



MOEJ

---

# Transition to a Circular Economy as a National Strategy

---

January 25<sup>th</sup>

Satoshi YOSHIDA

Ministry of the Environment, Japan



## **1. Strategies**

**1-1. Fundamental Plan for Establishing a Sound Material-Cycle Society**

**1-2. Circular Economy and Resource Efficiency Principles (CEREP)**

## **2. Policies to enhance circularity in key sectors**

**2-1. Critical minerals and metals**

**2-2. Automobiles**

**2-3. Plastics**

# 1-1. Strategies | Policy Outline of Fundamental Plan for Establishing a Sound Material-Cycle Society

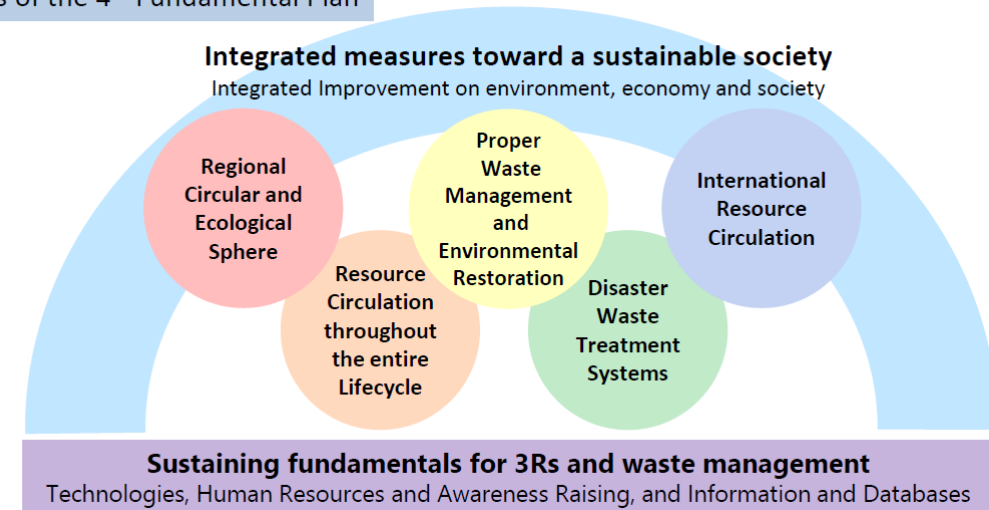
- Aims to realize **a sound material-cycle society**, with integrated improvements on the environment, economy and society aspects as one of its pillars.
- **Fundamental Plan for Establishing a Sound Material-Cycle Society** was formulated based on the Basic Act on Establishing a Sound Material-Cycle Society (enforced in January 2001) to promote measures related to the formation of a sound material-cycle society comprehensively and systematically.
- The plan will be reviewed approximately every five years. The latest plan (4<sup>th</sup> plan) was established in June 2018.

The Fourth Plan includes the following seven important directions.

- (1) Integrated measures toward a sustainable society**
- (2) Regional circulating and ecological sphere**
- (3) Resource circulation throughout the entire lifecycle**
- (4) Further promotion of proper waste management and environmental restoration**
- (5) Establishment of robust disaster waste management systems**
- (6) Establishment of an international resource circulation systems and overseas expansion of the recycling industry**
- (7) Infrastructure development in the resource circulation sector**

The plan also sets numerical targets for the main indicators related to the overall picture of a sound material-cycle society. (See table on right for indicators and targets)

Pillars of the 4<sup>th</sup> Fundamental Plan



## 1-1. Strategies | The 5<sup>th</sup> Fundamental Plan for Establishing a Sound Material-Cycle Society

- Discussion are underway to develop **the 5<sup>th</sup> Fundamental Plan for Establishing a Sound Material-Cycle Society** to be approved **in Summer 2024 by the cabinet**. This plan will set the direction of resource circulation and waste management **over the next five years** for Japan.
- The 5<sup>th</sup> plan will drive **the transition to a circular economy**, which contributes to achieving a net-zero and nature positive economy, strengthening industrial competitiveness, promoting circular business, local revitalization, and economic security.



### Basic outlines

1. Transition to **a circular economy** with a view to realizing **a net zero** and **nature positive economy**
2. **Resource circulation throughout the life cycle** with enhanced collaboration among stakeholders, including manufactures and recyclers
3. Realizing diverse **local/regional** resource circulation systems
4. Strengthening **infrastructure** for resource circulation and environmentally-sound waste management
5. **International** resource circulation and promotion of international development of recycling and waste management infrastructure

**The plan will be the basis for policies to enhance circularity both domestically and internationally.**

**CEREP as guidance on CERE for businesses**, which encourages **companies** to establish initiatives and step up actions on a circular economy, to promote engagement with the public and the financial sector and to promote their voluntary circular economy and resource efficiency actions.

