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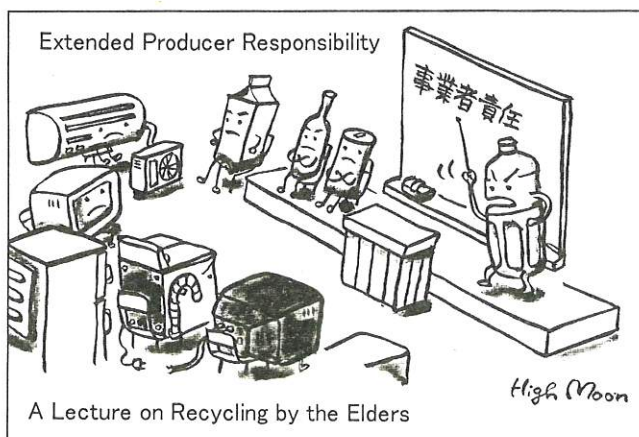
THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS

Dear Waste Management Experts

Recycling has been the main focus of solid waste management policies in Japan since the 1990s. In October 1991, the Recycling Law was implemented to promote the recycling of paper, glass, concrete, asphalt, cars, air conditioners, TV sets, refrigerators, and washing machines. Further, the Packaging Waste Recycling Law was enacted in April 1997, followed by the Household Appliance Recycling Law that was promulgated on 5 June 1998. This issue of the Newsletter discusses the Household Appliance Recycling Law.

This issue also addresses the achievements of the "Korean-Japan English Session" that was held during the 1998 Korean Solid Wastes Engineering Society's Spring General Assembly. Seven JSWME members attended the English Session, which was carried out in cooperation with our Korean counterparts. At the coming 9th Annual Conference of JSWME in Nagoya, our Korean friends will present 11 papers on October 28 during the "International Session". For interested parties, please contact the JSWME secretariat.

(by Hiroki Hashizume)



A Lecture on Recycling by the Elders

* Does the Household Appliances Recycling Law really work?

by Courtesy of Prof. Hiroshi Takatsuki (translated from an excerpt taken the JSWME's Monthly "The Waste", Apr. '98)

New Law on the Recycling of Specified Household Appliances

In Japan retailers currently collect approximately 80% of used household appliances, while the municipality collects the remainder. About half the appliances that are collected are landfilled without treatment, and the rest is crushed and disposed of after metal parts are salvaged. Such disposal practices emphasize the urgent need for a new recycling system that will contribute to the reduction of waste, and promote the recycling of usable parts and materials. It also reiterates the need to introduce a more environmentally conscious and recycling oriented economic structure. Under these circumstances, the Law on the Recycling of Household Appliances was promulgated on 5 June 1998. The system defines the target appliances and the duties of the concerned parties, etc., as shown below.

1. Target appliances

The law specifies four target household appliances (television sets, refrigerators, washing machines, and air conditioners), that: a) the municipalities cannot recycle; b) need to be recycled urgently; c) are convenient to recycle due to their design and parts; and d) the retailers can easily collect.

