

Transition to Circular Economy

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Japan's Recycle policy at a glance

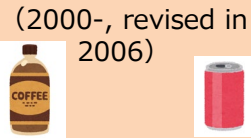
Law for individual items

Small home appliances Recycling law (2013-)



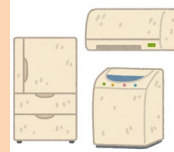
Small home appliance

Containers & packaging (C&P) Recycling law



C&P of Glass, paper, plastic etc.

Home appliances Recycling law (2001-)



Refrigerators, TVs, air conditioners, washing machines

End-of-life vehicle Recycling law (2005-)



Vehicles

Construction materials Recycling law (2002-)

Wood, concrete, asphalt

Food Recycling law (2001-, revised in 2007)

Food residue

Law for materials

Plastics recycling promotion law (2022-)

Promotion of Planned Approach for 3R in General

Law for Promotion of Effective Resource Use (fully revised in 2001)

Designates 69 items, and 10 business categories to promote efficient resource use

Basic Legal Framework

Basic Law on establishing a sound material-cycle society (2001-, revised in 2012)

Basic principle

1. Reduce
2. Reuse
3. Recycle
4. Thermal recovery
5. Disposal

Basic Plan on establishing a sound material -cycle society (revised in 2018)

Appropriate waste management

Law of Waste Management and Cleaning (1972-, revised in 2017)

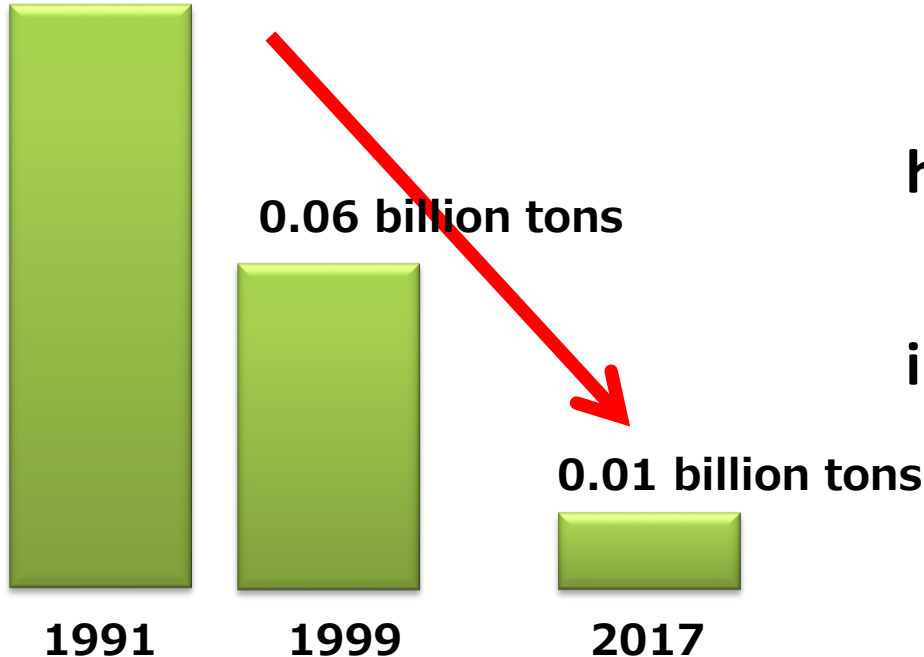
Responsibilities of municipalities for waste from households, License to waste disposal and treatment company, set standards for waste processing

