

*ANMC21 Joint Project:*

*Promotion of Environmentally Sound Waste Management and  
Resource Recycling*

# **WASTE MANAGEMENT & RECYCLING in TOKYO**

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11/15 AM

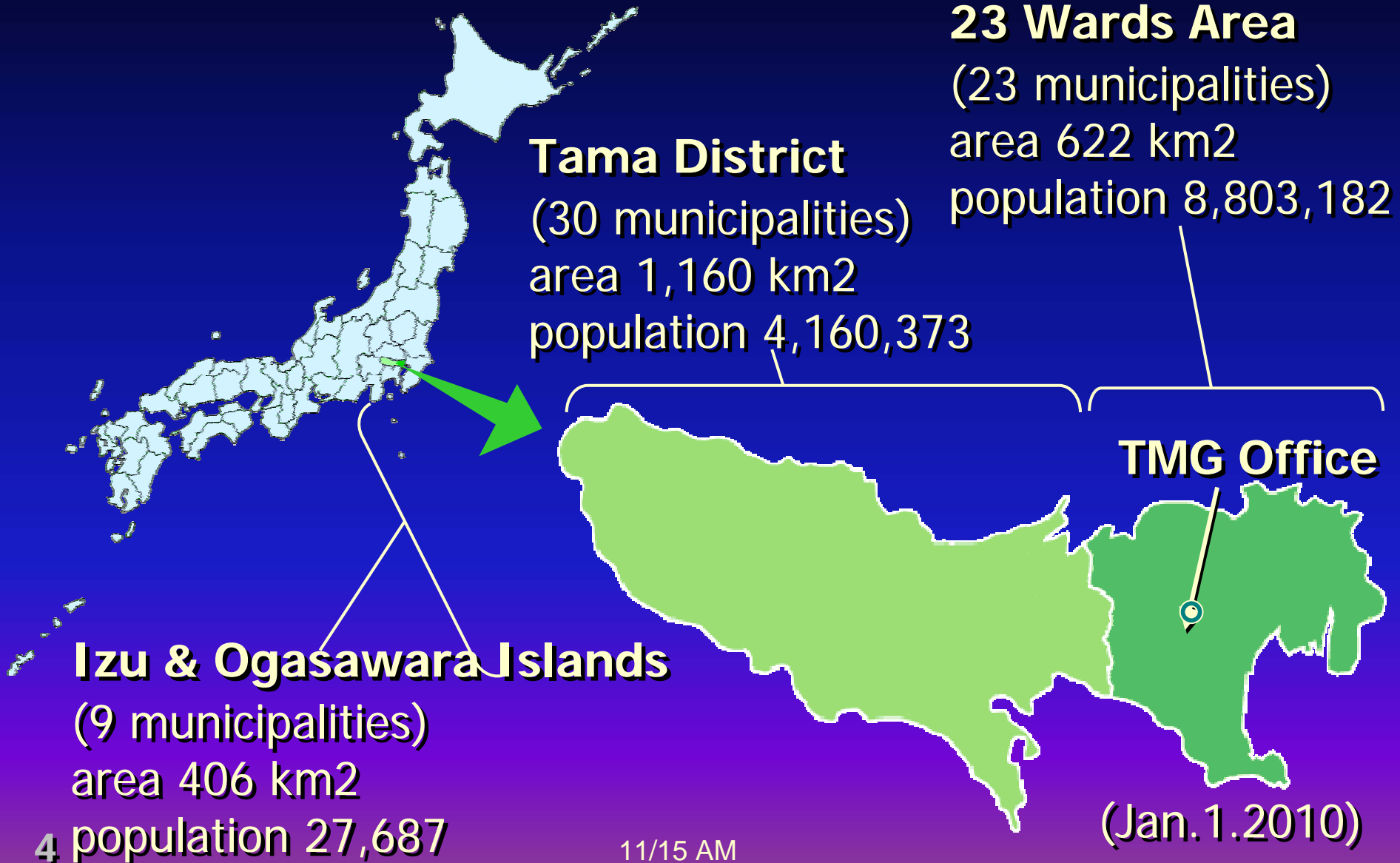
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# PROFILE OF TOKYO

## 東京の概要

# Geography and Population



# History of Tokyo

- 710 Musashi (Muzashi) state was formed in Kanto area.
- 1603 Ieyasu Tokugawa established government in the town of Edo.
- 1721 First population census conducted. ⇒ 1.3 million
- 1868 Meiji government was established.  
The name of Edo was changed to Tokyo.  
*Japan had modernized social system since this time.*
- 1888 Municipal organization system has introduced.
- 1927 First subway line in Japan opened between Asakusa and Ueno.
- 1931 Tokyo Airport opened in Haneda.
- 1943 Metropolitan administrative system has introduced.
- 1947 New system of local government has introduced.
- 1962 Population in Tokyo reached 10 million.
- 1964 Olympic Games was held in Tokyo.
- 1999 Shintaro Ishihara was elected to Governor.  
"No Diesel Vehicles" campaign launched.
- 2003 Diesel Vehicle Emissions Regulations has introduced in Greater Tokyo Area.
- 2008 C40 Conference on Climate Change was held in Tokyo.

# RIGHTS OF THE PEOPLE

## 国民の権利

### The Constitution of Japan

- *All of the people shall be respected as individuals. Their right to life, liberty, and the pursuit of happiness shall, to the extent that it does not interfere with the public welfare, be the supreme consideration in legislation and other governmental affairs.(Art.13)*
- *All people shall have the right to maintain the minimum standards of wholesome and cultured living. In all spheres of life, the State shall use its endeavors for the promotion and extension of social welfare and security, and of public health.(Art.25)*

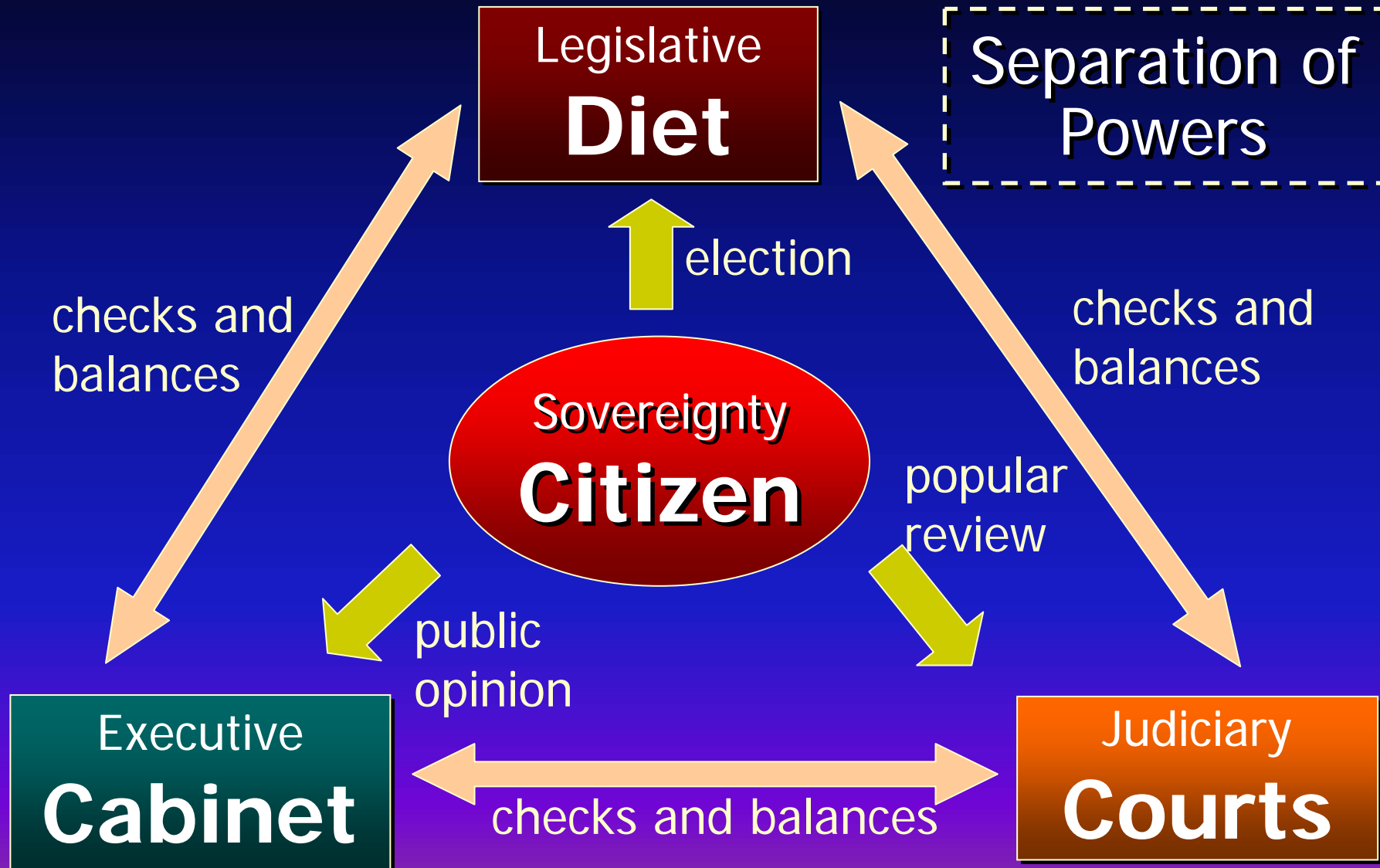
# SYSTEM OF GOVERNMENT IN JAPAN

## 日本の統治機構

### The Constitution of Japan

- *The Diet shall be the highest organ of state power, and shall be the sole law making organ of the State.(Art.41)*
- *Executive power shall be vested in the Cabinet.(Art.66)*
- *The whole judicial power is vested in a Supreme Court and in such inferior courts as are established by law.(Art.76)*

