
The Containers and Packaging Recycling System in Japan

The Japan Containers and Packaging Recycling Association (JCPRA)

Outline

1. Overview of the Containers and Packaging Recycling System in Japan
2. Recycling Operation Contract Fees by Specified Business Entities
3. Trends and Results of Recycling Activities
4. About JCPRA

1. Overview of the Containers and Packaging Recycling System in Japan

Legal Structure for Promotion of the Establishment of a Sound Material-Cycle Society

Effect
Last revised

The Basic Environment Act Promulgation 1993
Jun. 2008

Specify the priority of waste disposal: (1) Reduce, (2) Reuse, (3) Recycling, (4) Heat recovery, (5) Proper disposal

Appropriate waste management

Basic Act on Establishing a Sound Material-Cycle Society Jan. 2001

Waste Management and Public Cleansing Act
Promulgation 1970 May 2010

Act on the Promotion of Effective Utilization of Resources
Apr. 2001

Small Home Appliance Recycling Law Apr. 2013

- Facilitate recycling
- Mandatory labeling

Automobile Recycling Law Jan. 2005

Construction Material Recycling Law May 2002

Food Recycling Law May 2001

Home Appliance Recycling Law Apr. 2001

Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging
1997
Apr. 2008

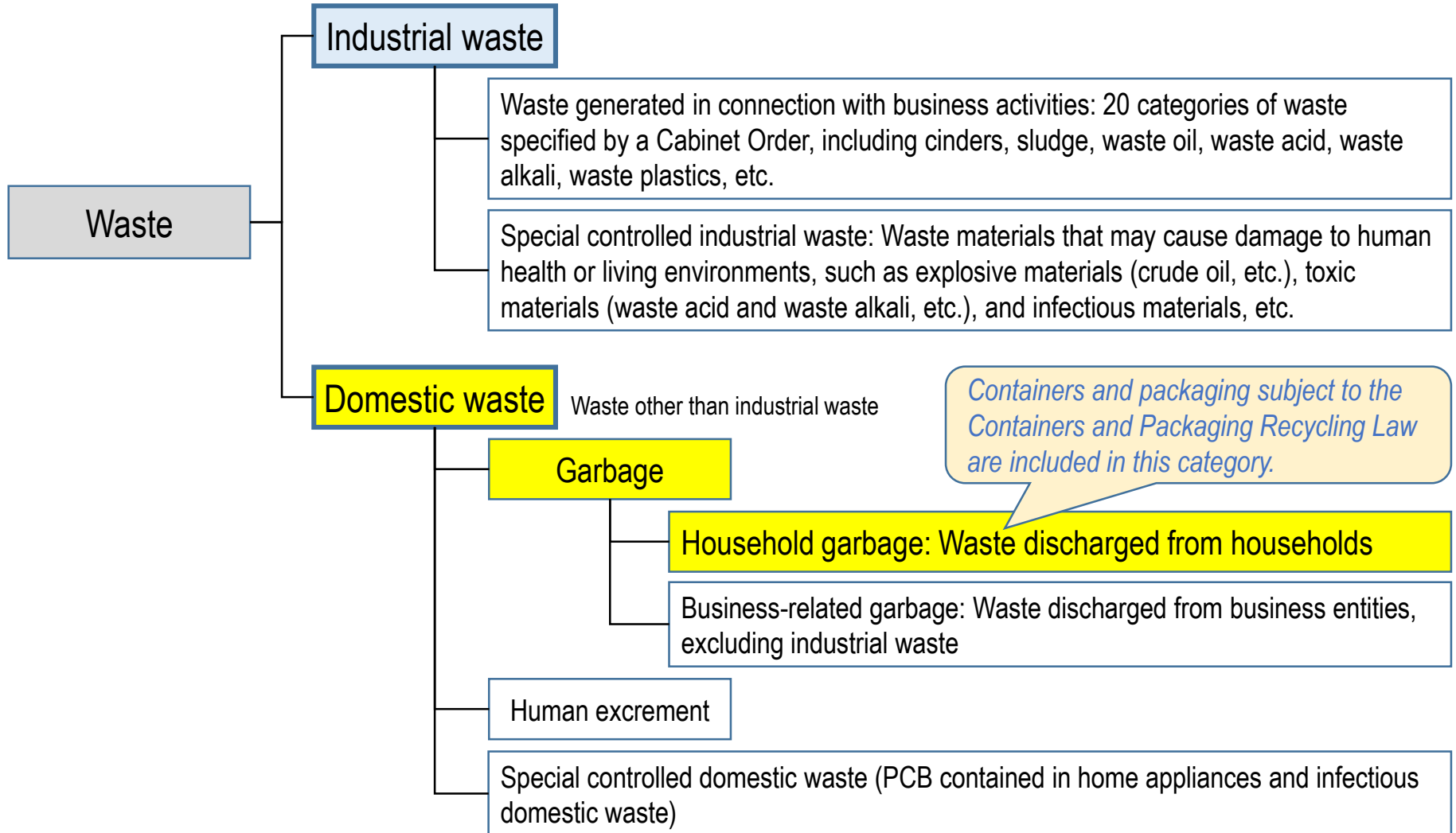
Recycling laws according to the characteristics of individual articles

Act on Promoting Green Purchasing Apr. 2001

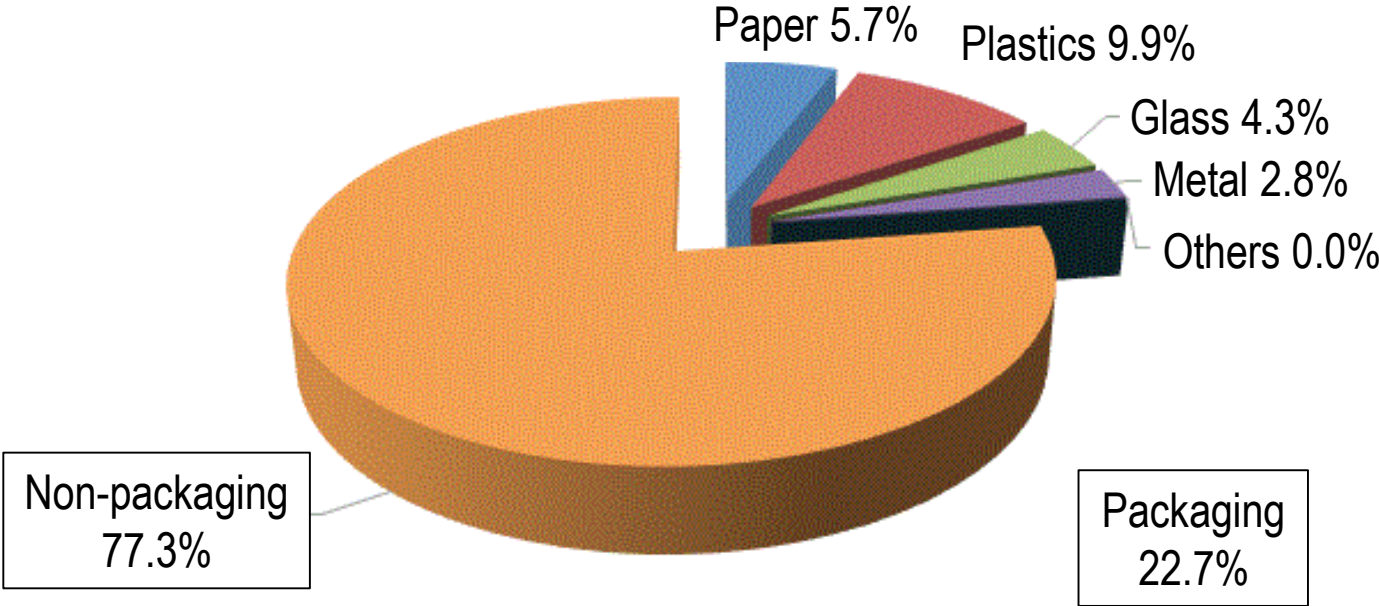
Basic Concept and Mechanism of the Containers and Packaging Recycling System

- Containers and Packaging Recycling Law
- Role sharing
- Extended Producer Responsibility (EPR)
- Waste categories
- Specified business entities
- Japan Containers and Packaging Recycling Association
- Flow of fees and products
- Contract fees for EPR by specified business entities
- Role of municipalities

Categories of Waste



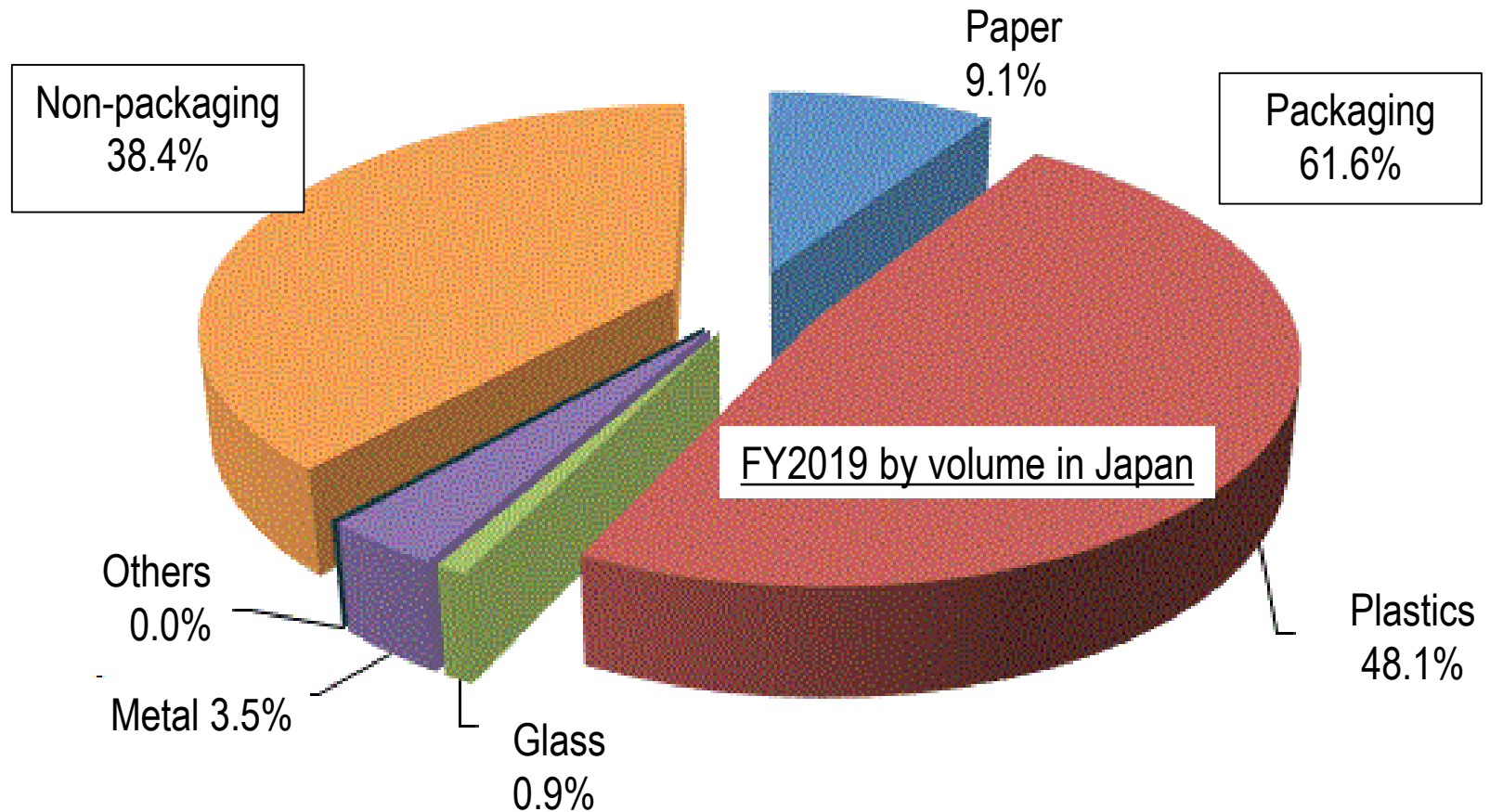
Percentage of Containers and Packaging from Household Waste



FY2018 by weight (wet) in Japan

https://www.env.go.jp/recycle/yoki/c_2_research/research_H30.html

Percentage of Containers and Packaging from Household Waste



https://www.env.go.jp/recycle/yoki/c_2_research/research_R01.html

Containers and Packaging Recycling Law

- Details and background of enactment of the law
 - The remaining capacity of the final disposal site for domestic waste is being filled up
 - Containers and packaging accounted for approximately 60% of domestic waste by volume

- Purpose
 - To reduce domestic waste and use resources effectively

- Features
 - (1) Role sharing
 - ✓ Consumers: Reduction of discharge and sorted disposal
 - ✓ Municipalities: Sorted collection
 - ✓ Business entities: Recycling
 - (2) Extended Producer Responsibility (EPR)

Containers and Packaging Recycling Law Stipulates Role Sharing



Source: Ministry of the Environment

Extended Producer Responsibility

- OECD defines Extended Producer Responsibility (EPR) as an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.

