National Level Waste Data Management in Japan

27th August 2019

Nobuyuki Konuma

Office for Promotion of Sound Material-Cycle Society,
Environmental Regeneration and Material Cycles Bureau
Ministry of the Environment, Japan

Governments' Role in Municipal Waste Management

Ministry of the Environment

Government • Basic policy formulation • Setting of management standards, facility standards, etc.
• Emergency measures, etc.

Prefectures

Permit and supervision

General waste management facilities
• Installation, transfer permits, etc.

Municipalities

Management responsibilities
• General waste management plans
• Waste management in the region in accordance with waste management standards.

Permit and supervision

General waste management contractors
• Business permits
• Observation of general waste management standards, etc.

環境省
Ministry of the Environment

Municipal Waste Management Flow

Putting the waste out

Put the waste out on the allocated day for each waste type, at the appointed collecting places set as,

A. Per several to dozens of households
B. Per door
C. Station per region

Collection

Collection vehicles of each municipality (or its contractor) collect waste from the stations

Collected waste is transported to a disposal plant established in each municipality

Intermediate treatment & Recycling

Residue from intermediate treatment (e.g. incineration ash) is landfilled

Landfill

※Reference: Websites of Waste disposal of TOKYO 23 Cities, Kitakyushu City, and Kumamoto City

環境省
Ministry of the Environment

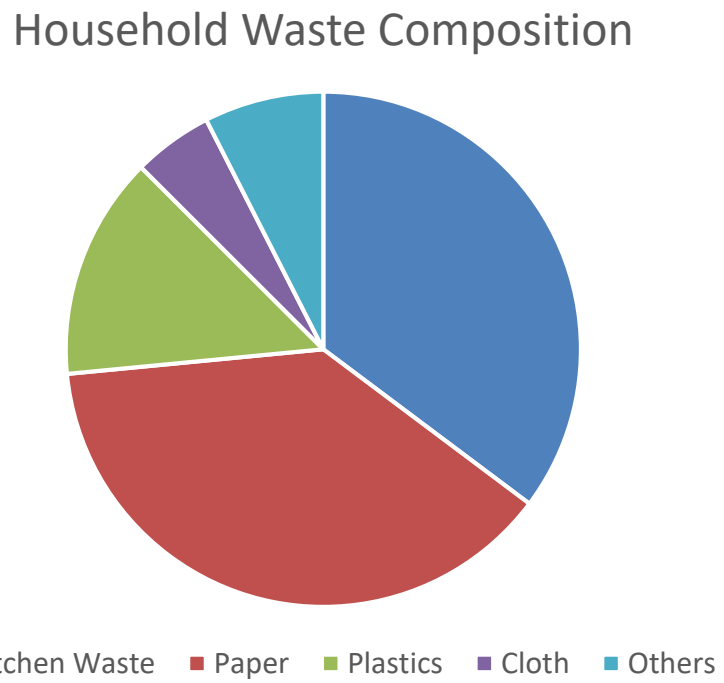
Importance of Waste Statistics Data

- The waste statistics is prepared annually in collaboration with MOEJ and local governments.
- Waste statistics data are used for policy plan making and monitoring progresses of these policies.
- For example, municipal governments formulates “municipal waste management plan” based on statistics data. MOEJ also formulates “waste treatment facilities development plan” every five years and provides municipal governments with subsidy for construction of waste facilities.
- These waste statistics data are also used for external policy review for policies on sound material cycle society.

