

## Overview of the 2nd Fundamental Plan for Establishing a Sound Material Cycle Society (decided by the Cabinet on March, 2008)

### Current situation and Issues

- All three indicators; “resource productivity”, “cyclical use rate” and “final disposal amount” improves towards year 2010 targets set by the 1<sup>st</sup> fundamental plan and are expected to achieve the targets. However, reduction of household waste progresses rather slowly.
- Need to respond to global environmental issues such as worldwide resource limitation as well as global warming

Thus, it is necessary to further develop sound material cycle societies both domestically and internationally by implementing the 3Rs thoroughly

### Mid-to-long term image of SMS

- **Realize “Sustainable Society” by integrating with activities to realize “low carbon society” and “nature harmonious society”**
- Realize “**Stock-based Society**” by stocking and utilizing goods to achieve wealthy society  
**Regionally-characteristic SMS(Spheres of sound material cycle) ,  
Lifestyle along the concept of Mottainai, Collaboration and partnership  
between stakeholders, and dissemination of the 3Rs into economic  
activities including manufacturing**

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## Activities of stakeholders

### ○Partnership and Collaboration

Mutual collaboration of every stakeholders to establish sound material cycle society

#### ○Citizens

- Campaign of life style change such as “my chopsticks” and “my bag”

#### ○NGO/NPO and Universities and others

- Interface of collaboration and partnership
- Accumulation of knowledge and reliable information

#### ○Businesses

- Prevention of illegal dumping and implementation of the 3Rs
- Advanced waste management, inter-industrial collaboration