Outcome of Japan's 3R policy

- **Reduce** in amount of final disposal
- **Increase** in rate of recycle

<Final disposal amount>

0.1 billion tons



<Remaining years of disposal>

1999 → 2017

household waste 8.5 years → **21.8 years**

industrial waste 3 years → **17 years**

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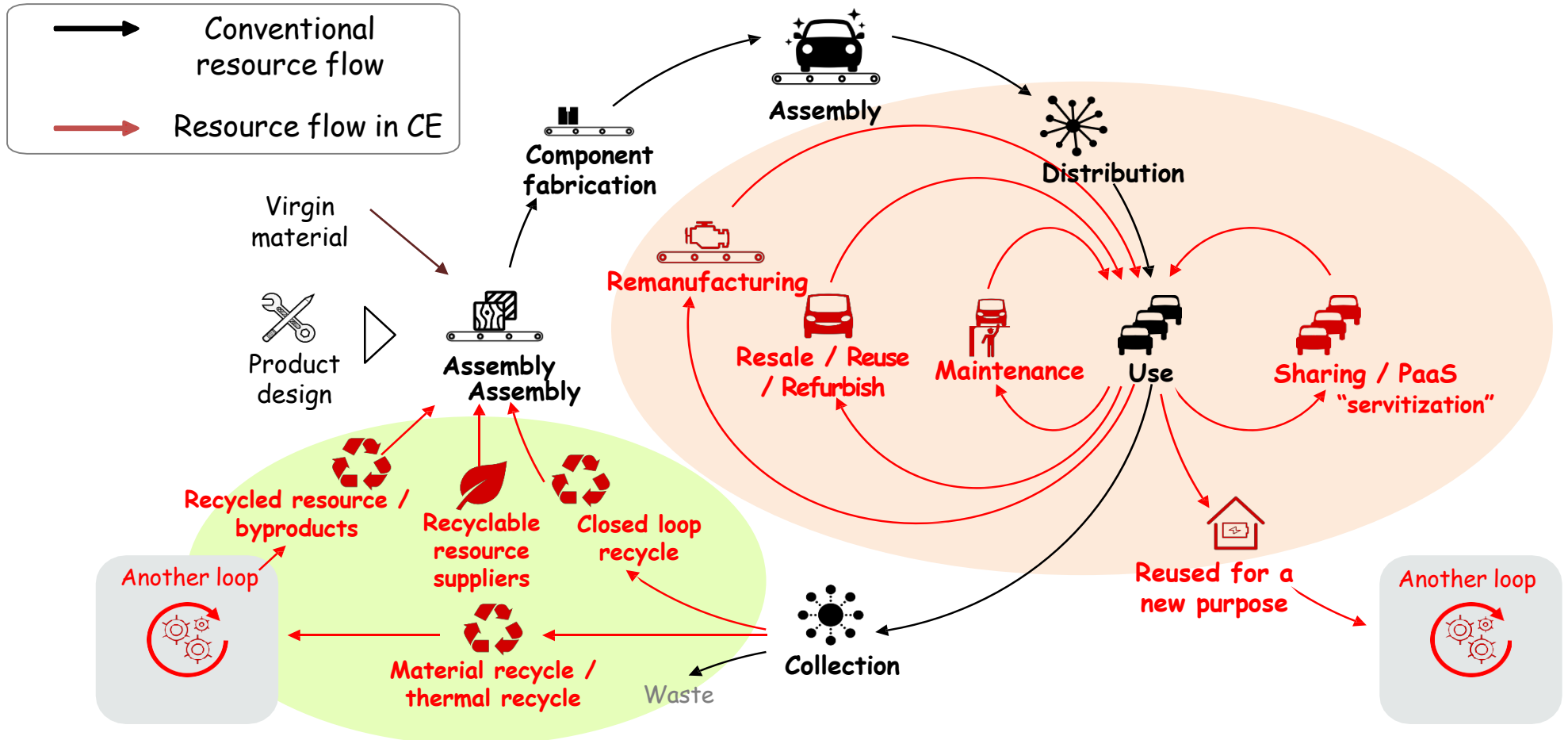
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Circular Economy / Linear Economy

- **Linear Economy** : One-way economy of mass production, mass consumption, and mass disposal
- **Circular Economy**: An economy that maximizes added value through services and other means, while making efficient and cyclical use of resources at every stage



Why do we need to change to circular economy?

1. Future risk of natural resources supply

- World's natural resource production will be doubled in 40 years

2000	53 billion ton
2015	88 billion ton
2060	190 billion ton

2. Arising waste management issues in/outside Japan

- Ex.1: World's general waste amount will be doubled in 30 years

2016	2 billion tons
2050	3.4 billion tons

- Ex.2: Amount of home appliances in ASEAN 6 will be nearly quadruple in 15 years

2014	10 million units
2030年	35 million units

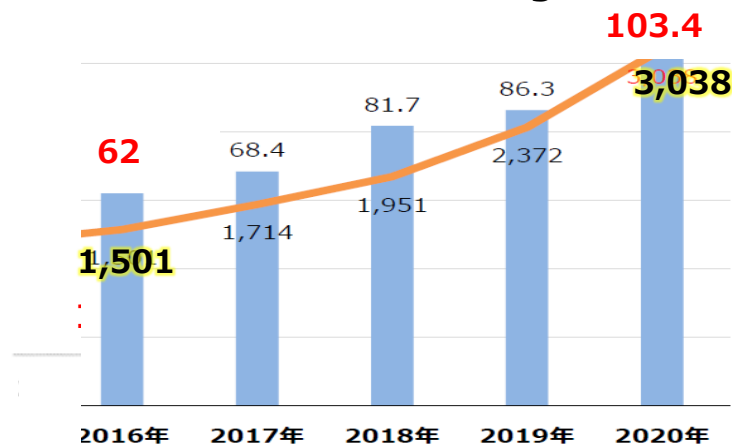
- Ex.3: Introduction of import restriction of waste, revise in Basel convention