環境省
Ministry of the Environment

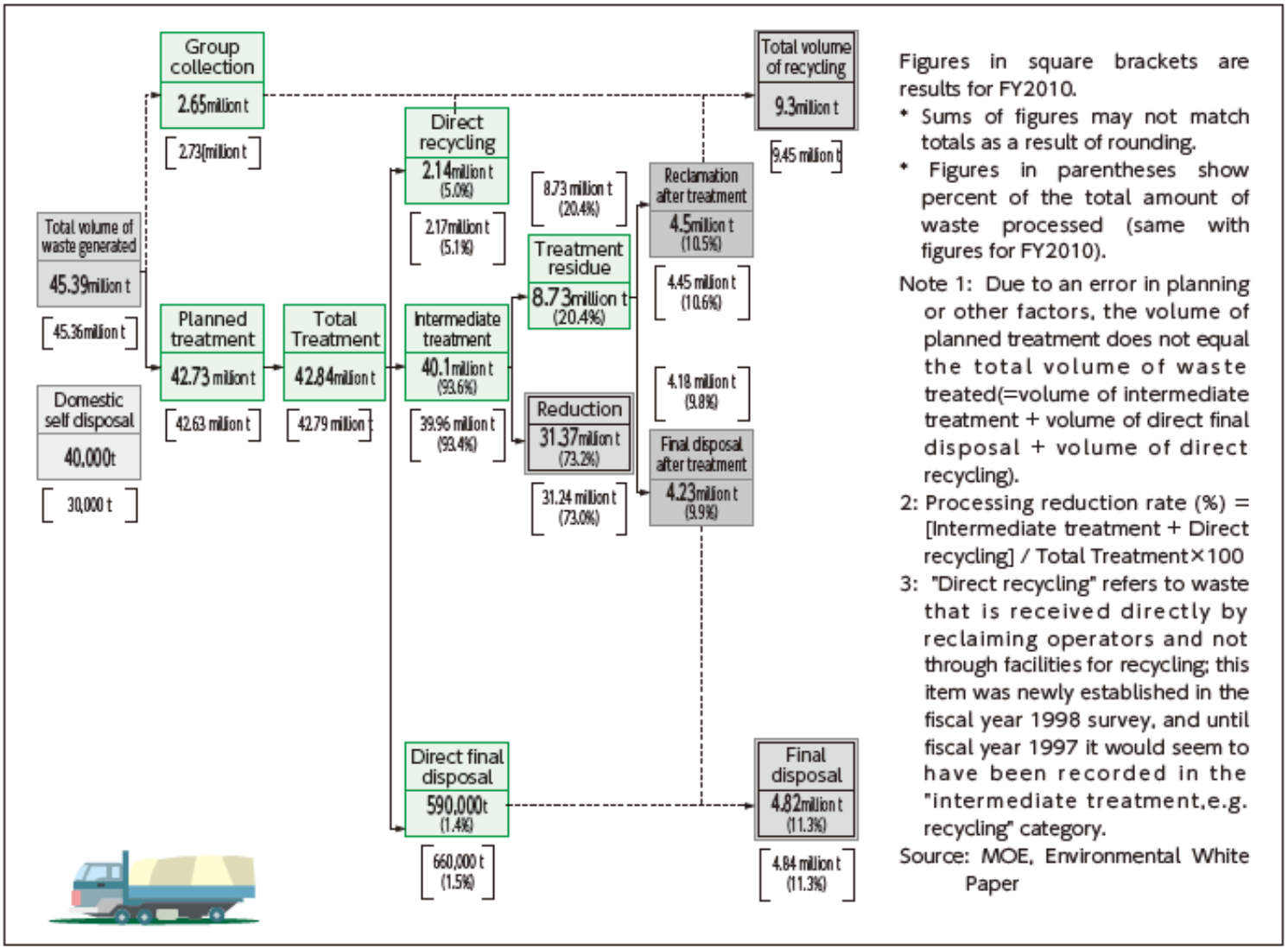
Collecting Data – Waste Analysis

Example 1:
Conducting a **Waste Analysis and Characterization Study (WACS)**



Waste Treatment Flow and Inventory

Municipal waste treatment flow (FY2011)



Figures in square brackets are results for FY2010.

* Sums of figures may not match totals as a result of rounding.
* Figures in parentheses show percent of the total amount of waste processed (same with figures for FY2010).

Note 1: Due to an error in planning or other factors, the volume of planned treatment does not equal the total volume of waste treated(=volume of intermediate treatment + volume of direct final disposal + volume of direct recycling).

