

# Measures Taken in Construction and Demolition Waste (CDW) Recycling in Japan

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Ministry of Land, Infrastructure, Transport and Tourism

## History of dealing with waste in japan

(Excretion treatment→Waste treatment→Sound Material-Cycle Society)



### Sanitary issues

Garbage and excretion were disposed of  
by ocean disposal and land disposal  
Mosquitoes and fly arise from waste disposal sites  
→Sanitary control required(since the 1945's)

Public Cleansing Act (1954)

### Pollution issues

Increase in waste volume due to rapid economic growth  
→Waste treatment by not only municipalities  
but also businesses is required.  
Construction of incineration plants and landfill sites  
(since the 1955's)

Waste Disposal and Public Cleansing Act (1971)

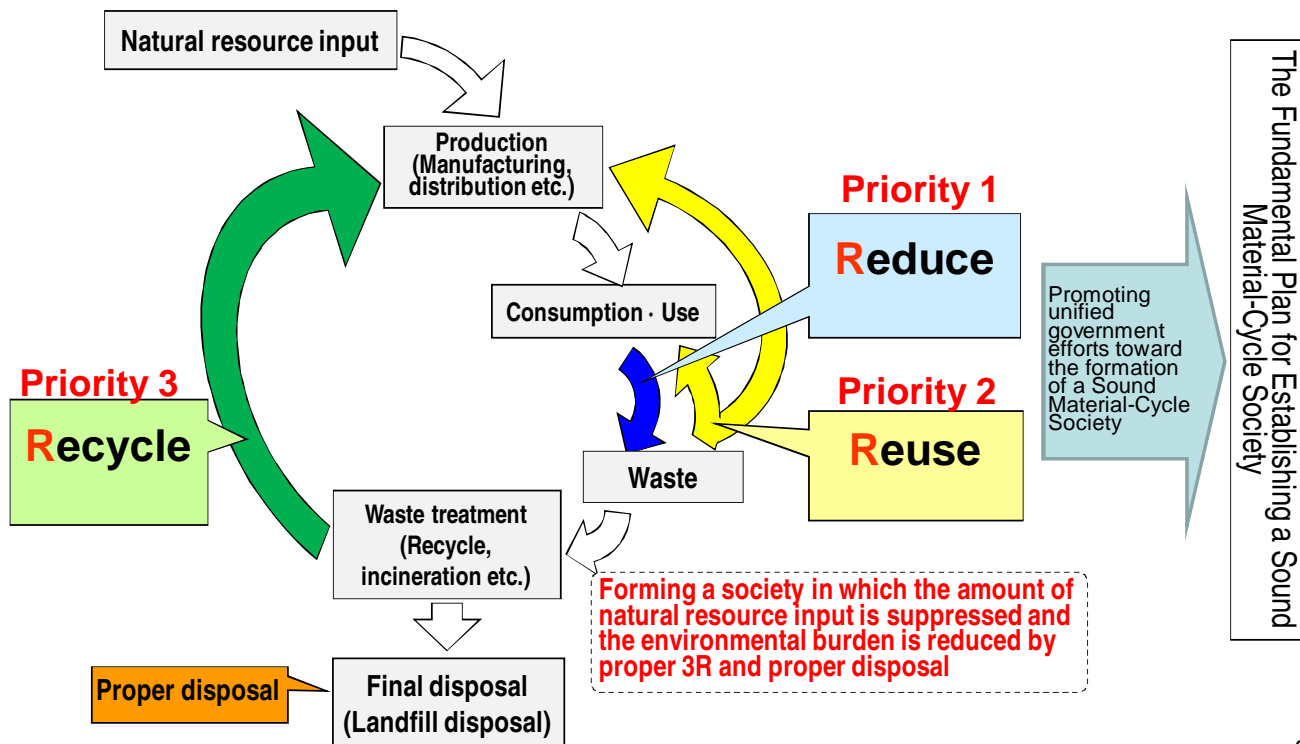
### Environmental and resource issues

Proper treatment and utilization of waste,  
More momentum on environmental issues  
→Proper circulative resource such as recycling  
is necessary(since the 1989's)

