policy of synthetic judgment in its criteria for determining what constitutes waste: items should be comprehensively judged according to their physical characteristics, generation conditions, trading value, the intentions of the parties involved, and so on. This theory was also adopted by the Supreme Court to determine whether or not "okara," a soy pulp left over in the production of soy-milk and tofu, constituted waste, in 1999[82].

The categories of industrial waste include refuse, bulky refuse, ash, sludge, excreta, waste oil, waste acid and alkali, carcasses and other filthy and useless matter, which is solid or liquid in state (excluding radioactive waste and waste polluted by radioactivity) (WML Article2). Hereafter, a waste, which is determined as "waste" by the Waste Management Law, is referred to as "non-valuable waste" or "waste in Japanese definition."

Because the Waste Management Law restricts non-valuable waste,, the definitions of Basel waste is partially overlap with waste in Japanese definition(Figure 2). The two gray areas indicate waste for which transboundary movement is restricted by Japanese regulations.

[82] There was such a glut of this insoluble byproduct of tofu processing that in March 1999 the Supreme Court labeled the bad-smelling mountains of okara "industrial waste."

7.1.3 Export and Import Procedures for Basel Waste

The Basel Law of Japan states that MOE shall evaluate whether or not sufficient measures have been implemented to prevent environmental pollution. It implies that the consent of the importing state is in itself insufficient to receive export approval.

The guidebook for the Basel Law written by officials of the Environmental Agency (the former name of MOE) published in 1993 clearly states that confirmation from the importing state is a necessary condition, but that the Ministry of International Trade and Industry (the former name of METI) shall not issue an export permit without confirmation from MOE. Actually, MOE requests an exporter intending to export Basel waste to abide by the regulations of the importing state and the instructions of the destination factory. In addition to such information from the importing state, shall MOE decide whether sufficient measures have been taken to prevent environmental pollution based on such information.

Figure 3 is a flowchart of the Procedure for Exporting Basel waste from Japan. Persons wishing to export or import Basel waste must receive export approval under the Law for Control of Export, Import, & Foreign Exchange (Foreign Exchange Law). In particular, the waste regarded as non-valuable waste or non-valuable waste, requires confirmation from MOE, as in principle waste generated within Japan is to be appropriately managed within Japan (Waste Management Law Article 2-2).

After MOE receives a copy of the application from METI, it will determine whether sufficient measures to prevent environmental pollution have been implemented by the importing country, and will subsequently notify METI of its decision. METI may not issue export approval without confirmation from MOE that sufficient measures have been implemented.

Regarding the import of Basel waste from other countries, MOE may state their judgment on specific imports to the Minister of Economy, Trade and Industry (Figure 4).

7.1.4 Restrictions on the Export of Non-valuable Waste

Based on the principle of proper management of non-valuable waste within the country[83] of origin, and prevention of easy solutions for waste treatment abroad, an export of non-valuable waste must obtain confirmation from MOE (Article 10 and 15 (4-5)).

MOE confirms the export only when the generator itself is the exporter, and that adequate assurance is given that the waste to be exported will be managed in an environmentally sound manner, and that the level of treatment in the destination country is not inferior to Japanese standards.

According to the screening criteria for exporting non-valuable waste, documents to ascertain export compatibility are required, including evidence of the presence of a treatment facility which meets the environmental regulations of the exporting country, a copy of the license of the treatment facility and a copy of the trade contract. It takes an average of about 60 days to complete the export confirmation.

Because of strict export restrictions relating to the proper management of non-valuable waste within the country, to date there has only been one case of such an export from Japan being approved. In fiscal 2002, the first and only waste item to receive export approval was

[83] Waste generated within Japan shall be appropriately managed of within Japan wherever possible (Article 2 (2-1)).

coal ash exported from Hokuriku Electric Power Company to a cement company in South Korea. During the export screening process, MOE officials visited South Korea to review the treatment facility.

7.1.5 Trends in the Export and Import of Basel Waste to and from Japan

Tables 2 and 3 show the waste trade volumes which have been formally imported or exported under the mechanism of Prior Informed Consent (PIC).

In September 1995, the BAN amendment, which prohibits the transboundary movement of hazardous waste from OECD member states to non-OECD states was proposed. Japan has not yet adopted this amendment, however has not exported any Basel waste to non-OECD countries since 1998. The last case of export of hazardous waste to developing countries was the export of waste lead to Indonesia in 1997. At present, almost all hazardous wastes exported to other countries are lead scrap and lead ash to South Korea. Thus the Basel Convention has resulted in a decline in exports of hazardous waste from Japan to developing countries.

In 1996 and 1997, the import of hazardous waste mainly consisted of lead residues from Australia. Subsequently, the import from OECD countries has declined. In contrast, the import from non-OECD counties has increased. Almost all the import of Basel waste is for recycling valuable metals. E-waste has been imported for recycling precious metals. Most of them appear to have been generated in Japanese factories located in Asian countries. Those companies export hazardous waste to Japan to recycle because there are no reliable recyclers in the countries where they are located.

7.2 Prevention of Illegal Export of Recyclable Waste

7.2.1 The Nisso Incident: Export of Medical Waste to the Philippines

In 1999, the export of about 2,160 tons of industrial waste from Japan to the Philippines became a diplomatic issue between the two countries due to the containment of medical waste in the shipment. This incident is also considered to be the first case in which the Japanese government has had to pay for the return shipment.

Nisso Co., Ltd., an industrial-waste disposal company located in Oyama, Tochigi Prefecture, violated the Foreign Trade Control Law by falsely claiming the waste consisted of waste paper for recycling. The exporter did not go through the export procedure based on the Basel Law : receiving an export approval from the Japanese government, and receiving prior consent from the Philippine government (See Figure 3, items 2 to 5 on the flowchart).

The Japanese government ordered the waste exporter to take necessary action to reimport the waste for proper treatment. However, the exporter had failed to comply. Finally, the Japanese government reimported the cargos from Philippines and disposed them in Japan. The president of the exporting company was sentenced to four years imprisonment and was fined 5 million yen for exporting wastes without obtaining a license or confirmation.

This incident highlighted the inherent weakness in the compulsory procedures under the Basel Convention. When approval for cargos is falsely applied for by an importer or exporter, detecting such cargos at the border is formidably difficult.

7.2.2 Awareness Raising Seminars

After the Nisso incident, the Japanese government recognized the necessity of enhancing enforcement of the Basel Law and has formulated 20 recurrence prevention measures. Two of the 20 measures are explained below, and both measures are voluntary and free of charge.

Firstly, METI and MOE have been holding seminars on the Basel Convention, domestic regulations and the definition of Basel waste, since February 2000. The Japan Coast Guard has also joined in and supported these seminars since 2007. The purpose of the seminars is to raise awareness among various stakeholders, such as importers, exporters, waste generators and customs agents, and to instill a correct understanding of the Basel Convention and related domestic and foreign regulations to prevent illegal trade stemming from lack of knowledge. Every year, about 10 such seminars are held all over Japan. Up to now, more than 10,000 people have attended these seminars.