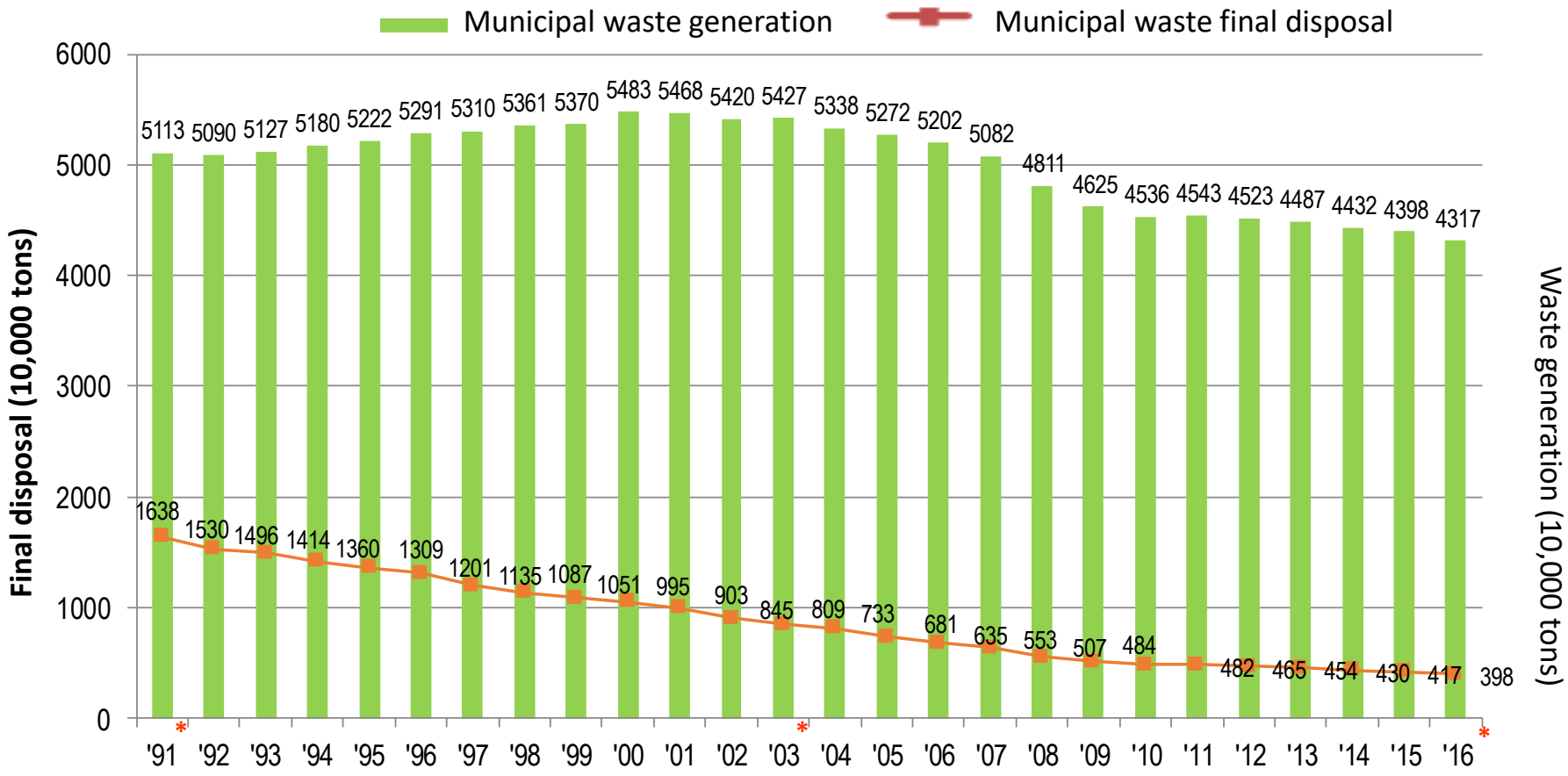
2: Processing reduction rate (%) = [Intermediate treatment + Direct recycling] / Total Treatment×100

3: "Direct recycling" refers to waste that is received directly by reclaiming operators and not through facilities for recycling; this item was newly established in the fiscal year 1998 survey, and until fiscal year 1997 it would seem to have been recorded in the "intermediate treatment,e.g. recycling" category.

Source: MOE, Environmental White Paper

Changes in municipal waste generation and final disposal

The generation of municipal waste continues to decrease after recording a peak of 548.3 million tons in 2000. The amount of final disposal tends to decrease along with progress in recycling and reduction of waste generation.