#### ○Local governments

- Partnership with stakeholders and implementation of nation-wide activities

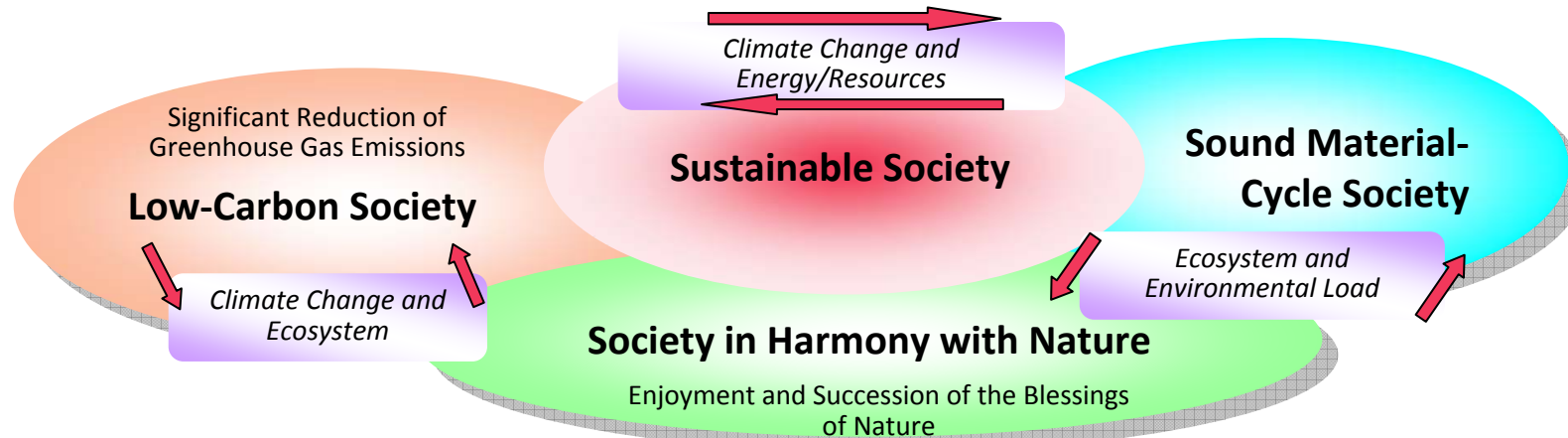
### ○National government

- Partnership among stakeholders and implementation of nation-wide activities

- ① Integrated efforts with low carbon and nature-harmonious society (waste power generation and biomass utilization) 、
- ② Establishment of “spheres of sound material cycle”, ③ National campaign on the 3Rs, ④ Promotion of sound material cycle business through various measures such as green purchasing, ⑤ Development of 3R mechanisms focusing on reduction, ⑥ Advanced 3R technology and system, ⑦ Information gathering and development of human resources,
- ⑧ Establishment of international sound material cycle society based on action plan to promote global zero waste societies, East Asia vision of sound material cycle society, or improving resource productivity

## Deployment of Integrated Efforts toward A Sustainable Society

# Deployment of Integrated Efforts toward A Sustainable Society



Integrated Efforts toward the Establishment of An SMC Society, Low Carbon Society and Society in Harmony with Nature

Work for the realization of society that glows and develops in a sustainable manner by ensuring coexistence with nature and by respecting the cycles in the natural world and establishing a more healthy material cycle, including handling of carbon, water, nitrogen in human society so that our material cycle harmonizes the larger scale cycles of nature and Planet Earth.

- **Promotion of Comprehensive Efforts toward an SMC Society and a Low-Carbon Society**
  - ✓ Thorough heat recovery through introduction of waste power generation and the like
  - ✓ Examination of how sustainable waste power generation should be and promotion of the use of low- and medium-temperature heat from industrial process at business facilities and the like
  - ✓ Efficient utilization of biomass materials as Circulative Resources (CRs)
  - ✓ Construction of venous distribution network with low environmental loads
- **Promotion of Integrated Efforts toward an SMC Society and Society in Harmony with Nature**
  - ✓ Restriction of increase in the consumption of exhaustible resources