# System of Government in Japan(1)



# System of Government in Japan(2)

## Relationship between the Diet and the Cabinet

- *The cabinet shall be collectively responsible to the Diet.*
- *The Diet chooses the prime minister from among its members.*
- *The House of Representatives has the right to resolve a motion of no confidence against members of the cabinet.*

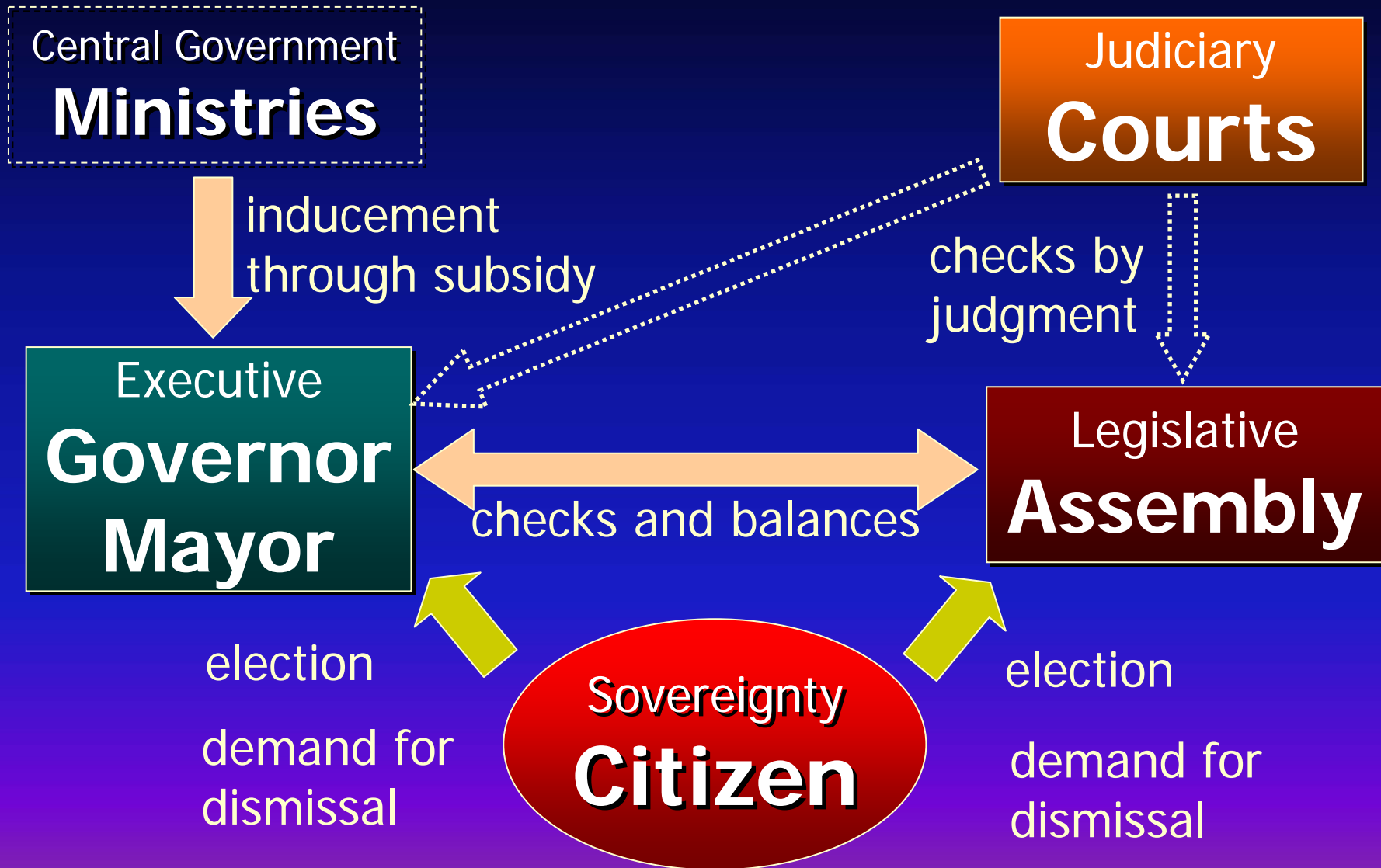
## Relationship between the Cabinet and the Courts

- *The Cabinet appoints all members of the Supreme Court.*
- *The Courts can investigate the decisions of the Cabinet for legality.*

## Relationship between the Courts and the Diet

- *The Courts can investigate the constitutionality of laws enacted by the Diet.*
- *The Diet can initiate impeachment proceedings to dismiss a judge.*

# System of Local Government(1)



# System of Local Government(2)

## Legal status 《The Constitution Art.92-94》

- *Regulations concerning organization and operations of local public entities shall be fixed by law in accordance with the principle of local autonomy.*
- *The local public entities shall establish assemblies as their deliberative organs, in accordance with law.*
- *Local public entities shall have the right to manage their property, affairs and administration and to enact their own regulations within law.*

## Local entities 《Prefectures and Municipalities》

- *Prefectures are the upper-level local entities comprising municipalities.*
- *Municipalities are primary level local entities which take charge of all local administration.*

# JAPANESE LEGISLATION

## 日本の廃棄物・リサイクル関連法

# History of Japanese Legislation(1)

**1900 Public Cleansing Law**

**1954 Sanitation Law**

**1970 Waste Management Law**

(Waste Management and Public Cleansing Law)

**1991 Law for Promotion of Utilization of  
Recycled Resources**

**1995 Containers and Packaging  
Recycling Law**

**1998 Home Appliance Recycling Law**

# History of Japanese Legislation(2)

**2000 Fundamental Law for Establishing  
a Sound Material-Cycle Society**

**Law for the Promotion of Effective  
Utilization of Resources**

(amendment of "Law for Promotion of Utilization of Recycled Resources")

**Construction Material Recycling Law**

**Food Waste Recycling Law**

**2002 End-of-Life Vehicle Recycling Law**

**Protecting public health (1900~)**

**Ensuring good living environment (1970~)**

**Encouraging resource recycling (1991~)**

# Legal Framework

廃棄物・リサイクル関連法の体系

## Fundamental Law for Establishing a Sound Material-Cycle Society

Waste Management Law

Law for the Promotion of  
Effective Utilization of Resources

- Containers and Packaging Recycling Law
- Home Appliance Recycling Law
- Construction Material Recycling Law
- Food Waste Recycling Law
- End-of-Life Vehicle Recycling Law