3. Growing expectation for sustainable business

- **Marine plastic issues:** In 2050, amount of plastic in ocean = amount of fishes
(2016 World Economic Forum)
- **Voluntary efforts by global companies**

4. Global increase in ESG investment

No. of institutional investors with PRI*sign and amount of asset under management



内閣官房成長戦略会議事務局資料 (R3.4)

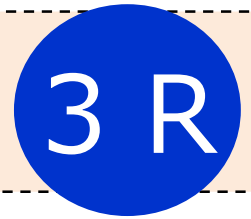
5. International discussion on CE

- UN, G7, G20

Circular Economy vision 2020

Circular Economy vision 1999

1R (Recycle) ⇒ **3R** (Reduce, Reuse, and Recycle)



➤ Change in global economy and society

1: Limitation in natural resource

2: Increasing volume of waste

3: Environmental needs

4: Rise in ESG investment

5: International discussion on sustainability

➤ **UN (UNEP): Decoupling of economic growth and resource limitation**

➤ **G7, G20** : Dialogue in resource efficiency

➤ **EU policy** : CE package (2015), CE action plan (2020)



Circular Economy Vision 2020

● "3R" as ESG activities → **CE as economic activities**

● **Promote voluntary activities** of companies
(Minimize regulation and take use of activities based on soft law)

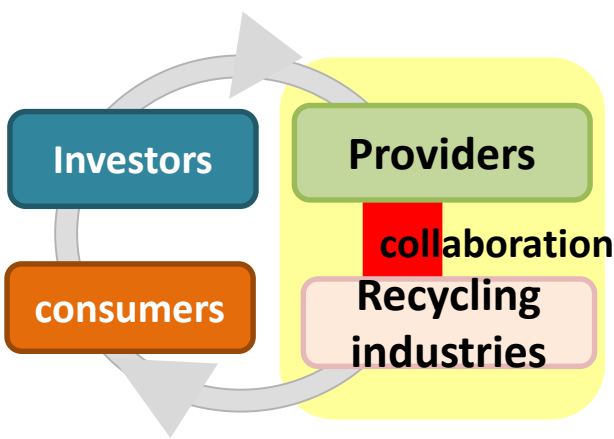
● **Realize resilient CE system** in mid-and-long term



CE vision 2020 (1) : Transition to circular business model

- Transition to CE should be regarded as **business opportunity for all industries:**
→ Companies needs to change their business model to more circular one

- Possible actions:
- Promote voluntary actions by providing milestones of CE
 - Actively participate international discussion on standards



Product and service providers : towards CE industries which design circularity

- Create new market with DfE products (design for Environment)
- Apply service model: leasing, sharing, subscription
- Collect after-market products and recycle them

- Possible actions:
- Support collaboration of providers and recycling businesses

Recycling industries : towards “resourcing industry”

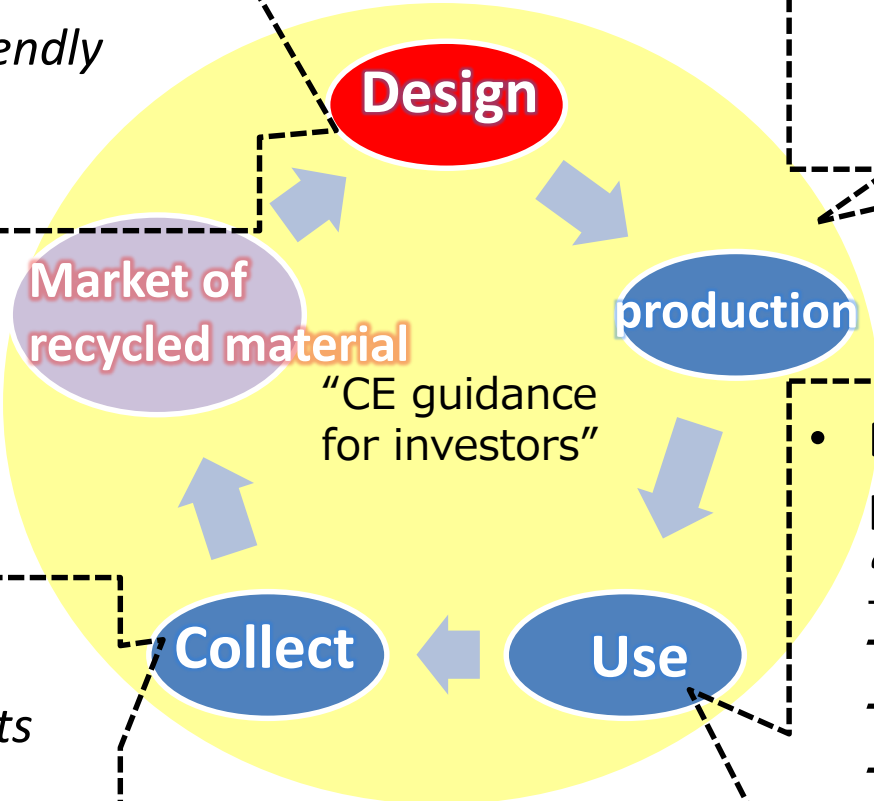
- Collect post-consumer products
- Provide steady supply of high-quality recycled material