  - ✓ Restriction of extraction of new resources from the natural world by promoting the prolonged use of houses and other goods
  - ✓ Promotion of the sustainable use of recyclable resources in consideration of the preservation of biodiversity
  - ✓ Promotion of environmentally-sound agriculture, forestry and fisheries

## Enhancement of material flow indicators and effort indices

### Enhanced Indicators in the New Fundamental Plan (Material flow indicators)

Directions

1. Establish new numerical targets with FY 2015 as the target year.
2. Measure the progress of the integrated development of the efforts toward a low-carbon society and a sound material-cycle society.
3. Assess imports and exports of CRs as well as the environmental loads generated overseas through the extraction and use of resources by incorporating international viewpoints into the indicator system.

#### **1 Indicators for which Quantitative Targets are Set**

- (1) "Inlet": Resource Productivity (= GDP/Natural resources and the like input)
- (2) "Cycle": Cyclical Use Rate (= Amount of cyclical use / Total material Input)
- (3) "Outlet": Final Disposal Amount (= Final disposal amount of waste)

#### **2 Supplementary indicators for which quantitative targets have been set**

- (1) Resource productivity excluding earth and rock resources input
- (2) Coordination with efforts toward low-carbon society
  - [1] CO<sub>2</sub> emission reduction in the area of waste
  - [2] Greenhouse gas emissions from waste and greenhouse gas emissions from fossil fuel, which can be replaced by recycling of waste into raw fuel, waste power generation and the like (measurement)

#### **3 Indicators to monitor changes**

- (1) Resource productivity of fossil resources
- (2) Biomass resources input rate
- (3) TMR (Total Material Requirement ) as a hidden flow  
(Measurement example: About 21 times the import of metallic resources)
- (4) Indicators based on international resource cycles
- (5) Resource productivity by industry area

#### **4 Issues to be examined**

Development of inventory concerning the computation of environmental loads and conversion factor that can be share internationally should be clearly defined as agenda to be examined in the future.