2. Recycling

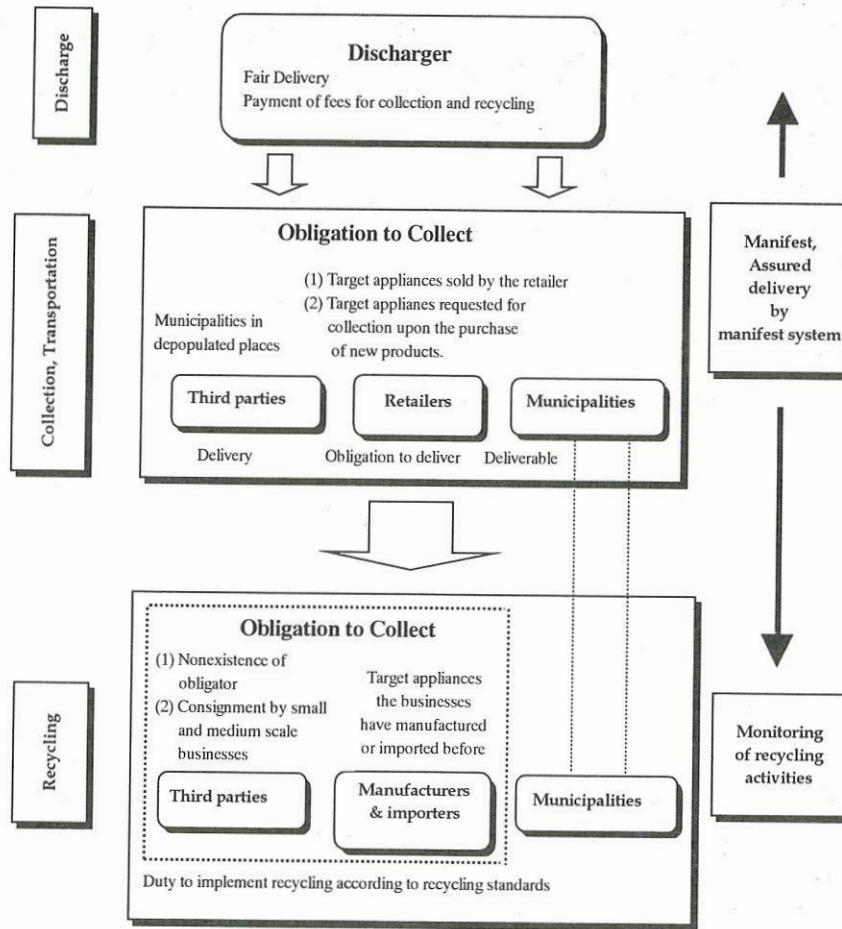
The law defines recycling as the removal of parts and materials, from the target appliances, to manufacture other products or to use as fuel.

3. Duties of parties concerned

The manufacturers and importers (producers) of target appliances are responsible for collecting used products, upon request, which are discarded at specific locations. These locations, designated by the producers, ensure that those who collect the used products, that is the retailers and the municipalities, deliver the target appliances to the producers.

Producers of household appliances are obliged to recycle or reuse the recovered products according to standards on recycling and reuse in Japan.

The obligation of retailers is to collect the target appliances, sold from their outlet, upon request from the consumers. When consumers purchase a new appliance of the same type, retailers are obliged to collect the used products on request.



Flow Chart: Recycling of Household Appliances

It is the retailers' obligation to deliver the target appliances they have collected to the producers or the designated corporations. (See paragraph 6 for details.)

Consumers should observe the Law's provisions by properly handing over used products to retailers or municipalities. Consumers are responsible for costs related to the handling and recycling of their household electric goods, and should take responsibility for the recycling of used household appliances.

Municipalities will transport the target appliances to their producers or the designated corporations. They may also independently recycle the appliances that they have collected.

4. Sharing of costs

Producers of target appliances may demand payment for the collection and the recycling of target appliances, upon request. Retailers may demand payment from the dischargers of target appliances (consumers) to collect the discarded appliances, and to deliver them to the manufacturers for recycling.

5. Manifest system

Waste tracking documents will be prepared to ensure target appliances are delivered from the consumers to the producers for recycling.

6. Designated corporation

The haulage of target appliances to the producers may face some hindrance if the legal status of the producer's representative, due to bankruptcies, etc., is ambiguous. It may also be difficult if the appliances are consignments from small scale and medium scale businesses and importers. In order to respond to the requests of the residents and municipalities, a designated corporation, in such cases, will collect and deliver the appliances to their producers.

7. Date of enforcement and review

The law will come into effect within six months of its promulgation, however, there will be a preparatory period and the law will be fully implemented from FY 2001. Five years after the law is fully enforced, the system will be reviewed.

(by Hiroki Hashizume)

