

Industrial Waste Management and 3R policy in Japan

産業廃棄物マネジメントと3R政策

Japan Industrial Waste Information Center
財団法人日本産業廃棄物処理振興センター

Contents(内容)

- Environmental management
 - ・Edo Period
 - ・Meiji Period - Now
- Toward the sustainable society



Waste Disposal in Edo Period 2



Sumida river

Nihonbashi
riverside fish market

日本橋魚河岸: 広重「江戸
名所八景」(部分)

Hiroshige

Waste Disposal in Edo Period 3

- Edo period was a typical sound material-cycle society.
- Human waste was traded and used for fertilizer.

江戸時代の「小便買い」の絵



A trader who barter
vegetables with human
waste.



Changes of waste Management in Japan 1

- Meiji period→World War
Clean Feculence Law (1900)
Communicable-disease prevention and public health sanitation
- World War →1950s
Public Sanitation Law (1954)
Environmental sanitation
- 1960s→1980s
Air Pollution Control Law (1968)
Water Pollution Control Law (1970)
Waste Management Law (1970)
Public pollution issue

Changes of waste Management in Japan 2

➤ 1990s

- DXNs guideline (1990)
- Basic Law on The Environment (1993)
- Containers & Packaging Recycling Law (1995)
- Home appliance Recycling Law (1998)
- Special Measures Law for DXNs (1999)
- PRTR Law (1999)

Pollutant Release and Transfer Register Law

Changes of waste Management in Japan 3

➤ 2000—

- Basic Law for Promoting the Creation of a Sound Material-Cycle Society (2000)
- Construction Material Recycling Law (2000)
- Food Waste Recycling Law (2000)
- Special Measures Law for PCB (2001)
- Measures Law for Ground Pollution (2002)
- Automobile Recycling Law (2002)