- Possible actions:
- Setting quality standards for recycled products
 - Facilitating recycling activities, promoting R&D

Ref: business model with high circularity

- **DfE** (design for environment)
 - Reduce
 - reusability/recyclability
 - durability/ reparability/ upgradability
 - use of environment-friendly material
- **Order-made design**

- **Reduce losses (production/sales)**
 - Optimize production process
 - Production on demand



- **Promote recycle**
 - making collection points
 - waste reduction,
 - taking appropriate recycling method

- **Efficient use of products through "Servitizing"**
 - Leasing
 - Sharing
 - PaaS/MaaS
- **Promote reuse of products**

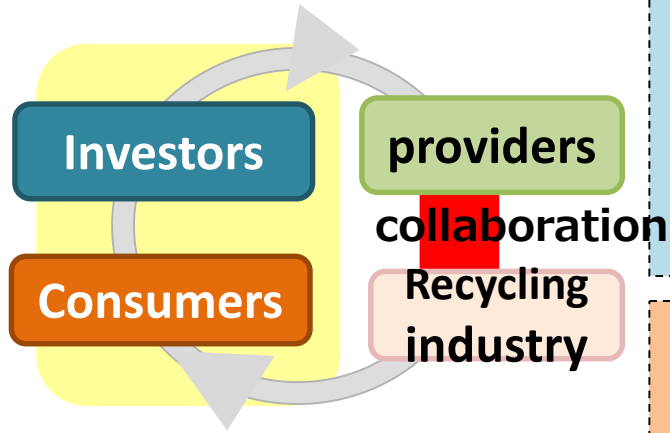
CE vision 2020(2): Encourage fair evaluation of investors/consumers

Investors: Promote change in business by investors

- Encourage proper evaluation of companies
- Collaborate in creating mid-and-long-term corporate value through “dialogue” with investors
- Make positive feedback to CE by ESG investment

Consumers: important player in CE economy

- Encourage change in lifestyle
 - to buy less, make less waste
 - to buy environment-friendly products