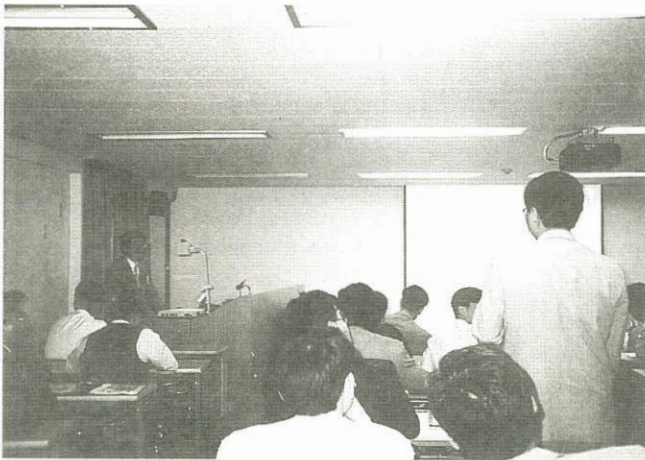
The Third Korean-Japan English Session

On 8 May 1998, the Korean Solid Wastes Engineering Society (KSWES) held its Spring General Assembly in Seoul's Konkuk University. The Society holds a general assembly twice a year, in spring and in autumn, and began to hold the Korean-Japan English Session last year.

The KSWES was founded in 1983, seven years before the JSWES. The JSWME-KSWES agreement promoted exchange between the two societies in May of 1996, during the KSWES's Spring General Assembly in the University of Seoul. As a result of this agreement, the first Korean-Japan English Session was held in May 1997 in Korea, the second in October of the same year (Kawaguchi, Japan), and the third in May this year (Seoul, Korea). Seven members of the JSWE participated in the sessions including Keiichi Kouyama, a professor emeritus of Hokkaido University.

The English Session starts from 10:00 a.m. to 5:50 p.m., and is divided into four parts with a total of 17 presentations, five of which are presented by Japanese experts. There is also a Korean Session that is held in four halls, with a total of 46 presentations. The English Session is held in the "Highly Advanced Seminar Room" equipped with slides and an OHP that can be controlled by a switch; the OHP has a zoom function.

We are very grateful for the assistance extended, during our visit, by the researchers who have strong ties with Japan. We would also like to extend our gratitude, especially to Won-Tak Um, the Society Chairman and professor emeritus of Yeungnam University, to Dong-Hoon Lee, who is the first exchange student to obtain a doctorate in Solid Waste Control at Hokkaido University and is responsible for international exchange in Korea, and to Professor Tae-Dong Kim of Andong National University, who took his Ph.D. at the Tokyo Institute of Technology and worked for the National Institute of Public Health.



The Third Korean-Japan English Session
(by Toshihiko Matsuto)

Chile's National Environmental Center & Solid Waste Management

The Republic of Chile is serpentine in shape. It extends from the Acatama Desert – through Patagonia – to Cape Horn. It is bordered by the impressive Andes to the east, and the Pacific Ocean to the west.

Recently Chile has become the focus of global concern as rapid economic development and population growth, particularly in the capital, Santiago, has caused environmental problems, e.g., air pollution, water contamination and solid waste problems. The Japanese government, together with the Chilean government, established the Chile National Environmental Center. The program aims to improve the living environment in the capital through the transfer of technology. The Center researches and investigates meteorological data, air pollution, sewage management, and industrial waste management.

I was dispatched to the National Environmental Center, in April 1996, to supervise the section on industrial waste management. The section on industrial waste management offers two courses: administrative improvement and analytical techniques. Counterparts are assigned to each course during the transfer of technology.

In Chile, unlike Japan, solid waste is not divided into general (or non-industrial) and industrial wastes. The program on administrative improvement involves not only the formulation of regulations, but also on-the-spot inspections of factories and business establishments. It also deals with studies on manufacturing processes, solid waste generation, type of solid waste, and disposal processes.

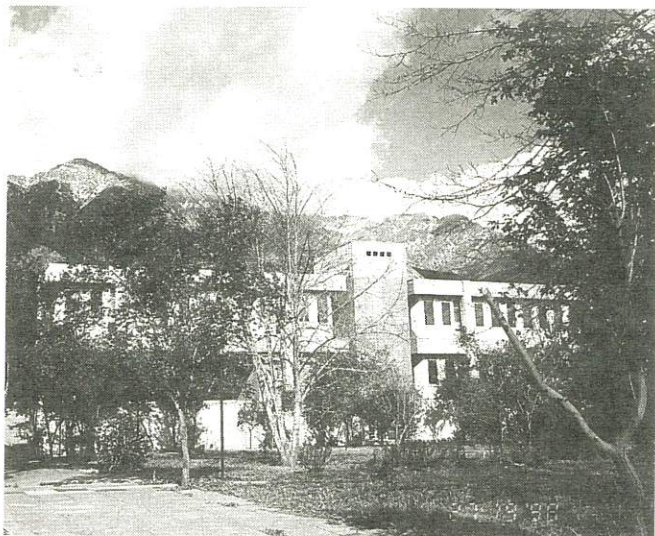
There are currently no industrial waste disposal sites in Chile. Industrial waste is stored for an indefinite period or handed over to recycling companies; the methods adopted for disposal and treatment are unclear.