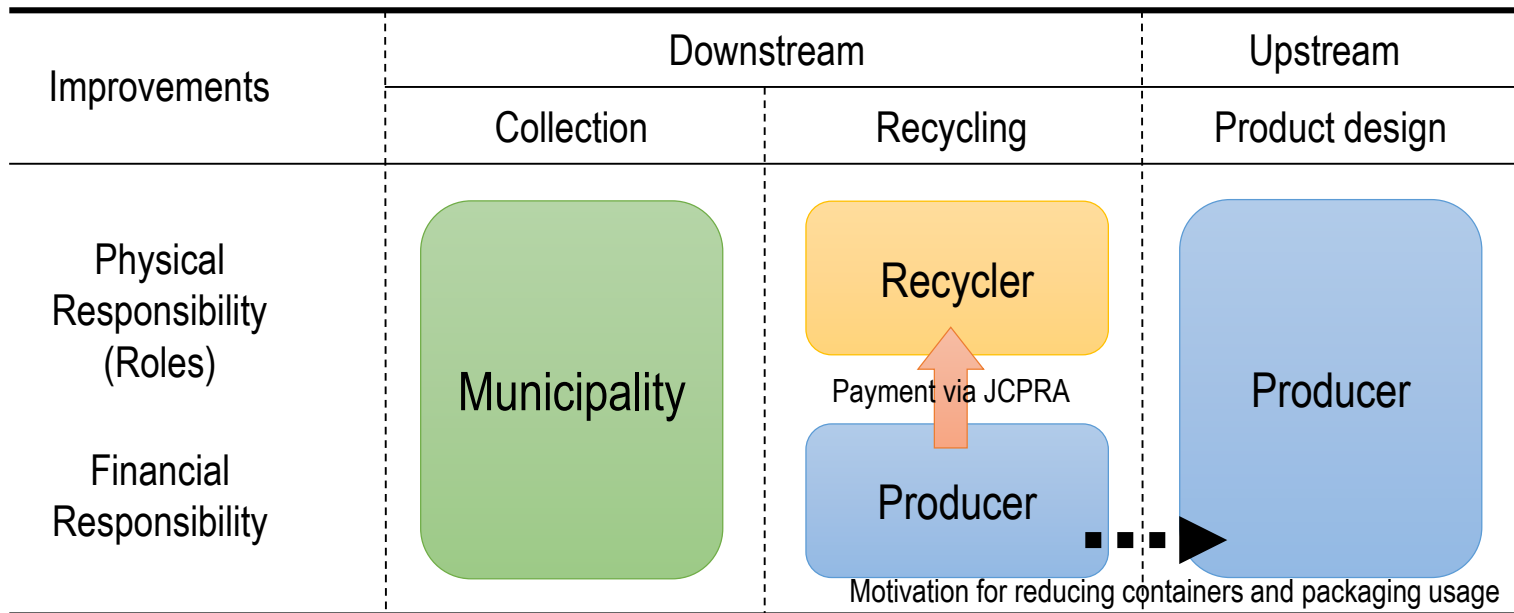
- Two characteristics of the ERP policy
 - Shifting of responsibility (physical and/or financial; fully or partially) upstream toward the producer and away from municipalities; and
 - Provision of incentives to producers to take environmental considerations into account when designing their products.

Source: OECD (2001), *Extended Producer Responsibility: A Guidance Manual for Governments*

Extended Producer Responsibility (cont'd)

- Depending on the EPR policy there are various responsibilities that need to be implemented and transferred
- Shifting of responsibility (physical and/or financial; fully or partially) upstream toward the producer and away from municipalities

Roles and Responsibilities under the Containers and Packaging Recycling Law



Source: Tomohiro Tazaki http://www.maff.go.jp/j/study/shokuhin-youki/pdf/05siryo_02.pdf

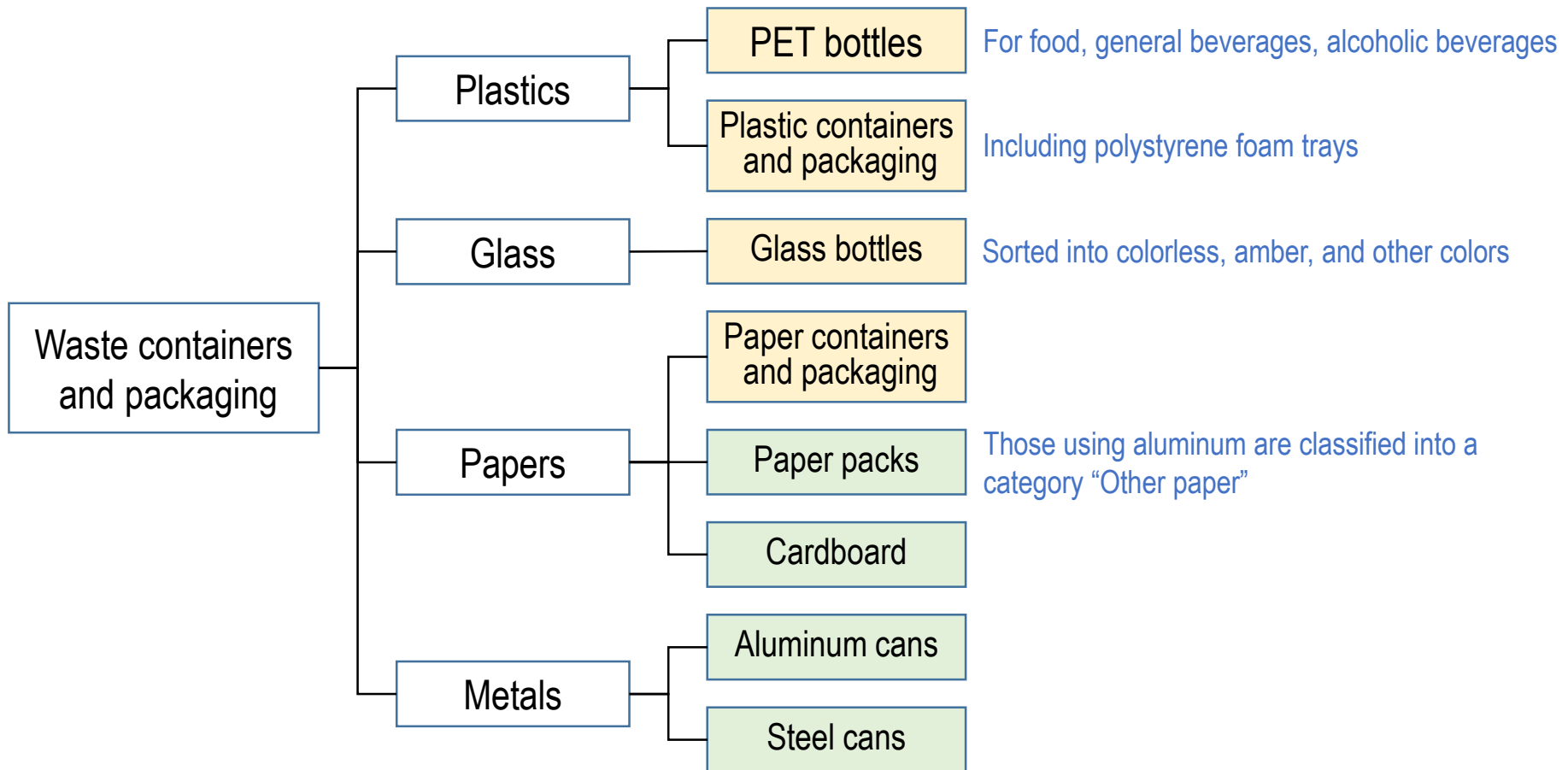
The Roles of Municipalities

The roles of municipalities under the Containers and Packaging Recycling Law

1. Draft and publically announce a five-year plan on the amount of sorted collection of “items conforming to separating standards”.
2. Collect, separate and remove any foreign compound from containers and packaging (from households).
3. Store “items conforming to separating standards” in storage facilities (designated storage) that meet the separation criteria.
4. Recycle “items conforming to separating standards” as commissioned by the municipality.

Containers and Packaging Subject to Sorted Collection and Recycling

There are 8 types of containers and packaging materials subject to sorted collection. Specified business entities are obliged to recycle 4 of these types of materials.



Materials for which specified business entities have recycling obligations.

Materials for which specified business entities do not have recycling obligations.

Definition of Containers and Packaging Prescribed by the Law

A “container” is an item into which goods are placed (including bags). “Packaging” is an item in which goods are wrapped.

(Definition)

Article 2 The term “containers and packaging” as used in this Act shall mean containers and packaging of goods (including the cases where containers and packaging of goods are paid for) which become unnecessary when the said goods have been consumed or when the said containers and packaging have been removed from the goods.

As a guide to judging what kind of containers / packaging are subject to the law, ask:

- 1) Are the goods inside the item considered to be merchandise?
- 2) Is the item unnecessary once it is separated from the merchandise?
(including plastic shopping bags provided for a fee)

Examples of Containers and Packaging Subject to the Law

1. Glass bottles	Glass bottles for milk, beer, and cosmetics; 1.8-liter glass bottles for sake, etc.
2. PET bottles	Bottles for general beverages, soy sauce, noodle soup, milk beverages, vinegar, seasoned vinegar, etc. (does not include containers for oil and toiletries)
3. Paper containers and packaging	Boxes for washing powder Wrapping paper (used at department stores) Roll wrapping for stick gum Paper boards used for folded shirts Paper boards, partitions, and raised bottom for gift boxes Paper boards for blister packs, etc.
4. Plastic containers and packaging	Bottles and caps for shampoo (including the pump part for pump-type shampoo) Plastic bags from supermarkets and convenience stores Rain protection bags for newspapers Shrink films for aerosols, etc. Plastic bags for explanatory booklets Plastic caps for PET bottles Stoppers for cosmetics containers, etc.

Identification Marks (symbols)

The purpose of identification is to make it easier for consumers to separate waste, and to promote municipal waste collection.

The Act on the Promotion of Effective Utilization of Resources requires that identification marks be placed on beverages and alcoholic beverage cans, PET bottles for beverages, alcohol, soy sauce, seasonings, etc., and plastic and paper containers and packaging.



PET bottles

Food products (soy sauce, fermented milk drinks, and other seasonings), soft drinks, alcoholic beverages



Paper containers and packaging

Excluding beverage paper (without aluminum) and cardboard



Plastic containers and packaging

Excluding those contained in "PET bottles"

Containers and packaging targeted by the JCPRA



Steel cans for beverages



Aluminum cans for beverages

Business Entities with Recycling Obligations

(1) Users of specified containers

Business entities which use specified containers for selling merchandise
(Including business entities which import merchandise placed in specified containers)

(2) Manufacturers, etc., of specified containers

Business entities which manufacture specified containers
(Including business entities which import merchandise placed in specified containers and import specified containers)

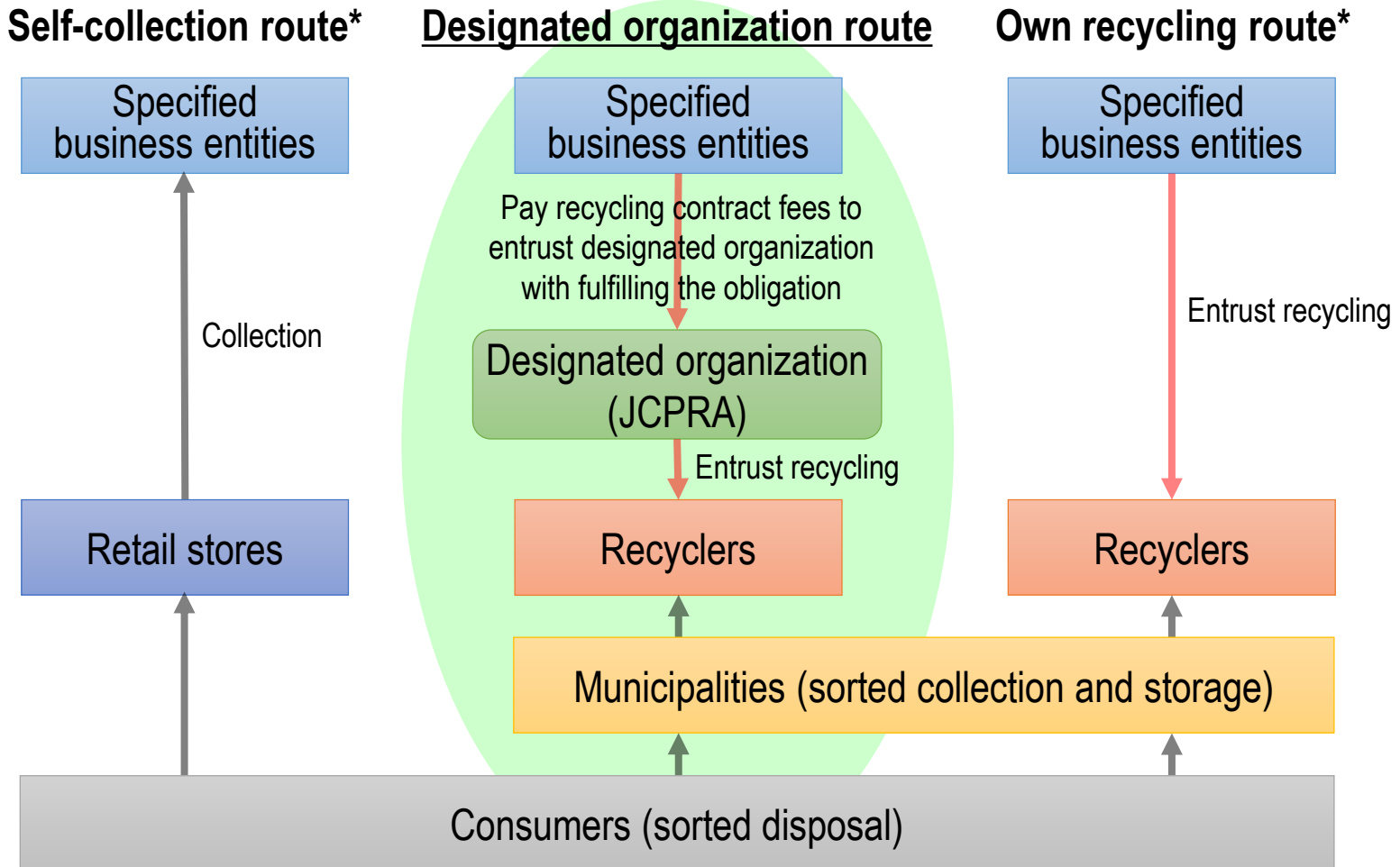
(3) Users of specified packaging

Small businesses that meet both of the following two conditions, relating to annual sales and number of employees, are exempt from recycling obligations.