7.2.3 Prior Consultation Service

A prior consultation service, an administrative service which is not based on the law, has been provided by METI and MOE long before the Nisso incident to advise importers or exporters whether or not their shipment is controlled as Basel waste. However, the service was not systematically operated.

After the Nisso incident, the government improved the system to deal with more inquiries from importers or exporters regarding Basel waste. For example, it provided an inquiry sheet template and increased PR activities.

Figure 5 shows the flowchart of the prior consultation service. METI is mainly responsible for inquiries regarding Basel waste, and MOE and its seven regional offices all over Japan are responsible for non-valuable waste (Table 4). Because METI has outsourced consultation of these two items to the Japan Environmental Sanitation Center (JECS)[84] since September 2006, inquiries on metal scrap and waste plastic are conducted by JECS. In January 2008, used batteries, used pachinko machines, spent catalyst and secondhand goods (electrical and electronic equipment, automobile) were newly added to the JECS service.

Figure 6 shows the inquiry sheet which an importer or exporter of recyclable wastes has to fill in. In addition to this, the importer or exporter is required to provide a copy of their invoice, contracts with domestic and foreign traders, a hazard analysis report (depending on the situation), a picture of the cargo, and so on. Based on this information, an official from METI (JESC), regional offices of MOE will give an oral reply whether or not the item is considered regulated waste.

From the viewpoint of Waste Management Law, in order to judge the economic value of waste, the importer or exporter must draw such a money flow chart as shown in Figure 7. When the sum of necessary expenses exceeds the total income from the trade, expressed by Eq. (1), the cargo is suspected to be non-valuable waste.

$$f - (a+b+c+d) < 0 \qquad (1)$$

[84] Website of JECS: http://www.jesc.or.jp/en/index.html (December, 2007)

If the exporter incurs a loss, it is economically unviable to conduct business. In practice, when purchase price a > 0 yen, the cargo can be considered not to be waste in Japanese definition.

The result of the judgment of METI (JESC) or MOE will be reported to the Customs Office at an individual port to interdict illegal improper trading at the border more efficiently[85]. However, not all shipments have been screened before the actual trading. Therefore, the prior consultation doesn't lighten the obligations of the PIC procedures, and the result of the consultation does not verify that the actual shipment has cleared the related regulations. It is important to insist that the final decision will be given by customs based on an inspection for import or export clearance at the border.

The number of consultation cases has increased sharply in recent years (Figure 8). In fiscal 2006, the number of consultation cases by METI and JECS reached more than 17,000 while the number of consultation cases by MOE hit 1,389.

Most inquiries dealt with the export of waste plastic, metal scrap and secondhand goods, such as TV sets and other home electronic appliances, to China, Hong Kong or Southeast Asian countries. In fiscal 2006, 80% of the total number of consultations by METI and JECS were for waste plastic, metal scrap and secondhand goods. The individual percentages for these three items were 50%, 34% and 7%, respectively.

According trade statistics of Japan, in 2006, about 90% of waste plastic was exported to Hong Kong and China: about 74% to Hong Kong and 18% to mainland China (Table 5).

From September 2006 to March 2007, about 100,000 to 120,000 tons of waste plastic was exported from Japan each month. When we compare the export volume of the trade statistics with the volume which had received prior consultation, it can be seen that about 40% of total exports received by this service (Figure 9(1)). The ratio of exports to China which had received prior consultation was higher than that of exports to Hong Kong (Figure 9(2)).

As shown in Figure 9(3) and (4), about 500,000 to 800,000 tons of metal scrap (steel scrap, copper scrap, aluminum scrap, etc.) were exported abroad each month. The consultation service covered almost half of the total export. A higher percentage of shipments to China, namely 70 to 85%, received prior consultation.

7.2.4 Problems of Inappropriate Shipments

All the information resulting from the consultation is reported to customs, which can use this information for their cargo inspection. When customs officers discover a suspicious undeclared shipment, they will ask the exporter concerned to undergo a consultation service with METI or MOE.

Customs inspections are mainly conducted for cargos after declaration in order to stop suspicious cargos at the border. When a customs officer encounters a suspicious cargo, in some cases the officer will report to the two ministries. After the report arrives from customs, officials at METI (in the case of Basel waste) or its nearest regional office of MOE (in the case of Basel waste or non-valuable waste) will go to the port and inspect the cargo together with the customs officers.

[85] The Custom offices make the final decision on export, according to Article 5 of the Export Trade Control Ordinance.

Table 6 shows the number of suspicious shipments which have been inspected by MOE and METI. There were ten suspected cases in 2005. In seven cases the cargo was shipped back; in one case the export was successfully accomplished (the cargo was not shipped back despite violating relevant laws); while in two cases the export was unsuccessfully attempted (prevented from leaving the Japan). Two out of the ten cases were shipments which had received prior consultations.

Most such cases involved attempted exports in contravention of domestic regulations. In contrast, most cases of shipping back involved cargos suspected as illegal shipments at the border of the importing state. For example, used TV sets/ monitors or lead-acid batteries which had been damaged or badly packaged were stopped at the Japanese border due to violation of the Basel Law. Metal scrap waste containing waste electric appliances or printed circuit boards, and contaminated waste plastic destined for China or Hong Kong could be also suspended before export from Japan for violation of domestic regulations (Basel Law and Waste Management Law).

Comparing the number of cases in 2005, 2006 and 2007, the total number of cases increased while the number of cases of shipping back remained constant. This result may imply that improvements in prior consultations and the information network linking METI, MOE and customs offices have been effective in preventing suspected shipments from leaving Japan. Since the total number of shipments from Japan has been increasing each year and the number of malicious cases have also been increasing, more human resources are required to improve the systems for preventing illegal shipments from Japan.

7.2.5 Punishment and Penalties for Illegal Transports

Punishment and penalties have been strengthened for export or import without PIC or the approval of the Japanese government, as well as the making of false descriptions in transport documents, and other violations.

Basel Law stipulates corrective orders requiring exporters of Basel waste or other responsible parties to take necessary measures, such as reimportation or alternate disposal; and requiring importers of Basel waste or other responsible parties to take necessary measures to dispose of the specified hazardous waste, etc. (Article 15 of the Basel Law). Failure to follow a corrective order and take necessary measures may result in the imposition of a maximum penalty of more than three years in prison or a maximum fine of three million yen (Article 21 of the Basel Law).

Importers or exporters that transport Basel waste without PIC or the approval of the Japanese government can also be prosecuted in accordance with the Foreign Exchange Law. A person who has carried out any exportation or importation of Basel waste without obtaining the appropriate license shall be liable to penal servitude not exceeding three years, or a fine not exceeding one million yen, or both. However, in cases where a total of three times the value of the subject matter of contravention exceeds one million yen, the fine shall be less than three times of the value of the subject matter of contravention (Article 70 (31)(33) of Foreign Exchange Law).

MOE may request a compulsory report from a person intending to import or export non-valuable waste or suspected waste (Article 18(2) of Waste Management Law). MOE may dispatch officials to enter the office, place of business or the like of a person who intends to

import or export, or has already imported or exported, foreign waste, and inspect books and other documents. The officials may collect samples of the waste free of charge, only to the extent required for test purposes (Article 19(2) of WML).