Recycling law according to the individual waste  
(1995~),  
Construction Materials Recycling Act (2000)  
Basic Act on Establishing a Sound Material-Cycle  
Society(2001)

## What is a Sound Material-Cycle Society ?

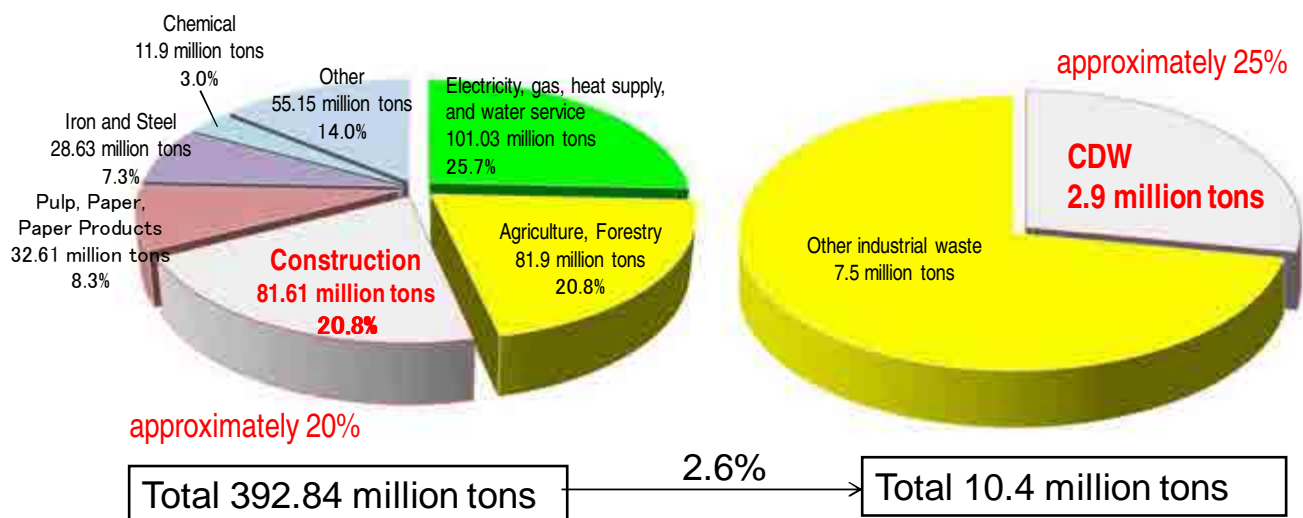
a "Sound Material-Cycle Society" means a society in which the consumption of natural resources will be conserved and the environmental load will be reduced to the greatest extent possible, by preventing or reducing the generation of wastes(Basic Act on Establishing a Sound Material-Cycle Society [promulgated in 2000, enforced in 2001] Article 2)



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## Generation and disposal of CDW

CDW accounts for approximately 20% of all industrial waste ,  
and 25% of final disposed amount.