Sector	Retail, service, wholesale, etc.	Manufacturing, incorporated bodies, incorporated foundations, educational foundations, etc.
Annual sales	70 million JPY or less	240 million JPY or less
Number of workers regularly employed	5 or less	20 or less

How Specified Business Entities Fulfill Their Recycling Obligations

While there are three ways to fulfill recycling obligations, the “designated organization route” is used in most cases.

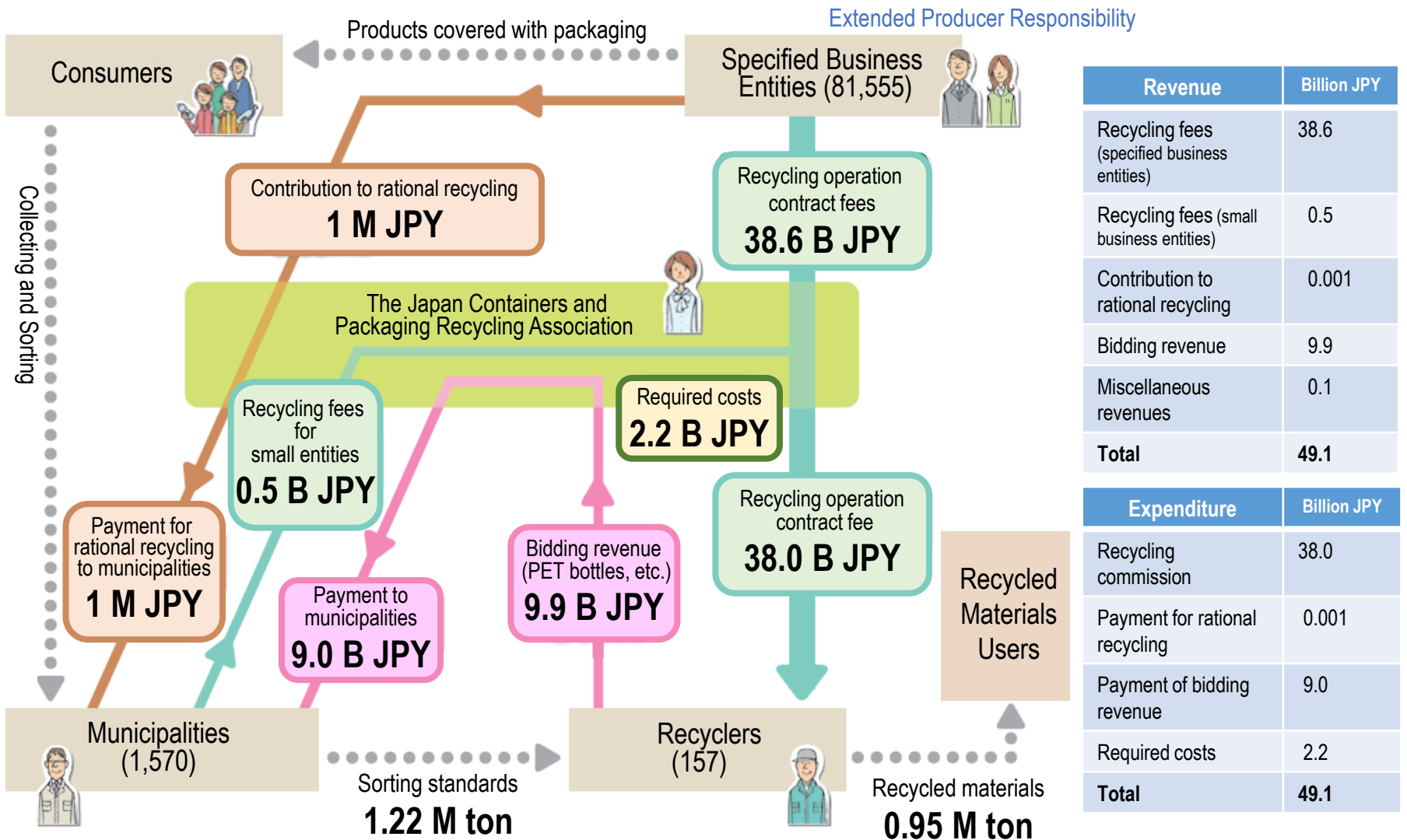


*Self-collection route and own recycling route need approval of the competent minister.

公益財団法人 日本容器包装リサイクル協会

2. Recycling Operation Contract Fees by Specified Business Entities

Performance of Recycling Activities in 2019



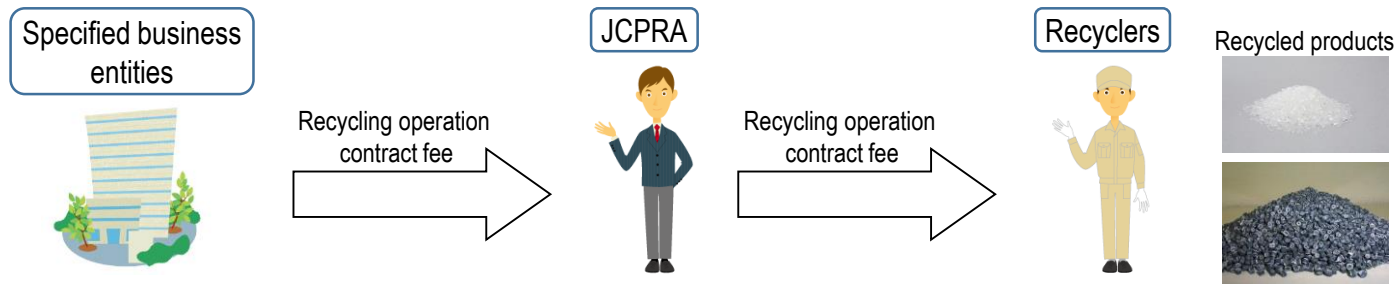
Recycling Operation Contract Fees by Specified Business Entities

The recycling operation contract fee is a commissioned fee that specified business entities should disburse to the Japan Containers and Packaging Recycling Association (JCPRA) in return for processing waste on their behalf.

2 types of operation contract fees

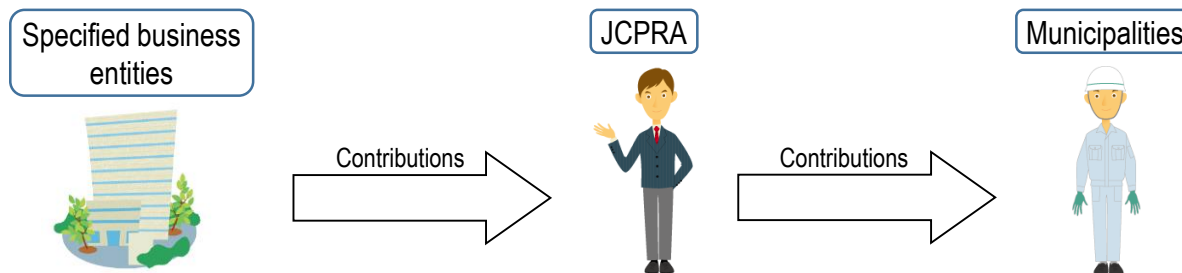
(1) Recycling operation contract fee (commissioned fee)

→ Commissioned fee for recycling



(2) Payment for rational recycling to municipalities

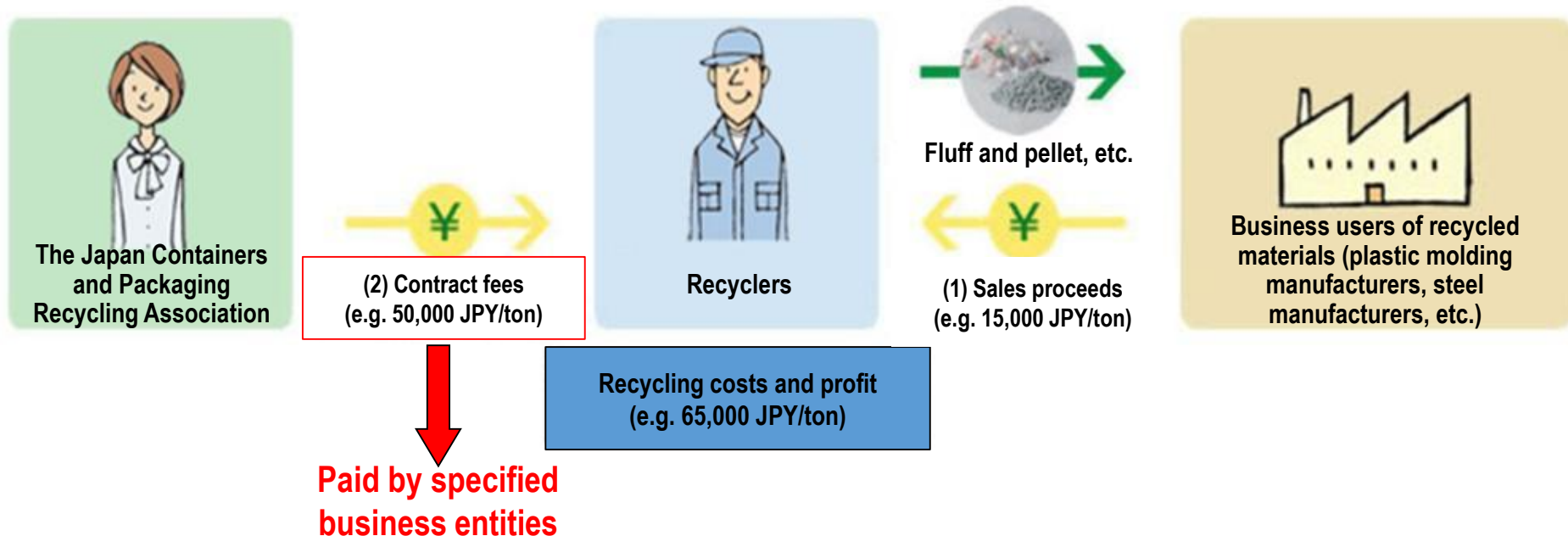
→ Payment of money to municipalities (according to the municipalities financial system designated by the Containers and Packaging Recycling Law, Article 10-2, since 2006)