Those who exports non-valuable waste without approval will receive a maximum penalty of more than five years in prison and/or a maximum fine of 10 million yen (Article 25 of WML). Also, when the representative, agent or employee of a company breaks this law, the company will receive a fine of up to 100 million yen (Article 32 of WML).

7.3 Case Studies

When a person wishes to import or export waste for recycling purposes, it is necessary to judge whether or not the waste in question is considered Basel waste. In this section, the judgment of the toxicity of waste/materials and the criteria for secondhand goods in Japan are explained.

7.3.1 Criteria for Distinguishing Controlled Waste from Normal Waste

Based on the material submitted by the importer or exporter, hazardousness, trading conditions, and validity for export will be checked. The points to be proved are as follows:

1. **The item does not fall into the category of Basel waste**
   When it is difficult to judge the goods by observation, it is necessary to verify this by a report of content or leaching tests of hazardous substances.
2. **The item does not fall into the category of non-valuable waste under the Waste Management Law**
   It should be proved by the contract or slip of trading that the export cargo has trade value.
3. **The purpose of trade is recycling, not disposing**
   If necessary the exporter should provide information concerning the treatment process or the evidence that the importer is a recycler, not a final disposer.

The current classification of waste in Japan is shown in Table 7.

Green waste, such as waste plastic or waste paper, when they do not contain any contaminants, can be traded as a normal commodity. Grey waste include items such as waste metal cables insulated with plastic, printed circuit boards, waste pachinko game boards, transformers, motors, switchboards and shredded metals. These wastes differ according to their content of hazardous substances. Therefore, it is essential to confirm the level of hazardousness by conducting an analysis report of content and leaching tests of certain heavy metals. Normally, the lead content or leaching test is conducted to check whether the wastes exceed the Pb content standard, 0.1% (w/w), or the environmental standard for soil, 0.01mg/L. When the result is lower than the limit, it is allowed to be exported without PIC procedures. For some mixed waste, such as shredded metals, the test results for several heavy metals (such as cadmium, arsenic, mercury, hexavalent chromium, selenium, lead) may be required. Red waste includes Basel waste and non-valuable waste that are difficult to dispose properly. The export of waste containing PCB (Polychlorinated Biphenyl) and sulphate pitch from Japan is prohibited.

In Japan, the leaching testing methods used to judge the hazardousness of recyclable resources are described in Notification No.13 of Environmental Agency of Japan[86] in 1971 and Environmental Agency Notification (EAN) No. 46 in 1991. EAN No. 13 specifies the testing method for detecting hazardous substances before landfilling waste; while EAA No. 46 specifies the testing method for detecting pollutants in soil. For both methods, the leachant is pure water of pH 5.8-6.3.

According to environmental standards, the level of lead, cadmium, arsenic, and hexavalent chromium content should be lower than 0.1 % w/w. Also, the environmental standard for the leaching level of lead, cadmium, and arsenic is less than 0.01mg/l. For hexavalent chromium, the level should be less than 0.05mg/l. Table 8 shows the content and leaching test results for samples of several products.

Because Japanese testing methods differ from those used in other countries, the environmental standards of Japan cannot be easily compared to other standards, such as Toxicity Characteristic Leaching Procedure (TCLP) in the United States (the pH of the TCLP method is pH 4).

7.3.2 Definitions of Secondhand and Waste Electronic Equipment

The import and export of secondhand goods is not targeted in the Basel Convention. Secondhand goods, like new goods, do not constitute controlled objects under the Basel Convention.

When the purpose of export of used TVs or monitors is reuse, not recycling, PIC is not required. However, if such secondhand goods are exported for recycling, it is necessary to follow the procedure of the Basel Convention as they are usually considered as Basel waste. In addition, if the secondhand goods have no economic value, the export is also regulated under the Waste Management Law.

As e-waste is becoming a hot topic all over the world, many countries are tightening their import regulations imposed on used electronic goods, typically used TV monitors and used PCs. In mid-2003, the Hong Kong Environmental Protection Department, the competent authority of Hong Kong, complained that an export cargo of secondhand TV monitors contained damaged items or items intended to be imported for recycling as parts or materials. Therefore, the rest of the cargo was treated as waste. The Hong Kong government requested the government of the exporting state to confirm the final destination and use of the exported cargo, and required each item to be properly packaged.

With an increasing number of shipments being sent back to Japan or declared suspicious, the Japanese government has issued several notifications regarding certain items:

- Prevention of Illegal Export of Waste PET bottles (2005.1)
- Waste Lead Acid Batteries Exported to Hong Kong, Vietnam (2006.4)
- Secondhand Automobile Parts Exported to or through EU Countries (2006.6)
- CRT TVs and CRT Monitors Exported to Hong Kong (2007.6)

As an example, the criteria or check points for secondhand lead acid batteries are presented as below.

[86] The Japanese Environmental Agency was promoted to the Ministry of the Environment in January 2001.

Notification of Prior Consultation Service for Export of Used Lead Acid Batteries (MOE, April 28, 2006)

A person who intends to export used lead acid batteries as secondhand goods must present materials confirming the following points:

1. Collection and selection of items that can be used as secondhand goods has been undertaken. (An explanation of the collection and selection method is required.)
2. The goods are not damaged in appearance. (Photograph required.)
3. An energizing inspection of the whole quantity has been conducted prior to export. Also, items which do not energize should be removed. (An explanation of inspection method and inspection result [name of manufacturer, model, manufacturing year, and measurement results, etc.] and photographs are required.)
4. The goods are appropriately kept indoors. (An explanation and photograph of storage method is required.)
5. The goods have been appropriately packaged and loaded. (An explanation and photograph of packaging and loading method is required.)
6. The name(s), address(es) and photograph(s) of the retailing shop(s) in the exporting country

(* Information should be solicited from the government of the relevant country in addition to confirmation from the person applying for export.)

Source: MOE website, http://www.env.go.jp/recycle/yugai/law/battery_h180428.html (in Japanese).

Figures 11 and 12 show the current judgment procedure for the export of pachinko game boards and lead acid batteries. A certificate for reuse, including various written information, is required. However, from the viewpoint of enforcing the regulation at the border, easier and more obvious criteria are demanded to distinguish secondhand goods and waste.

In order to ascertain the number of secondhand electrical and electronic appliances exported, the Harmonized System (HS) code, an international method of classifying products for trading purposes, was developed to distinguish secondhand and waste electronic appliances from the new items, and has been applied since January 1, 2008 (Table 9 and 10).

7.4 Japan's activities for Establishing a Sound Material-Cycle Society in the Asian Region

7.4.1 Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes

The Basel Convention allows each country to establish its own criteria for hazardousness as well as the definitions of hazardous waste and other waste. In addition, each country has its

own rules for distinguishing waste and reused goods. This often causes conflict between the parties involved.

When we analyze illegal cases, we find two reasons why illegal trade occurs: (1) hazardous waste is being exported without following the Basel procedure, which constitutes a red area. To prevent this, enforcement is important; (2) the definition of hazardous waste is not universal. One country may consider certain items as hazardous but other countries may not.