### Generated amount

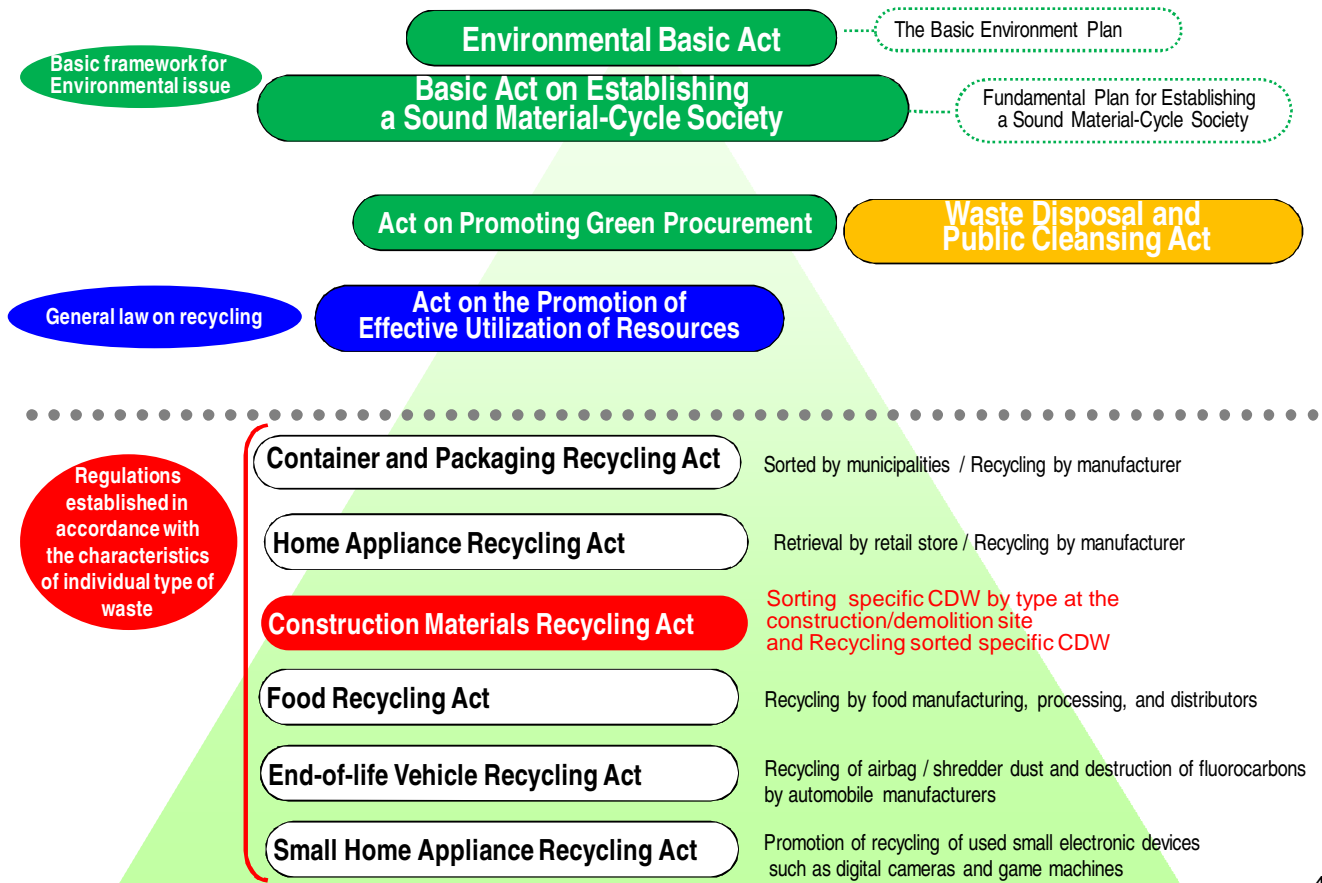
(result in fiscal year 2014; Ministry of Environment)

### Final disposed amount

※ Other industrial waste; result in fiscal year 2014; Ministry of Environment  
※ CDW; result in fiscal year 2012; MLIT

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# System of legislation designed to establish a sound material-cycling society



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## Construction Material Recycling Act

**Under the Construction Material Recycling Act, construction contractors of a certain scale or more were required to sort and recycle specific CDW.**

(Established in 2000, enforced in 2002)

### Applicable construction works

- demolition work of building : total floor space  $\geq 80\text{m}^2$
- construction work or enlargement work : total floor space  $\geq 500\text{m}^2$
- civil engineering work : contract fee  $\geq 5$  million yen
- repair work or remodeling : contract fee  $\geq 100$  million yen

### Specific construction materials

concrete, construction material from concrete and iron, wood asphalt concrete

### Obligation to implement construction contractor

#### Sorting CDW

Sorting specific CDW by type at the construction /demolition site.