Recycling Operation Contract Fees

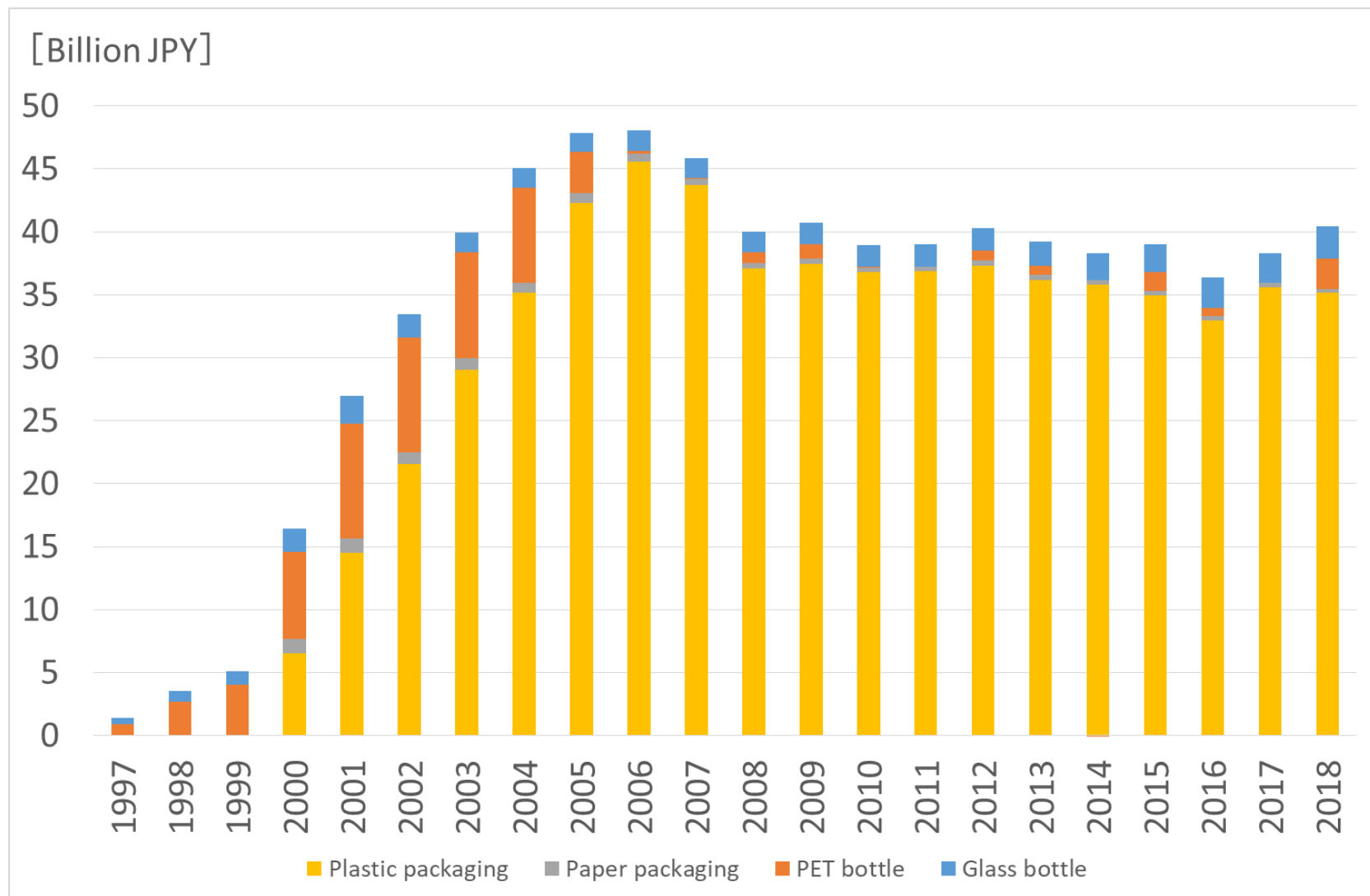
These fees are used as expenses for recycling waste that incurs recycling processing fees (“inverse onerous contract”).

- Recycling contract fees to be paid to recyclers
- Expenses of JCPRA, etc.



Basic structure (inverse onerous contract) for plastic containers and packaging recycling

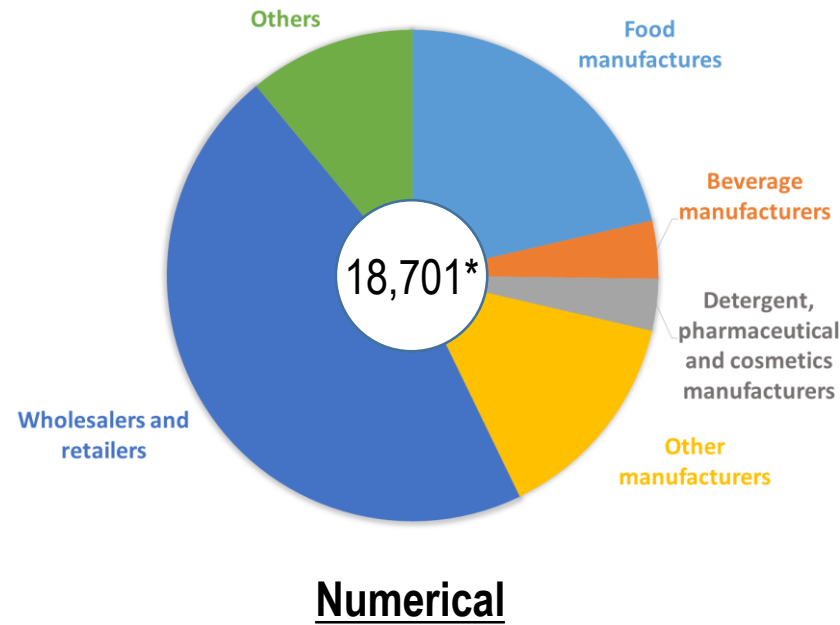
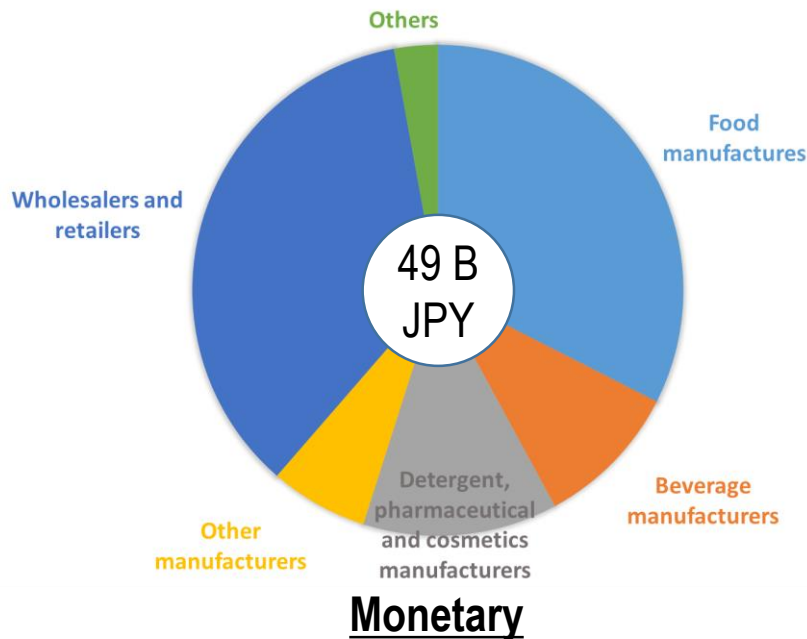
Historical Overview of Costs Incurred by Specified Business Entities (recycling operation fees)



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Recycling Operation Fees by Sector (2018)

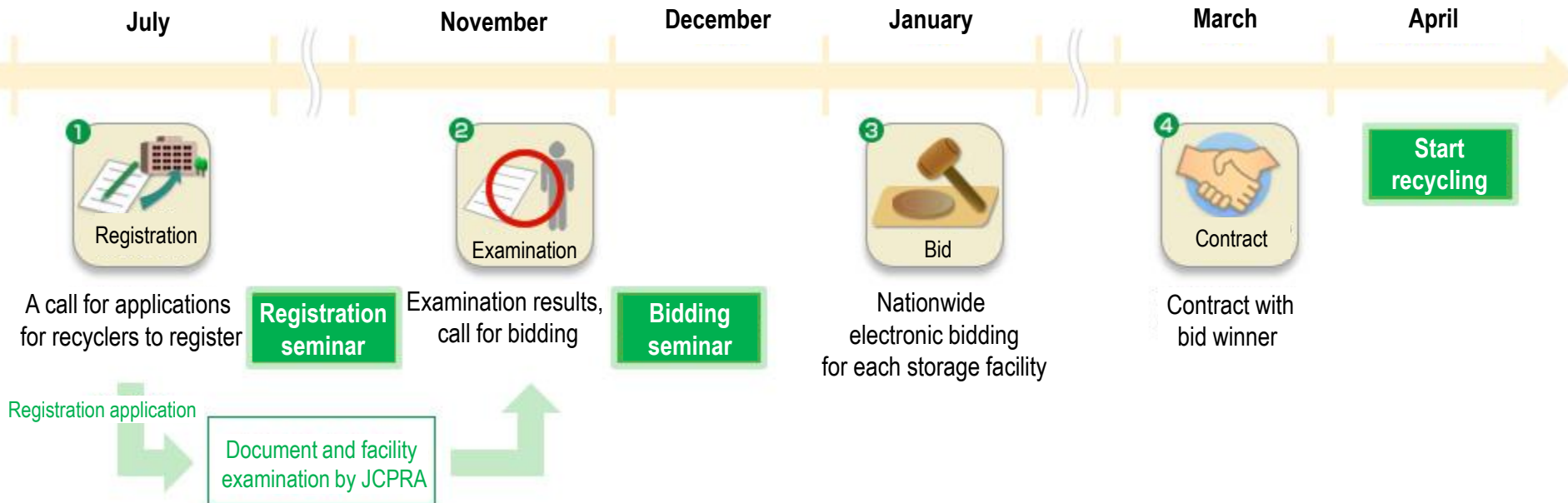


*Multiple businesses/offices apply collectively

Category	# of offices	(ratio: %)	Commission B JPY	(ratio: %)
Food manufacturers	4,003	(21.4)	13.1	(32.5)
Beverage manufacturers	711	(3.8)	3.9	(9.6)
Detergent, pharmaceutical and cosmetics manufacturers	639	(3.4)	5.2	(12.8)
Other manufacturers	2,654	(14.2)	2.6	(6.5)
Wholesalers and retailers	8,640	(46.2)	14.5	(35.8)
Others	2,054	(11.0)	1.2	(2.9)
Total	18,701	(100.0)	40.4	(100.0)

Bidding Procedure for Recycling

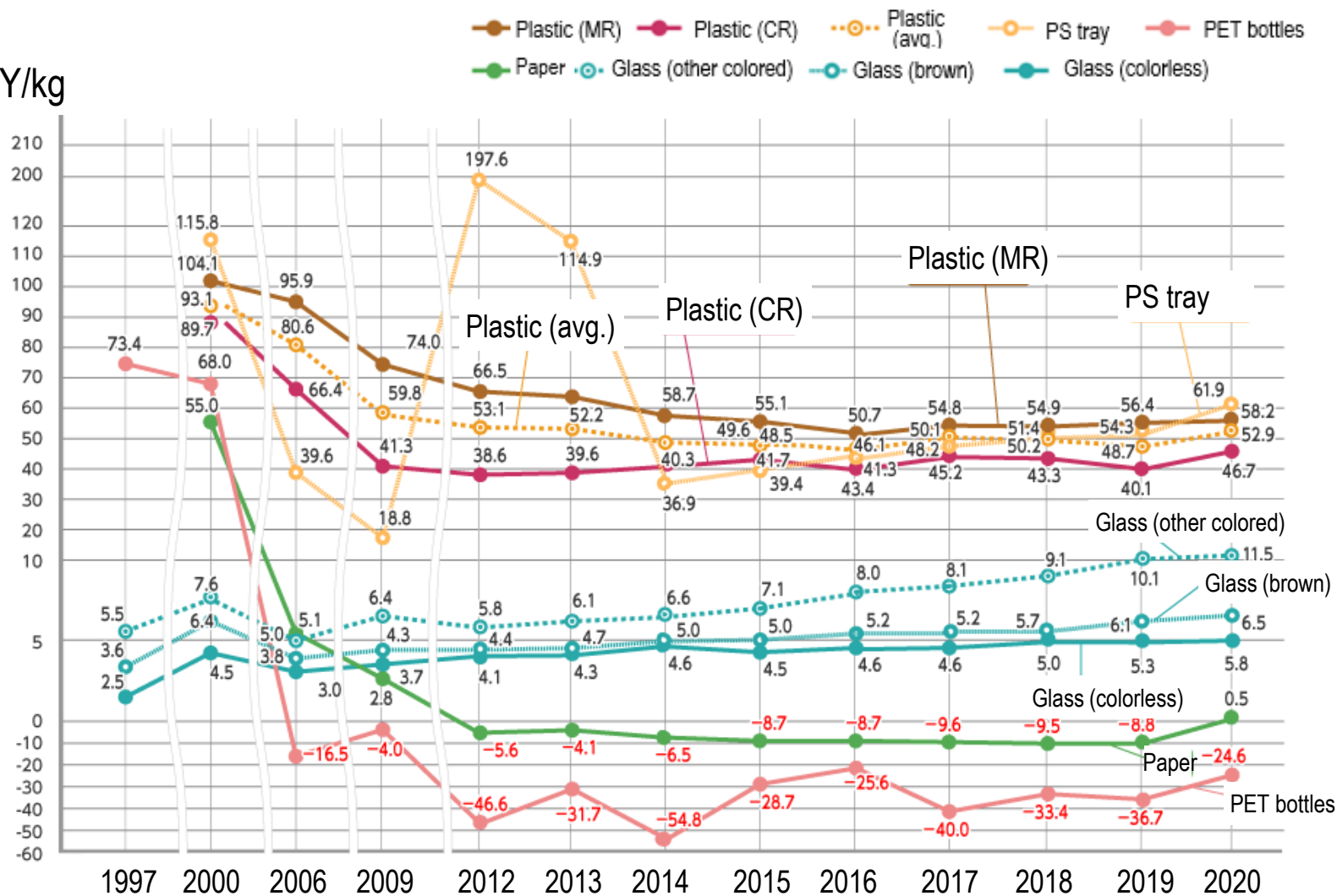
- Recyclers must pass registration examinations to qualify for the tender each year.
- Bidding is held simultaneously nationwide for each particular storage facility, a year before the actual contract term for each type of material (transparent glass bottles, brown bottles, other bottles, PET bottles, paper containers and packaging, plastic containers and packaging).
- The bid winner will conclude a one-year contract with JCPRA and start recycling from April.
- JCPRA will pay the recycling fees after the actual cost* is confirmed on a monthly basis. (*The actual recycling costs = Sales of recycling products to users)



Trends in Recycling Unit Prices

(excluding consumption tax)