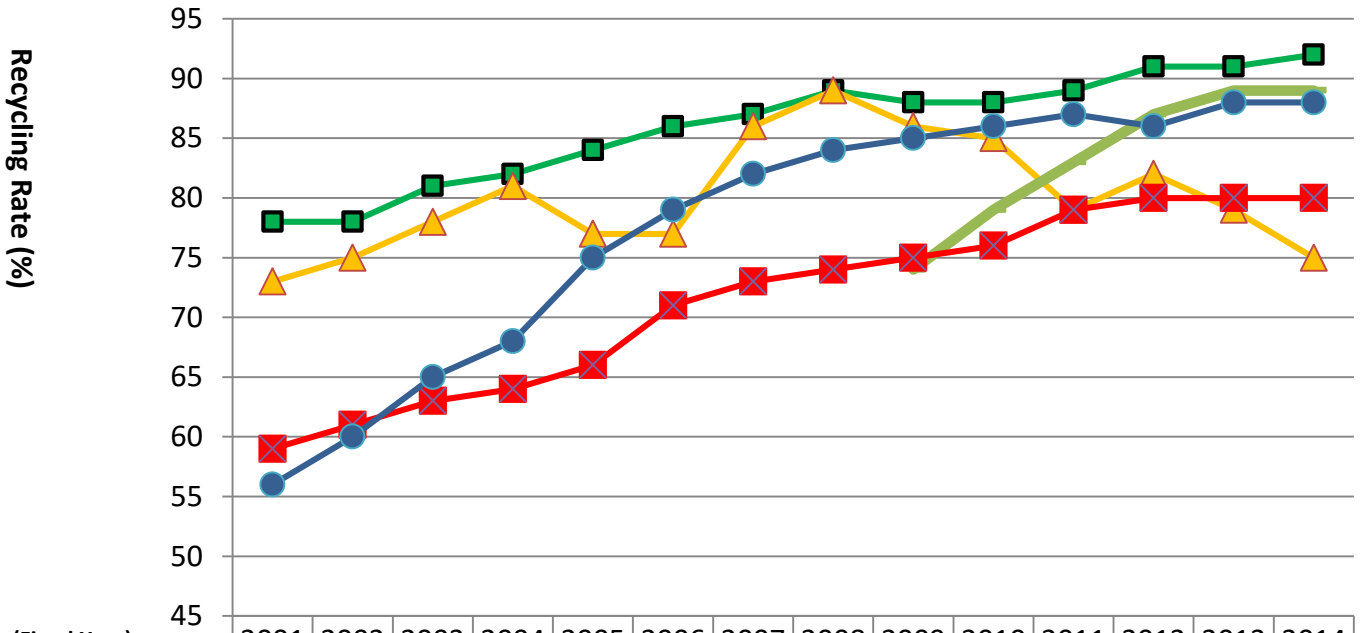


* **Waste generation per day per head (g/person–day)**

- 1991	**1,118**	**(g/person–day)**
- 2000	**1,185**	**(g/person–day)**
- 2010	**976**	**(g/person–day)**

環境省
Ministry of the Environment

Improvement of Recycling Rate (Home Appliance)



(Fiscal Year)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	(Recycling Rate Criteria)
Air Cinditioner	78	78	81	82	84	86	87	89	88	88	89	91	91	92	60%(-2008),70%(2009-)
CRT TV	73	75	78	81	77	77	86	89	86	85	79	82	79	75	55%
Liquid Crystal/Plasma TV									74	79	83	87	89	89	50%(2009-)
Refridgerator/Freezer	59	61	63	64	66	71	73	74	75	76	79	80	80	80	50%(-2008),60%(2009-)
Washing machine/Clothes dryer	56	60	65	68	75	79	82	84	85	86	87	86	88	88	50%(-2008),65%(2009-)

[Note1] Liquid crystal / Plasma TV and Clothes dryers were added in 2009.
[Note2] There was a temporary decrease in the recycling rate of CRT TV between FY2009 and FY2011.
This was because collecting some of the CRT glass became more expensive than recycling them.

Support from National Government

Subsidy from Ministry of the Environment to local governments

Ministry Subsidy: 1/3 or 1/2 to waste management facilities including WtE plants

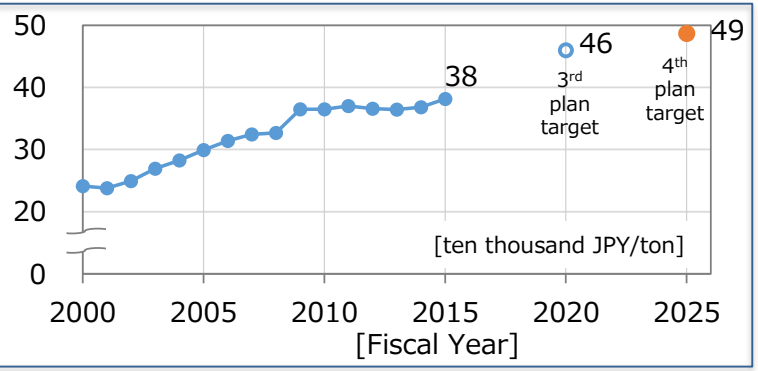
- In line with government's policy and plan
- Meet the requirements of "Waste Management Facility Performance Guidelines"
- Comply with relevant regulations

Targets and Indicators for progress monitoring

Resource productivity =GDP/ Input of natural resources, etc.