Waste Incineration
and
DXN Issue
焼却処理とDXN問題



An Early Incineration Plant(1933)
Planned Capacity: 750t / d



Fukagawa , Tokyo

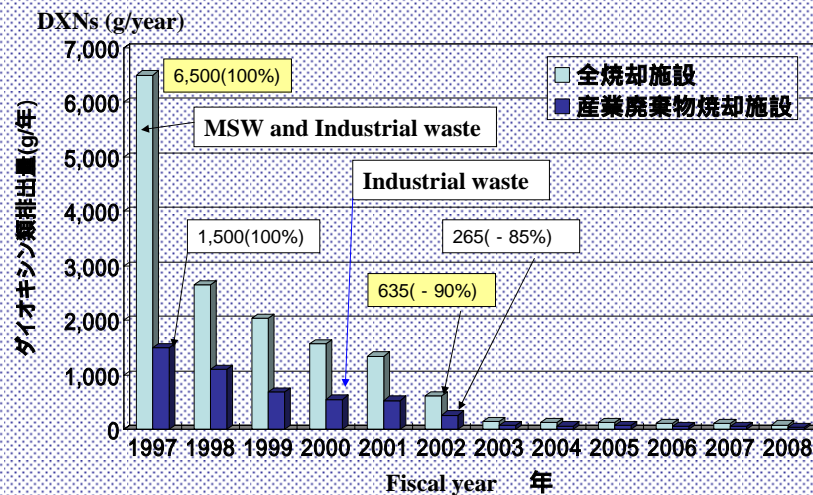
DXN Issue in Japan

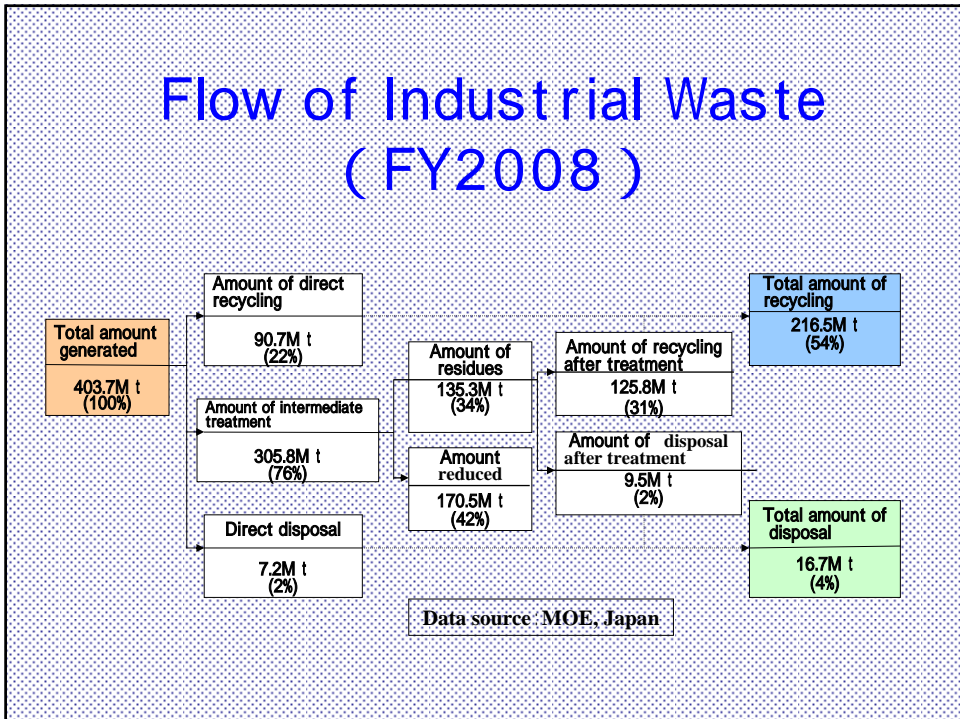
How has it be emerged?

- Depending mainly upon incineration (Taisho Period ~)
- Small and numerous locally sited facilities (due to the principle that every local government should manage his waste.)
- Slow-up of measures

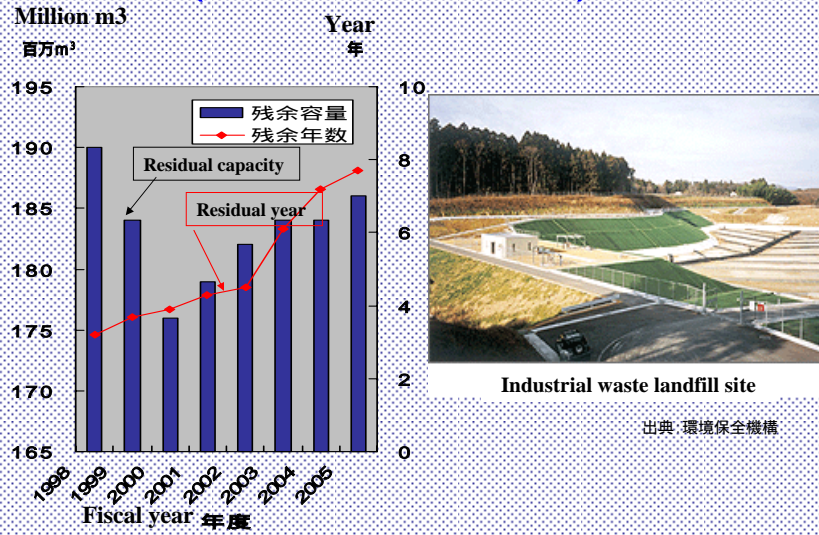
Country	Incineration %	No. of Incineration Plant (rough figure)	
Europe	Swiss	80%	30
	Denmark	65%	30
	Sweden	60%	30
	France	40%	250
	Germany	25%	100
	Italy	17%	40
	U.K.	6%	20
Asia	Japan	75%	1700
North America	U.S.A.	15%	150
	Canada	6%	45
Others		5%	
World Ave.		<5%	