JPY/kg

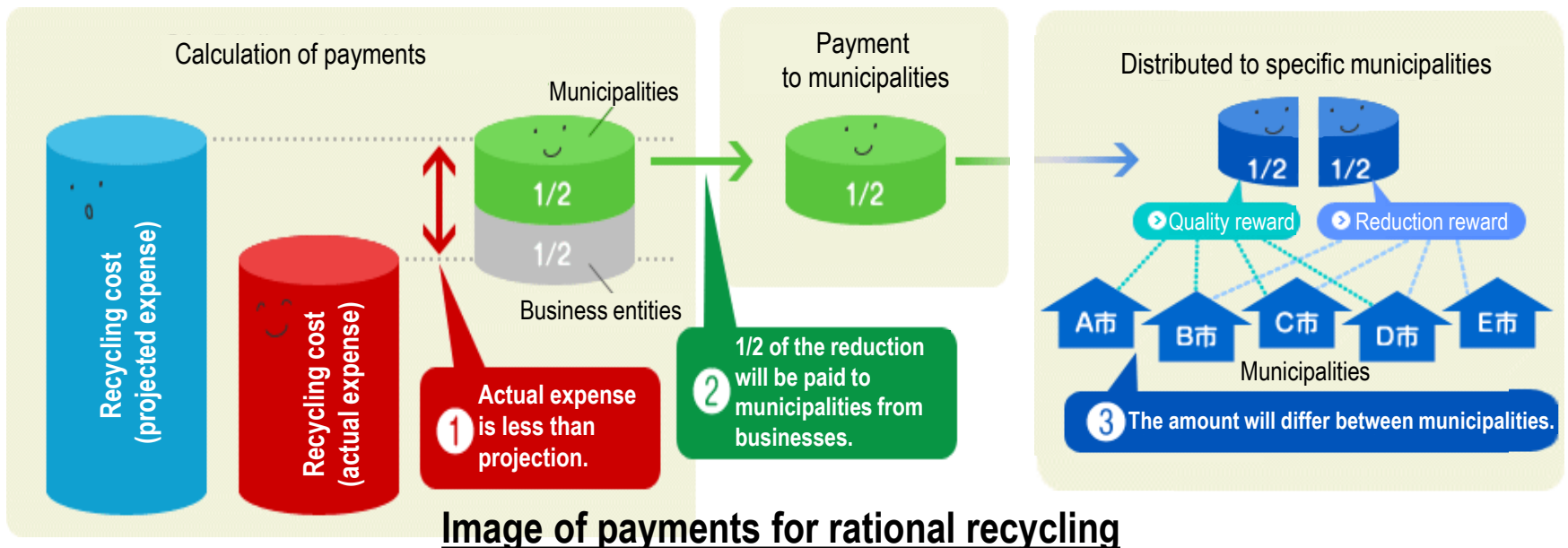


Rounded to one decimal place

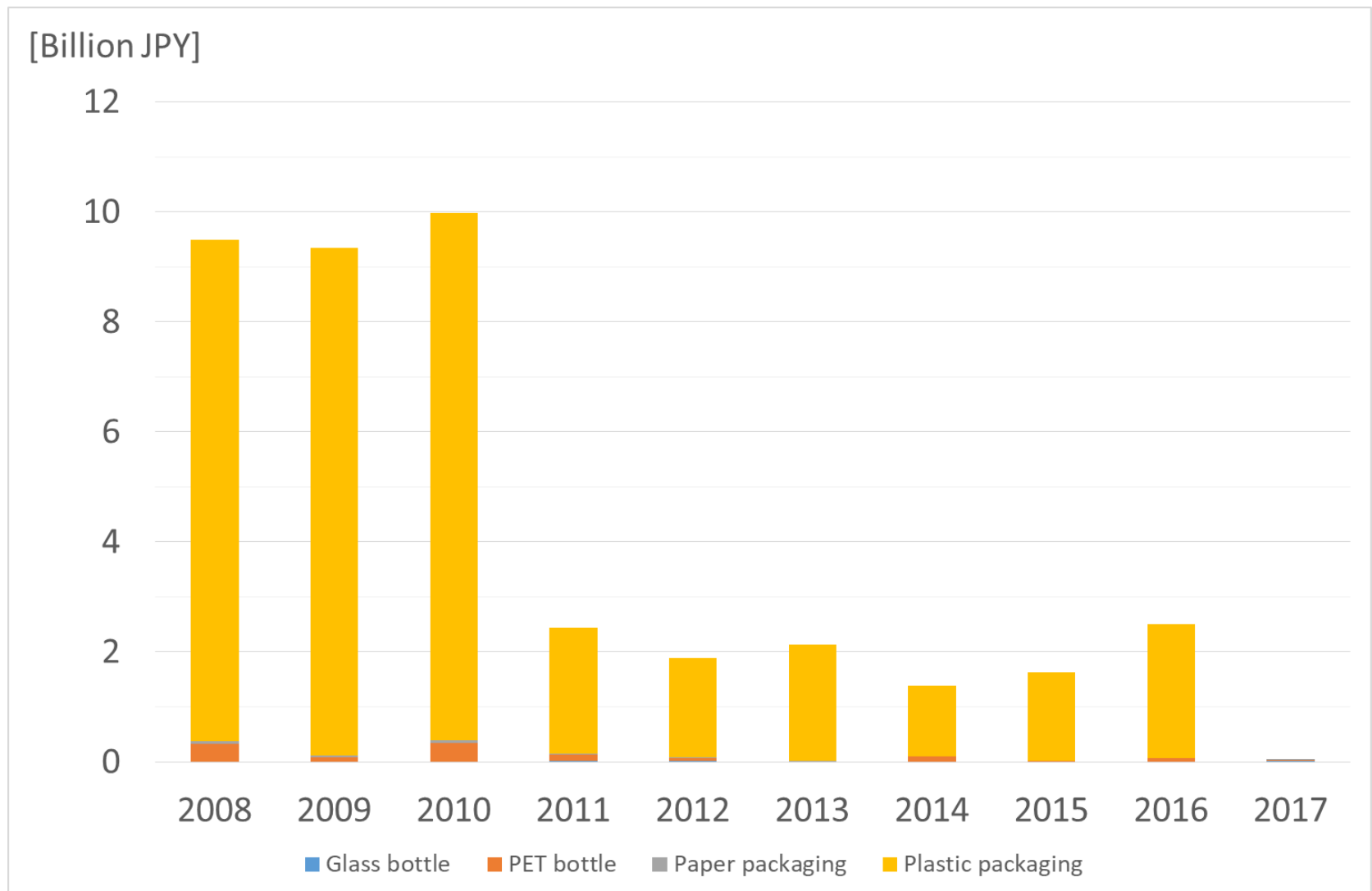
Payment for Rational Recycling to Municipalities

Payment plan for municipalities (according to the “payments for rational recycling” system, in place since April 2008)

- To enable smooth recycling by recyclers, municipalities are required to oversee correct waste separation, and ensure that collection is conducted, and that packaging and containers have been handled effectively. Waste must be removed of any foreign matter or stains, to reduce recycling costs and raise the quality of the recycled products (raising the selling price of the recycled products). These practices will reduce recycling charges.
- Municipalities receive payment depending on the level of efficiency of their waste separation. This provides an incentive to reward their efforts.

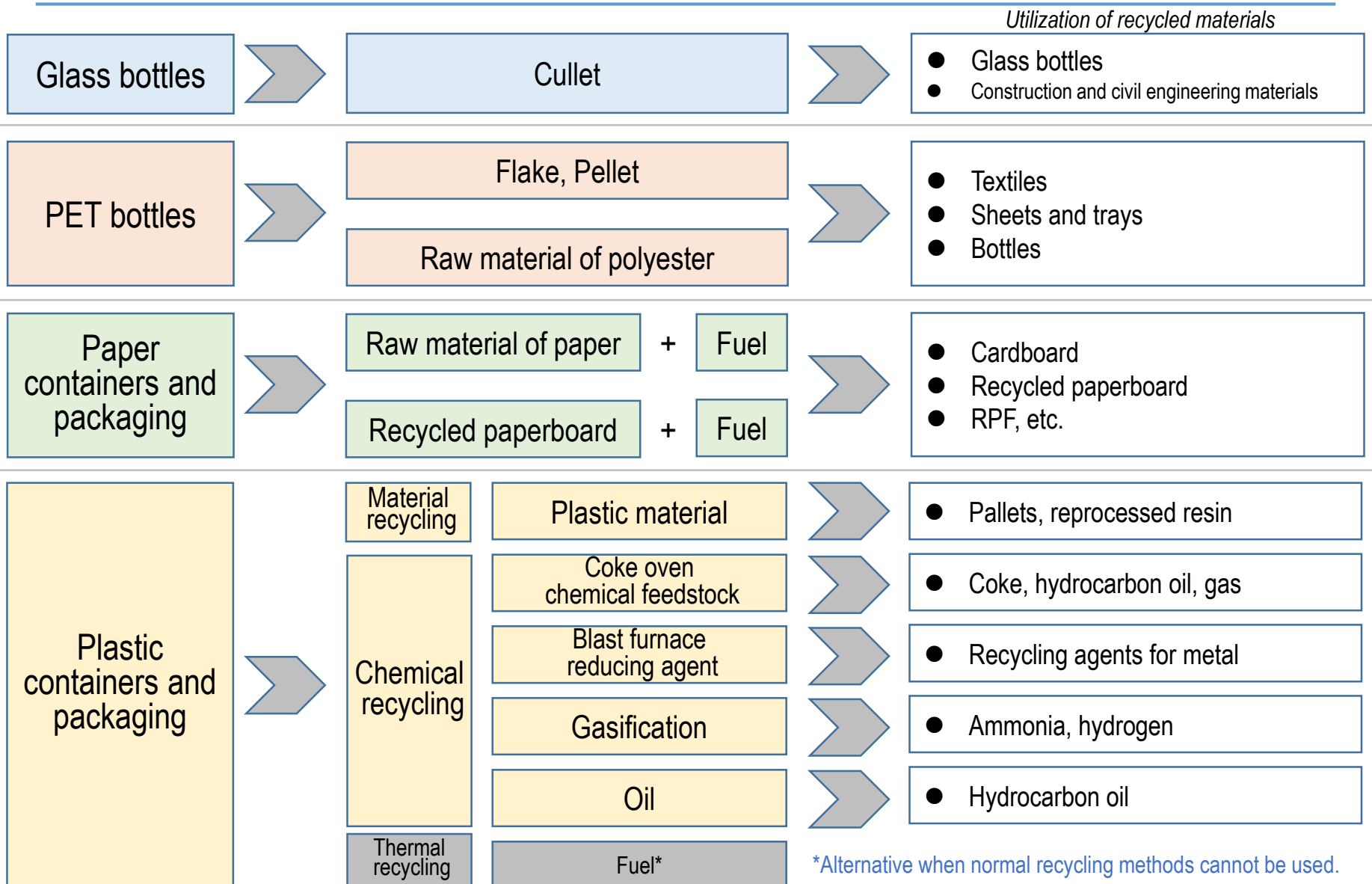


Yearly Change in Rational Recycling Payments to Municipalities



3. Trends and Results of Recycling Activities

Recycling Process



*Alternative when normal recycling methods cannot be used.

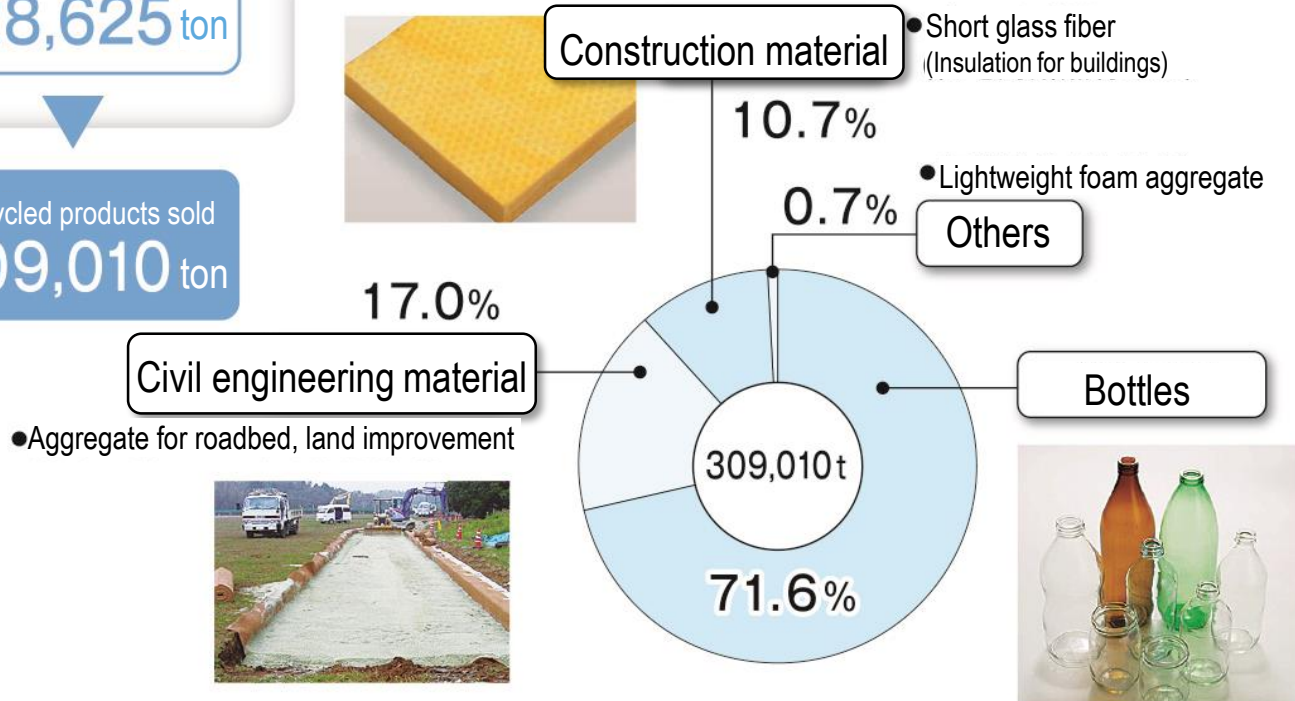
Utilization of Recycled Products in FY2019 – Glass bottles

Glass bottles

The amount of glass bottles collected from municipalities was approximately 329,000 tons, down 2.4% from the previous year. As for the usage of the recycled products, 71.6% was used as bottle raw material and has been turned into glass bottles again.