### Principles

1. **Leadership** for Corporate-wide Circular Economy and Resource Efficiency Strategies
2. Integration of Circular Economy and Resource Efficiency Approaches with **Climate**, **Biodiversity**, and **Pollution Reduction** Strategies and Actions
3. Identification of **Risks** and **Opportunities**
4. Transition to Circular Economy and Resource Efficiency **Businesses**
5. Enhancement of **Monitoring and Reporting**
6. Multi-Stakeholder **Partnerships** and Engagement

**Principle 1.** Leadership for Corporate-wide Circular Economy and Resource Efficiency Strategies Affirm corporate-wide leadership commitment and direct top-level policies and governance for circular economy and resource efficiency approaches while raising awareness at the corporate level. Integrate circular economy and resource efficiency approaches with corporate-wide philosophy, vision, or mid- and long-term corporate strategies.

Principle.

**Principle 2.** Integration of Circular Economy and Resource Efficiency Approaches with Climate, Biodiversity, and Pollution Reduction Strategies and Actions Integrate circular economy and resource efficiency approaches with decarbonization and nature positive approaches for the achievement of decoupling human well-being from resource consumption and maximizing climate, nature and other environmental benefits. Increase circularity and resource efficiency along entire value chains to reduce carbon, ecological, material footprints as well as chemicals and other pollution.

**Principle 3.** Identification of Risks and Opportunities Identify risks and opportunities of transitioning to circular and resource efficient businesses including in relation to policies and legal implications, technologies, competitiveness, added value, and reputational aspects along entire value chains and at the corporate level.

**Principle 4.** Transition to Circular and Resource Efficient Businesses Integrate circular economy and resource efficiency approaches with existing and new business models along entire value chains to reduce the overall consumption of primary resources and negative environmental footprints, taking into consideration full life-cycle approaches.

Improve product design and processes from a life cycle perspective, with a view to reducing negative environmental impacts and increasing resource efficiency through enhancing, inter alia, lightweighting, durability, reusability, reparability and recyclability and other value retention processes, waste minimization and utilization, the use of renewable materials, material substitution and the uptake of recycled materials as inputs. Create sustainable and circular business models including reuse, product life extension, recycling, service economy models such as product as a service and mobility as a service, and sharing economy models.

**Principle 5.** Enhancement of Monitoring and Reporting Incorporate circular economy and resource efficiency in corporate-wide information disclosure including sustainability reports to facilitate engagement with the financial sector and the public in a transparent manner on areas such as value creation, business models, risks and opportunities, impacts, strategy, indicators and targets, and governance. Monitor and take stock of the progress on circularity and resource efficiency along entire value chains based on identified relevant indicators.

**Principle 6.** Multi-Stakeholder Partnerships and Engagement Enhance cross-sectoral business collaboration and engagement throughout value chains, for example between manufactures and recyclers, to maximize resource utilization and increase circularity. Strengthen public-private partnerships to promote circular and resource efficient businesses and build an enabling environment with an enhanced interaction between policy requirements and business needs. Communicate with customers and citizens to enhance circular economy and resource efficiency solutions through products and services with relevant indicators and information for raising awareness among such stakeholders.

