



# Contents

I Types and sources of medical waste

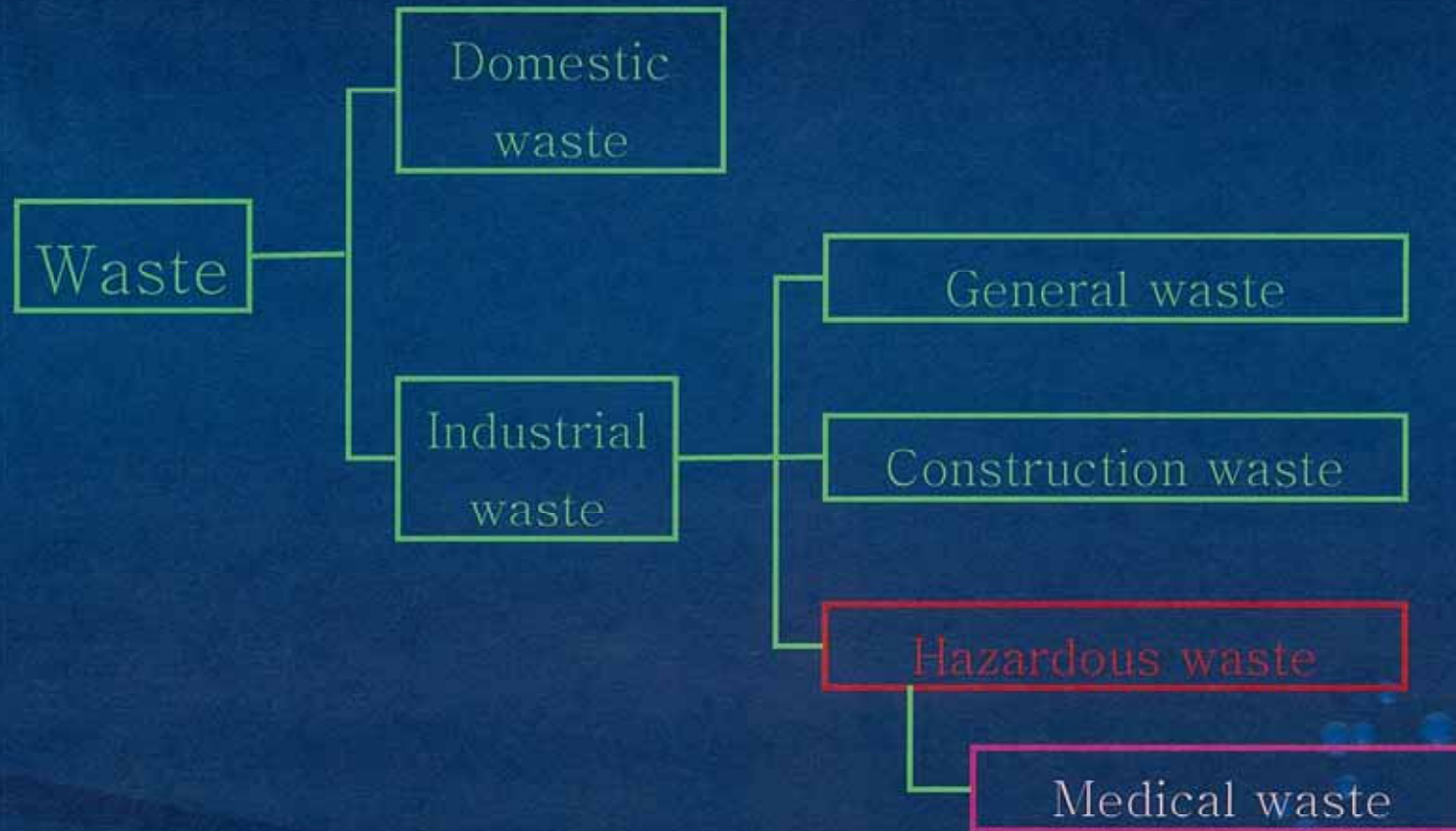
II Generation and treatment status

III Medical waste management

IV Future plan

# Classification of waste

## I. Types and sources of medical waste



- **Tissues** : Extracted tissues/organs from human and animal, animals carcass etc.
- **Used cottons** : Swabs, gauze, bandage stained with blood, pus and excreta, used diaper etc.
- **Plastics** : Syringes, ringer's solution set, blood bag etc.
- **Laboratory waste** : Tested/inspected culture and its vessels, waste-blood etc.
- **Sharps** : Needles, scalpels, blades, broken glass etc.
- **Mixed medical waste** : waste mixed with above type wastes

