

**Voluntary Action Plan  
for Establishing a Sound Material-Cycle Society  
— Results of Fiscal 2017 Follow-up —  
<Summary>**

March 12, 2018  
Keidanren

**1. Efforts under the Voluntary Action Plan  
for Establishing a Sound Material-Cycle Society**

Keidanren formulated the Voluntary Action Plan for Establishing a Sound Material-Cycle Society to promote voluntary efforts on the part of Japan's business community and implements the plan with the participation of 42 industries (refer to Attachments 1 & 2 for details on its background).

Determined not to increase the final disposal volume of industrial waste from the current level, industry as a whole “aims to reduce by fiscal 2020, the final disposal volume of appropriately treated industrial waste by 70% from the actual performance level in fiscal 2000 with consideration of the achievement of a low-carbon society” (Fourth Target, revised in March 2016) and individual industries have also set up industry-specific targets for final disposal volumes.

Furthermore, with a view to improving the quality of resource recycling and based on industry-specific characteristics and circumstances, each industry has set up individual targets, including a target recycling rate for byproducts produced during manufacturing processes and a target for reducing general waste from business activities.

The 42 industries participating in the Voluntary Action Plan for Establishing a Sound Material-Cycle Society are promoting voluntary efforts with high standards.

This Voluntary Action Plan is included in the Government's Fundamental Plan for Establishing a Sound Material-Cycle Society (formulated in May 2013).

Keidanren not only aims to steadily achieve these goals but also conducts a follow-up survey every fiscal year to share the status of efforts with a wide audience. We have compiled the progress made in meeting the economy-wide target up to fiscal 2016, the first year of setting up the Fourth Target, the progress made in achieving industry-specific targets and detailed efforts dedicated to achieving targets.

\*Industries participating in the Voluntary Action Plan for Establishing a Sound Material-Cycle Society (42 industries)

Electric power, gas, petroleum, iron and steel, non-ferrous metals, aluminum, brass, electric cable and wire, rubber, flat glass, cement, chemical, pharmaceuticals, pulp and paper, electrical and electronics, industrial machinery, bearing, automobiles, auto parts, auto-body, industrial vehicles, rolling stock, shipbuilding, flour, sugar, milk and dairy products, beverages, beer, construction, aviation, telecommunications, printing (The above 32 industries are counted when calculating the industry-wide industrial waste final disposal volume.); housing (Waste from the housing industry is included in that from the construction industry, and therefore is not separately added to avoid double-counting.), real estate, machine tools, trade, department stores, railways, maritime transport, banking, nonlife insurance,

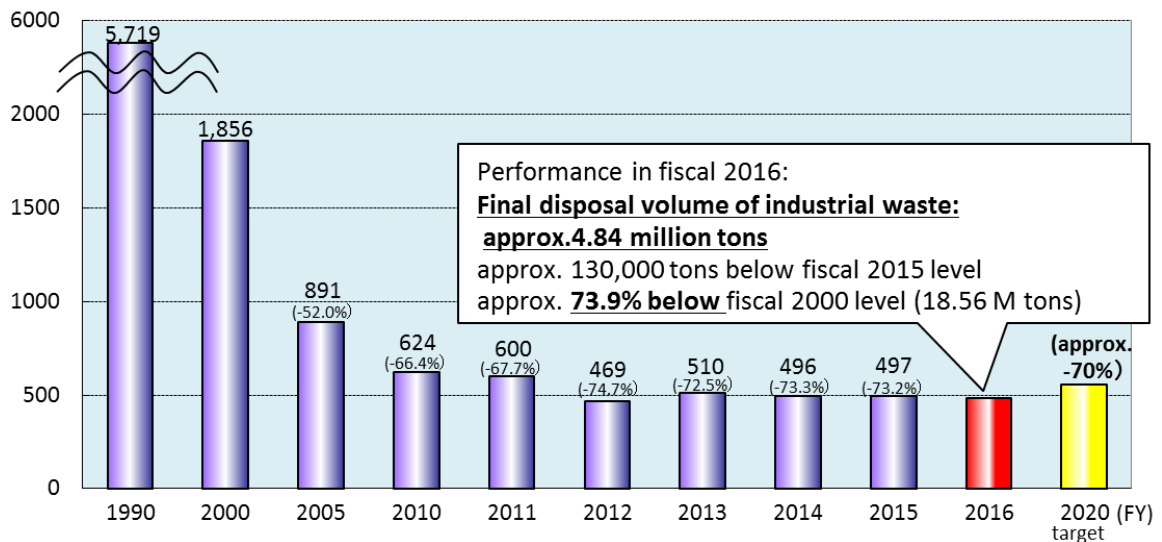
and securities.

## **2. Results of efforts in fiscal 2016**

### **(1) Final disposal volume of industrial waste**

In fiscal 2016, the final disposal volume of industrial waste (32 industries) was approximately 4.84 million tons, marking a reduction of approximately 0.13 million tons (approximately 2.6%) from the fiscal 2015 level. This was approximately 73.9% below the fiscal 2000 level (approximately 18.56 million tons), which is the baseline year level (and approximately 91.5% below the fiscal 1990 level). Hence, the Plan’s target was overachieved in fiscal 2016. (cf. Figure 1: Final disposal volume of industrial waste generated by the entire business community).