# Waste Management Hierarchy under the Fundamental Law

循環型社会形成推進基本法で定める資源の循環的な利用における優先順位

## ■ *Basic principle for the sound material-cycle society:*

*1. Source reduction or waste prevention*

*2. Reuse*

*3. Recycling*

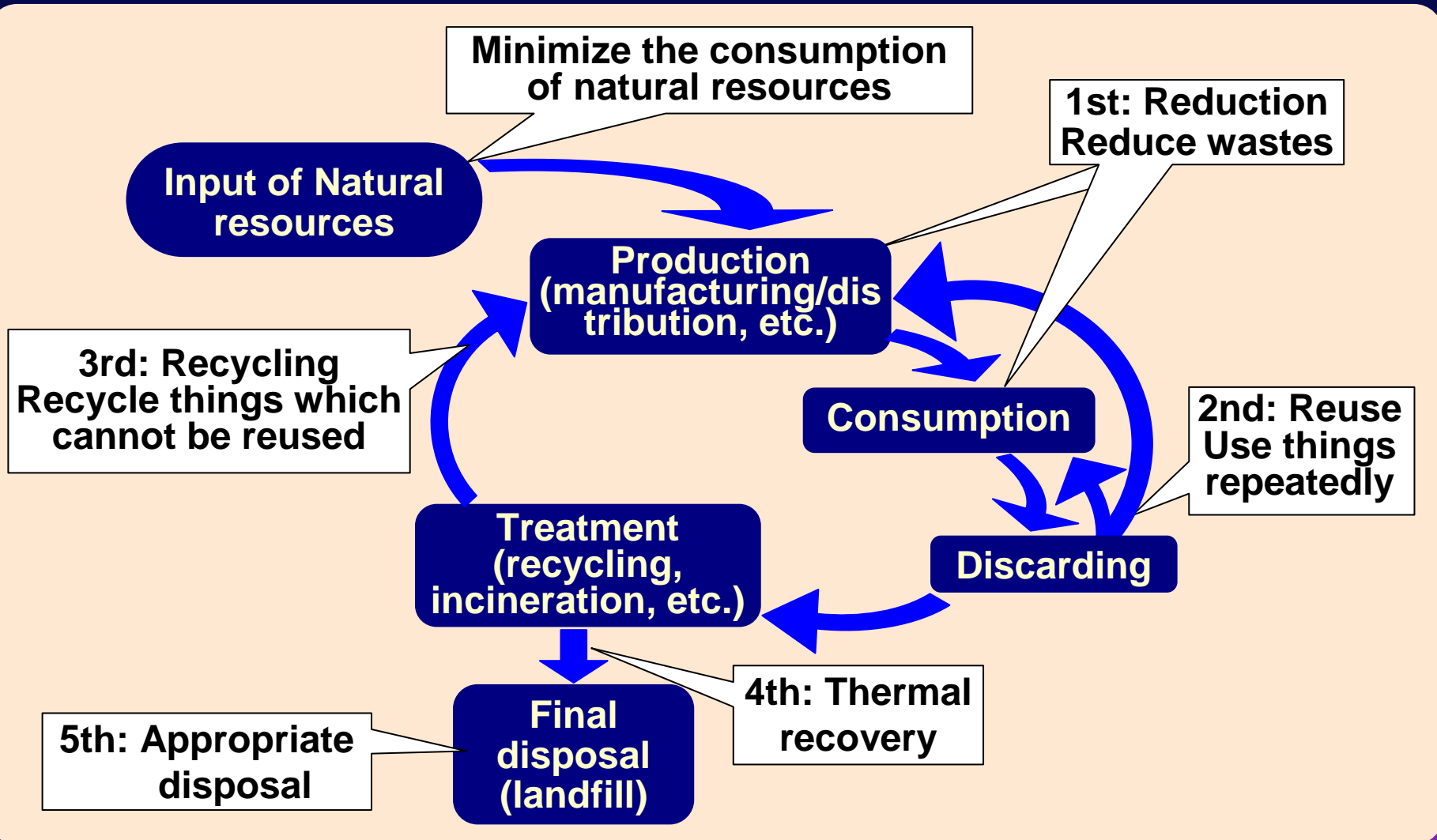
*4. Energy recovery*

*5. Appropriate disposal*

## ■ *Extended producer responsibility: EPR*

# The sound material-cycle society

A society where the consumption of natural resources is minimized and the environmental load is reduced as much as possible through implementation of 3R measures and appropriate disposal.



# Law for the Effective Utilization of Resources

資源有効利用促進法

*Industries and manufactures, following the standards set by the ministry, shall encourage:*

- ◆ *reducing by-products,*
- ◆ *utilizing recycled resources,*
- ◆ *reducing waste from end-of-life products, e.g. making products that are resource-saving, durable, easily repaired, etc.*
- ◆ *making products that are easily recycled,*
- ◆ *labeling products for promoting recycling,*
- ◆ *taking back end-of-life products.*

# Waste Management Law

廃棄物処理法

## Purpose

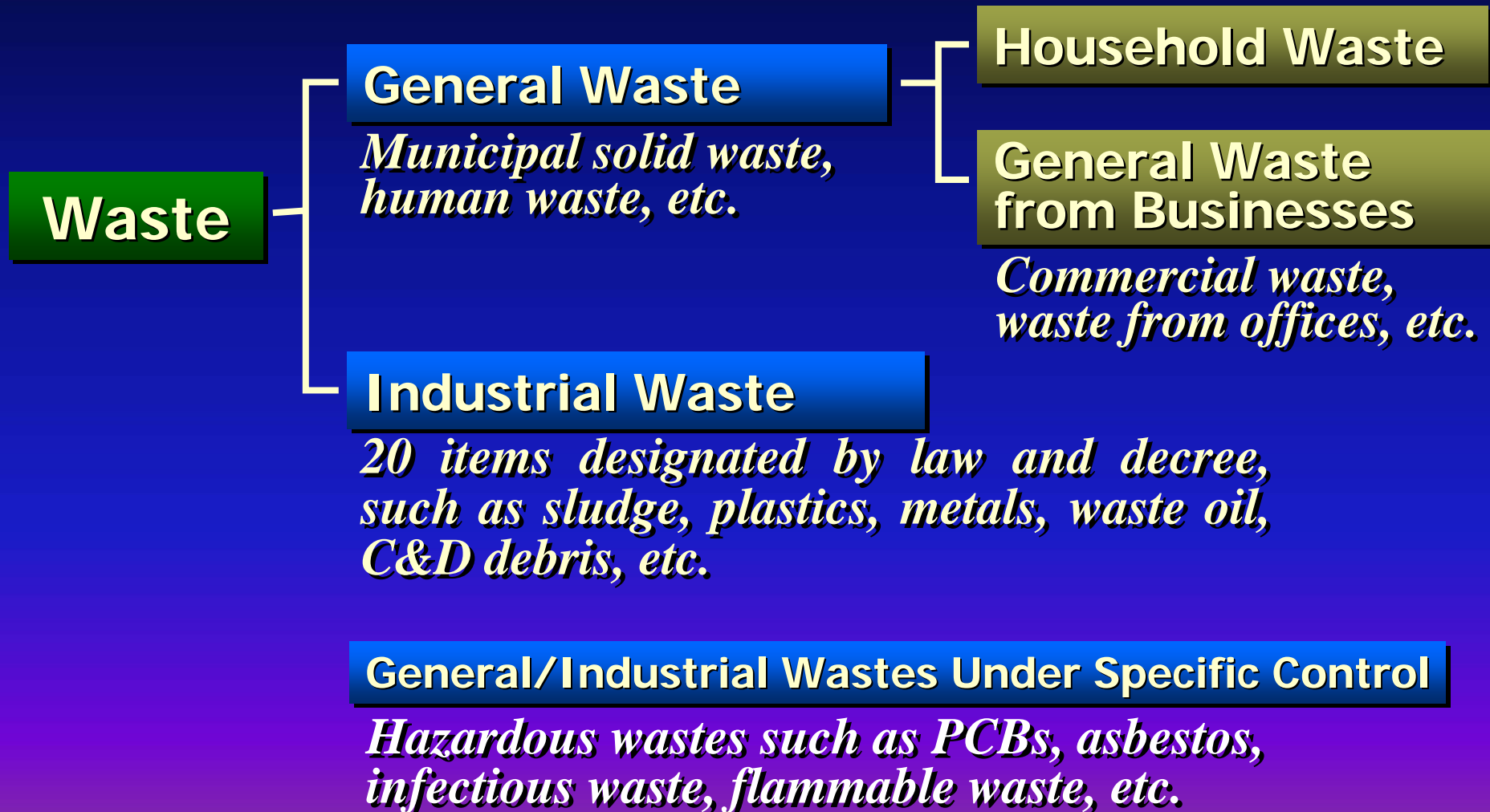
*Preserving the living environment and improving public health through the restriction of waste discharge, appropriate sorting, storage, collection, transport, recycling, disposal, etc.*

## Feature

- *A general law concerning solid and liquid waste (excluding radioactive waste and waste polluted by radioactivity).*
- *Classifying all wastes into general waste (municipal solid waste, etc) and industrial waste.*
- *Setting responsibilities of citizens, businesses, the central government and local governments.*
- *Adopting license systems for waste treatment businesses and waste disposal facilities.*

# Classification of Wastes under the Waste Management Law

廃棄物の分類



# Roles of National/Local Governments under the Waste Management Law

## National Government

- *Defining national waste management policy,*
- *Setting standards for the appropriate waste management,*
- *Financial and technical support to the local government, etc.*

## Prefectures

- *Establishing regional waste management program,*
- *Ensuring the appropriate management of industrial waste,*
- *Authorization for waste treatment facilities and landfills,*
- *Providing technical aids to the municipalities, etc.*

## Municipalities

- *Establishing municipal general waste management program,*
- *Authorization for general waste treatment agents,*
- *Treatment of municipal solid waste & human waste, etc.*