Total gathered by JCPRA
328,625 ton

Recycled products sold
309,010 ton



Utilization of Recycled Products in FY2019 – Paper packaging

Paper packaging

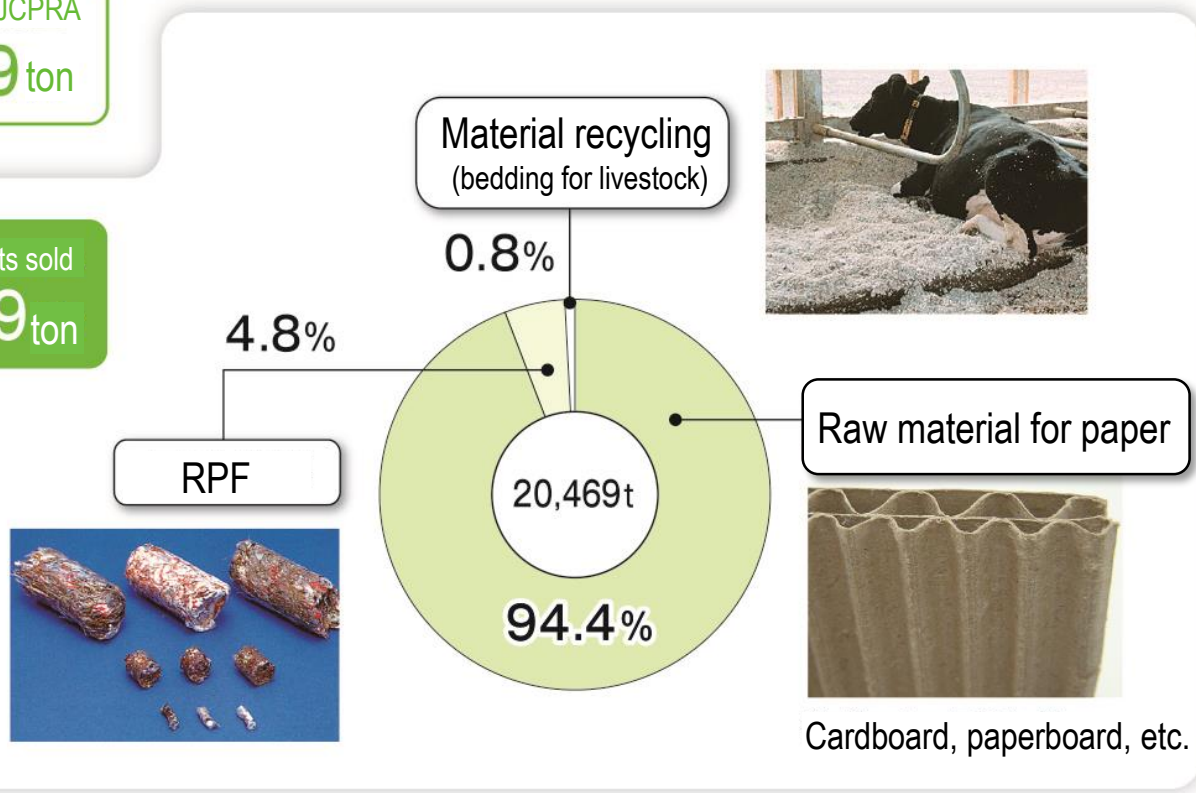
Approximately 21,000 tons of paper packaging were collected from municipalities, almost the same amount as in the previous year. As in the previous year, 94.4% of all recycled products were used as raw material for papermaking.

Total gathered by JCPRA

20,729 ton

Recycled products sold

20,469 ton



Utilization of Recycled Products in FY2019 – PET bottles

PET bottles

Approximately 217,000 tons were collected from municipalities, up 2.6% from the previous year. Recycled products were used for items including sheets (approx. 42.6%), textiles (approx. 32.3%), and bottles (approx. 22.2%).

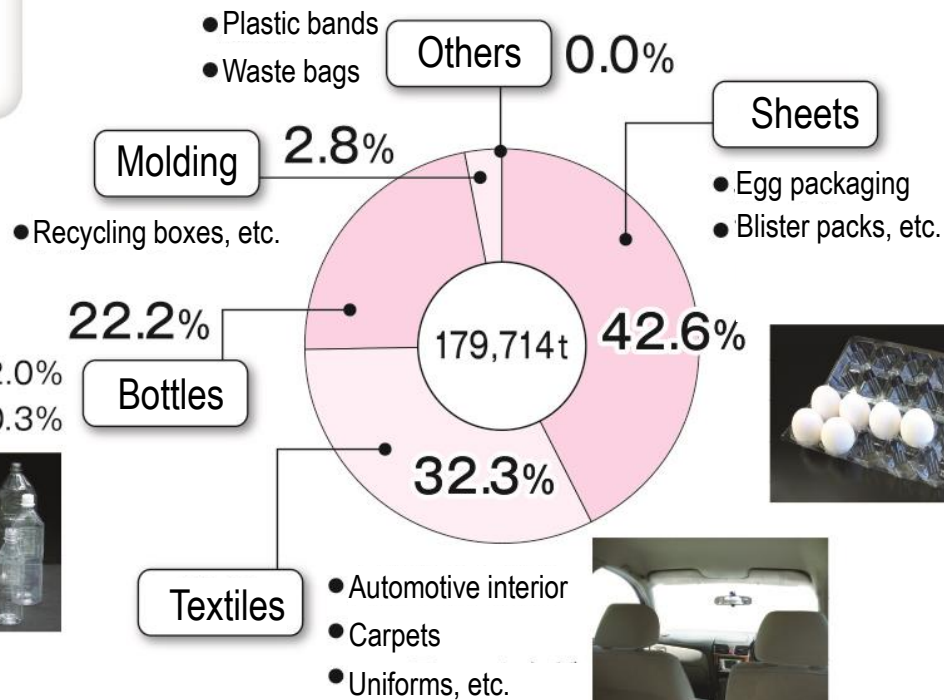
Total gathered by JCPRA

217,065ton

Recycled products sold

179,714ton

- Beverage bottles 22.0%
- Detergent bottles 0.3%



Utilization of Recycled Products in FY2019 – Plastic packaging

Plastic packaging

The amount of plastic packaging received from municipalities was approximately 655,000 tons, almost the same amount as in the previous year. Recycled products were used in chemical recycling (60.9%) and material recycling (39.1%). The percentage of chemical recycling increased by 3.4% compared to 57.5% in the previous year.