**Figure 1: Final disposal volume of industrial waste generated by the business community (in 10000 tons)**



\*1: The rate (%) of reduction from final disposal volume of industrial waste in fiscal 2000 (baseline year) is provided in round brackets.

\*2: Total final disposal volume of industrial waste in 32 industries out of the 42 industries participating in the Plan. The sum has been recalculated for the fiscal years before 2016 to accommodate changes made in the figures reported by some industries.

\*3: The sum for fiscal 1990 does not include figures for the cement, bearing, shipbuilding, aviation and printing industries. Performance provided for fiscal 2000 does not include figures for the cement and printing industries, and includes figures from past reports for the rubber industry. The five industries mentioned above collectively account for approximately 0.5% of total final disposal volume of industrial waste in fiscal 2016.

\*4: The final disposal volume of industrial waste recorded in fiscal 2015 amounted to approximately 4.97 million tons, accounting for around 49% of total nation-wide final disposal volume of industrial waste, which was approximately 10.09 million tons (according to Ministry of the Environment survey). Industrial waste from organizations and companies that are not included in the Keidanren survey include for example, industrial waste (mainly sludge) from the water and sewage works, mining, and ceramics industries and industrial waste (animal and plant residue and animal feces).

## **(2) Industry-specific efforts with a view to improving the quality of resource recycling**

Industries set up individual targets accommodating industrial-specific characteristics and circumstances. The targets and performance in fiscal 2016 for each industry are presented in Table 1 [List of industry-specific targets]. (Details can be found in Section 2 (Industry-specific targets) of the *Industry-specific Report* (Japanese version only).) Some industries have yet to decide on a quantitative target. We will continue to encourage industries to set up industry-specific targets that will contribute to improving resource recycling.

The Liaison Committee of Associations Promoting 3R, comprising eight containers and packaging recycling organizations, formulated the “Voluntary Action Plan for Promoting the 3Rs in Containers in Packaging” under which it has set up targets for each type of container or packaging and conducts annual follow-up surveys. In December 2017, the Committee announced the Fiscal 2017 Follow-Up Results (performance in fiscal 2016), according to which PET bottles have become 23% lighter per bottle compared to fiscal 2004 levels (reduce), and the recycling and recovery rates of steel cans, aluminum cans and cardboard boxes have remained above 90%. Therefore, industrial efforts have been achieving steady success.

\*Refer to the Liaison Committee of Associations Promoting 3R website for details:  
<http://www.3r-suishin.jp>

**Table 1: List of industry-specific target**

○: Quantitative targets with a view to improving the quality of resource recycling

□: Qualitative targets for improving the quality of resource recycling

※: Targets are for industrial waste unless otherwise indicated.

[\*] : Overachieved targets

Electric power	<ul style="list-style-type: none"> <li>○ Make efforts to achieve recycling rate of 95% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 97% [*]</li> </ul> </li> </ul>
Gas	<ul style="list-style-type: none"> <li>○ Maintain volume of industrial waste generated at city gas manufacturing plants at levels not exceeding 1,000 tons through fiscal 2020 (79% below fiscal 2000 level). <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 1,000 tons [*]</li> </ul> </li> <li>○ Reduce drilling mud from city gas conduit construction by no less than 17%, using an integrated indicator that combines drilling mud reduction and recycling. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 17.3%</li> </ul> </li> </ul>
Petroleum	<ul style="list-style-type: none"> <li>○ Maintain and continue zero emission (final disposal rate of no more than 1%) through fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal: 0.1% [*]</li> </ul> </li> </ul>
Iron and steel	<ul style="list-style-type: none"> <li>○ Achieve steel can recycling rate of at least 90% <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 93.9% [*]</li> </ul> </li> <li>○ Make efforts towards using 1 million tons of waste plastic annually, assuming that the establishment of a sound material-oriented society will be further promoted through laws and government-led pickup systems. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 0.45 million tons</li> </ul> </li> </ul>
Aluminum	<ul style="list-style-type: none"> <li>○ Maintain aluminum dross recycling rate of no less than 99% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 99.9% [*]</li> </ul> </li> </ul>
Brass	<ul style="list-style-type: none"> <li>○ Maintain recycling rate of no less than 90% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 96% [*]</li> </ul> </li> </ul>
Rubber	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 70% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 79.6% [*]</li> </ul> </li> </ul>
Flat Glass	<ul style="list-style-type: none"> <li>○ Achieve recycling rate ([recycled volume] / [volume of waste generated]) of no less than 95%. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 99.7% [*]</li> </ul> </li> </ul>
Chemicals	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 65% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 67% [*]</li> </ul> </li> </ul>
Pharmaceuticals	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 55% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 58.2% [*]</li> </ul> </li> <li>○ Improve waste generation intensity in fiscal 2020 to 50% of the fiscal 2000 level. (Achieve a level of no more than 2.2 tons/0.1 billion yen.) <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 2.1 tons/0.1 billion yen [*]</li> </ul> </li> </ul>
Pulp and paper	<ul style="list-style-type: none"> <li>○ Make efforts to maintain current level (97%) of effective utilization (([volume of waste generated] – [final disposal volume]) / [volume of waste generated]). <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 97.5% [*]</li> </ul> </li> </ul>
Electrical and electronics	<ul style="list-style-type: none"> <li>○ Reduce the final disposal rate to no more than 1.8% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 1.2% [*]</li> </ul> </li> </ul>
Industrial machinery	<ul style="list-style-type: none"> <li>○ Make efforts to achieve recycling rate of no less than 90%. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 93% [*]</li> </ul> </li> </ul>