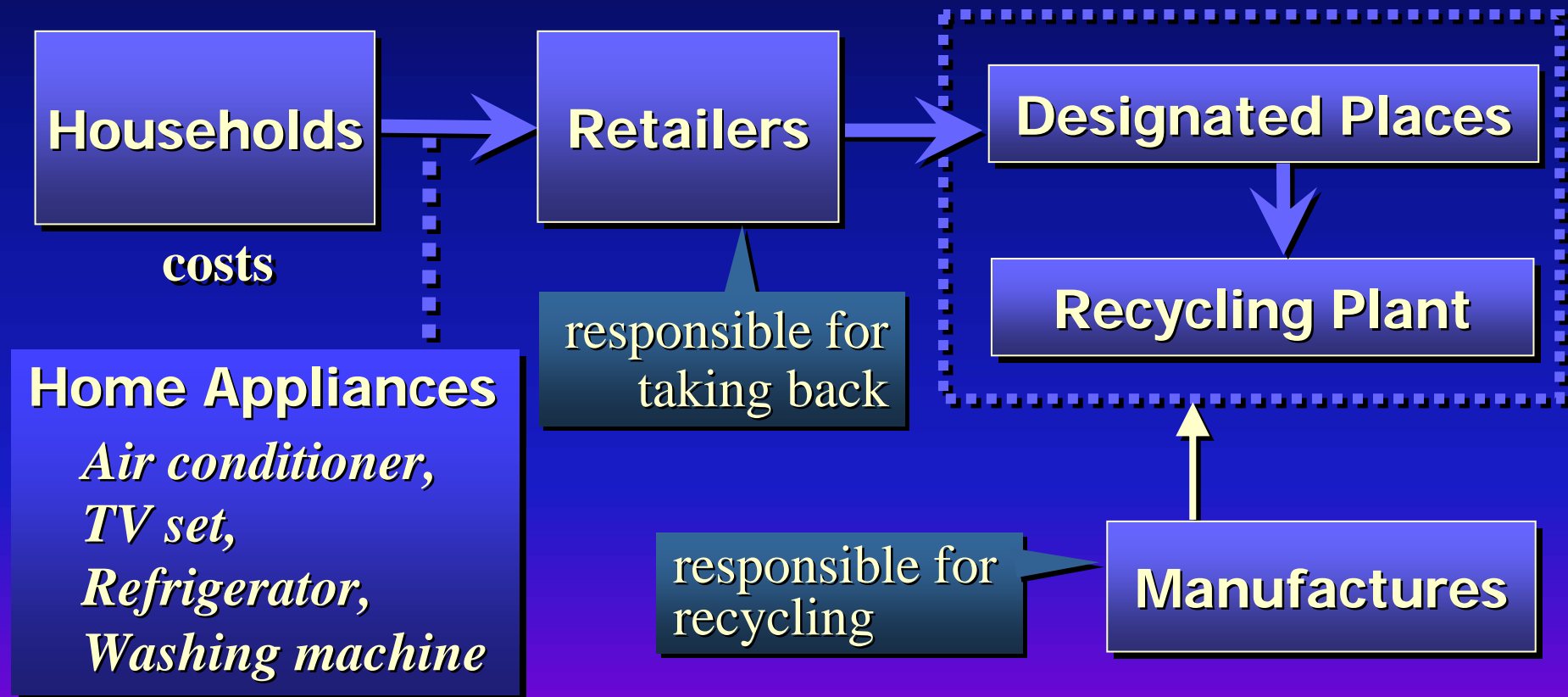
# Packaging Recycling Law

容器包装リサイクル法



# Home Appliances Recycling Law

家電リサイクル法

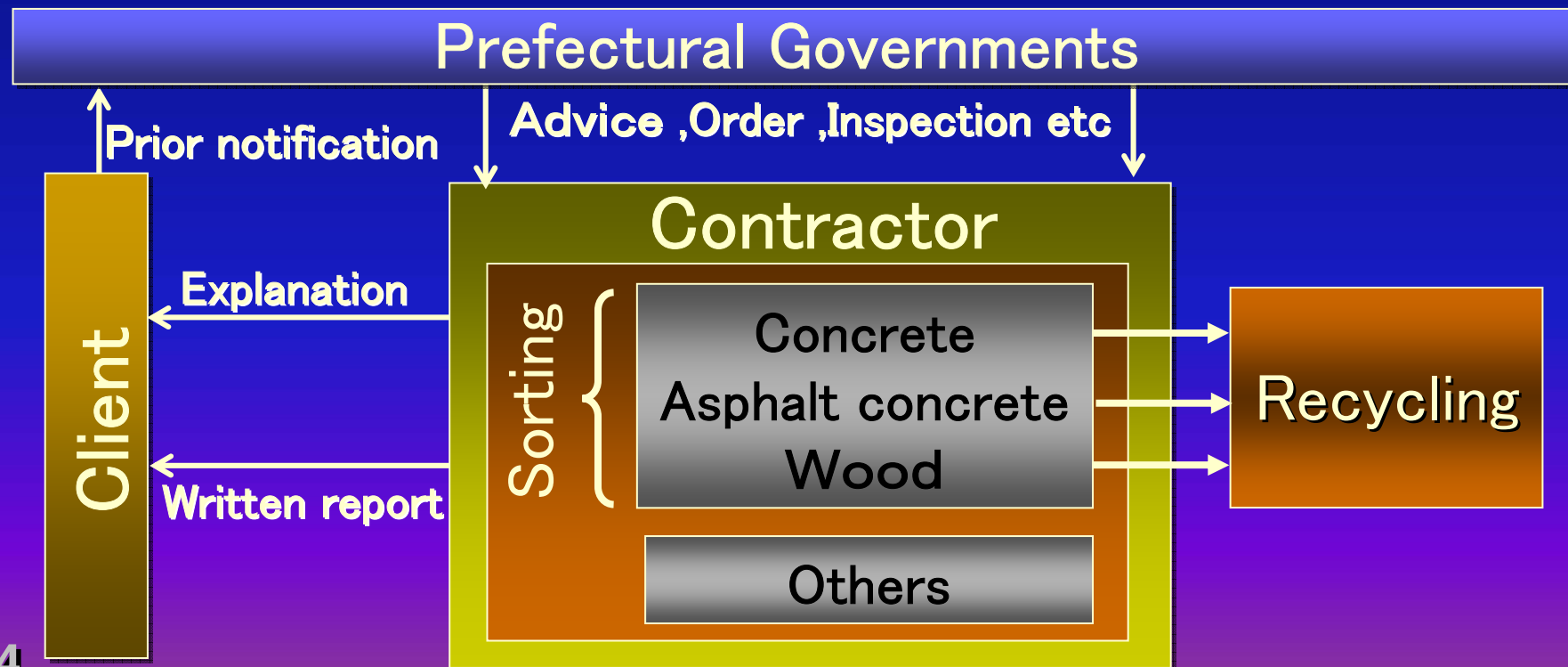


# Construction Waste Recycling Law

## 建設リサイクル法

### ※ Construction works to be regulated

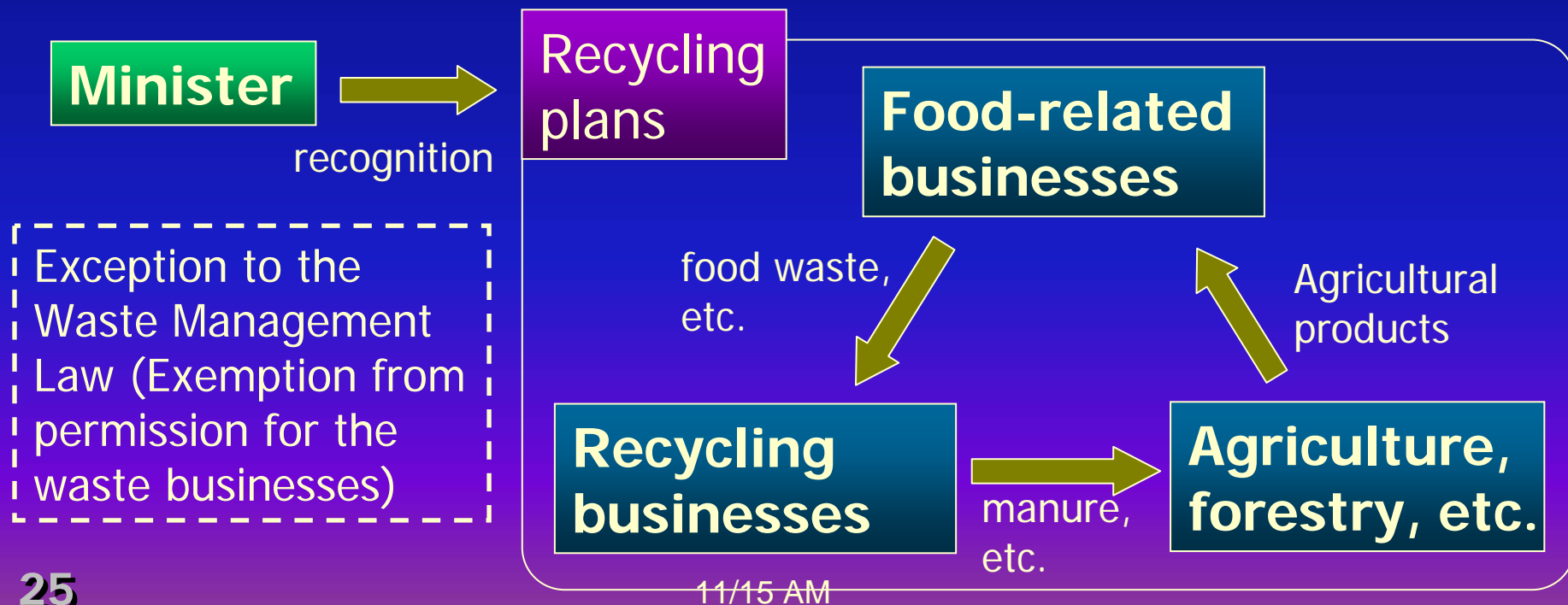
- Demolition of a building : 80m<sup>2</sup> or more (total floor space)
- Construction of a new building or extension : 500m<sup>2</sup> or more (total floor space)
- Repairing or Remodeling of a building : 100million yen or more (contracting fee)
- Other construction work : 5million yen or more (contracting fee)