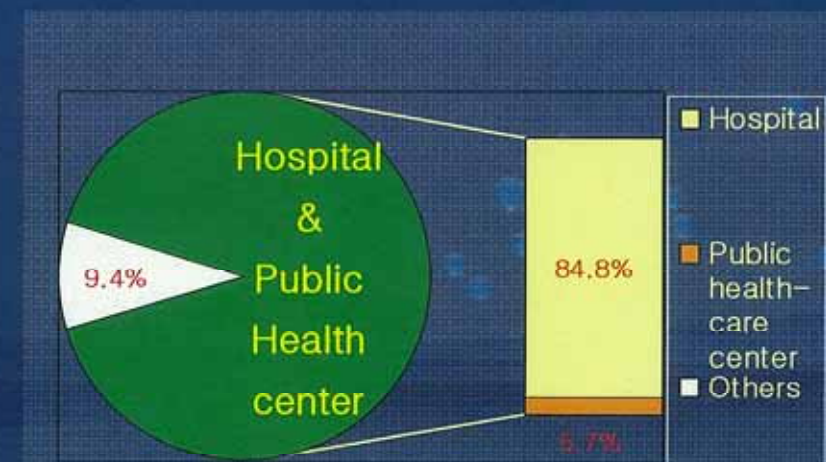
- **Hospitals and other public health-care centers**
- **Blood banks**
- **Animal quarantine station, pet clinic**
- **Laboratories and research centers which is related with medical / dental / oriental medical science**
- **Funeral parlors**
- **Prison, jail, mandatory facilities**
- **Nursing homes for the elderly**

### ■ Generation

- Increasing continually every year
- Majority of medical waste
  - Tissues (2.4%)
  - Plastics and other (97.6%)

### ■ Sources (2004)

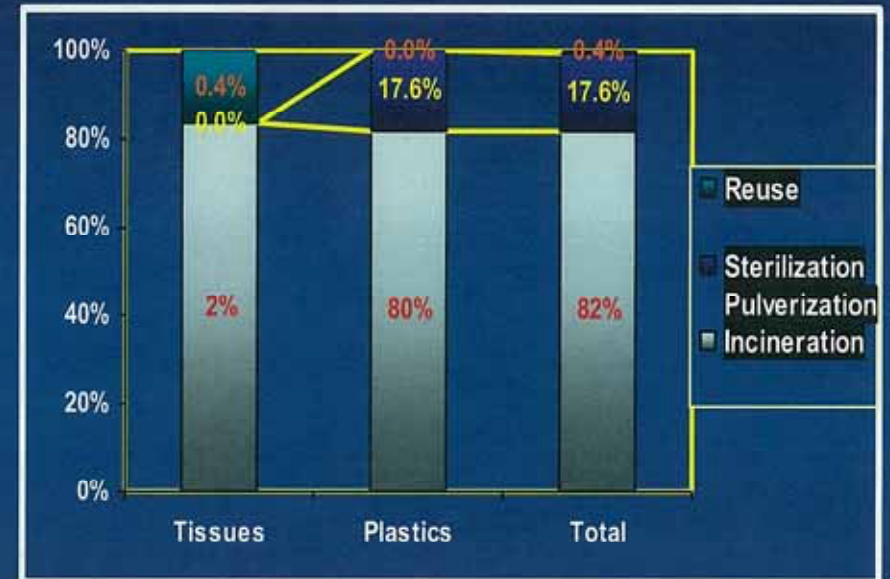
- Total 51,921 facilities
- Majority sources
  - Hospitals (44,047)
  - Public health-care centers (2,971)



# Treatment status(2004)

## ■ Treatment method

- Incineration 82.0%
- Sterilization-Pulverization 17.6%,
- Reuse 0.4%



## ■ Treatment facilities

	Facilities	Disposal capacity (kg/hour)
Incineration	15	14,020
Sterilization & pulverization	5(4)	2,540
Total	16	16,560