Total gathered by JCPRA

654,538 ton

Recycled products sold

439,165 ton



Material recycling

Others

Pallets

39.1%

Recycled resin

Blast furnace reducing agent

Others

Raw material for coke ovens

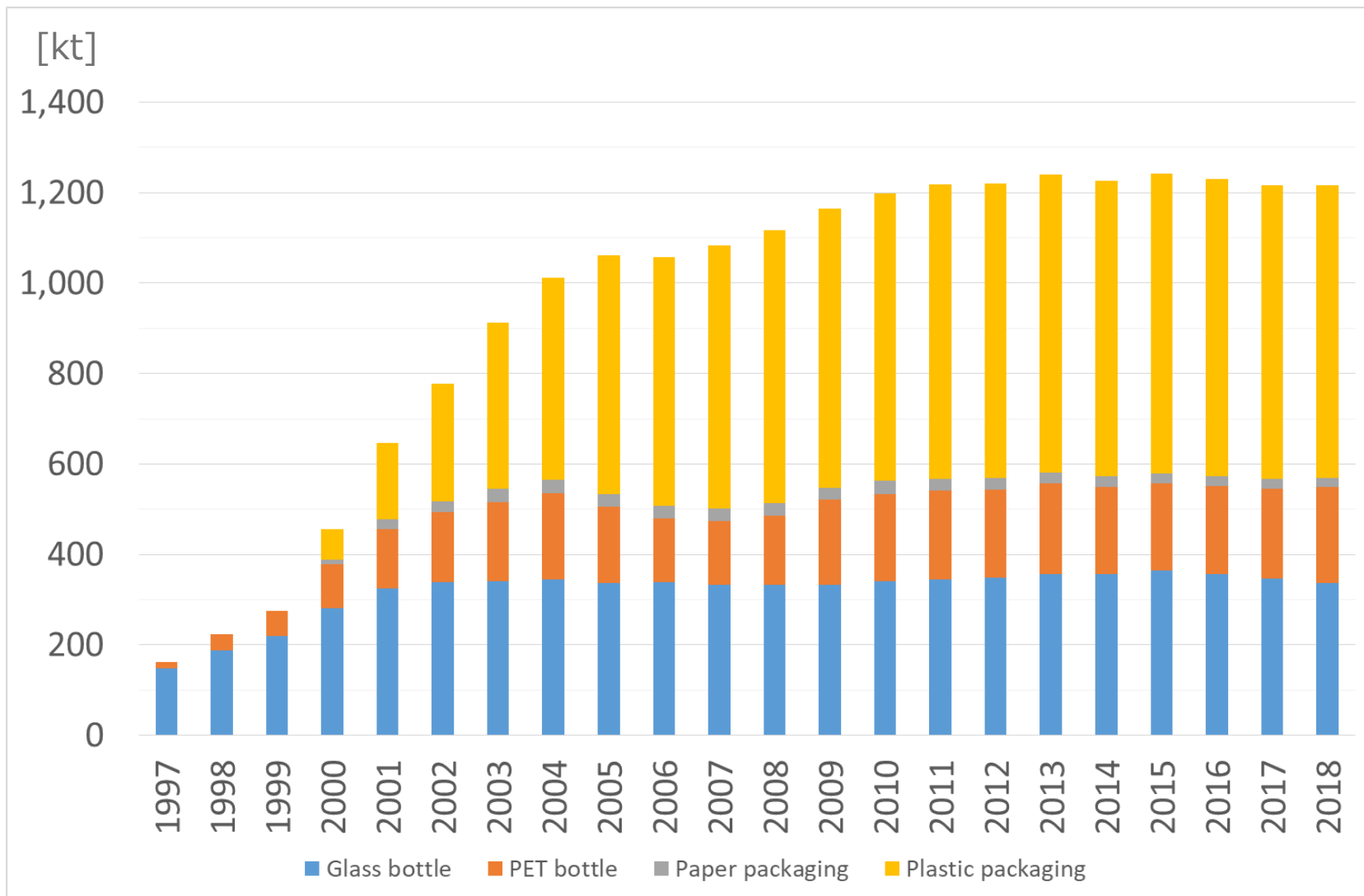
60.9%

Synthesis gas

Chemical recycling

* excluding white PS trays

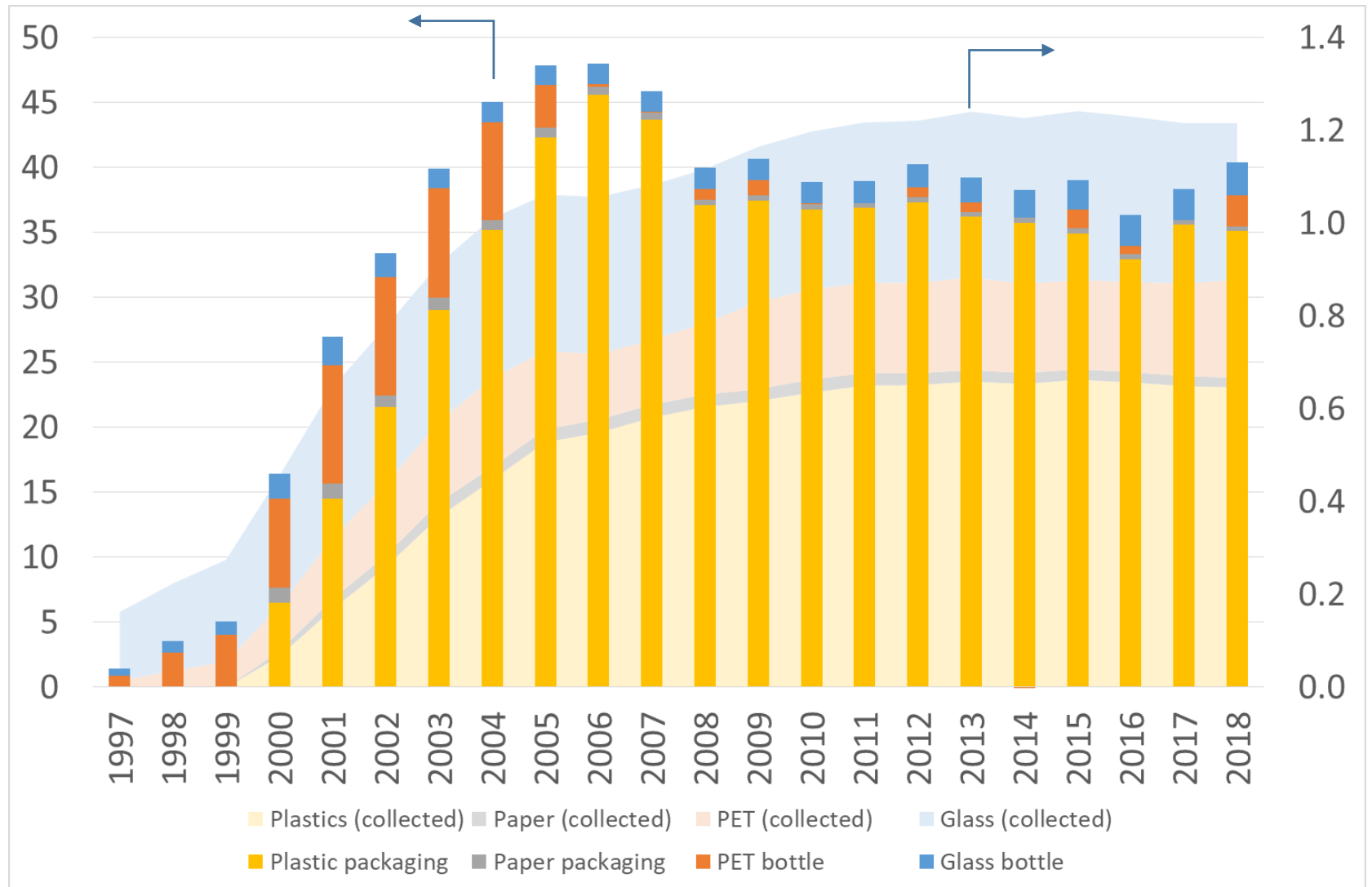
Historical Overview of Waste Collected from Municipalities



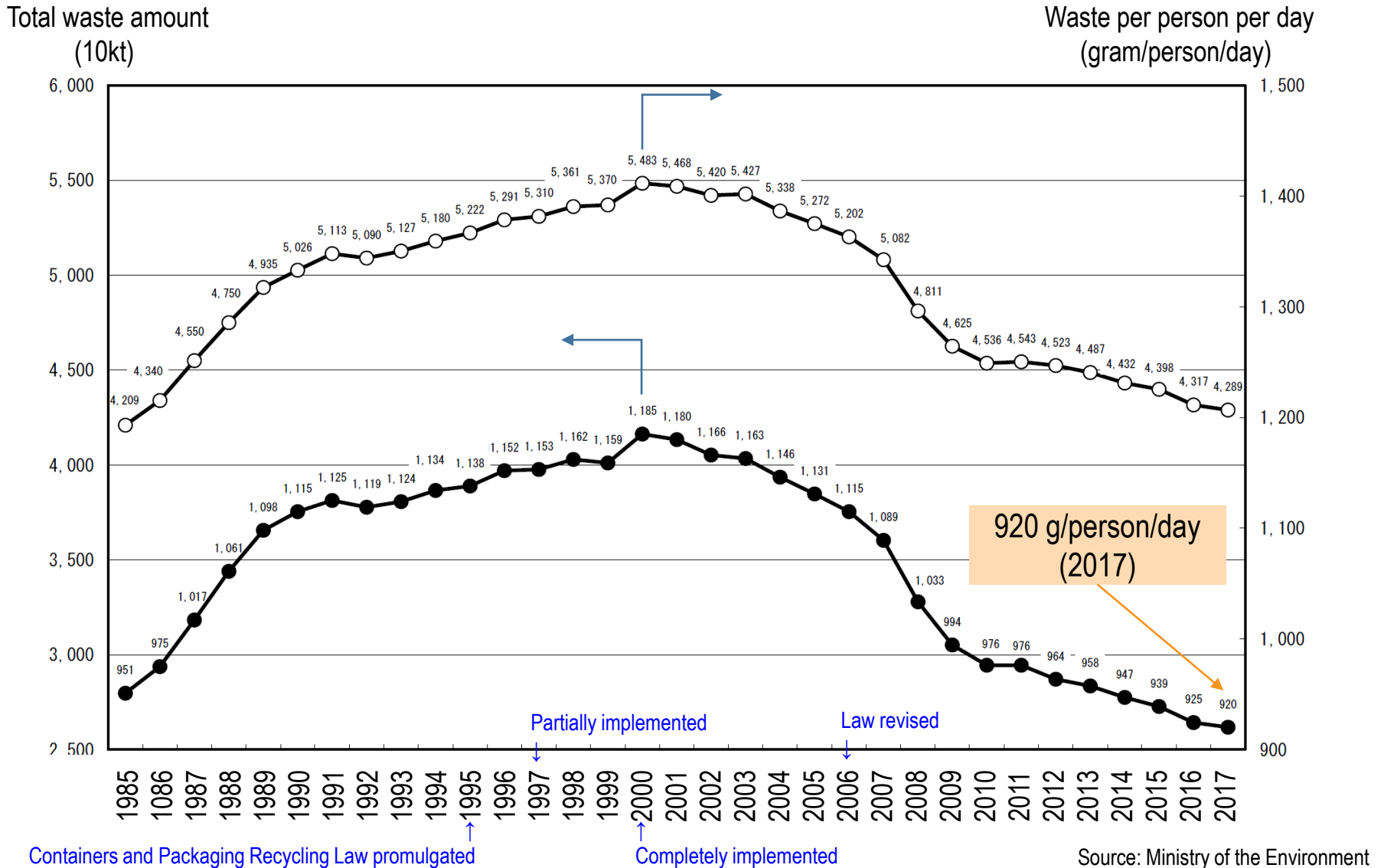
Historical Overview of Costs Incurred by Specified Business Entities (recycling operation fees) and Waste Collected from Municipalities

Recycling cost [billion JPY]

Waste amount [million ton]

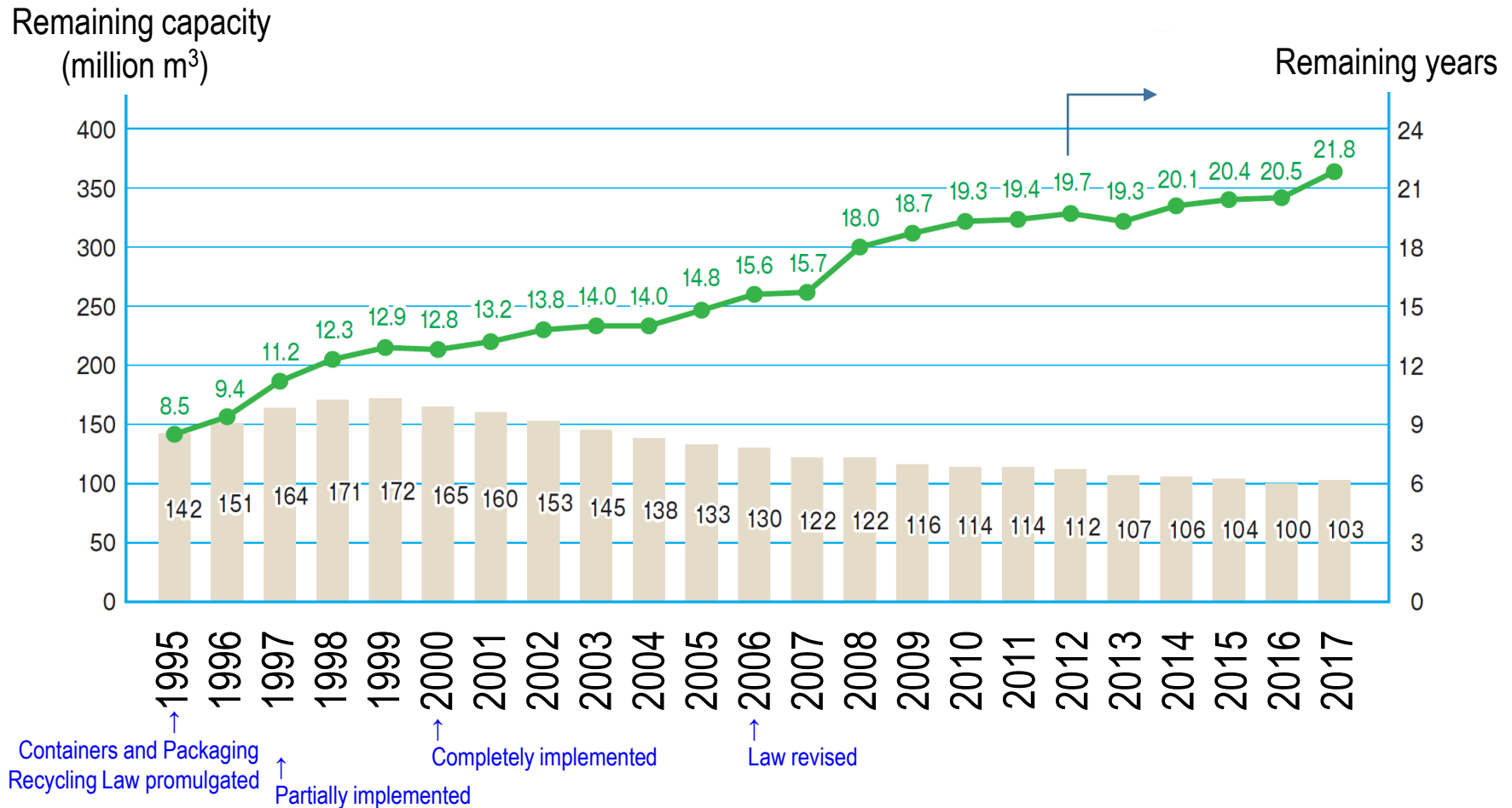


Total Amount of Domestic Waste Generation and Waste Generated per Person per Day



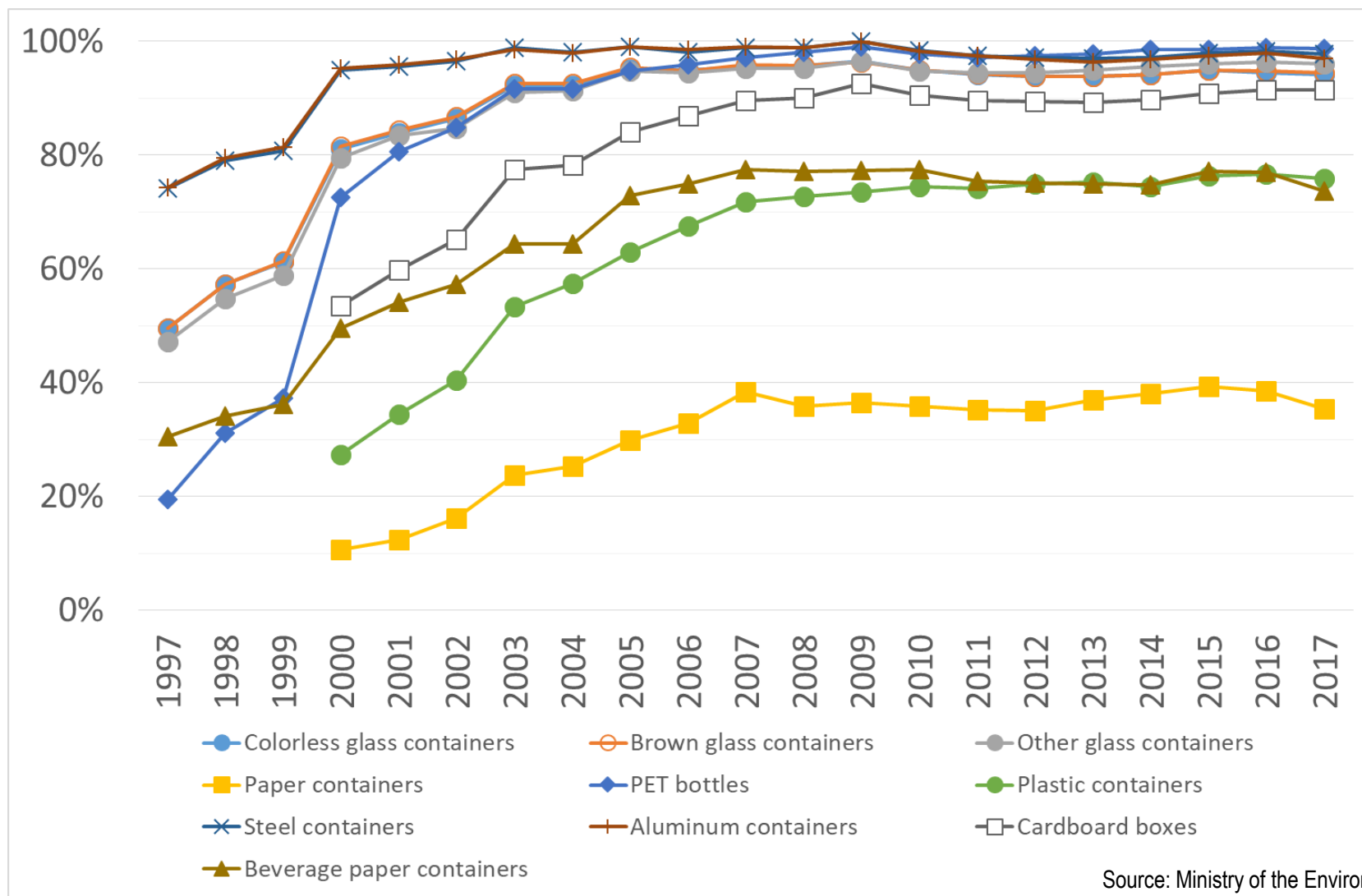
Source: Ministry of the Environment

Changes in Remaining Capacity and Remaining Sustainable Years of Final Disposal Sites for Domestic Waste