In this case, if the exporting country does not consider the shipment as waste but the importing country does, it constitutes an illegal shipment. Since most suspicious illegal cases have been classified as yellow in recent years, and reducing yellow cases can be achieved by reducing discrepancies in interpretation through information exchange, we started to organize an information channel among South East Asian countries, which later evolved into the Asian Network.

To strengthen the enforcement of regulations of the transboundary movement of hazardous waste in the North East and South East Asian regions, the Japanese government has proposed to other countries the establishment of a network of competent authorities and focal points. To promote information exchange, a website has been developed[6]. The meetings of authorities have been held annually to discuss changes in regulations of each country, the definition of hazardous waste, and so forth.

According to some participants in different countries, the network is an important opportunity to share information in the region.

Besides this regional network, the Japan-China Policy Dialogue on Waste Management and Recycling started in March 2007 and continues to be held once a year.

7.4.2 Increasing Traceability of Imported or Exported Waste

Companies and local governments alike are interested in the proper management of the transboundary movement of recyclable resources. They are jointly seeking the establishment of a network of "international traceability" of recyclable resources.

This system closely monitors the delivery of waste to the proper recyclers at the export destination by attaching IC tags to freight. The exporter receives factory inspections and sample checks of the freight by third party certification organizations. A global positioning system identifies the location of the freight, so that they can trace the movement from the waste generator to the final export destination. Since law-breaking companies may expose law-abiding companies, this system acts as a self-defense plan for good-standing companies.

7.4.3 3R Initiatives and Economic Partnership Agreement

Prime Minister Junichiro Koizumi proposed the 3R initiative at the G8 Sea Island Summit in June 2004. The statement adopted in the G8 Sea Island Summit was as follows.

Thus, reducing barriers to the international flow of goods and materials related to the 3Rs was put on the agenda. It was further mentioned that the reduction of barriers should be consistent with existing environmental and trade obligations and frameworks, which naturally include the Basel Convention.

The 3R Initiative was officially launched in the Ministerial Conference on the 3Rs held in Tokyo, April 2005. At this conference, developing countries expressed their fears that the re-

duction of barriers encouraged the use of developing countries as dumping grounds. After the Conference, meetings of senior officials and experts were held. The meetings have contributed to the mutual understanding of efforts in the field of the 3Rs. So far, no concrete results have been produced in this process.

The Reduce, Reuse and Recycle Initiative

We will launch the Reduce, Reuse, and Recycle ("3R") Initiative at a Ministerial Conference hosted by the Government of Japan in spring 2005. In cooperation with relevant international organizations such as the OECD, we will seek through this initiative to:

- Reduce waste, Reuse and Recycle resources and products to the extent economically feasible;
- Reduce barriers to the international flow of goods and materials for recycling and remanufacturing recycled and remanufactured products, and promote cleaner, more efficient technologies consistent with existing environmental and trade obligations and frameworks;
- Encourage cooperation among stakeholders (central governments, local governments, the private sector, NGOs and communities), including voluntary and market-based activities;
- Promote science and technology suitable for the 3Rs; and
- Cooperate with developing countries in such areas as capacity building, raising public awareness, human resource development and the implementation of recycling projects.

Source: MOE website. http://www.env.go.jp/recycle/3r/outline_2.html (in Japanese)

7.4.4 Economic Partnership Agreement

The Japanese government has entered into Economic Partnership Agreements (EPA) with a number of countries including Singapore, Thailand and the Philippines. Some of these agreements have already come into force while others are still waiting for Diet approval.

These EPAs have earned criticism from various nongovernmental organizations (NGOs), insisting that they are intended to allow the free trade of hazardous waste from Japan to other countries because the trade codes for scrap and waste are listed in EPAs.

It is true that both countries in an EPA agree to lower tariffs for waste and scrap, including hazardous waste, to zero. Advocates interpret a zero-tariff to mean the free trade of hazardous waste. However, this interpretation is flawed. There exist nontariff barriers and environmental trade measures to restrict the international trade of hazardous waste, notably the Basel Convention. In the EPA between Japan and the Philippines, Article 11 states that, "The Parties reaffirm their rights and obligations under the WTO [World Trade Organization] Agreement or any other agreements to which both Parties are parties." Since Japan and the partners of EPAs are both parties of the Basel Convention, both governments are obliged to control the transboundary movement of hazardous waste. Thus, EPAs do not undermine the legal basis for restricting informal trade of hazardous waste.

Based on statistics of export permits of hazardous waste issued by the Japanese government, Japan has not allowed any export of hazardous waste to developing countries since 1997. On the other hand, the Japanese government has allowed the import of hazardous waste such as copper sludge, printed circuit boards and fluorescent lumps from the other Asian countries. Some Japanese manufactures located in Asian countries cannot find reliable recyclers in the country, thus sending their hazardous waste to Japan. Zero-tariffs on hazardous waste may support such companies, which try to ensure the proper treatment of hazardous waste.

Conclusion

In order to enhance the development of a sound material cycle society internationally, the appropriate management of transboundary movement of waste in each country is necessary. If a country is reluctant to enforce the proper management of transboundary movement, hazardous waste might be internationally traded and dumped in environmentally unsound manners. Furthermore, the recycling of imported waste might cause pollution in the importing country. The keys to successful management of transboundary movement are cooperation among authorities in the country, raising stakeholder awareness, and cooperation with foreign authorities.

The export of illegal waste to the Philippines in 1999 led the Japanese government to make efforts to enhance the regulation of transboundary movement of waste. Awareness raising seminars have been successfully held, the Prior Consultation Service has been enhanced, and penalties for unconfirmed export have been strengthened. Currently, about 70 to 80% of consultation cases concern waste plastic and metal scrap. Pre-application Consultation Services are conducted for about 40 to 50% of the export of waste plastic and metal scrap.

Comparing the current situation to 2001, cooperation among government agencies has increased significantly. Thanks to a series of enhancement measures and information exchange between customs and various ministries, concrete effects have been achieved in the prevention of suspicious exports.

Cooperation with foreign authorities is also important in strengthening enforcement. Different countries have different interpretations of the definition of hazardous waste. Defining what should be controlled as targets of the Basel Convention has become a major issue. The sharing information of definitions and procedures in each country as well as further discussions and strengthening of corporation and collaboration are required.

This awareness has led to activities such as the Asian Network for the Prevention of Illegal Transboundary Movement of Hazardous Waste and 3R initiatives, which are intended as a framework for realizing an internationally sound material-cycle society. Besides this regional network, the Japan-China Policy Dialogue on Waste Management and Recycling started in March 2007 and continues to be held once a year. Although these activities are still in the initial stages, they create the opportunity for countries to understand each other's policies. Accordingly, such efforts should be strengthened further.