※ Four sterilization and pulverization companies have incineration system



→ Plastic type



→ Corrugated cardboard type  
Double sealing with transparent orange color plastic bag

## Symbols color of deposit vessels

Waste type	Color
Human placenta (reusable)	Green
Human placenta (non-reusable), other tissues	Red
Cotton, plastics, mixed medical waste	Orange
Laboratory waste, sharps	Yellow

※ Statement on boxes : Generator, waste type, opening vessel date, collecting date, weight(kg)



## ■ Deposit permission period

- Generator

- Less than 10 days, but small generators are less than 15 days

- Treatment company : 5 days

## ■ Deposit method

- Tissues : Deposit in freezer after put into deposit vessel

- Others : Store in warehouse after put into deposit vessel



Board of warehouse



Warehouse



Delivery vehicle

## ■ Treatment facility condition

- Incineration plant : bigger than 25kg/hr
  - Outlet of combustor temperature  $\geq 850^{\circ}\text{C}$ ,
  - Automatic input equipment and register
  - Treatment company's incinerator  $\geq 1$  ton/hr
- Sterilization-pulverization plant : bigger than 100kg/hr



## ■ Treatment method

- Tissues and liquid type : Incineration
- Others : Incineration or sterilization & pulverization
  - ※ But, incinerate residue after sterilization & pulverization
- Input waste without opening the deposit vessel
- Register installation and waste automatic input equipment



## ■ Subdivision of classification

- **Isolated-medical waste (Regulation reinforcement) :**  
→ Medical waste from isolated ward
- **Hazardous-medical waste (Maintain present regulation) :**  
→ Tissues, laboratory, blood attached
- **General-medical waste (Mitigate regulation)**