# Food Waste Recycling Law

食品リサイクル法

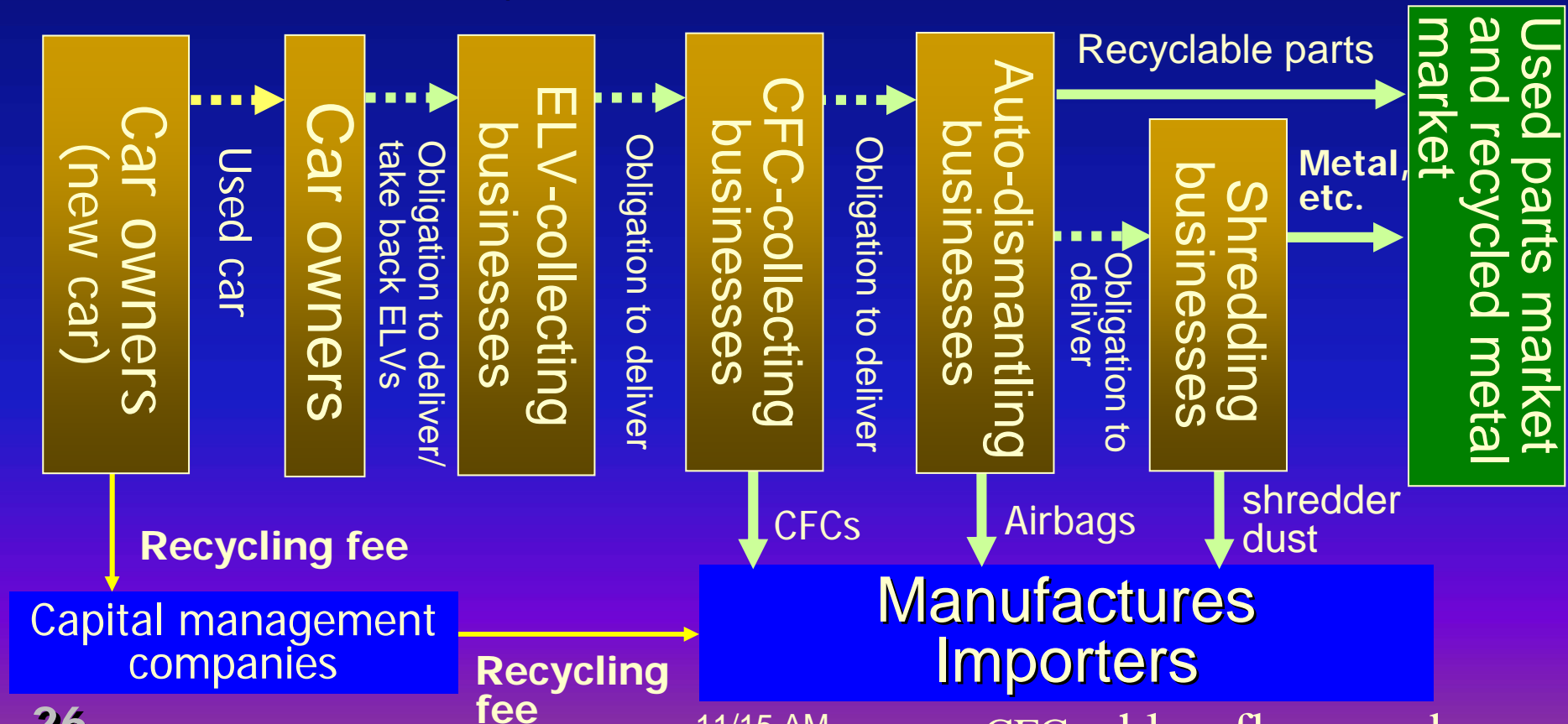
All Food-related businesses engaged in manufacturing and distributing food products or providing restaurant services shall carry out recycling of food waste (through prevention of waste generation, and reduction of final disposal), and raise the recycling rate up to 20 %.



# End-of-Life Vehicle Recycling Law

自動車リサイクル法

Collecting and recycling CFCs, airbags and shredder dust from ELVs that are manufactured and imported by themselves.