### ■ Timeline of the development of CEREP



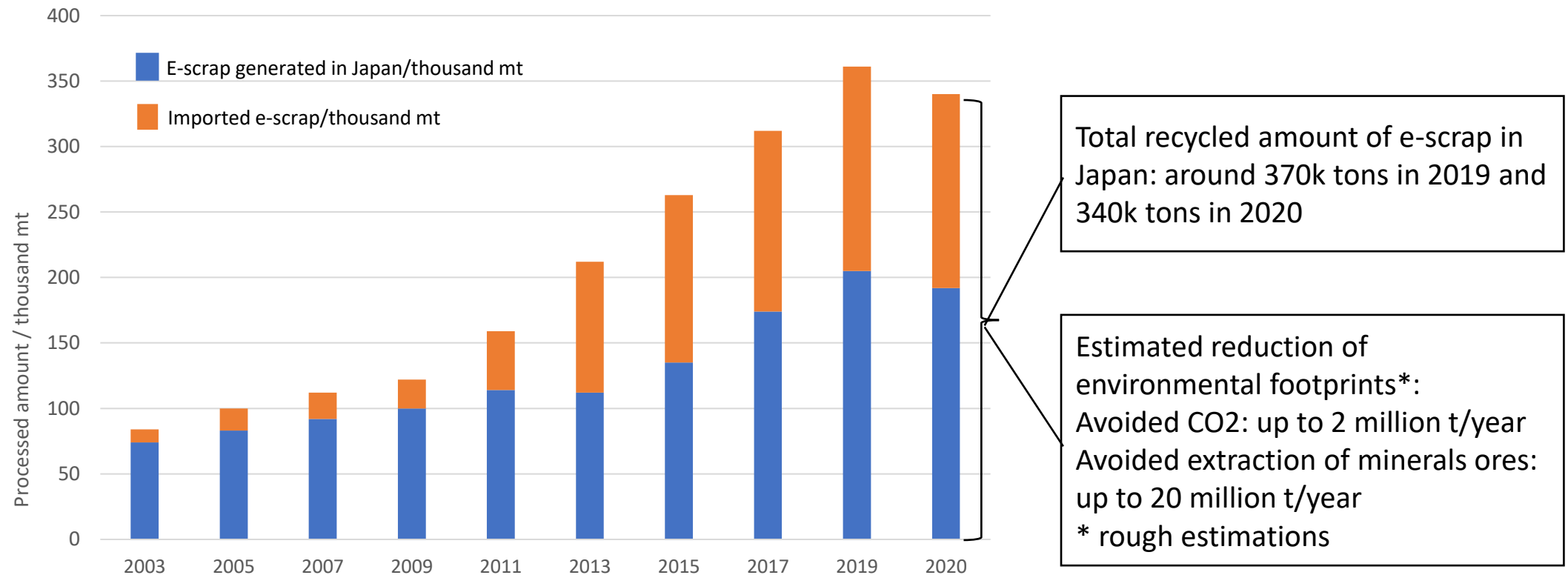
### ■ Next Step

- Discuss about the **necessary infrastructure and policies for the implementation of CEREP**, which can feed into the G7 2024 in Italy.
- It is essential to **identify barriers to implement CEREP** and **scale circular businesses** discuss what policy interventions would be required to address such barriers.



## 2-1. Policies to enhance circularity in key sectors | Critical minerals and metals

Japan is the **top country of e-scrap recycling**, in the processed volume among OECD countries. It amounts to about a half of the total share of e-scrap recycling in those countries. The share of the imported scraps has increased and reached 43.5% in 2020. E-waste to be generated in the world will exceed 74.7 million tones by 2030. Asia will become the major e-waste generating region.



## 2-1. Policies to enhance circularity in key sectors | Critical minerals and metals

Japanese firms built **advanced technologies** ranging from sorting to dismantling to recovery to treatment, **enabling efficient and environmentally-sound recovery of many types (about 20) of metals.**



**Battery recycling\***  
(The furnaces to inactive batteries of ECO-SYSTEM AKITA CO., LTD)

Achieve the goal to double the volume of recycled metals

## 2-1. Policies to enhance circularity in key sectors | Critical minerals and metals

### ASEAN-Japan Resource Circulation Partnerships on E-Waste and Critical Minerals (ARCPEC)

#### Outline

Through ASEAN-Japan partnership, **increase the circularity of electronics** and other relevant supply chains in ASEAN countries to **strengthen the supply of critical minerals and raw materials** for the transition to a net-zero economy, improving human health, and **promote environmentally sound recycling of e-waste** and **recovery of critical minerals and raw materials**.

#### Expected outcomes

##### 1 Promotion of an enabling environment

Support ASEAN countries to develop necessary regulations, standards, monitoring and enforcement mechanisms for proper collection, dismantling, recycling and the recovery of resources and final treatment of waste, reducing associated environmental footprints and improving human health.

##### 2 Capacity building

Promote the capacity of both governments and businesses.  
 For governments: enforcement of laws and regulations and monitoring of the entire operation from collection to recycling to final treatment by expert advice. For businesses: increase in technical and operational capacities of recycling activities.

##### 3 Promotion of private partnerships

Foster collaboration between local and Japanese companies  
 e.g. Technical cooperation, Joint ventures, Investments in local facilities



##### 4 Promotion of the uptake of recycled material

Promote of the uptake of recycled critical minerals and raw materials in key supply chains.

#### Improper e-waste treatment



Hand dismantling of e-waste  
(in Bangkok)



Cable burning in the open  
(in Indonesia)

<sup>1)</sup> JICA: Information collection and confirmation survey on E-waste management in Malaysia and neighboring countries (2014)  
<sup>2)</sup> NIES: International resource circularity of E-waste, Nies Research Booklet, No.57 (2015)  
<sup>3)</sup> Presentation Documents, 5<sup>th</sup> Small Home Appliances Recycling WG, Japan Mining Industry Association (2018)

## 2-2. Policies to enhance circularity in key sectors | Automobiles

- Japan has successfully implemented automobile recycling under the **Automobile Recycling Law** for over 20 years.
- Japan promotes initiatives **to enhance circularity in automobile industry**, including the below scheme.