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Table 1 Applied Regulations on the International Trade of Hazardous Waste

	Selected Countries/ Areas	Applied Regulation
OECD	Basel Convention party states (South Korea, UK, Canada etc.) Nonparty state (USA)	OECD council decision
Non-OECD	Basel Convention party states (China, Philippines etc.)	Basel Convention
	Nonparty states (North Korea, Myanmar etc.)	N/A

Table 2 Export of Hazardous Waste from Japan under Prior Notice and Consent

(Unit: tons)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
OECD	*3,730*	*1,787*	*1,544*	*2,926*	*2,090*	*1,515*	*824*	*6,510*	*14,057*	*6,766*	*17,357*
S. Korea	2,250	1,215	600	2,170	978	294	180	6,021	13,232	5,861	16,565
Non-OECD		*4,000*									
Indonesia		4,000									
Total	*3,730*	*5,787*	*1,544*	*2,926*	*2,090*	*1,515*	*824*	*6,510*	*14,057*	*6,766*	*17,357*

Table 3 Import of Hazardous Waste to Japan under Prior Notice and Consent

(Unit: tons)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
OECD	*6,838*	*6,723*	*551*	*1,033*	*623*	*800*	*110*	*8*		*23*	
S. Korea	8		0.08	141	7		4	8			
Non-OECD	*1,884*	*1,250*	*235*	*1,198*	*3,759*	*3,526*	*2,495*	*4,804*	*3.971*	*5,382*	*4,314*
China			1		45	6		196	300	1,192	1,404
Philippines	173	301	227	906	1,126	618	983	1,104	965	1,248	764
Thailand					60		92	379	450	446	962
Malaysia	1,711	949		597	556	1,076	940	978		1,684	790
Singapore			7		1,947	1,810	380	2,089	1,023	478	307
Indonesia					25			58		91	85
Sri Lanka										0.7	
Micronesia										233	
Hong Kong		12				16				242	
Total	*8,722*	*7,973*	*786*	*1,939*	*4,382*	*4,326*	*2,505*	*4,812*	*3,971*	*5,405*	*4,314*

Note: Hong Kong was classified as OECD until July 1997, when the territory was returned to China.

Table 4 Responsible Organization by Targeted Items

	Targeted items	Responsible Organization
	・All items except waste plastic and metal scrap	Ministry of Economy, Trade and Industry --Environmental Protection Guidance Office, Industrial Science and Technology Policy and Environment Bureau
Basel waste	・Metal scrap ・Waste plastic ・Used batteries[a] ・Used pachinko machines[a] ・Spent catalyst[a] ・Secondhand goods[a] (electronic equipment, automobile parts etc.)	Japan Environmental Sanitation Center
Non-valuable waste	・All items	Ministry of the Environment --Office of Waste Disposal Management, Waste Management and Recycling Department, and MOE Regional Offices

[a] Used batteries, Used pachinko machines, Spent catalyst, Secondhand goods (electronic equipment, automobile parts etc.) were newly added in January 2008.

Table 5 Export of Waste Plastic and Metal Scrap from Japan in 2006

(Unit: 1,000 tons)

	Total Export	To China	To Hong Kong	To Other Countries
Waste plastic	1,296	231 (17.8%)	961 (74.2%)	104 (8.0%)
Metal scrap	8,169	3,216 (39.4%)	57 (0.7%)	4,896 (59.9%)

Table 6 Number of Cases Recorded by or Reported to MOE

	Export			Import	
	Shipped back	Accomplished	Attempted (prevented)	Accomplished or Shipped back	Total
2005	7	1	2	-	10
2006	6	3	8	-	17
2007 (Jan.-Mar.)	6	3	8	1	18

Source: MOE.

Table 7 Current Classification of Waste in Japan

<Green Waste> Not Controlled	<Grey Waste>	<Red Waste> Automatically Banned
Listed in Annex IX or Attached Table I of the Basel Law	**Judged by the standard of Attached Table III.**	**Listed in Annex I or III or Attached Table II or III**
- Metal scrap (B1010) - Waste plastic except PVC (B3010) - Waste paper (B3020) - Textile waste (B3030) - Waste rubber (B3040) - Cleaned CRT glass cullet - Secondhand goods	- Metal scrap (B1110 or A1180) Includes motors, electronic switchboards, cables/wires, printed circuit boards, transformers - PVC cables & wires (B3010 or lead standard) - Pachinko game boards (B1110 or A1180) - Mobile phone (B1110 or A1180) - Waste tire	- Lead acid battery (A1160) - Shredder dust (A3120) - Medical waste (A4020) - Pharmaceutical product waste (A4010) - Waste mineral oil (A3020) **Considered as Municipal Solid Waste** - Waste containing Polychlorinated Biphenyl (PCB) - Sulphate pitch - Dirty plastic

Table 8 Content and Leaching Test Results of Samples of Several Products

Items	Tested Substances	Content Test	Leaching Test
Wire and cables of laptop PCs	Cadmium	*N/D*	*N/D*
	Lead	*Detected*	*Detected*
Printed circuit boards of laptop PCs	Lead	*Detected*	*Detected*
Liquid panels of laptop PCs	Arsenic	*N/D*	*Detected*
Metal chassis of laptop PCs	Hexavalent chromium	*N/D*	*N/D*
Mobile phones (without batteries)	Lead	*Detected*	*Detected*

Source: METI.

Note: Detected indicates more than the minimum limit even if lower than the standard. N/D (Not Detected) indicates less than minimum limit.

Table 9 HS Codes for Secondhand Electric Appliances in Japan

Item (HS code)		Description
Before	After Jan. 1, 2008	
CRT color TV (8528.12 110)	New (8528. 72 910)	Packaged products for retail (unused)
	Others (8528. 72 990)	Secondhands
Air conditioner (8415.10 000)[a]	New (8415. 10 100)	Packaged products for retail (unused)
	Others (8415. 10 900)	Secondhand
Refrigerator (8418.21 000)[a]	New (8418. 21 100)	Packaged products for retail (unused)
	Others (8418. 21 900)	Secondhands
Washing machines (8450.11 000)[a]	New (8450. 11 100)	Packaged products for retail (unused)
	Others (8450. 11 900)	Secondhands
CRT monitor (8471.60 220)[b] (8528.41 000)[c]	New (8528. 41 100)	Packaged products for retail (unused)
	Others (8528. 41 900)	Secondhands

[a] HS codes shown here are only representative examples.

[b] Before January 1, 2007.

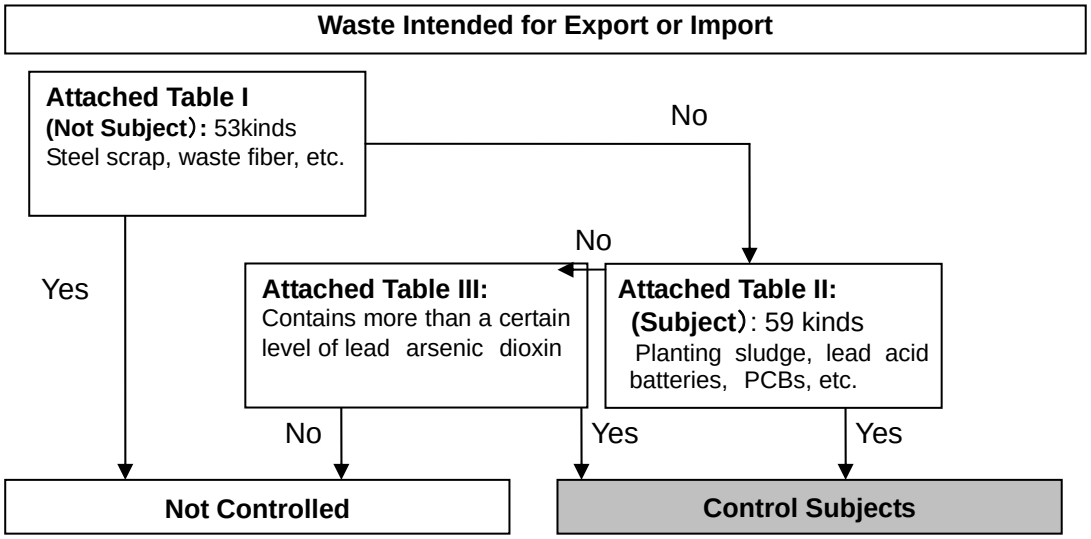
[c] After January 1, 2007.