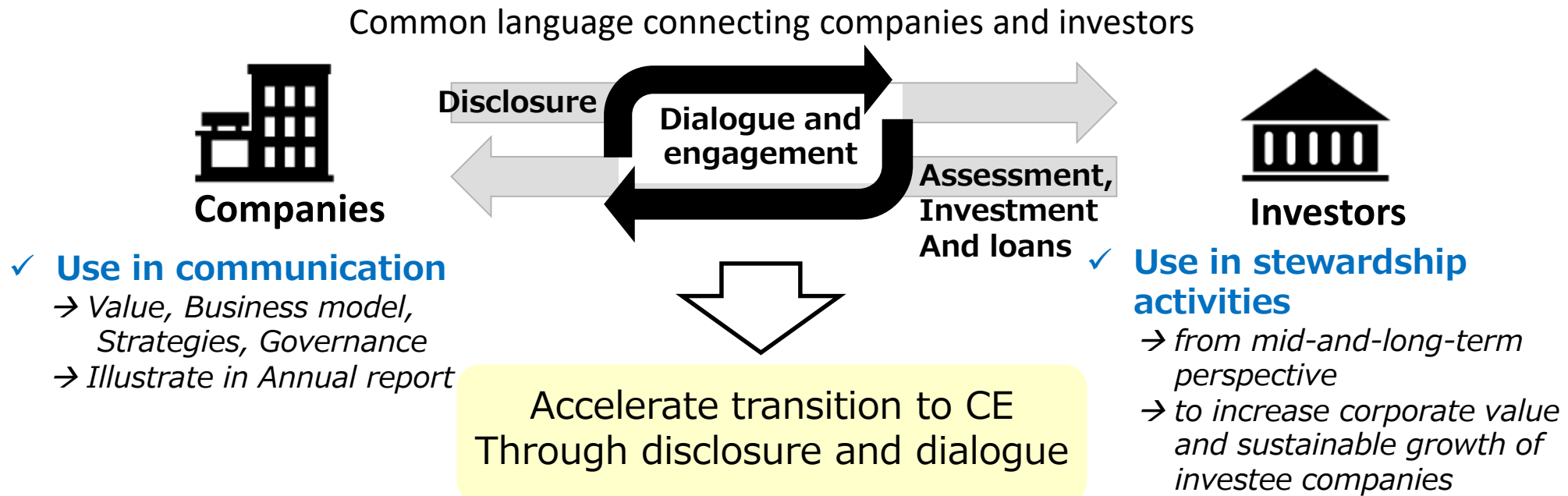


Possible actions

- Disclosure guidance
- CE guidance for investors (published in 2021.1)
- Creating market
 - Labeling products which have circularity
 - Green procurement
 - Develop products which use recycled material
 - Examine incentives to consumers

Disclosure and Engagement Guidance to Accelerate Sustainable Finance for a Circular Economy

- This guidance is first-of-its kind in the world to **1: promote disclosure and dialogue** and **2: accelerate the transition towards circular economy (CE)**.
- **It encourages dialogue and engagement between companies and investors**, aiming innovation in technology and business models by facilitating finance.
- **It presents key elements of disclosure and dialogue**, with reference to TCFD recommendations and others.



CE Investment Guidance: 6 focal items

- In order to accelerate ESG investment on CE business, METI developed the “guidance” to promote corporate disclosure of CE actions and investors’ valuation and engagement for long-term corporate value.

(Published on January 2021)

6 elements for dialogue

VALUES

- Present values in corporate philosophy and vision
- Reason for identifying CE
- Describe how CE will make corporate values? (ex. Value creation stories)

BUSINESS MODEL

- Analyze market environment and its mid- and long-term trends
- Describe how the business model will lead to corporate value growth as well as value delivered to customers

RISKS & OPPORTUNITIES

- Identify risks and opportunities
- Explain how the company will recover the investment while maintaining target profitability

STRATEGY

- Explain how to secure management resources and intangible assets that support competitive advantage of circular business models
- Position the mid-to-long-term value creation story

INDICATORS & TARGETS

- Set targets along with KPIs
- Present in a form that corresponds to risks and opportunities
- Present self-evaluation and outcomes

GOVERNANCE

- Lay out governance structure in which management and board directors proactively making decisions
- Establish PDCA cycle

Act for Plastic Resource Circulation

(published in June 2021, to be implemented in April 2022)

- **The act covers whole lifecycle of plastic** and promotes resource circulation activities by stakeholders (companies, consumers, municipalities and others)

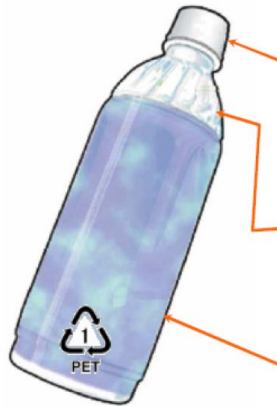
1) DESIGN & PRODUCTION

Promote ***Design for Environment (DfE)*** of plastic products

→ publish **guidance of DfE**

→ **certification** for environmentally friendly products

Images:



Set Design Guideline

* No coloring on PET bottle

* Put easy-to-remove label on the bottle



Mono material product



Easy-to-disassembly and repair

Act for Plastic Resource Circulation – contd.

(published in June 2021, to be implemented in April 2022)

2) SALES & DELIVERY

Encourage ***the reduction of single-use plastic offerings***

- **12 products** (cutlery, amenities, and hangers)
- **providers** of the products **will make reduction targets** and take measures (cf. change in materials to non-plastic, confirm the customers' wish)

Examples:



Reduce plastic



non-plastic material products



confirm the customer's wish

3) COLLECTION & RECYCLE

Encourage and facilitate ***the collection of post-use products***

- **for three routs** (collected and recycled by 1) municipalities; 2) manufacturing companies and retailers, and 3) industrial waste producers)
- Facilitate collection and recycling activities by special provisions of Waste Disposal Law