# MUNICIPAL SOLID WASTE MANAGEMENT

## 都市ごみ（一般廃棄物）

# Amount of Municipal Solid Waste in Tokyo

都内の都市ごみ(一般廃棄物)排出量

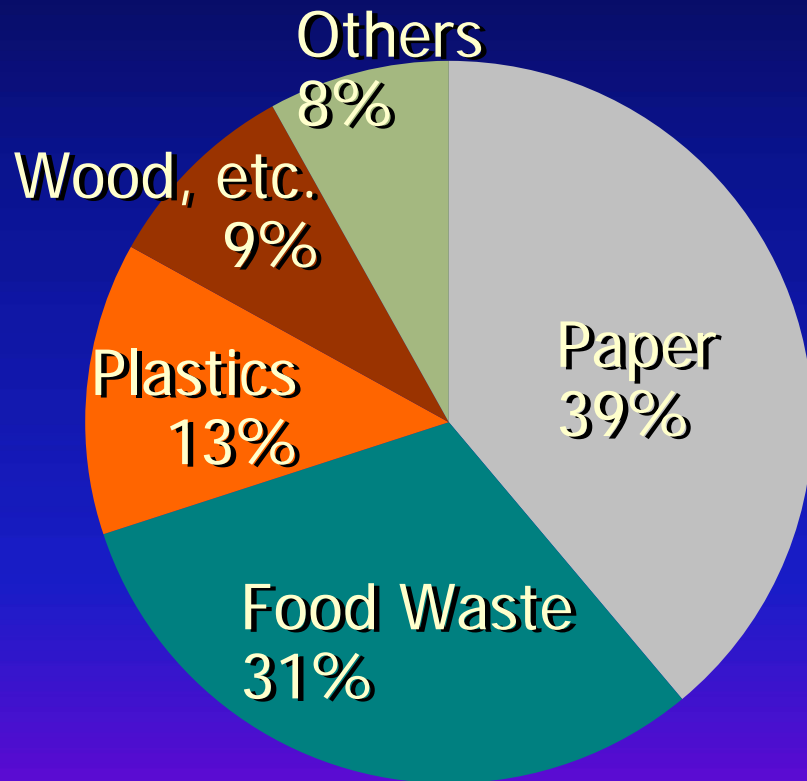
unit : thousand tons



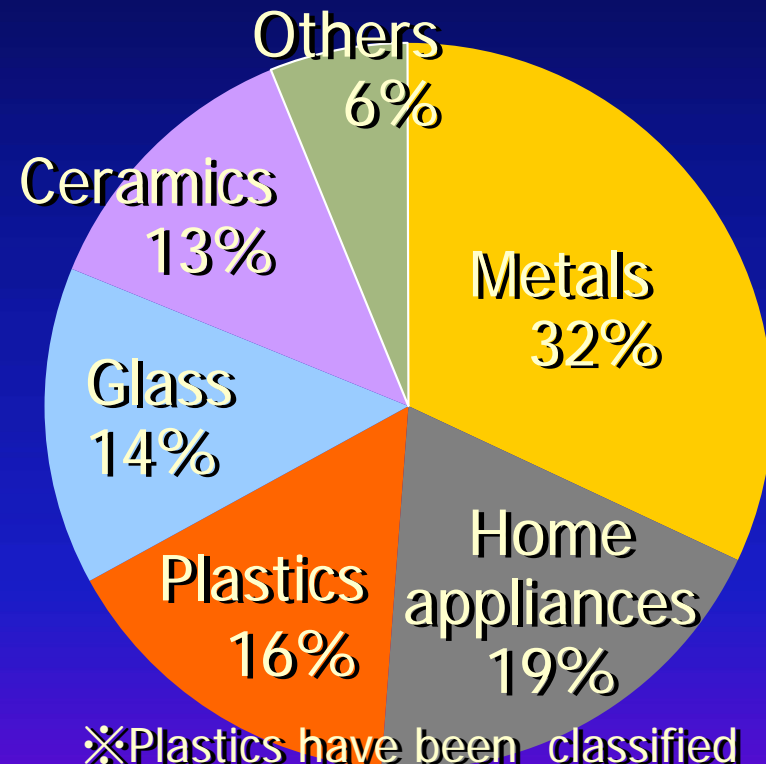
# Composition of MSW in 23 Wards Area

都市ごみ(一般廃棄物)の組成

FY2009



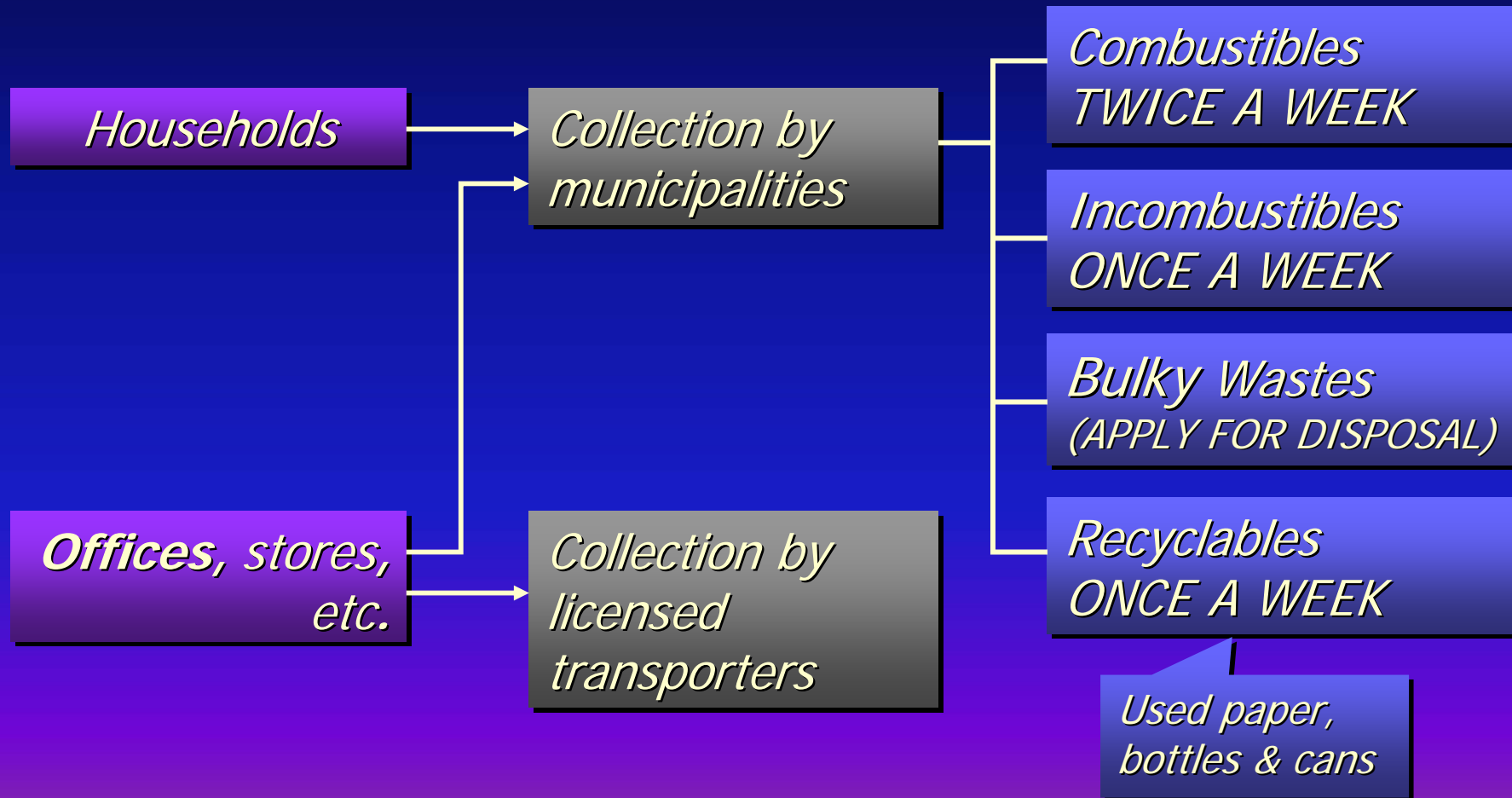
Combustibles



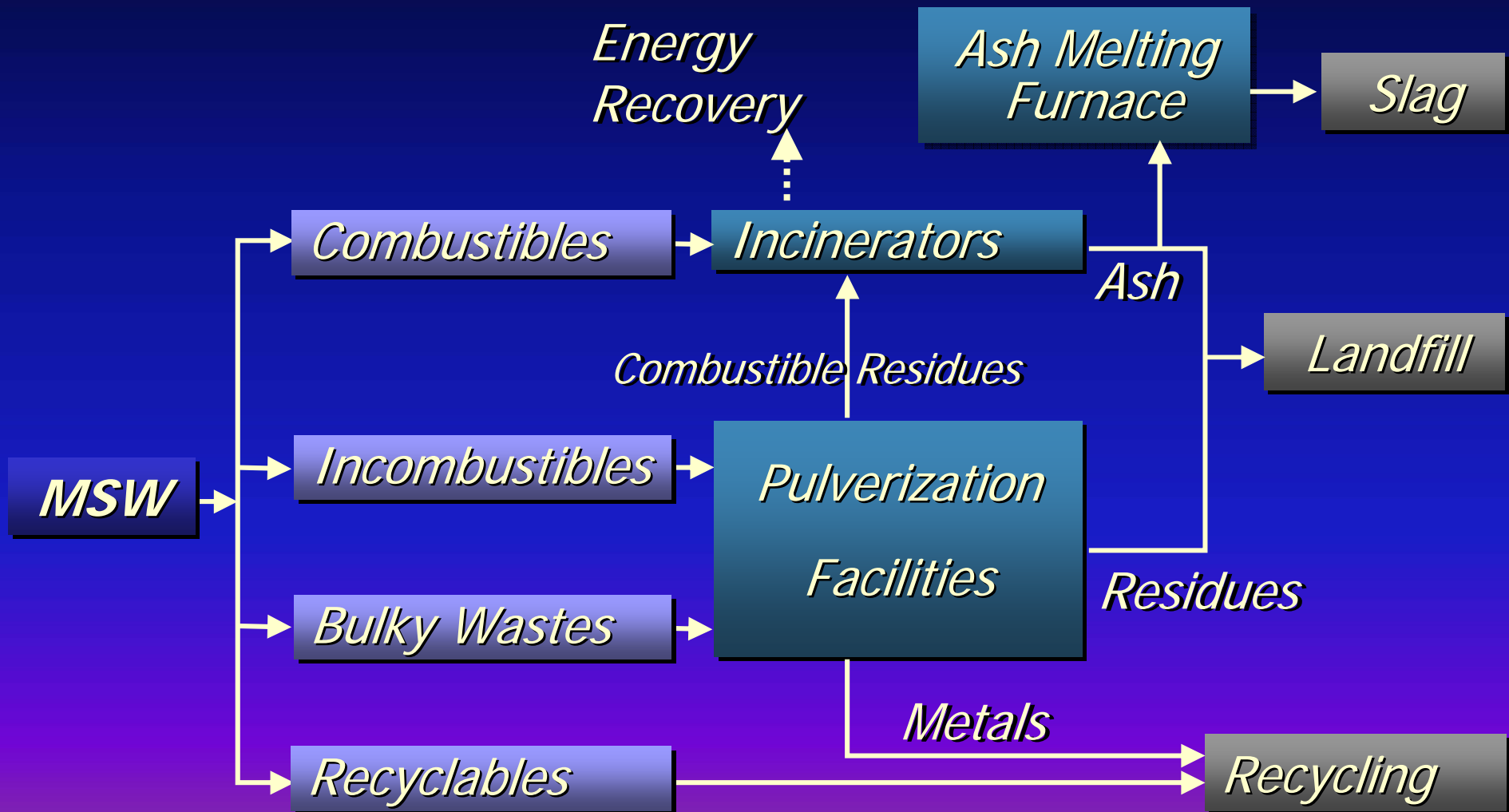
※Plastics have been classified as combustibles since 2008

