



# NEWSLETTER

No.37

This Newsletter is published four times a year, printed on recycled paper.

July 2001

## THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS

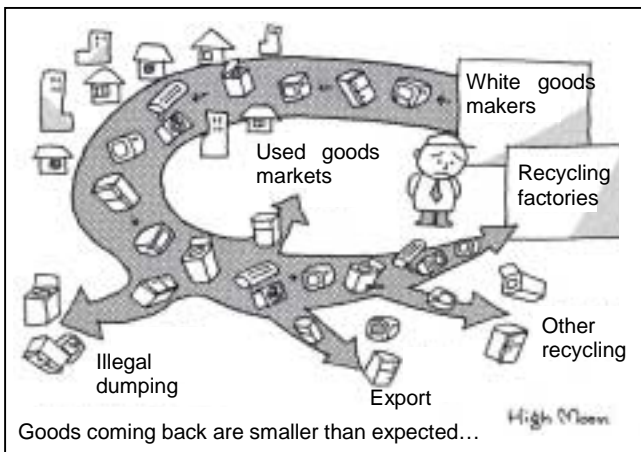
### Dear Waste Management Experts

Japan is very hot and humid in July, the middle of summer. Tokyo and other large cities are believed to have become heat islands: "a foreboding of global warming"?

As announced in the previous issue, this NEWSLETTER explains the changes in the administration of solid waste management at the national level as a result of the recent reorganization of the government. It also introduces an interesting comparison of hospital wastes in Vietnam and Japan based on a JICA study, as well as a recently established institute for acid rain/deposition monitoring network in East Asia.

In the meantime, JSWME is busy improving its internet Home Page. Changes are also underway in the publication of the NEWSLETTER; from printing and mailing to electronic publishing. We will inform our readers of the details for the subscription of this magazine in our next issue.

(Hideo Azuma)



"We should have take a way of advance payment..."

By courtesy of Prof. Hiroshi Takatsuki (Taka-tsuki literally means "High Moon")

(Translated by JSWME, taken from Monthly "the Waste" May 2001)

### Administrative Reforms in Solid Waste Management as a result of the Restructuring of the Central Government Administration

#### 1. Solid Waste Administrative Reform

On 6 January 2001, the national administrative organs of Japan were restructured to enable the government to implement immediate and appropriate actions to ensure the life of the citizens and to cope with the changes in the domestic and foreign situations.

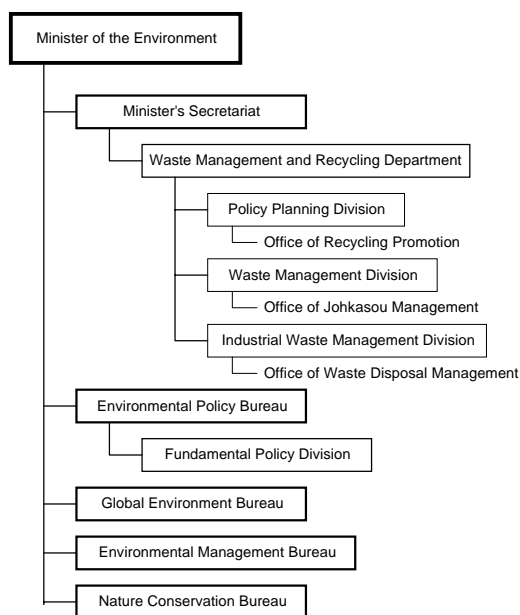
- 1 Cabinet Office and 22 Ministries were reorganized into 1 Cabinet Office and 12 Ministries by realigning the roles of the government.
- To strengthen the administrative functions of Prime Minister and the Cabinet
- To enforce a more transparent, efficient and slimmer administration

The restructuring of the central government significantly changed solid waste administration. Formerly, solid waste management was executed as a part of health administration under the former Ministry of Health and Welfare. Today it is considered a part of environmental administration under the Ministry of Environment, which was then the Environmental Agency prior to the restructuring.

These changes have expanded the focus of solid waste management from the appropriate treatment and disposal of waste to waste generation control, waste reduction, reuse, recycling, etc., in order to promote the creation of a recycling-based society with emphasis on environmental preservation. In 2000, almost at the same time the reform was implemented, six laws related to waste reduction and recycling were set up to promote the creation of the recycling-based society (refer to Newsletter, Issue No.33). Significant progress in the creation of the recycling-based society, therefore, can be expected in the future.

#### 2. Solid Waste Administrative System under the Ministry of Environment

The organizational structure of the Ministry of Environment is shown in the figure below. The newly established Waste Management and Recycling Department mainly deals with waste generation control, appropriate waste treatment, and promotion of resource recovery. This department consists of three sections and three offices.



A Part of Organization Chart of the Ministry of Environment

**Policy Planning Division:**

Policy planning for waste generation control, appropriate waste treatment, recycling

**Office of Recycling Promotion:**

Arrangement of standards and regulations for waste recycling and re-processing.