Table 10 HS Codes for Waste Electric Appliances in Japan

Item (HS code)		Description
Before	After Jan. 1, 2008	
Municipal waste -3825.10	-Household waste	
	commodities 8471 (3825.10 110)	Waste PC
	commodities 8517.12 (3825.10 120)	Waste mobile phone
	commodities 8528 (3825.10 130)	Waste monitor
	others (3825.10 190)	Others household waste
	-Other waste (3825.10 900)	

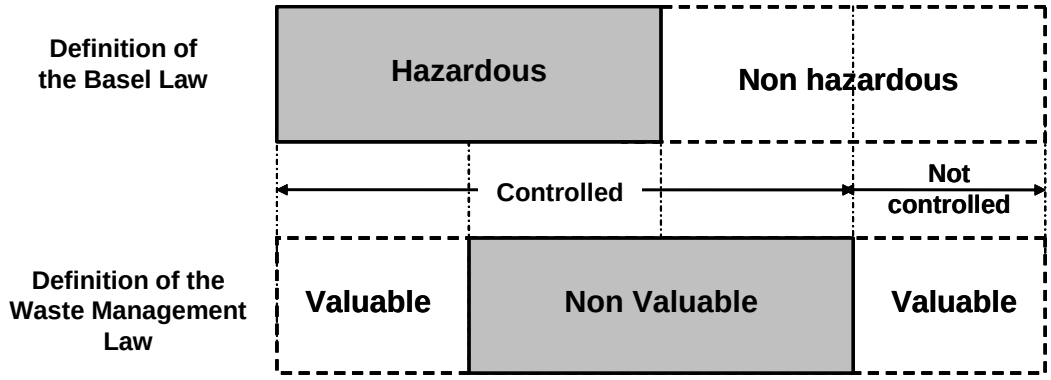
Source: Japan Trade Statistics.

Fig. 1 Description of Announcement of Basel Law



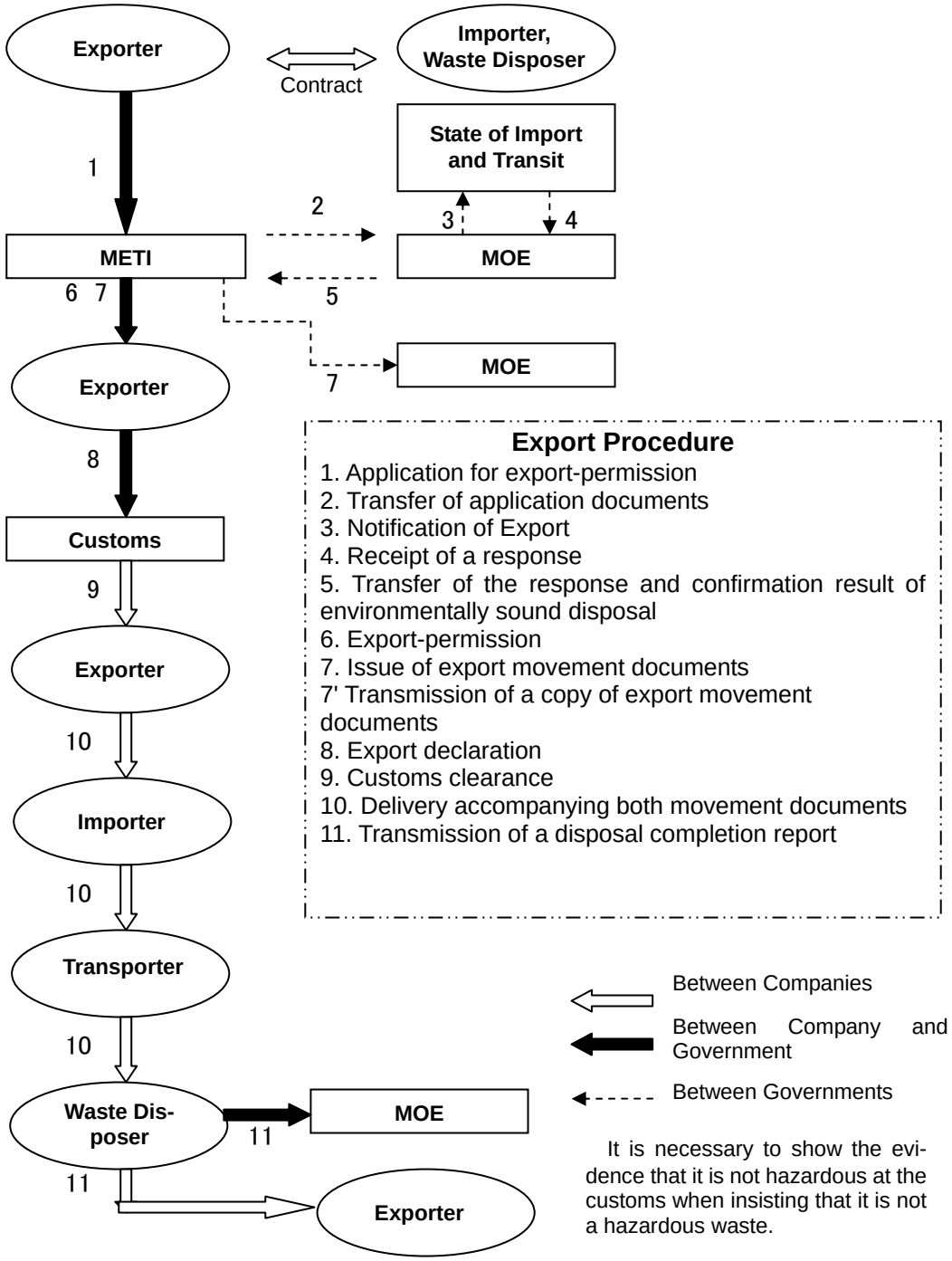
Sources: MOE and METI.