※specific CDW is CDW of specific construction materials

#### Recycling CDW

Recycling sorted specific CDW

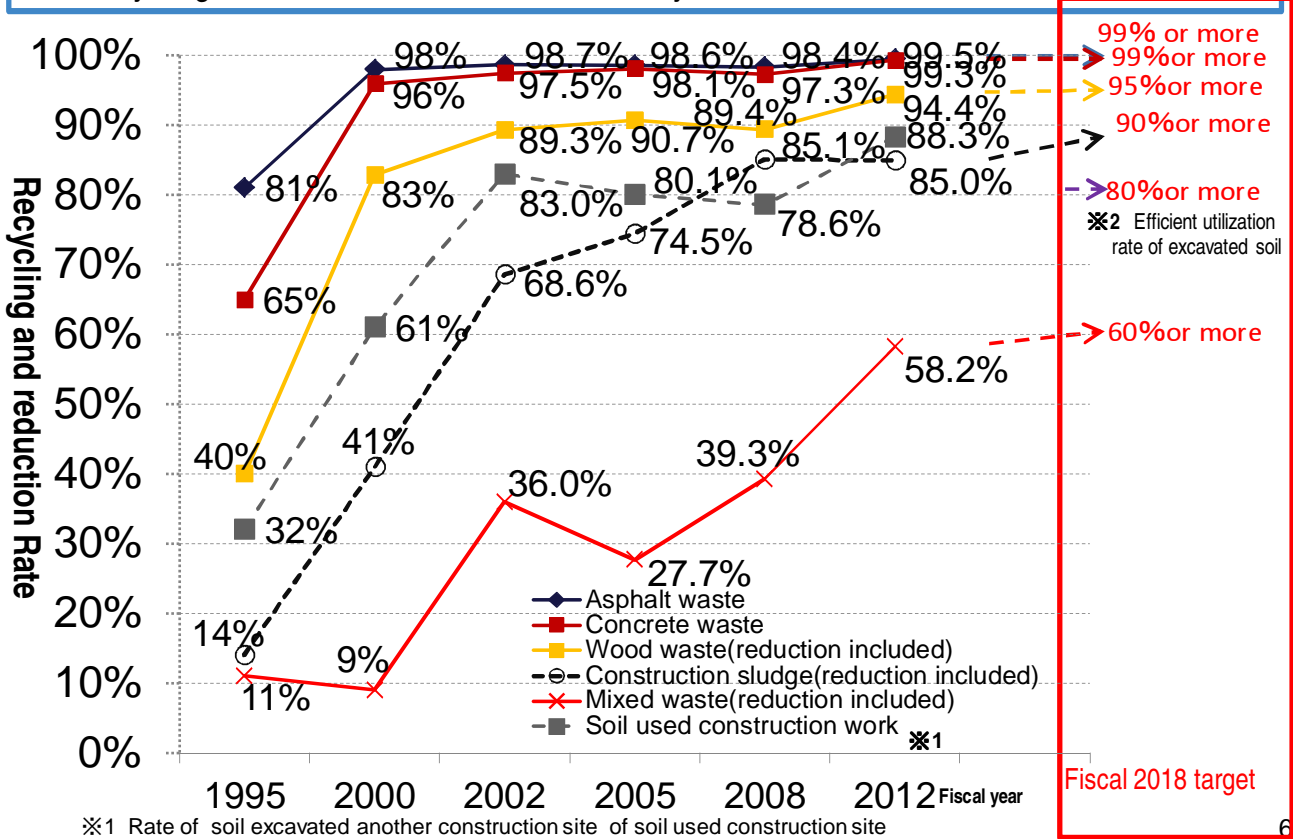
※ Recycling is the act of putting it in a state that it can be used as a material or raw material or making it available for obtaining heat energy by combustion



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## Recycling and reduction Rate of CDW

The recycling and reduction rate of CDW steadily rise



## Outline of “Construction Recycling Promotion Plan 2014”

### 7 main themes

- (1) Set up ways to monitor CDW .
- (2) Resolve regional problems.
- (3) Work in coordination with other environmental policies.
- (4) Be sure to make reducing plans at the design stage.
- (5) Be sure to sort waste at construction sites and to carry waste to proper plants.
- (6) Make use of CDM.
- (7) Make a proper system for recycling construction soil(excavated soil).