### Ensuring quantity and quality

- Material Flow Analysis
- Demonstration of technology for precise dismantling of automobiles, etc.
- Advancement of recycling
- Promotion of material recycling based on the Plastic Resources Recycling Law



**Making the Automotive Industry a Leader in the Circular Economy**

### Cooperative work between the manufacturing and recycling industries

- Establishment of a consortium of industry, government, and academia
- Study on the construction of a system for collecting, sorting, and supplying waste plastics for automobiles
- Institutional response and support by GX

### Establishment of infrastructure to secure waste plastics from overseas

- Utilization of the Recycled Materials Data Bank for the ASEAN region

### Development of information infrastructure for plastic resource recycling

- Plastics information distribution platform
- Construction of a data bank of recycled materials such as physical properties, etc.

## 2-3. Policies to enhance circularity in key sectors | Plastics

### Japan's Resource Circulation Strategy for Plastics (May 2019)

- Set “**3R+Renewable**” as a basic principles
- Promote **(1) plastic resource circulation (2) marine plastic measures (3) international development (4) infrastructure development** to enhance circularity and contribute to plastic pollution.
- Based on this strategy, Plastic Resource Circulation Act has been established (next page)

### Milestones

<p>Reduce etc.</p>	<ul style="list-style-type: none"> <li>• <b>Reduce the use of single-use plastics</b> through valuing such as mandatory charge for plastic bags</li> <li>• Promote the development and use <b>of substitutes for Petroleum based plastics</b></li> </ul>	<p>(1) Cumulative suppression of 25% of single-use plastics by 2030</p>
<p>Recycle</p>	<ul style="list-style-type: none"> <li>• Easy-understanding and effective separate collection and recycling of plastic resources</li> <li>• Minimize costs and maximize the effective use of resources through collaboration and overall optimization</li> <li>• Development of domestic resource circulation system</li> <li>• Fair and optimized recycling system which promotes innovation</li> </ul>	<p>(2) Reusable/recyclable design by <b>2025</b></p> <p>(3) Reuse/recycle <b>60%</b> of containers and packaging by <b>2030</b></p> <p>(4) Effective use of <b>100%</b> of used plastics by reuse and recycling etc. by <b>2035</b></p>
<p>Recycled materials Bio-plastics</p>	<ul style="list-style-type: none"> <li>• support technical innovation and infrastructure development</li> <li>• Measures to stimulate demand (green public procurement, incentives etc.)</li> <li>• Handling of chemical ingredient information for recycling</li> <li>• Use <b>bio-based plastics</b></li> <li>• Bio-plastics introduction roadmap</li> </ul>	<p>(5) <b>Double</b> the use of recycled content by <b>2030</b></p> <p>(6) Introduce about 2 million tons of bio-based plastics by 2030</p>

## 2-3. Policies to enhance circularity in key sectors | Plastics

### Plastic Resource Circulation Act (April 2022)

This act addresses whole lifecycle of plastics and involves all stakeholders in promoting “3R+Renewable” and increasing circularity.

#### Guidelines for Design for the Environment

- Develop **guidelines for Design for the Environment** for manufacturers and establish a mechanism to **certify** products designed in accordance with the guidelines.
  - ▶ **The government procures preferentially** the certified products (under the Act on Promoting Green Procurement) and **provides financial support to the manufactures.**



<Replaceable bottles>



Single-use plastics

EPR

#### Reduction of Single-use Plastics

- Set criteria for retailers and service providers to reduce single-use plastics.
  - ▶ The competent ministers may issue recommendations and orders to suppliers who provide a certain amount of single-use plastics when their actions are found significantly insufficient in light of the criteria.

EPR

#### Municipalities

- Municipalities can recycle plastic product waste effectively under **the current recycling scheme for containers and packaging**
- Municipalities develop a **recycling plan in collaboration with** recyclers.
  - ▶ When the plan is approved, the recyclers can recycle plastics without sorting and bailing by municipalities.

#### Manufacturers and Retailers

- Manufacturers and retailers develop a **plan to collect and recycle their used products.**
  - ▶ When the plan is approved by the competent ministers, they **can recycle without permission** under the Waste Management Act.

EPR

#### Waste Generators

- Set criteria for waste generators to reduce and recycle plastic waste.
- Waste generators develop a **recycling plan.**
  - ▶ When the plan is approved by the competent ministers, they **can recycle without service permission** under the Waste Management Act.



**MOEJ**