Several private companies, under contract, collect and haul general wastes. Since there are no incinerators, all the waste is disposed of at the public sanitary landfill site that was constructed according to the U.S. Environmental Protection Agency (EPA) norms. The construction of a new disposal site is currently underway under stringent environmental protocols. Companies violating the regulations are severely penalized.

Although the cooperation program for analytical techniques started later than schedule, the laboratory became fully operational in October 1997. The Japan Industrial Standard (JIS) and EPA standards were adopted to increase the accuracy of the data, seminars were held, and experts from Japan and the United States were invited to conduct training.

Like the Japanese, the Chileans are a conscientious people. The counterparts and administrators of the relevant government agencies are highly skilled and knowledgeable – factors that have contributed to the

steady improvement of solid waste management since I was dispatched to the Center. Nonetheless, they lack experience. Helping this nation to accumulate experience may be the main objective of international cooperation programs.



The Center's Offices and Laboratories

(Nobukuni Nakamura, Specialist at the Chile National Environmental Center)

**Journal of the Japan Society of Waste Management Experts,
Vol. 9, No. 5 (July 1998) & No. 6 (September 1998)**

Recent issues of the Journal of JSWME contain the following articles. The articles are written in Japanese, but the abstract is in English.

Vol. 9, No. 5 (July 1998)

Paper

Study of Flow and Mixing in the Combustion Chamber of MSW Incinerators (No. 2, Reaction Experiment in a Cold Model)

by Yoshitada Kakuta and Nobutoshi Tanaka

Emitted and Reduced Amounts of Mercury from Municipal Waste Incinerators to Air

by Noboru Tanikawa and Kohei Urano

Dissolution of Heavy Metals from Ground Materials Solidified with Portland Cement

by Yutaka Dote and Toshiro Maruyama

Biological Treatability Studies of Tetrachloroethylene-Contaminated Soil

by Takashi Tokunaga, Masataka Hanashima, Yasushi Matsufuji, Nobuyuki Sera, Yoshitaka Nagafuchi, Shigeji Kitamori, and Kensuke Furukawa

The Production of Dried and Desalted Soya-Sauce Mash at a Pilot Scale Plant

by Yoshio Makino, Yoshihiro Tanigawa, Itsuko Takegami, and Takeshi Shirakawa

The Formation of Calcium Scales in Waste Landfill Sites

by Yukio Noma and Akiko Kida

Vol. 9, No. 6 (September 1998)

Paper

The Effects of Separate Collection of the Resource Waste on the Reduction of Solid Waste

by Hisashi Hasome, Yoshitaka Nitta and Isamu Yokota

Effect of Leaching Condition on the Toxicity of Municipal Waste Incinerator Fly Ash Leachate Evaluated by Algal Assay

by Hidehiro Kaneko

Application of λ -Fuzzy Measure Method for the Site Location Evaluation of Sea Area Final Disposal Site

by Tohru Furuichi and Hidekazu Tanaka

Service Life Expectancy of Municipal Solid Waste Incinerator

by Masaki Takaoka, Nobuo Takeda, Yasuhiro Oda, Hiromichi Fujiyama, Hideaki Fujiyoshi and Hayashi Morimoto

Stability of Hazardous Heavy Metals in the Landfill Immobilized Fly Ash by Chemicals

by Takayuki Shimaoka, Koji Oku, Kentaro Miyawaki, Masatake Hanashima, Yoshihiro Hori, Katsumi Matsumoto, Kiyoharu Furukawa and Toshihito Uchida

Note

Fundamental Study about Setting Up an Experimental Field Analysis of Scattering Wastes and Behavior of People and their Relations for Prevention of Littering in Public Space

by Kohji Hayashei and Keiichiro Suzuki

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