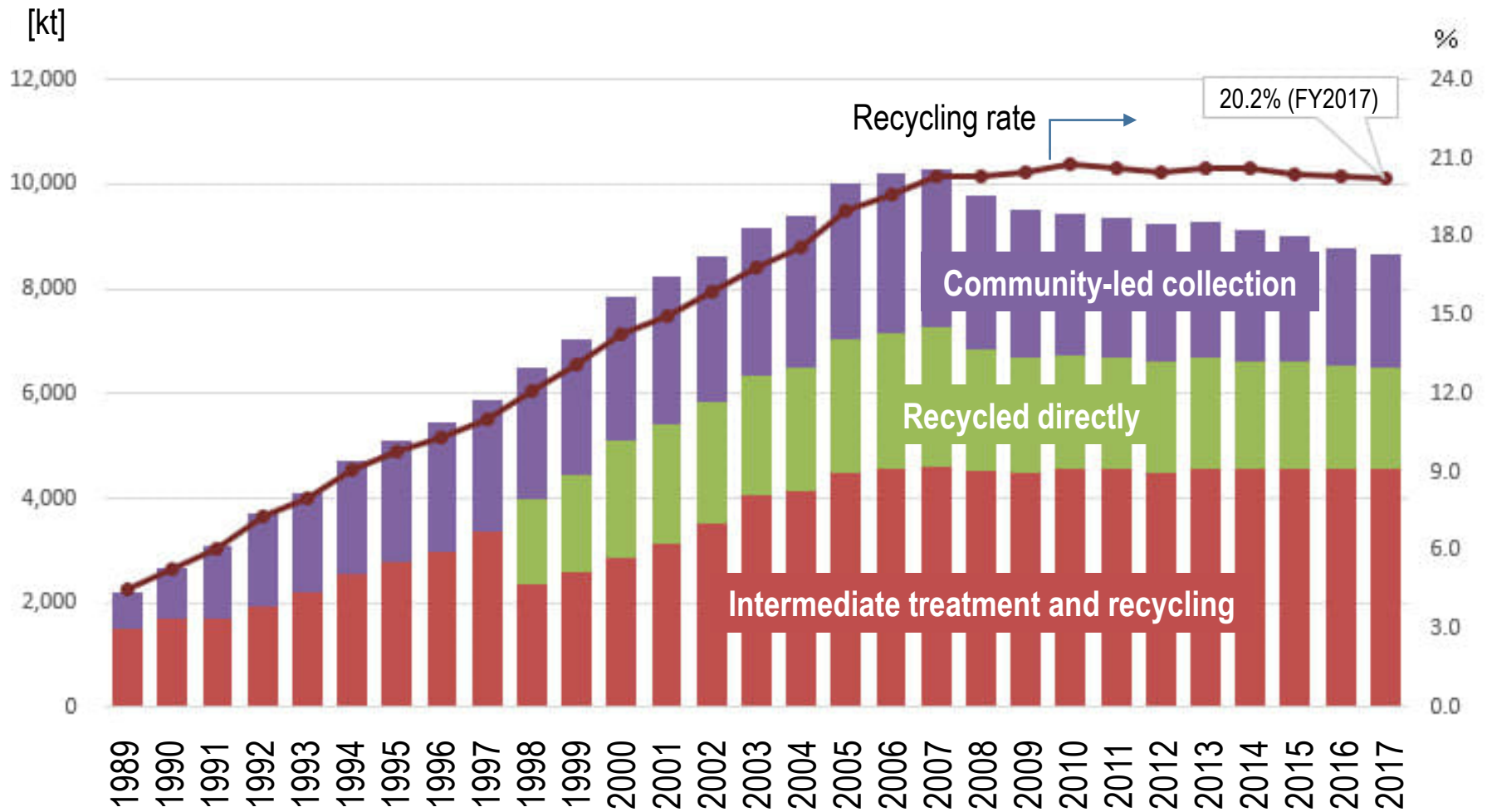
Source: Ministry of the Environment

Yearly Change in the Ratio of Municipalities Conducting Waste Separation and Collection to All Municipalities



Source: Ministry of the Environment

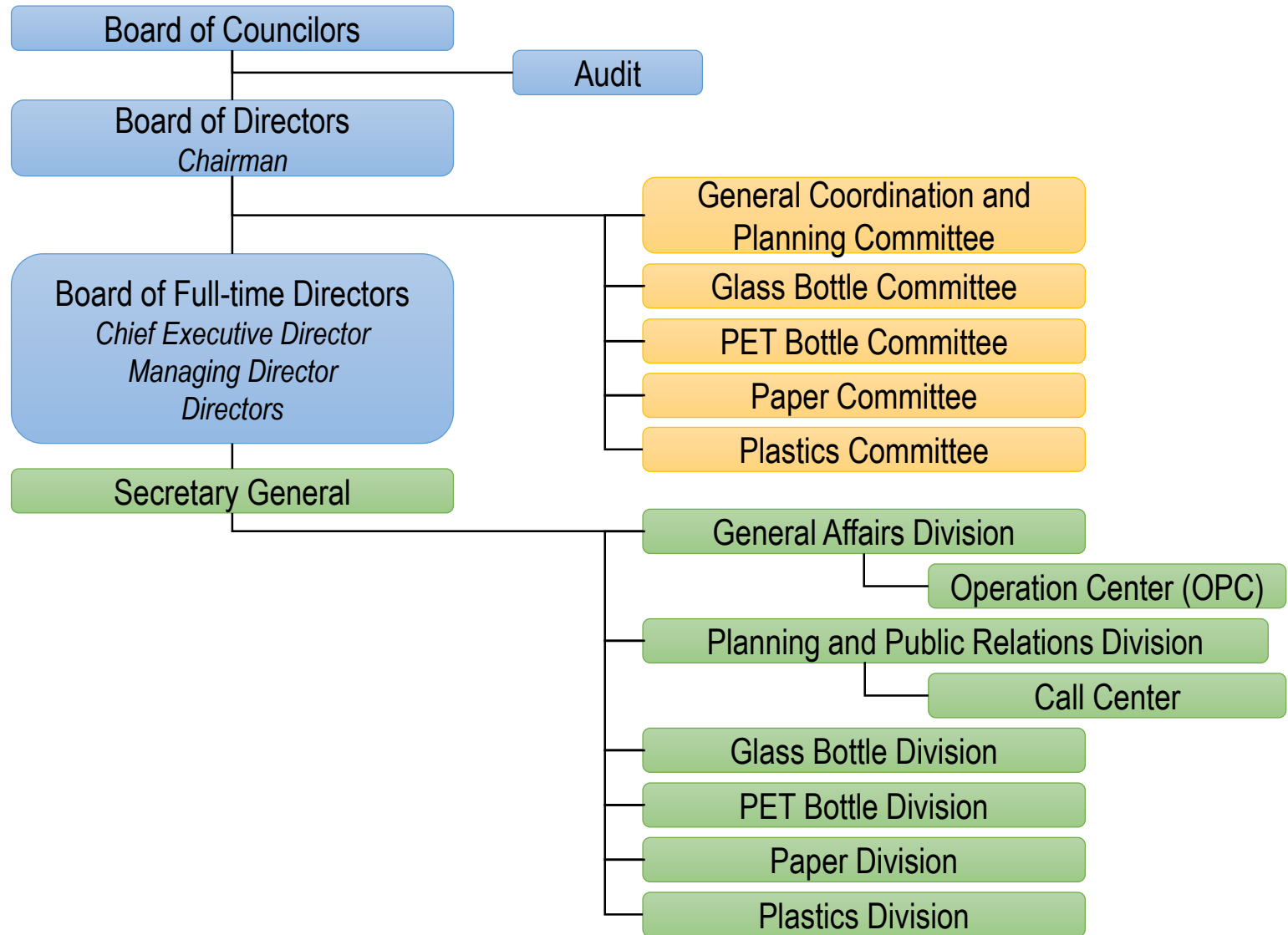
Change in Total Amount of Domestic Waste and Recycling Rate



Source: Ministry of the Environment

4. About JCPRA

Organization of JCPRA



Purpose of Our Association's Business

From the articles of incorporation

➤ Proper management of waste

- Adopt scientifically reasonable and internationally accepted management practices throughout the whole process

➤ Effective use of resources

- Ensure resources invested for recycling are not wasted
- Maintain the waste itself in a state of high use value for a long time

↓ (with the above, we realize)

➤ Conservation of living environments

- Maintain the environment to make it as hygienic and comfortable as possible, from discharge to final disposal of waste

➤ Sound development of the national economy

- Optimize social costs throughout the product life cycle
- Improve the status of the waste treatment industry

The Japan Containers and Packaging Recycling Association

As a coordinator, the Japan Containers and Packaging Recycling Association is working on proper operation, expansion, and promotion of recycling.

	Scope	Major tasks
Proper operation of recycling	Specified business entities (81,492)	<ul style="list-style-type: none"> • Management of contract recyclers (name of recyclers, recycling contract fees, and payment condition, etc.) • Collection and adjustment of recycling contract fees • Public announcement of contract recyclers and provision of information to the government
	Municipalities (1,567)	<ul style="list-style-type: none"> • Management of delivery status of waste containers and packaging that conform to the sorting standards (delivery progress of applied waste containers and packaging, etc.) • Quality check of waste containers and packaging that conform to the sorting standards and improvement guidance • Collection of recycling contract fees (paid by municipalities) • Management of funding under the Payment of Money to the Municipal Government clause and onerous bidding system
	Recyclers (163)	<ul style="list-style-type: none"> • Registration, examination, and bidding selection • Management of recycling conditions (acceptance volume, recycling volume, and sales volume, etc.) • Collection of recycling contract fees (for onerous bidding) • Detection of and taking measures against improper and fraudulent activities
Expansion and promotion	Common	<ul style="list-style-type: none"> • Management of information disclosure on the website and in newsletters (Outline of the Containers and Packaging Recycling Law, conditions of performance of recycling obligations of specified business entities, and recycling conditions, etc.) • Holding of explanatory meetings and lectures • Promotion of online applications • Oversight of surveys and research on recycling condition of containers and packaging in foreign countries • Response to inquiries (call center)

History of the Containers and Packaging Recycling Law and Association

FY	History	FY	History
1995	- The Containers and Packaging Recycling Law was enforced.	2008	- Reassessment of the Containers and Packaging Recycling Law was fully enforced. - “A list of business entities by recycling contract fees (agreed business entities only)” is released on the website. - Approved the onerous tender of paper package containers from FY2009.
1996	- Received approval to establish the Japan Containers and Packaging Recycling Association from four competent ministries (i.e. Ministry of Health and Welfare, Ministry of International Trade and Industry, Finance Ministry, Ministry of Agriculture, and Forestry and Fisheries at the time; five ministries (i.e. Ministry of the Environment, Ministry of Economy, Trade and Industry, Ministry of Finance, Ministry of Health, Labour and Welfare and Ministry of Agriculture, Forestry and Fisheries) at present.) - The Japan Containers and Packaging Recycling Association (JCPRA) was founded. - Listed as a government-designated organization by the four ministries above.	2009	- Expenses are paid to municipalities (and to be paid every year thereafter.)
		2010	- JCPRA transferred to public interest incorporated foundation.
		2012	- Business entities for recycling PET bottles were reselected due to the high volatility of the market price of resin.
		2014	- Tender for PET bottles is officially implemented twice a year.
		2016	- “Report on evaluating and studying the operation status” was put together through the joint meeting of Industrial Structure Council and Central Environment Council regarding a review of the Containers and Packaging Recycling Law (which was held from September 2013 to March 2016.)
1997	- The Containers and Packaging Recycling Law went into effect. - JCPRA started recycling operations for glass and PET bottles , appointing major business entities as specified business entities.	2017	- A new tender system was introduced for plastic containers and packaging. - Established the “PET Bottle Recycling Study Group”.
2000	- The Containers and Packaging Recycling Law was fully enforced. - Expanded recycling operations to include paper and plastic containers and packaging in addition to glass and PET bottles, with all business entities (excluding small business entities) as specified business entities.	2018	- Revised the operational rules for PET bottle recycling.
2006	- Reassessment of the Containers and Packaging Recycling Law was enforced. - PET bottles recycling is conducted under onerous tender contracts (revenue is contributed to municipalities.)	2019	- Implemented efforts to prevent mixed recycling of lithium-ion batteries, etc. - Responded to consumer tax hike.