**Waste Management Division:**

Generation control, appropriate treatment, etc. of municipal waste

**Office of Jhokasou Management:**

Treatment, etc. of domestic sewage by septic tank

**Industrial Waste Management Division:**

Generation control, appropriate treatment, etc. of industrial waste

**Office of Waste Disposal Management:**

Appropriate treatment, etc. of hazardous waste

Aside from the Waste Management and Recycling Department, the Environmental Policy Bureau deals with the Green Procurement Law.

**3. Other Administrative Organizations on Recycling**

A number of organizations have been formed under other ministries to promote recycling based on Law for Promotion of Effective Utilization of Resources, Construction Material Recycling Act, and Food Recycling law. Of these organizations, we would like to introduce the following principal organizations.

**Recycling Promotion Division, Industrial Science and Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry:**

Law for Promotion of Effective Utilization of Resources

**Construction Industry Division, Infrastructure and Transport Policy Bureau, Ministry of Land, Infrastructure and Transport:**

Construction Material Recycling Act

**Food Industry Environment Policy Office, Food Industry Policy Division, General Food Policy Bureau, Ministry of Agriculture, Forestry and Fisheries**

Food Recycling Law

(Kimio Matsumoto)

**Hospital Waste Management in Japan and Vietnam**

This article provides some information on hospital waste management in Japan and Vietnam, based on data obtained from the “News on Medical Waste”, a magazine published by the Medical Waste Research Institute, as well as the findings of the Study on the Hai Phong Sanitation Improvement Plan.

**1. Hospital Waste Management in Japan**

In Japan, the Waste Management and Public Cleansing Law stipulates that hospitals, clinics and other medical institutions are legally responsible for the management of their hospital waste in a manner specified by the law. Infectious waste is legally defined as waste requiring special control. Most hospitals and clinics contract licensed private companies. According to the News on Medical Waste (August 2000), the hospital waste generation amount in Japan in 2000 totaled 149,077 tons, and the most popular method of treating hospital waste is incineration, as shown in the table below.

Method of Treatment of Hospital Waste	Number of contractors
1. Incineration	360
2. Slagging	7
3. High pressure steam sterilization	3
4. Dry heat sterilization	6
5. Others	6
6. Total	382

Incinerator capacity ranges from 0.08 to over 200 ton/day. The majority of incinerators have a capacity of less than 5 ton/day. The law requires operators of any incinerator with a capacity of 200kg/hr or more to obtain a construction permit.

**2. Hospital Waste Management in Vietnam**

In Viet Nam, Law No. 3575/199/QD-BYT obliges hospitals and other medical institutions to take appropriate means to treat hospital waste. Except in the cities of Ho Chi Minh and Ha Noi, however, hospital wastes in Viet Nam are collected and disposed of together with domestic wastes. On the other hand, the Ministry of Health

recommends incineration as the best method of treating hospital waste.

Ho Chi Minh and Ha Noi are the only cities with incinerators exclusively used for the treatment of hospital waste. The incinerator in Ho Chi Minh City is made in Switzerland and has a capacity of 7 ton/day with a flue gas treatment system, while in Ha Noi, the incinerator is made in Italy and has a capacity of 3 ton/day without a flue gas treatment system.

Hai Phong is the third largest city in Viet Nam, after Ho Chi Minh and Ha Noi. The Japan International Cooperation Agency (JICA) has been conducting the “Study on the Sanitation Improvement Plan for Hai Phong City”. The study covers hospital waste management and proposes the need to construct an incineration plant in the city with a capacity of 1.5 ton/day. The incinerator should have double chambers for complete waste incineration to satisfy both the Japanese and Vietnamese standards for gas emission including Dioxin.

### 3. Comparison of Medical Waste Generation Amount

The per capita (not per patient) generation of medical waste in Japan (1.2kg/p/y) is about 3 times larger than that in Hai Phong (0.41kg/p/y), as shown in the table below. In terms of hospital waste generation amount per bed, the values generated by the two cities differ slightly. The difference in per capita hospital waste generation, however, is due to the huge difference in the number of persons per bed. It may be that the higher the economic standards of a nation, the higher the hospital waste generation amount.

Item	Japan 1)	Hai Phong 2)
Medical waste generation amount per person	1.2 kg/capita/year	0.41 kg/capita/year
Number of persons per bed (Total population/ number of beds)	74 persons/bed	266 persons/bed
Hospital waste generation	90 kg/bed/year	91 –128 kg/bed/year

Sources:

- 1) Data on Japan: News on Medical Waste, August 2000 Issue, by the Medical Waste Research Institute
- 2) Data on Hai Phong: Draft Final Report of the Study on Sanitation Improvement Plan for Hai Phong City, JICA, March 2001.

### 4. Level of Fees

Both the city of Ho Chi Minh and Ha Noi operate under a policy to set the hospital waste management fee at a level that would ensure full cost recovery. At present, the city of Ho Chi Minh charges about US\$500/ton and this

includes collection, treatment and disposal services. Ha Noi, on the other hand, charges US\$350/ton.