### 10 sub themes

(1)Information management and logistics management ,(2) Strengthen cooperation among related parties,(3) Promotion of understanding and participation,(4) Fostering CDW recycling market,(5) Promotion of technology development etc.(6)Prevention,(7)On-site sorting,(8)Recycling and reduction ,(9)Appropriate disposal ,(10)Reuse/Use of recycled materials

## 1. Supply system innovation and Work-style reform

- AI ⇒ Recycling facilities etc.
- BIG DATA ⇒ “COBRIS (Construction Byproducts Resource Information Interchange System) “  
“e-Manifests”
- DRONE ⇒ Demolition site patrols in order to ensure the enforcement of Construction Materials Recycling Act etc.

## 2. Maintenance and renovation era

- How will it change from now?
- What kind, quantity and quality of CDW generated in large quantities?

## 3. “The Basic Rule on CDW ”

- By the rule ,can’t carry excavated soil over 50 km from an original site to another.

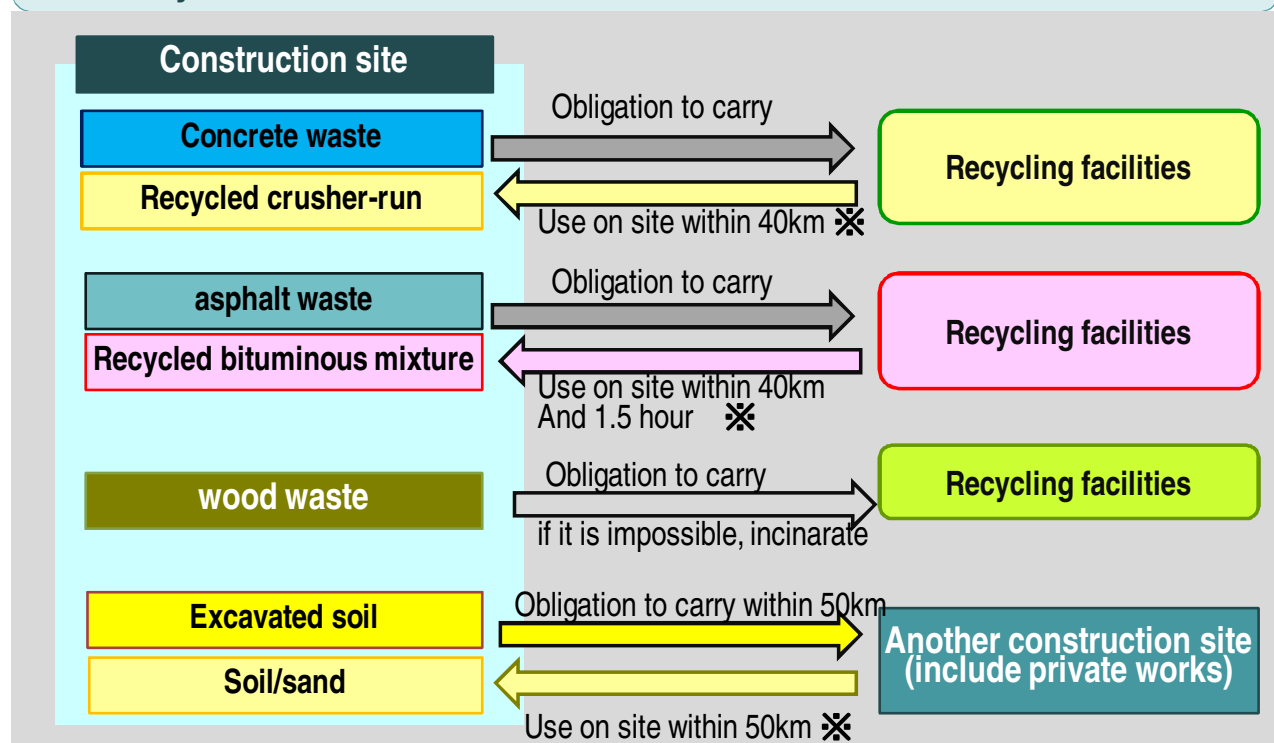
## 4.Promoting use of recycled materials

- Recycling rate of concrete waste is already up to 99%.  
⇒ Another index for recycled concrete waste.

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## “The Basic Rule on CDW ”

Regardless of any economic reason, you must keep this Basic rule of CDW recycle in Public Works.



✖Use it on condition that the required quality is satisfied

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