Chronological Changes of DXNs Discharge from Waste Incinerators

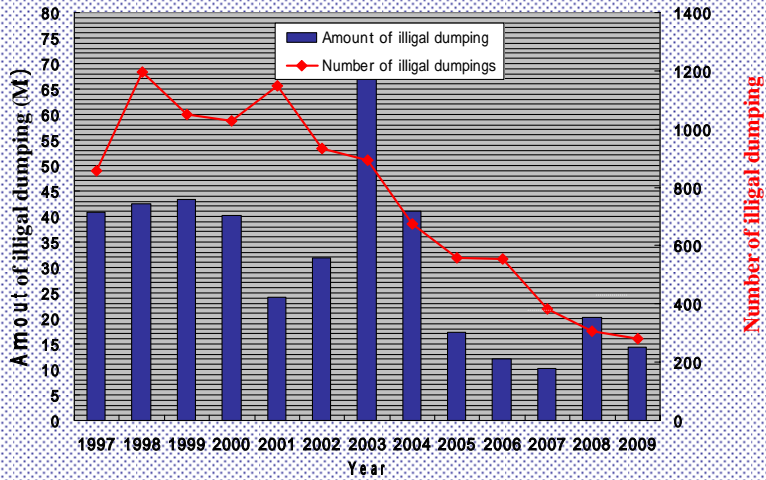




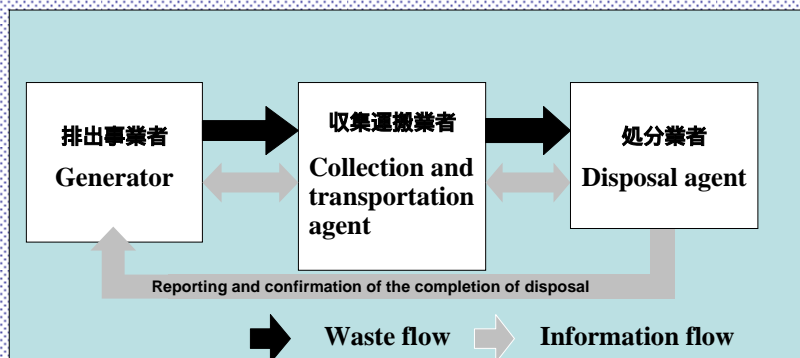
Residual Capacity of Landfill Sites (Industrial Waste)



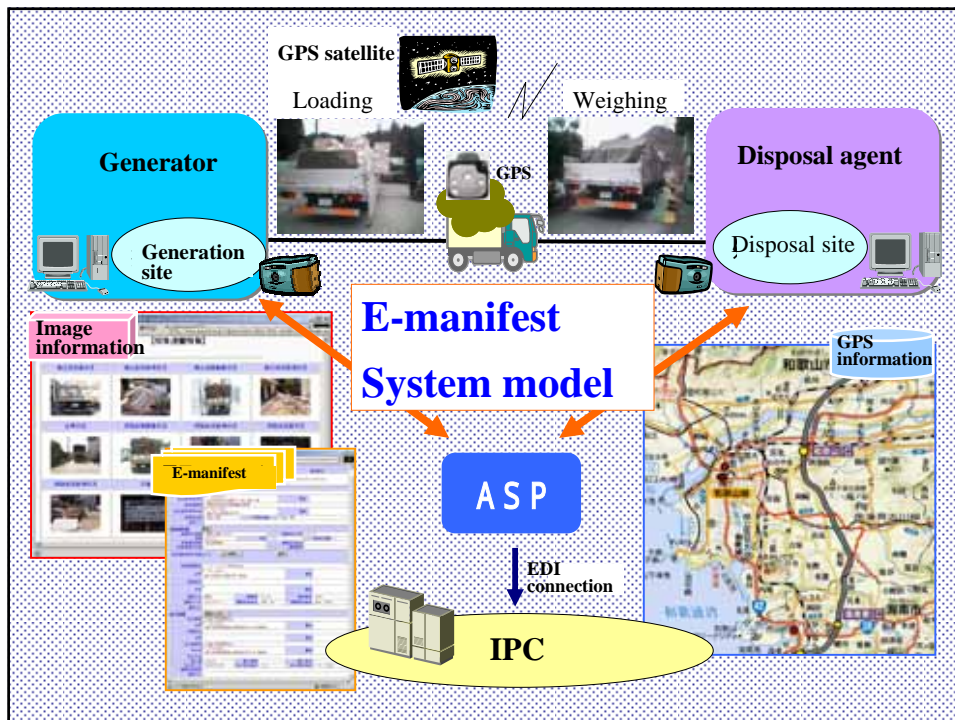
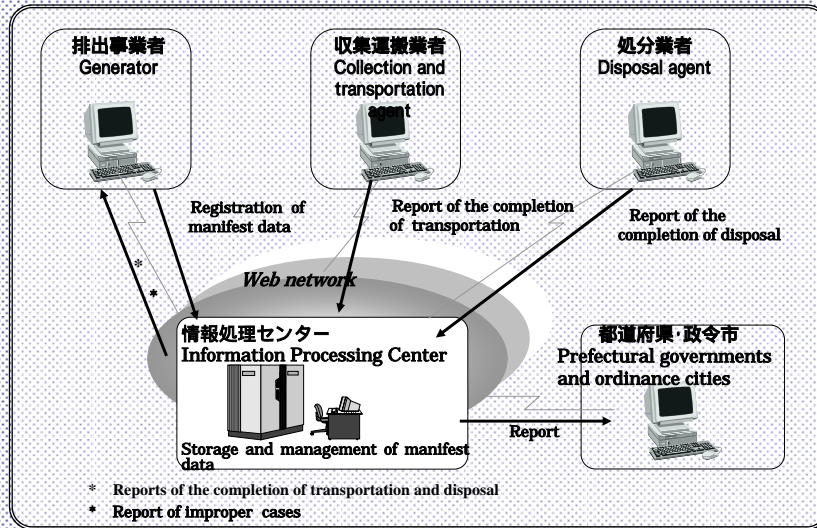
Illegal Dumping in Japan