## Overview of RFID system

1. Tag Printing  
(Generator)



2. Storage  
(Generator)



3. Discharge  
(Generator)



4. Transporter  
receive



5. Storage  
(Treatment)

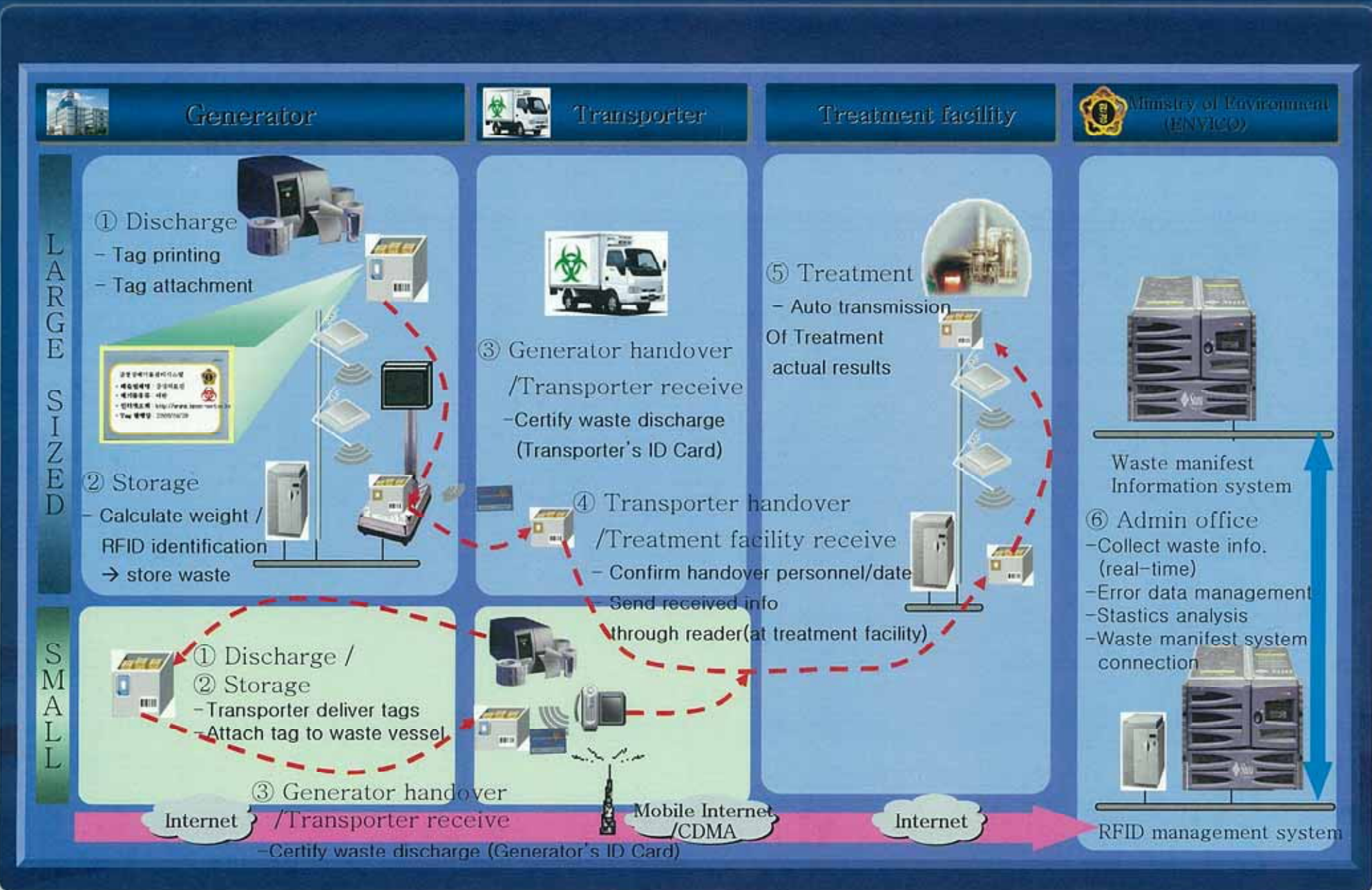


6. Incineration



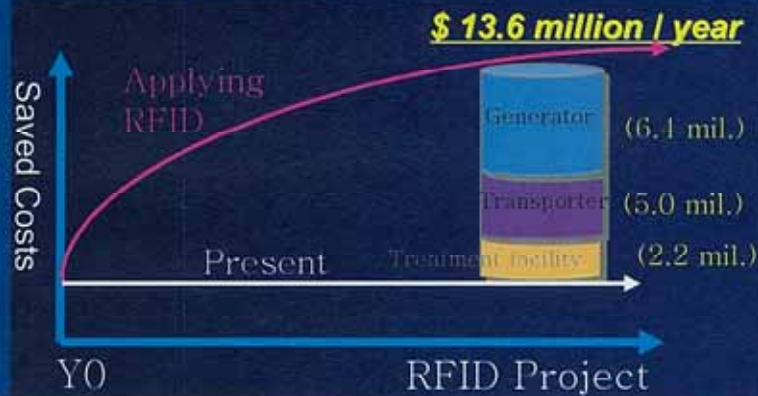
# Work process of RFID system

## IV. Future plan

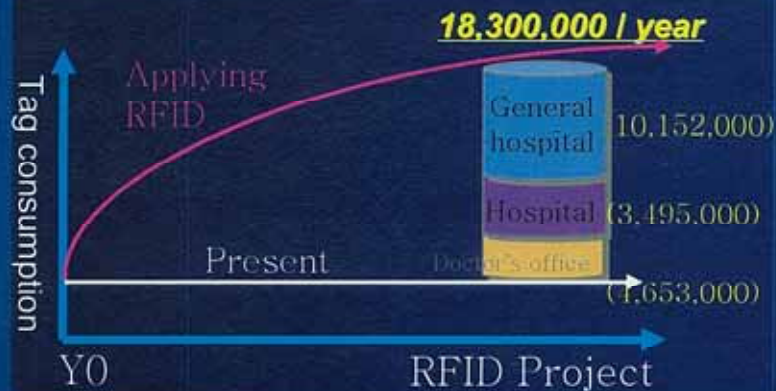


## Quantitative effect

### Reduce costs



### Tag requirement



## Qualitative effect

### The Administration

- Prevent environment contamination  
- illegal dump, prevent secondary contamination
- Efficient management for monitoring
- Help prompt decision from data
- Provide technical/institutional background for expanding RFID system and revitalization of market

### System user

- Manual data input is unnecessary  
- shorten work time, exact data input
- Check expiring date
- Discharge reserve/confirm is not required
- Waste manifest (paper) is not required



Thank You

감사합니다.