### Enhanced Indices in the New Fundamental Plan (Effort Indices)

1. Enhance and strengthen effort indices by dividing them into Indices for which targets are set and Indices to monitor changes.
2. Define Indices to promote reduce and reuse, e.g., reduce in general waste and the rate of refill products shipped.
3. Strengthen Indices to measure efforts by local governments, which play a key role in establishing an SMC society, e.g., municipalities most active in promoting the 3Rs and the number of environmental workshops and mutual exchange sessions held.

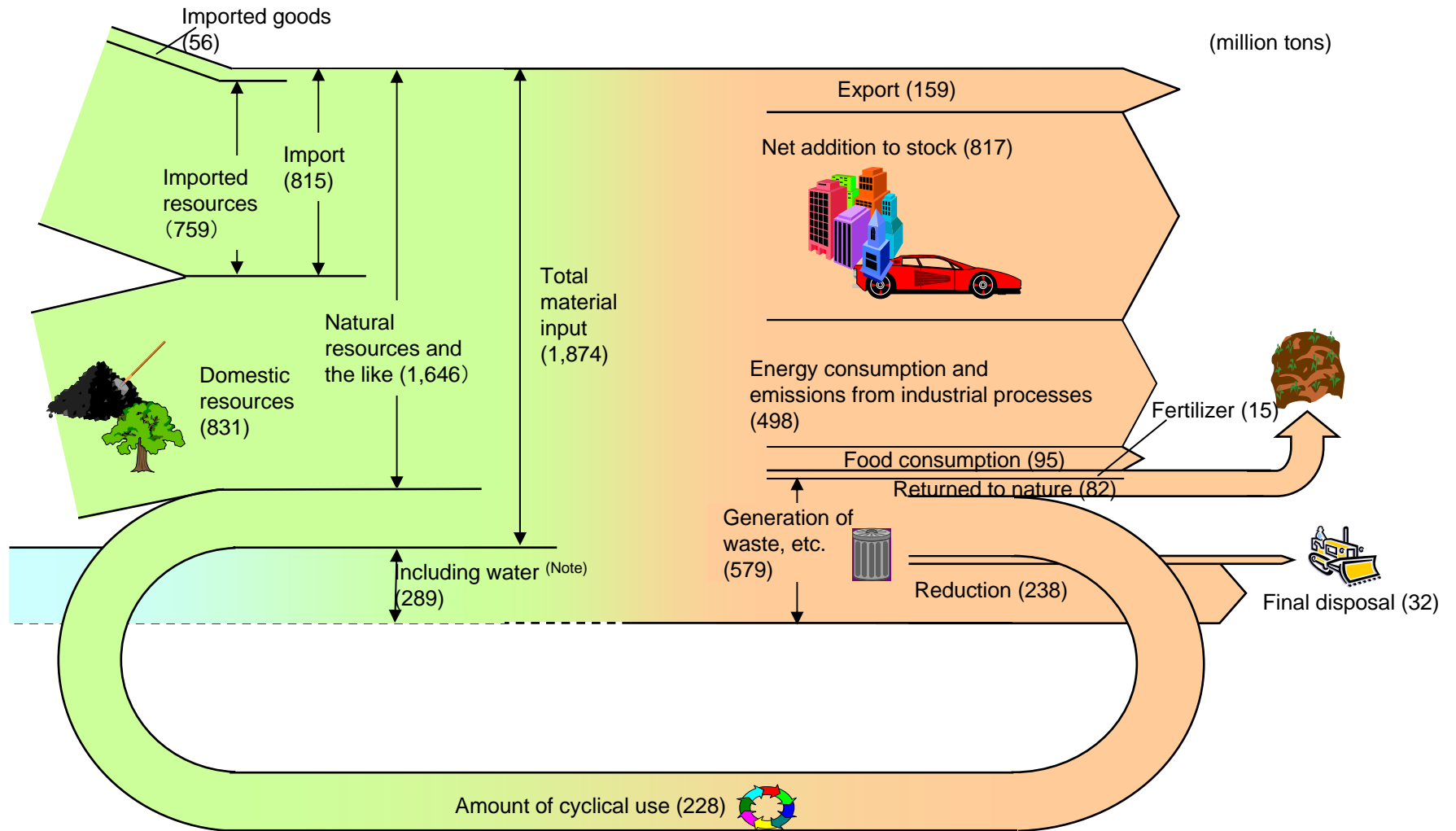
#### **1 Indices to set a target**

- (1) Reducing the Quantity of Waste
  - a. Reducing the quantity of municipal solid waste
  - b. Reducing the amount of industrial waste
- (2) Changes in awareness of and attitude toward an SMC society
- (3) Promoting SMC Society Businesses
  - a. Promoting green purchasing
  - b. Promoting environmental business management
  - c. Expanding SMC society business market
- (4) Steady implementation of individual recycling laws and the like

#### **2 Indices to monitor changes**

- (1) Size of the market for rental and lease businesses and the shipping rate for refill products