Incombustibles

# Collection of Municipal Solid Waste in 23 Wards Area



# MSW Flow Chart in 23 Wards Area



# INDUSTRIAL WASTE MANAGEMENT

## 産業廃棄物管理

# Responsibility for Appropriate Waste Management

## 産業廃棄物の適正処理責任



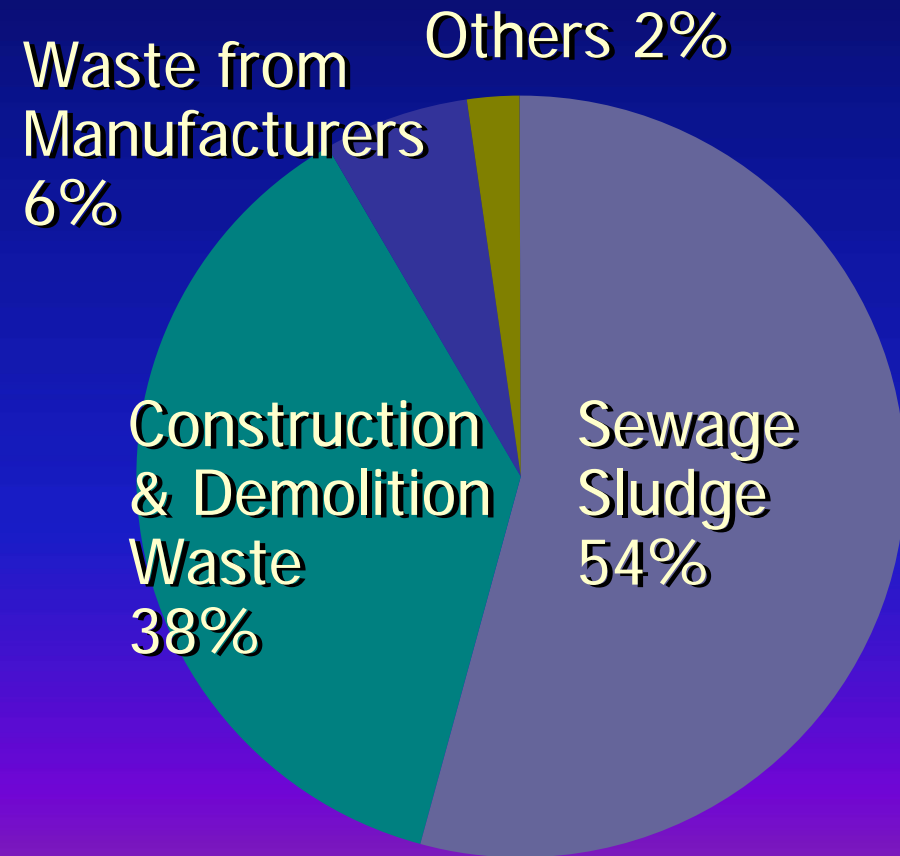
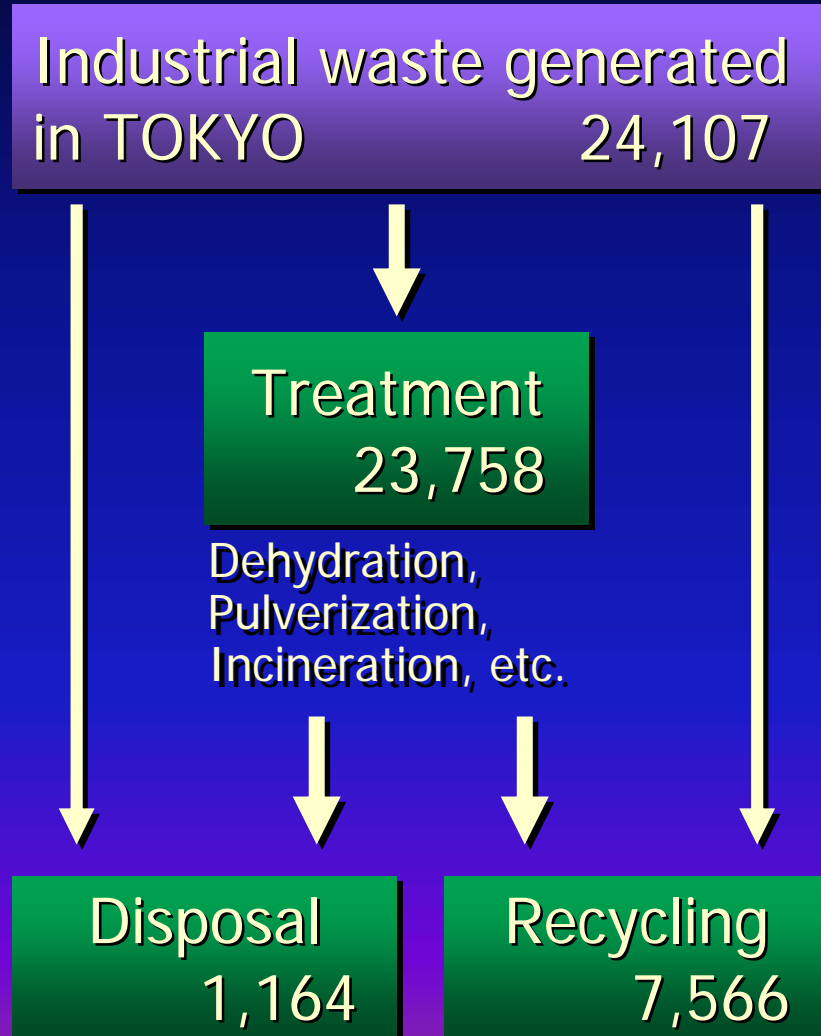
- Building Contractors
- Manufacturers
- Hospitals etc.

- Dehydration
- Pulverization
- Incineration etc.

# Industrial Waste in Tokyo

FY2007

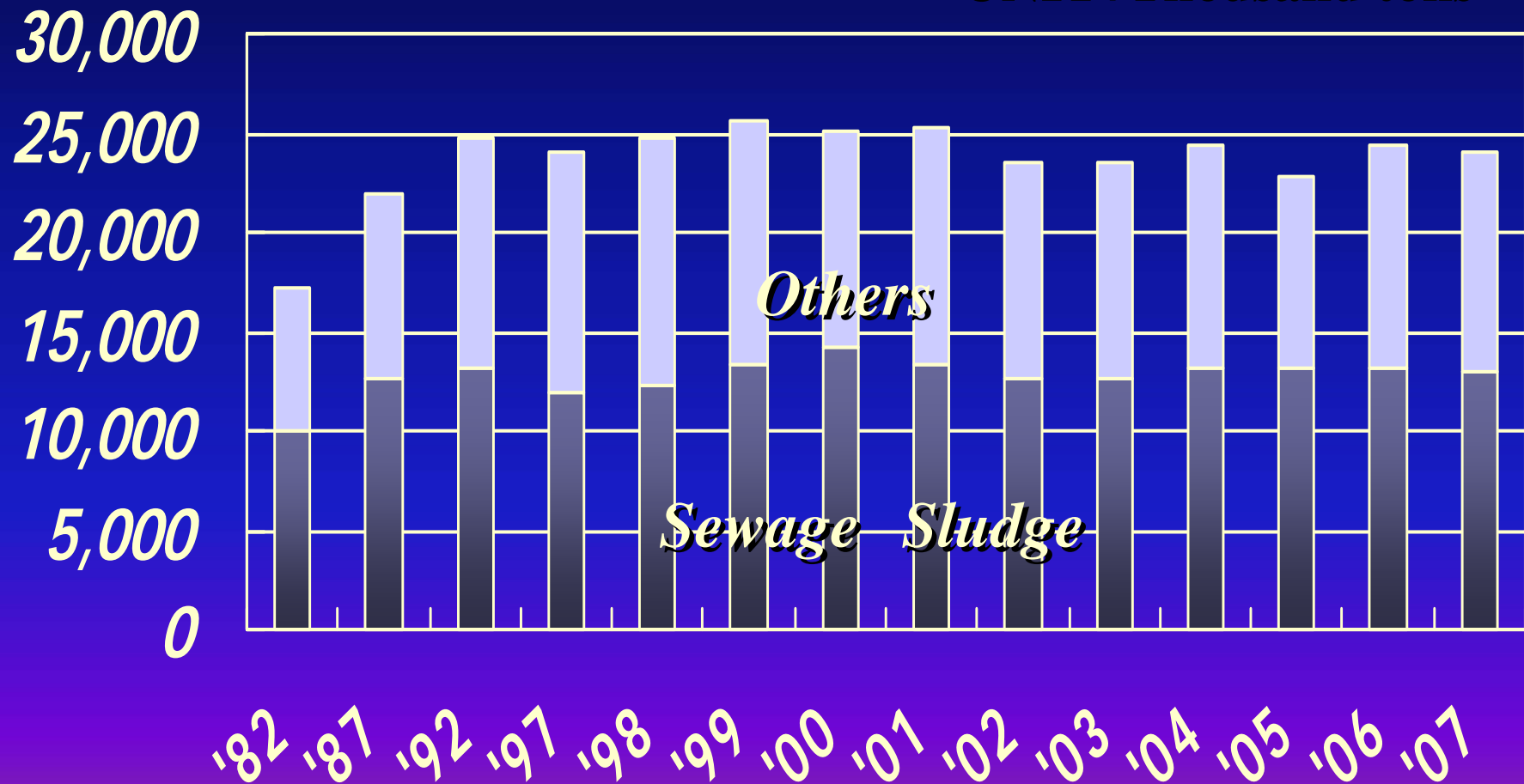
UNIT: Thousand tons



# Amount of Industrial Waste in Tokyo

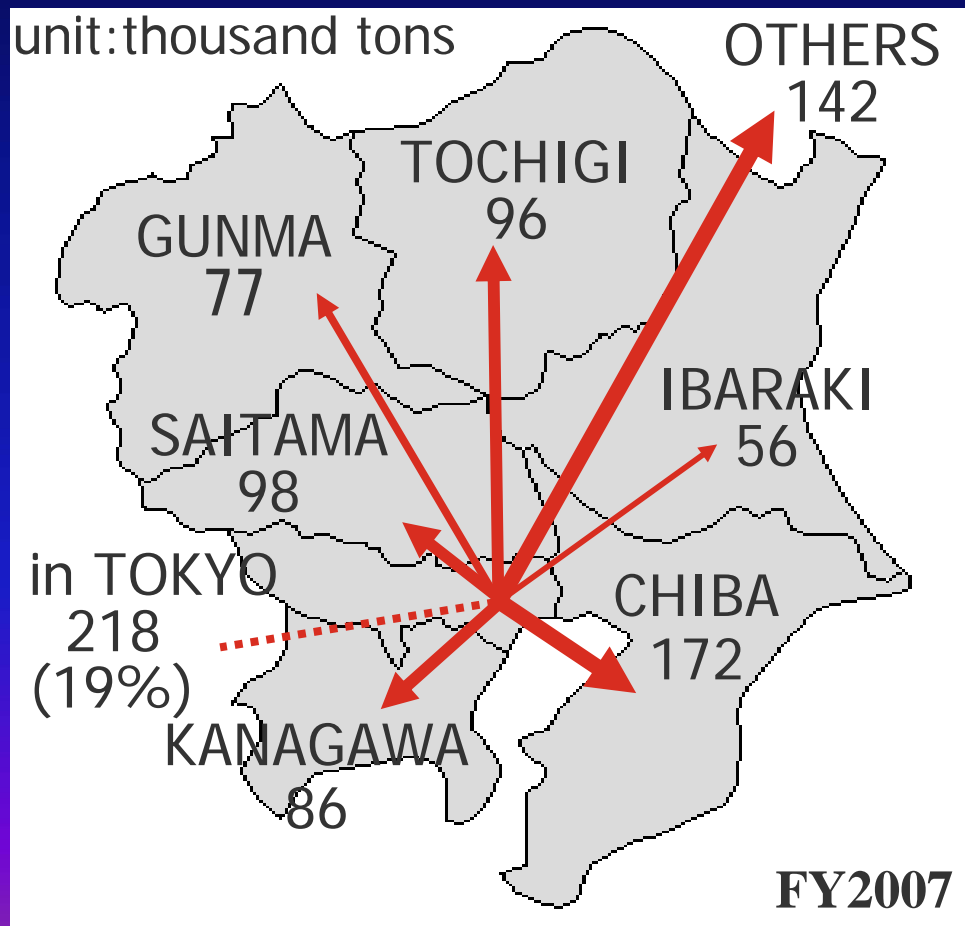
## 都内の産業廃棄物排出量

UNIT: Thousand tons



# Final Disposal of TOKYO's Industrial Waste

都内発生 of 産業廃棄物の広域最終処分状況



*Except sewage sludge, most of industrial wastes generated in TOKYO are disposed of in other prefectures.*