Fig. 2 Basel Waste and Other Waste which is Subject to Control under the Basel Law



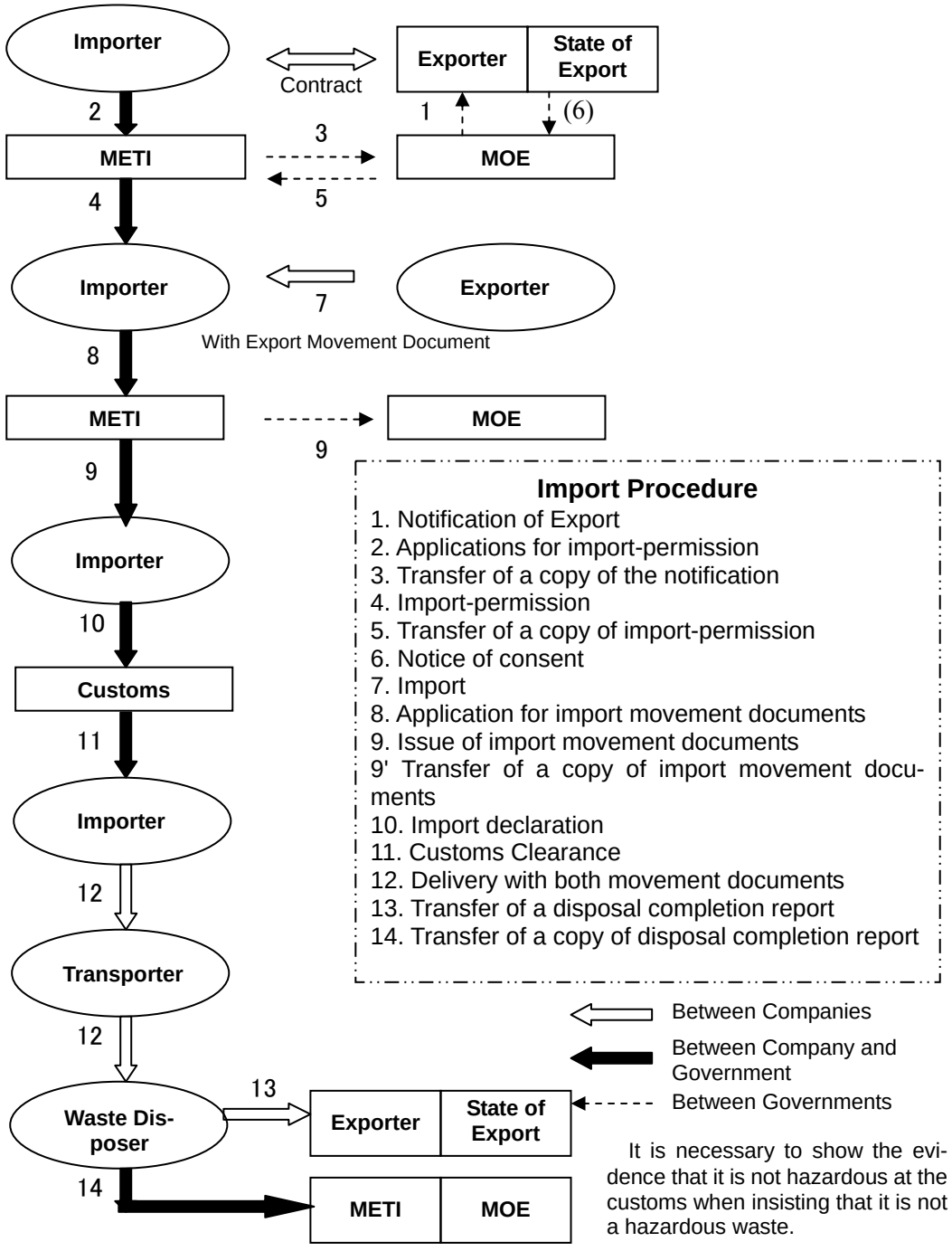
Sources: MOE and METI.

Fig. 3 Flowchart of the Procedure for Exporting Basel Wastes from Japan



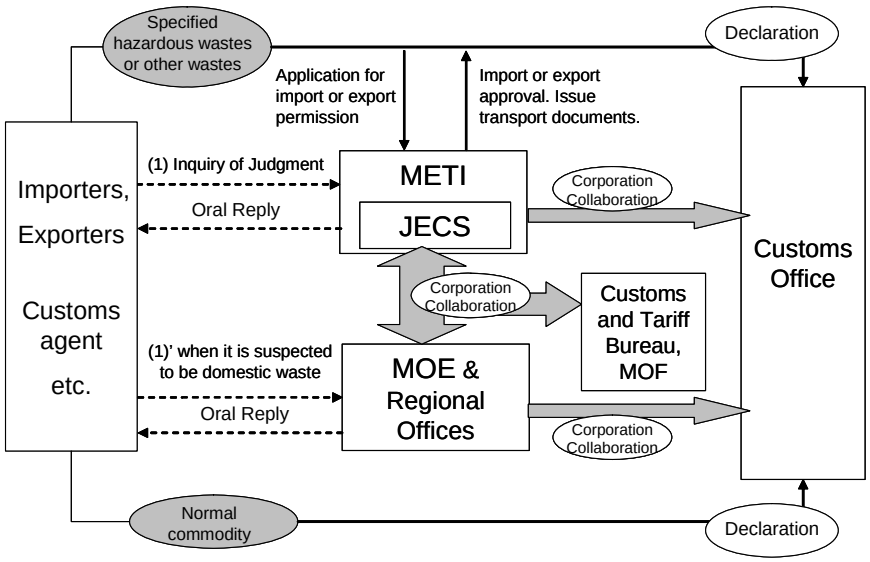
Sources: METI and MOE.

Fig. 4 Flowchart of the Procedure for Importing Basel Wastes to Japan



Sources: METI and MOE.

Fig. 5 Ministries and Agencies Responsible for Import and Export of Waste



Sources: MOE and METI.

Fig. 6 Information Required for Prior Consultation Service

Consultation Sheet on Restrictions under the Basel Law

I. Consulter Information:
1) Company name
2) Name of Contact person
3) 4) Tel & Fax numbers
5) Name of Customs Office, Name of Officer, Customs Instructions (If Customs Officers consulted in advance)

II. Information on Commodity:
6) Import or Export
7) Expected date of declaration for import or export, Scheduled Port
8) Cargo Volume (Number of Units/Containers/ Frecon bags/ Ship)
9) Partner Country (State party/OECD members/Non-state party)
10) Past record/experience: Past Import or Export Volume, Commodity type and dates
11) Description of Commodity: Product name, Weight, Condition
12) Source of Origin/ Generator: Name of the factory or company
13) Domestic Transportation Route: Route from Source of Origin to Exporter through Intermediate. Whether the supplier has a license for industrial waste treatment or not.
14) Whether it is considered as non-valuable waste or not, Verifications, Status of consultation with MOE.
15) Purpose of Trade, Usage after import or export
16) Treatment method
17) Place where the treatment will be conducted: Company name, Address
18) Additional information that is required with this sheet:
① Invoice, ② Import & Export Contract,
③Domestic expense slip (Receipt, Invoice etc.), ④Picture of Cargo,
⑤Analysis paper, ⑥Picture of analysis sample,
⑦Overview of the company, ⑧Others

Sources: METI and MOE.