- (2) Rate of refusal of free plastic shopping bags (rate of "bring my own shopping bags") and the volume of sales of disposable products (e.g. imported chopsticks)
- (3) Size of the market for secondhand goods and the rate of use of returnable bottles
- (4) Number of stadiums introducing "reusable cups" and the like
- (5) Number of fundamental plans for sound material cycles and the like at local levels
- (6) Percentage of local governments that are implementing paid garbage collection and top municipalities in terms of waste reduction efforts
- (7) Number of resource recovery facilities (recycle plazas and the like)
- (8) Rate of recycling of municipal solid waste, total amount of waste collected, top municipalities in terms of recycling efforts, percentage of local governments that are implementing sorted collection, and amount of sorted collection by municipalities by item, and the like
- (9) Number of environmental learning and exchange meetings held by local governments and the like, and number of applications to the "Assistance Program for local communities Establishing an SMC Society"

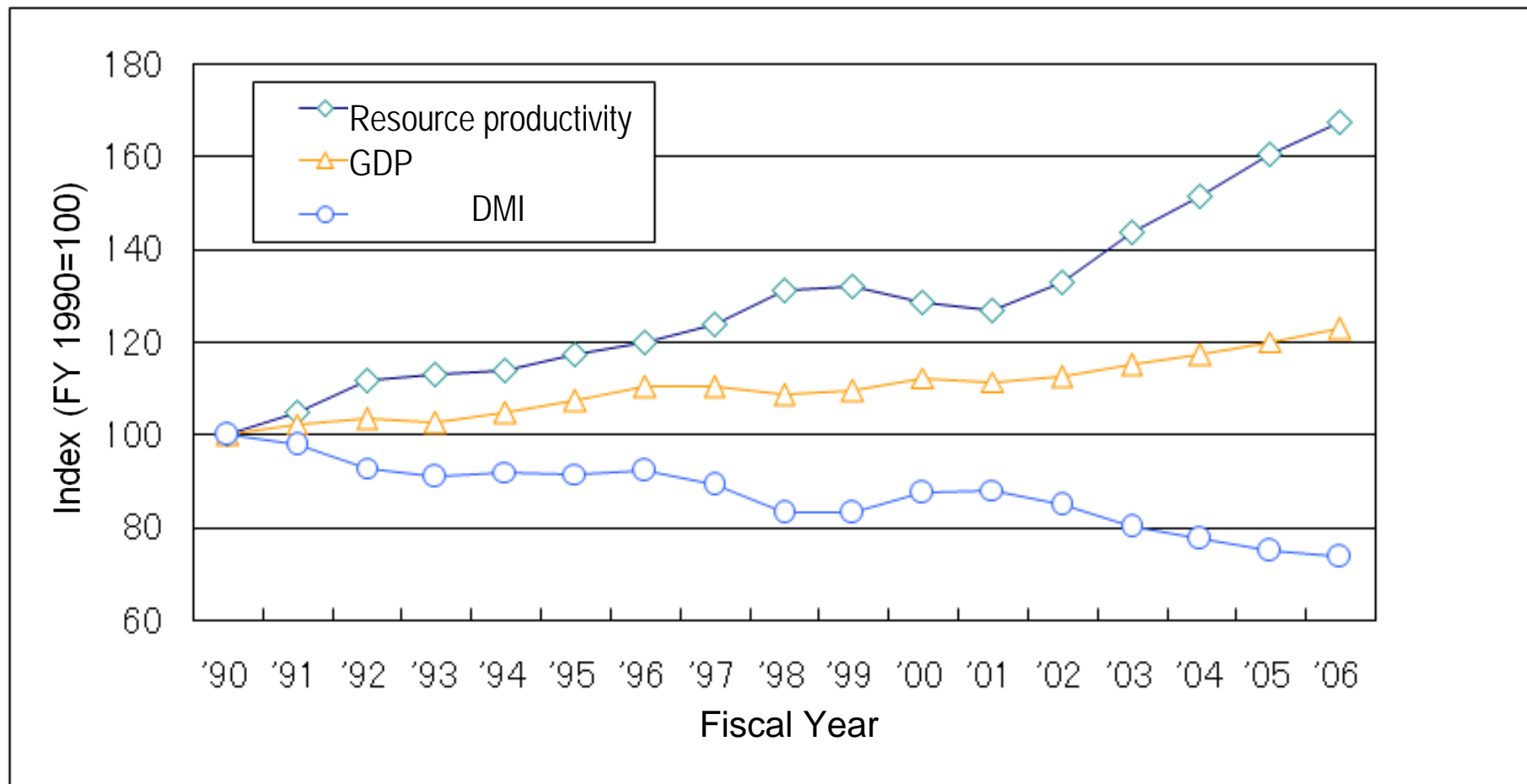
# Material flow in Japan (FY 2005)