# Illegal Dumping

## 廃棄物の不法投棄の状況

thousand tons

number of sites



nationwide, estimated by the ministry of environment

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# OUR PROGRAMS

## 都の取組

# The TMG Waste Management Plan: Ideal

**Transformation into a recycling-oriented society**

- Reduction of natural resource consumption and waste generation
- Minimization of environmental risks in the process of waste treatment

# The TMG Waste Management Plan: Target 1

## ■ Reducing generation and promoting recycling

- ① Reduce the final disposal of waste to 1,600,000 tons in FY2010 (Reduction of 35% from FY2004)
- ② Promote recycling waste plastic to achieve zero landfill disposal
- ③ Increase the use of construction mud by 50%

# The TMG Waste Management Plan: Target 2

- Reduction of environmental risks concerning waste treatment and recycling
- ④ Establish a system for hazardous waste treatment within Tokyo
- ⑤ Reinforce wide-area cooperation in the metropolitan area to eradicate illegal dumping of industrial waste

# The TMG Waste Management Plan: Target 3

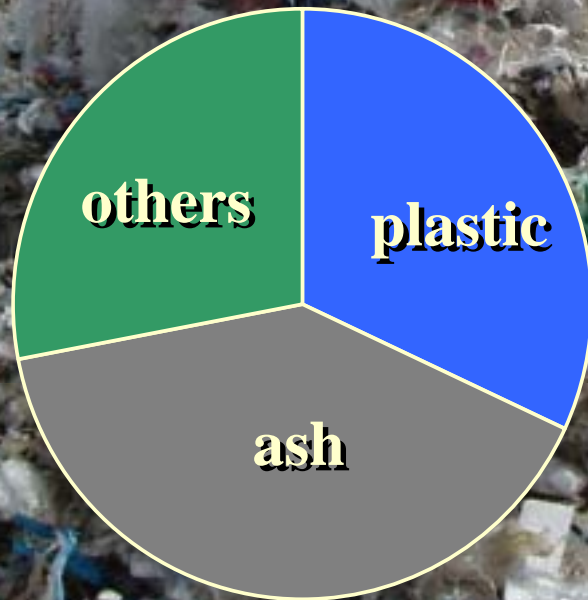
- Promotion of the development of sound waste treatment and recycling business
- ⑥ Establish a system that enable reliable industrial waste disposal contractors to enhance their market value

# Toward Zero-Landfilling: Plastic Recycling

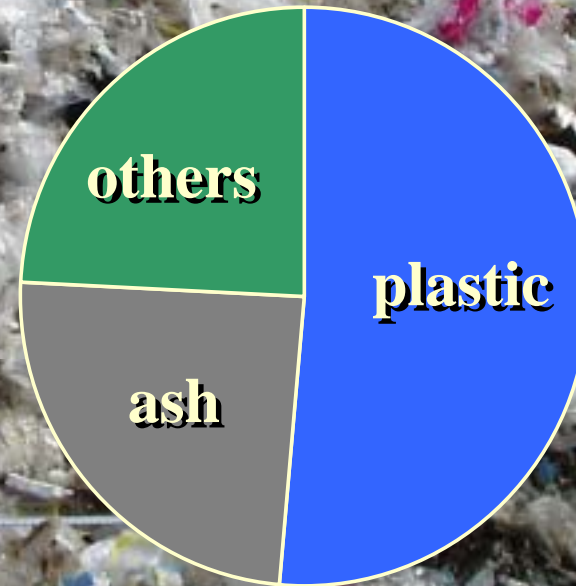
埋立処分ゼロへ向けて: 廃プラスチックのリサイクル推進

## Composition of Landfilled MSW

FY2003



by weight



by volume

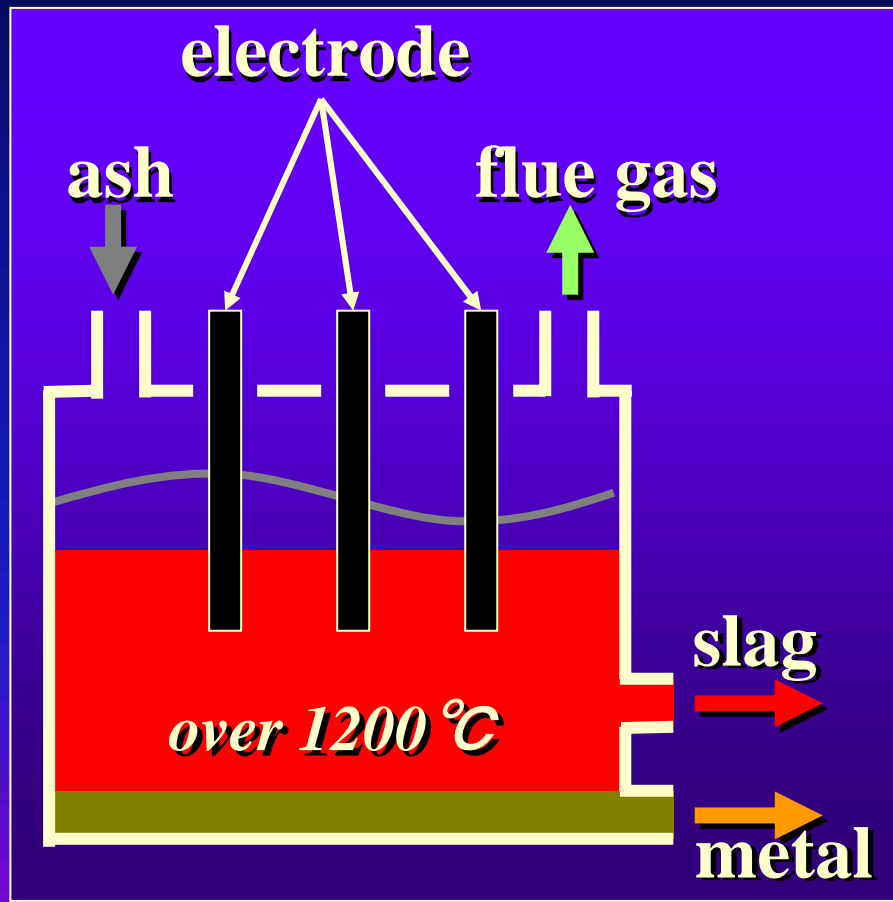
TMG's landfill site

# Toward Zero-Landfilling(1):

埋立処分ゼロに向けて:焼却灰の溶融処理

## Ash Melting

In Tokyo 23 wards, most of incinerator ash is melted into slag to be used as civil engineering material.



Arc Type Ash Melting Furnace



slag

# Toward Zero-Landfilling(2): 埋立処分ゼロに向けて:焼却灰のエコセメント利用 **Eco-cement**

**In the TAMA region, all of the incinerator ash is used to produce Eco-cement.**



**benches**



**Eco-cement facilities**



**interlocking blocks**

# Super Eco-Town Project

スーパーエコタウン事業

C&D Waste Recycling Plants



E-Waste Recycling Plants



PCB Waste Disposal Plant



Gasification & Melting Power Plant



Food Waste Recycling Plants



# SUMMARY

## 要約 (まとめ)

# Municipal Solid Waste

都市ごみ(一般廃棄物)

- Each municipality is responsible for the municipal solid waste management.
- Almost all the municipal solid waste generated in Tokyo is appropriately treated by public sectors.
- Toward the Zero-Landfilling, we are promoting recycling and energy recovery.

# Industrial Waste 産業廃棄物

- Most of industrial wastes are disposed of by licensed private companies.
- About three quarters of industrial waste generated in Tokyo is disposed of in other prefectures.
- We are cooperating with other local agencies to prevent illegal dumping.
- We are promoting Super Eco-Town Project in order to establish environmentally sound industrial waste management.

# Resource Recycling 資源循環

- We aim to build a recycling-oriented society by implementing the measures set forth in the TMG waste management plan.
- The residents should fulfill their responsibilities as waste generators and improve their daily purchasing behavior.
- According to the concept of EPR, business companies should take a responsible approach to reduce waste.
- We will build new recycling systems and engage in the development of a wide-area framework in collaboration with private-sector companies and municipal governments.

**Thank you for your attention**