FY2025 target: 490,000JPY/ton =approx. double from FY2000

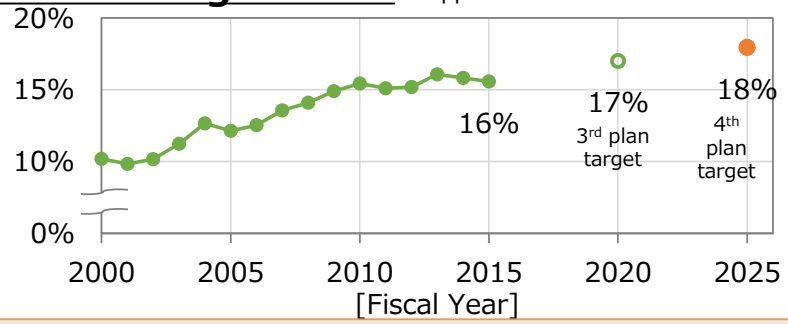
- An indicator that comprehensively represents how effectively materials are used in industrial activities and people's daily lives, in terms of creating more wealth using fewer resources.
- The indicator was first adopted in a national-level plan in Japan.



Cyclical use rate (resource base)

=Amount of cyclical use / (Amount of cyclical use + Input of natural resources, etc.)

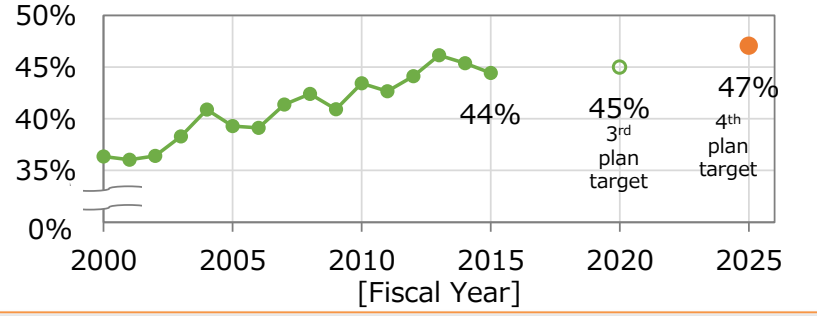
FY2025 target: 18% = approx. 80% increase from FY2000



Cyclical use rate (waste base)

=Amount of cyclical use/ Generation of waste, etc.

FY2025 target: 47% = approx. 30% increase from FY2000

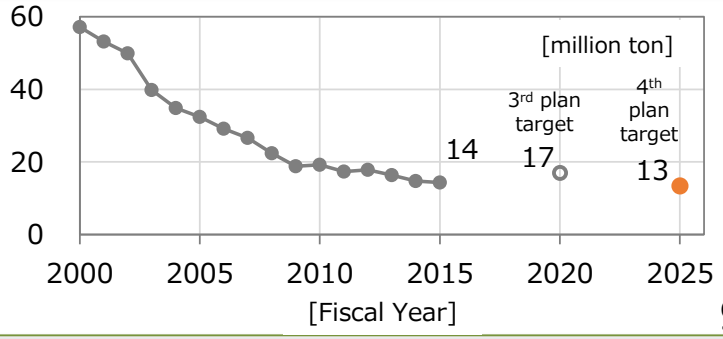


Final disposal amount

FY2025 target: 13 million ton = 77% cut from FY2000

[Municipal solid waste] 1 million ton in FY2025 = 70% cut from FY2000

[Industrial waste] 10 million ton in FY2025 = 77% cut from FY2000



環境省
Ministry of the Environment

Main Achievements in Japan

	FY2000	FY2015		Improvement Rate
Waste generation (MSW)	55	44	<Million ton>	↓ 20 %
Final disposal (MSW + Industrial Waste)	56	14	<Million ton>	↓ 75 %
Resource productivity	242,000	382,000	<JPY/ton> GDP/ Input of natural resources, etc.	↑ 58 %
Cyclical use rate (resource base)	10 %	16 %	Amount of cyclical use / (Amount of cyclical use + Input of natural resources, etc.)	↑ 60 %
Cyclical use rate (waste base)	35.8 %	44 %	Amount of cyclical use/ Generation of waste, etc.	↑ 23 %

環境省
Ministry of the Environment

AFRICAN CLEAN CITIES PLATFORM
PLATE-FORME AFRICAINE DES VILLES PROPRES

Thank you for your Attention

reduce
reuse
recycle
3R