Manifest System



Electronic Manifest



Hazardous Substances

- ◆ PCB
5 facilities (Kitakyushu, Tokyo, Osaka, Toyota, & Hokkaido)
- ◆ Asbestos
Vitrification technologies
- ◆ Heavy metals
- ◆ Chemical substances
- ◆ Infectious substance and waste
- ◆ Other hazardous substances and articles



Toward the Sustainable
Society
持続的な社会に向けて



Issues

- Global warming
- Eco-system
- Resources dissipation
- Hazardous substance pollution

21C Japan Model Founded on the Principle of Environmental Protection

➤ Japan Model

- A beautiful nation based on the traditional material and nature views.
- Environmental protection as well as economical and regional development.
- Share the development with Asia and the world.



Japan's Strategy for a Sustainable Society 1

- Stabilizing **green house gas** concentration world widely.
- Achieving the target set in Kyoto Protocol.
- Preserving **biodiversity** over a coming hundred years.
- Creating a **sound material-cycle society** and its diffusion into Asian countries.
- Enhancing **3R technologies and systems**.
- Further enhancement of **energy utilization efficiency**
- Promoting **renewable energy** utilization including **biomass**.
- Coping with **water issue**.

Japan's Strategy for a Sustainable Society 2

- Creating vital countryside
- Creating beautiful urban environment
- Creating fertile waterside
- Creating rich forest
- Enriching environmental study and education

Promotion of 3 R

- ◆ 3 R
 - Reduce
 - Reuse
 - Recycle

* 3R initiative was proposed by Former Prime Minister Koizumi .



" Mottainai spirit"



People should be aware of the real value of a thing.



Conventional fields

➤ Treatment technologies

Waste, Water, Off-gas, Soil

- Incineration technology
 - Stoker
 - Gasifying-melting furnace
 - Plasma arc
- Incinerator, DXN control equipment, Vitrification furnace, Energy recovery
- RDF
- Landfill technology
- Soil remediation

RDF



**RDF production & combustion -
power generation plant**

315 t/h, 20,600 kW



Plastics shredder

Forecast for Environmental Business in 2010 by MOE, Japan

➤ Achievement in FY1997

1 EUR = ¥160

24兆7,000億円 (15.5 billion EUR)

➤ Forecast in FY2010

↓ 1.6 times

40兆円 (25 billion EUR)

➤ Businesses related 3R : Approx.50%

➤ Predicted Growth rate is 3.7%

Growing Fields

- Global warming
Co₂ reduction, Energy saving
- Pollution & Hazardous substances control
Clean water, air and ground
- Monitoring
- Waste management(3R)
- Waste-to-energy, Raw materials saving
- Biomass, Water (drinkable + tasty)
- Energy recovery
- Ecology & Urban Greening
- Awareness-raising & Education