(Note) Including water: Input of water included in waste and the like (sludge, animal manure, human waste, waste acid, waste alkali) and sediment and the like associated with economic activities (sludge from mining, building and water works and tailing from mining)

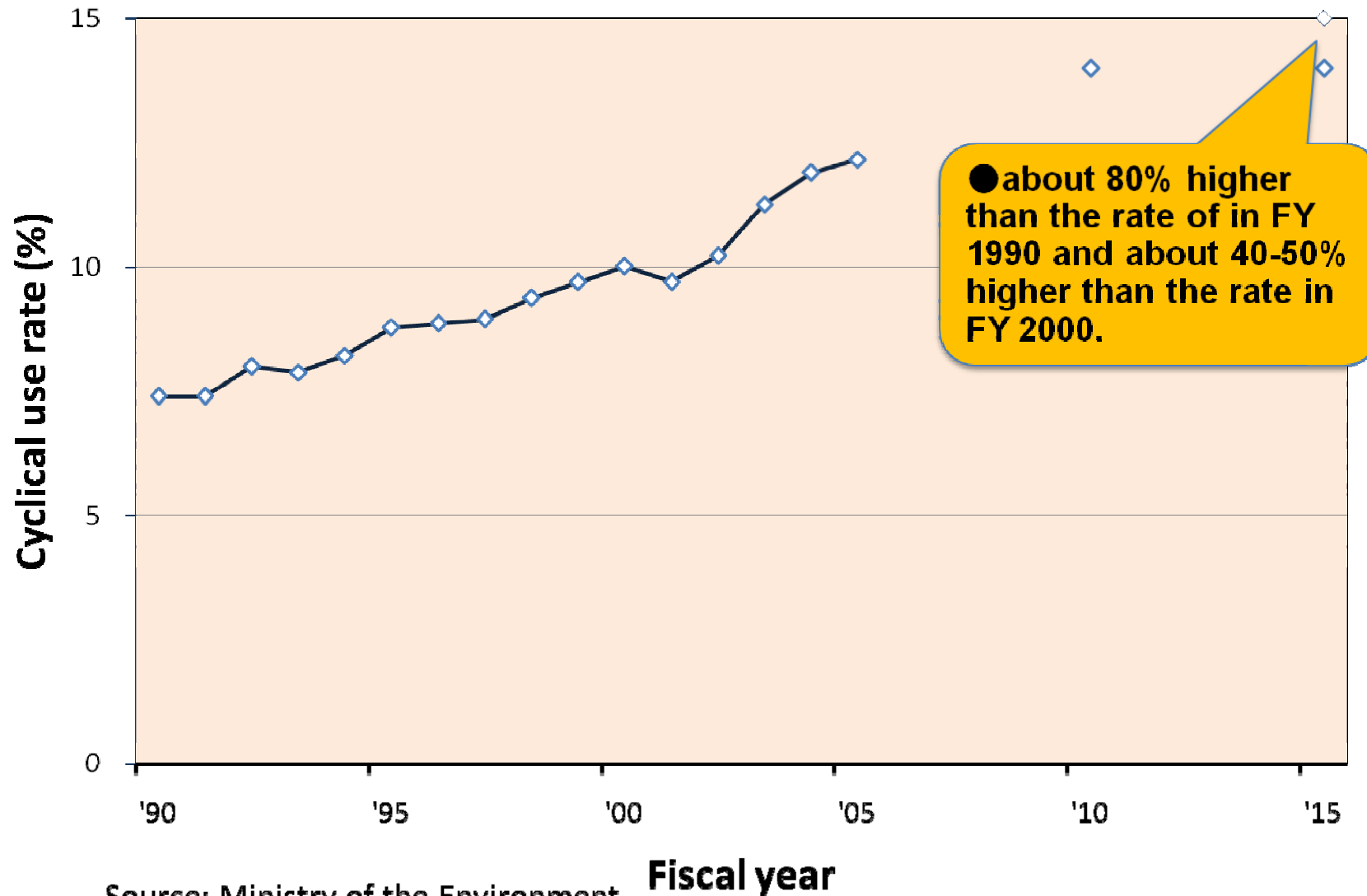
Source: Ministry of the Environment

## Trends of Resource Productivity



Source : Ministry of the Environment

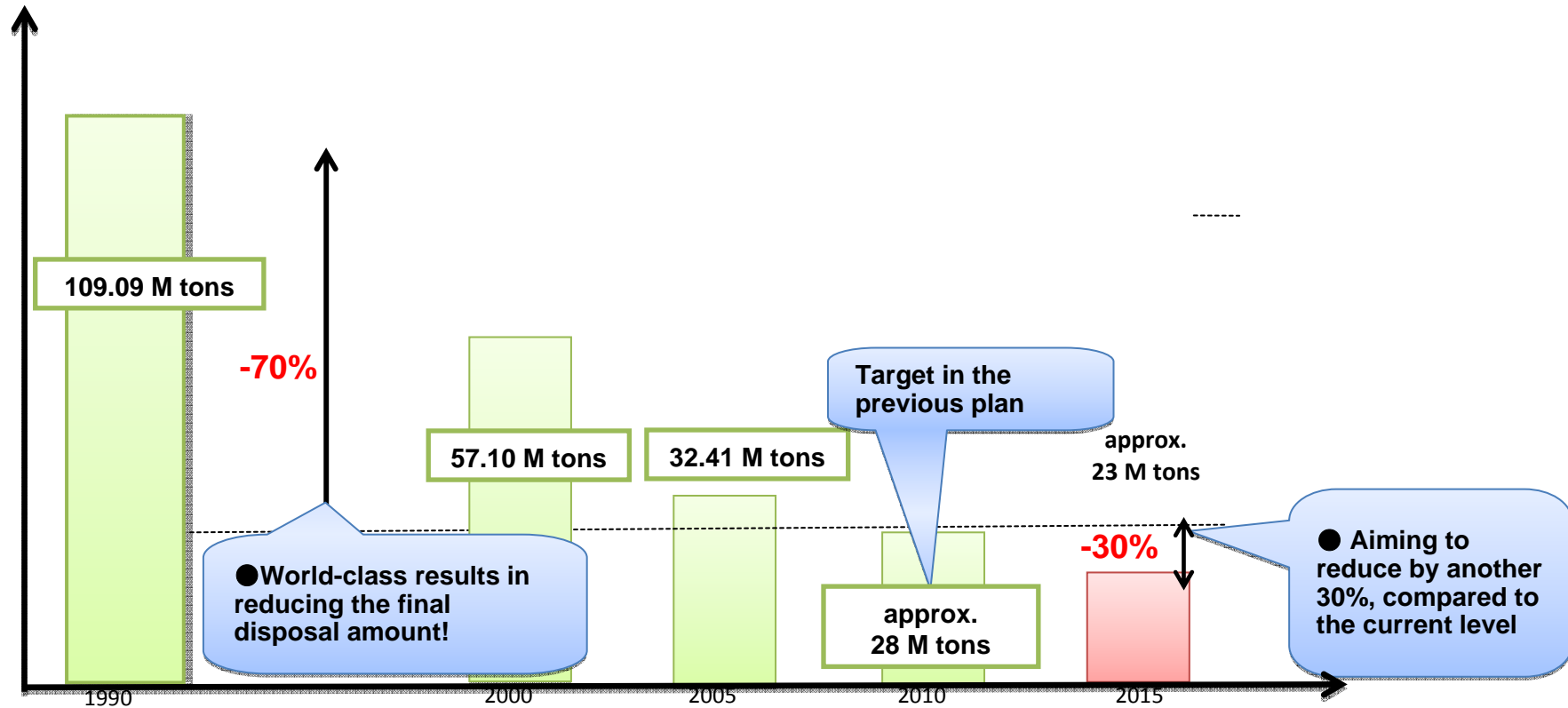
## Trends in the cyclical use rate



Source: Ministry of the Environment

Fiscal year

## Trends in the final disposal amount of waste, since 1990



Source: Ministry of the Environment



# Outline of the establishment of a worldwide Sound Material-Cycle Society

## Japan's contribution toward a worldwide Sound Material-Cycle Society

### International movement of CRs

Situation: **Worldwide increase in waste production** due to economic development in Asia and other regions.  
**Rapid increase in transboundary movements of circulative resources (CRs)** due to the expansion of recycling and increases in demand for resources  
→ **Possibility of environmental damage due to improper treatment and cyclical use of CRs** (e.g., e-waste problems)

### Japan's contribution to a worldwide Sound Material-Cycle Society

Greater international cooperation to promote the 3Rs in Asia and elsewhere, e.g., **New Action Plan to Promote Global Zero-Waste Societies**

#### ○ International promotion of Japan's systems, technologies and experience

Widespread promotion from Asia to Africa through assistance for developing national 3R promotion plans, Eco-town projects, and support for the wide availability of safe and sanitary night soil disposal systems

#### ○ Establishment of resource cycles in East Asia

- Cooperation through bilateral dialogue and multilateral processes directed towards the **establishment** and realization of the **East Asia Sound Material-Cycle Society Vision**
- **Sharing of basic concepts, e.g., the 3R concept**

#### ○ Asian 3R research & information network

Support for national efforts directed towards the 3Rs by sharing policies and experience

- ① Create a sound material-cycle society in each country first, and
- ② Enhance efforts to prevent illegal waste imports/exports,
- ③ Then facilitate CR imports/exports

#### ○ Contribution to efforts to improve resource productivity

- **Lead the G8 in promoting** improvements in resource productivity and other **3R initiatives**
- **Foster international joint studies on material flow indicators (e.g., resource productivity) with environmental impact evaluations in mind**
  - Support the OECD's work concerning material flow and resource productivity
  - Support the UNEP's International Panel for Sustainable Resource Management

Source : Ministry of the Environment