The JICA study also proposes that Hai Phong should adopt the same policy. In accordance with this policy, the study estimates US\$243/ton as an appropriate fee to impose. Broken down, this amount would be US\$83/ton for collection/transport, US\$156/ton for incineration, and US\$3/ton for landfilling of incineration residue. This cost breakdown by type of service is very useful in situations where some of the services are contracted out.

Hospital waste management fees in Japan greatly vary depending on contractors. Some contractors charge 50 to 60 yen (40 to 50 cents) per kilogram or US\$400 to 500/ton. Some semi-governmental waste management companies charge 350 yen (\$3) per kilogram or US\$3,000/ton.

One of the problems in Japan is that some contractors, particularly those who charge cheaply, illegally dump hospital waste, and this is compounded by the fact that it is a natural inclination for clients to choose contractors offering lower prices. It was with this background that the Waste Management and Public Cleansing Law was amended in 2000. The amendment was carried out with the aim to strongly enforce the responsibility of waste generators including hospitals to manage waste they generate.

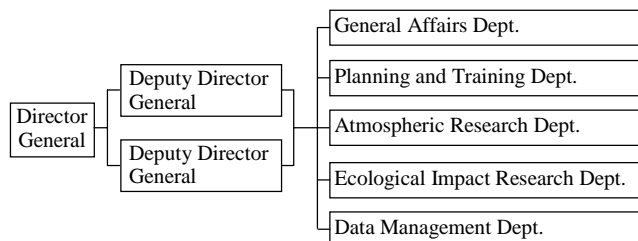
(Kiichiro Sakaguchi)

### Acid Deposition and Oxidant Research Center

With the support of the Environment Agency of Japan, Niigata Prefecture and Niigata City, and many other concerned agencies, the Acid Deposition and Oxidant Research Center (ADORC) was established in Niigata in 1998 as a branch of the Japan Environmental Sanitation Center (Head Office in Kawasaki, Japan). ADORC was established to carry out the important functions of EANET(Acid Deposition Monitoring Network in East Asia).

#### 1. Organization

The organizational structure of ADORC is as follows.



#### 2. Services

ADORC acts as the Network Center of EANET and the National Center of Japan.

a. As the Network Center of EANET, ADORC is responsible for the following:

- Compilation, evaluation and storage of data
- Preparation of data report on acid deposition in the East Asian region
- Dissemination of data and relevant information
- Implementation and coordination of QA/QC activities
- Technical support for participating countries including dispatch of technical missions
- Implementation of training activities
- Support for Task Forces as secretariats
- Research activities such as research to improve monitoring methodologies
- Promotion of public awareness, etc.

b. As the National Center of Japan, ADORC is responsible for the following:

- Preparation of draft national monitoring plan
- Collection, evaluation and storage of national monitoring data
- Submission of monitoring data to the Network Center
- Implementation of the national segment of the Network's QA/QC programs

### 3. Facilities and Office Equipment

A new building was completed in October 2000. The total space of the building is 1,862.50m<sup>2</sup>. It is made up of two stories with offices, chemical and biological laboratories, a training laboratory, rooms for trainees, a large and a small meeting rooms, a library, etc. The building is also equipped with the necessary pollution control equipment.



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(Hisashi HASOME)

## Journal of the Japan Society of Waste Management Experts

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

《Vol. 12, No.3 (May 2001)》

### Papers

*Application of Glass Fiber Recovered from Scrapped FRP to Discontinuous Fiber Reinforced Mortar*  
Tetsuro Kasai and Hiroshi Takenaka

*Speciation of Zinc, Lead and Copper on Fly Ash by X-ray Photoelectron Spectroscopy*  
Masaki Takaoka, Yasuhiro Kuramoto, Nobuo Takeda and Takeshi Fujiwara

*On the Formation of Polychlorinated dibenzo-p-dioxins and Polychlorinated Dibenzofurans in Combustion of Artificial Refuse Derived Fuel Using a Laboratory-scale Fluidized-bed Combustion Reactor*  
Noriaki Ishibashi, Shigenobu Okajima, Yoshinobu Yoshihara, Kazuie Nishiwaki and Masakatsu Hiraoka

*Simulation of Composting Reaction*  
Hidehiro Kaneko, Kimiaki Hirayama and Kenji Fujita

*An Estimation Method for CO<sub>2</sub> Emission from Municipal Waste Incinerators by Continuous O<sub>2</sub> Analyzer*  
Noboru Tanikawa, Tomo Oikawa, Tomoki Masuko and Kohei Urano

Current Members of JSWME	As of 30 June 2001 (values in parenthesis are differences from 28 February 2001)
Regular Members	3,504 (-13)
Students	228 (-18)
Non-Japanese Members	61 (-10)
Public Institutions	113 (-1)
Supporting Members	211 (2)
<b>Total</b>	<b>4,117 (-40)</b>

### NEWSLETTER NO.37

Published by  
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January, 2001