Fig. 7 Flowchart of Economic Aspects of Shipment

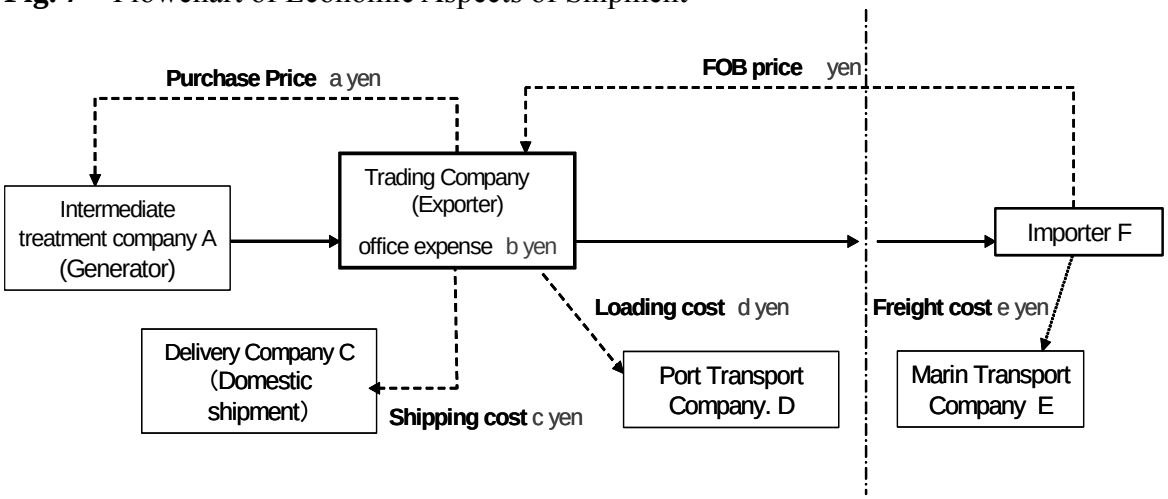
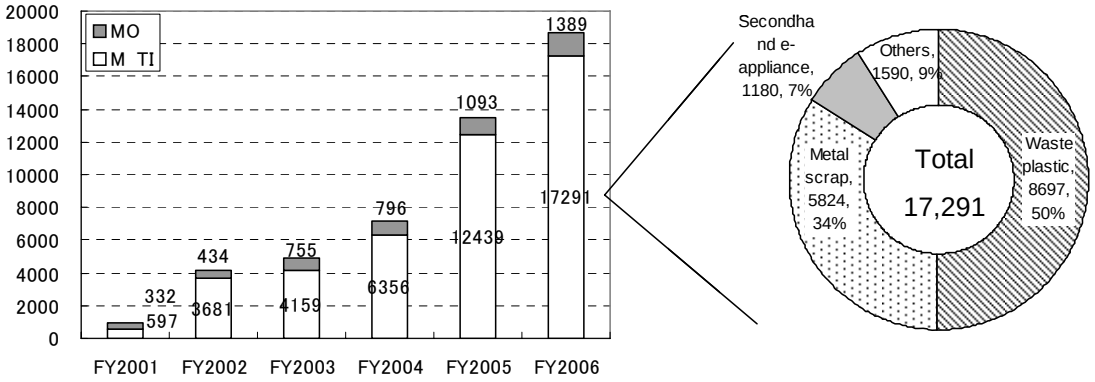


Fig. 8 Number of Cases of Prior Consultation Services



Sources: METI and MOE.

Fig. 9 Volume of Total Waste Plastic Exports and Exports Receiving Consultation Services

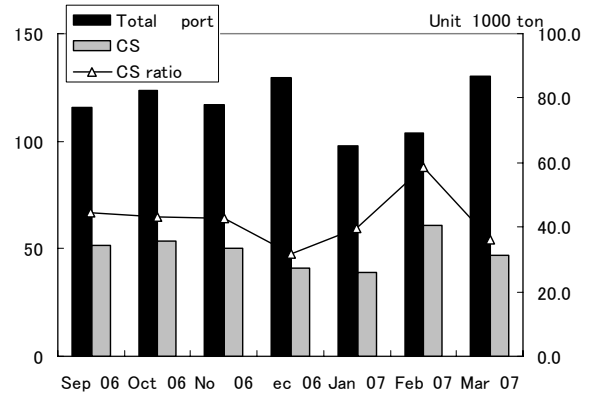


Fig. 10 Ratio of Exports to China and Hong Kong receiving Consultation Services

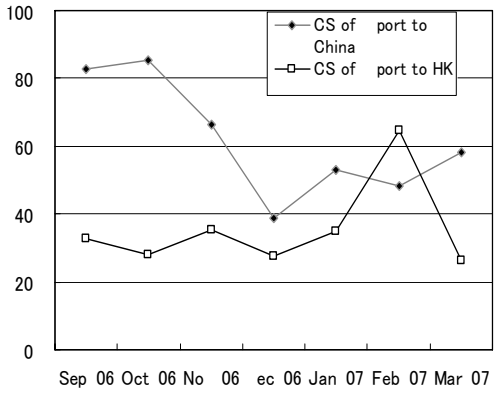


Fig. 11 Volume of Total Metal Scrap Exports and Exports Receiving Consultation Services

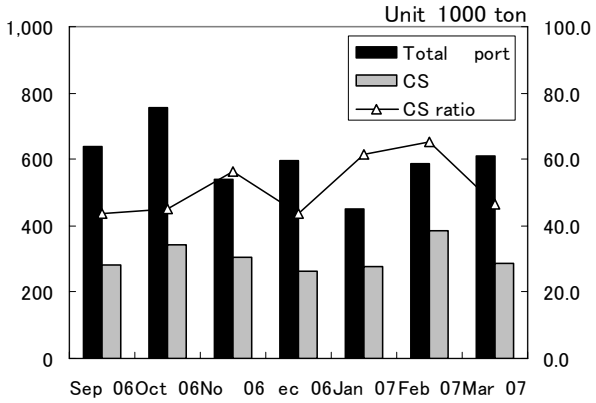
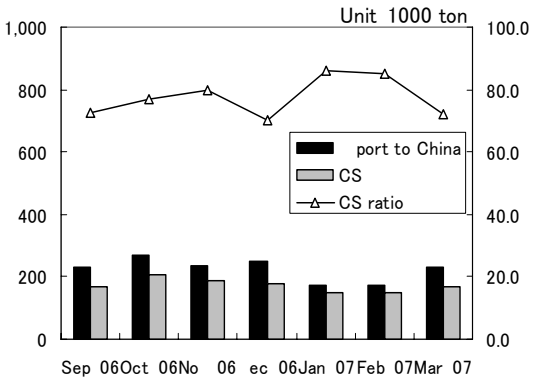


Fig. 12 Volume of Total Metal Scrap Exports to China and Exports Receiving Consultation Services



Note: Metal scrap includes steel, copper and aluminum scrap, which correspond to HS-codes 7204, 7404, 7602.
Consultation Service (CS): Accumulated number of cases from September 1, 2006 to March 23, 2007.

Fig. 13 Current Judgement of Pachinko Game Boards

Fig. 14 Current Judgement of Lead Acid Batteries