Bearing	<ul style="list-style-type: none"> <li>○ Make efforts to achieve recycling rate of no less than 96% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 97.6% [*]</li> </ul>
Automobile	<ul style="list-style-type: none"> <li>○ Maintain recycling rate of no less than 99% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 99.9% [*]</li> </ul>
Auto parts	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 85% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 93.7% [*]</li> </ul>
Auto-body	<ul style="list-style-type: none"> <li>○ Achieve industry participation rate of no less than 95% in terms of sales (ratio of companies of the industry participating in the Voluntary Action Plan).</li> <li>➤ Performance in fiscal 2016: 98.3%</li> </ul>
Industrial vehicles	<ul style="list-style-type: none"> <li>○ Make efforts to maintain recycling rate of no less than 90% for industrial waste generated during the manufacturing process.</li> <li>➤ Performance in fiscal 2016: 90% [*]</li> </ul>
Rolling stock	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 99% in fiscal 2020 and make efforts to come as close to 100% as possible.</li> <li>➤ Performance in fiscal 2016: 99.7% [*]</li> </ul>
Shipbuilding	<ul style="list-style-type: none"> <li>○ Make efforts to achieve recycling rate of around 86% at the manufacturing phase of shipbuilding in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 83.2%</li> </ul>
Flour	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 90% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 96.3% [*]</li> </ul>
Sugar	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 98% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 97.9%</li> </ul>
Milk and dairy products	<ul style="list-style-type: none"> <li>○ Achieve a recycling rate of no less than 97% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 96.08%</li> </ul>
Beverages	<ul style="list-style-type: none"> <li>○ Achieve a recycling rate of no less than 99% in fiscal 202.</li> <li>➤ Performance in fiscal 2016: 99.2% [*]</li> </ul>
Beer	<ul style="list-style-type: none"> <li>○ Maintain 100% recycling rate.</li> <li>➤ Performance in fiscal 2016: 100% [*]</li> </ul>
Construction	<ul style="list-style-type: none"> <li>○ Achieve construction sludge recycling rate of no less than 90% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 85%</li> <li>○ Achieve a mixed construction waste recycling rate of no less than 60% in 2020.</li> <li>➤ Performance in fiscal 2016: 58.2%</li> </ul>
Aviation	<ul style="list-style-type: none"> <li>○ Aim to achieve final disposal rate of no less than 2.4% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 3.8%</li> </ul>
Telecommunications	<ul style="list-style-type: none"> <li>○ Achieve zero emissions (final disposal rate of no more than 1%) for waste from telecommunications facilities.</li> <li>➤ Performance in fiscal 2016: 0.08% [*]</li> </ul>
Printing	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no more than 95% in fiscal 2020.</li> <li>➤ Performance in fiscal 2016: 95% [*]</li> </ul>

Real estate	<ul style="list-style-type: none"> <li>○ Aim to achieve paper recycling rate of no less than 85%. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 84.3%</li> </ul> </li> <li>○ Make efforts to maintain recycling rate of 100% for glass bottles, cans and PET bottles. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: glass bottles 99.8%; cans 99.3%; PET bottles 98.8%</li> </ul> </li> <li><input type="checkbox"/> Improve purchasing rate of recycled paper.</li> <li><input type="checkbox"/> Improve green procurement rate.</li> </ul>
Machine tools	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of no less than 90% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 91.4% [*]</li> </ul> </li> </ul>
Trade	<ul style="list-style-type: none"> <li>○ Reduce disposal volume of general waste from business activities by 80% from fiscal 2000 level in fiscal 2010. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 82.3% [*]</li> </ul> </li> <li>○ Achieve recycling rate of no less than 86% for general waste from business activities in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 85.3%</li> </ul> </li> <li>○ Reduce volume of general waste from business activities to no more than 4,000 tons in fiscal 2020 (reduce by 55% from fiscal 2000). <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 4,300 tons</li> </ul> </li> </ul>
Department stores	<ul style="list-style-type: none"> <li>○ Aim to reduce final disposal volume of waste generated in stores by 50% from year 2000 level (per 1m<sup>2</sup>) in 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 42% reduction</li> </ul> </li> <li>○ Reduce intensity (volume used per unit sales) of paper containers and packaging (wrapping paper, carrier bags, paper bags, paper boxes) use by 45% relative to year 2000 levels in 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 43% reduction</li> </ul> </li> <li><input type="checkbox"/> Make efforts to reduce use of plastic containers and packaging to the largest extent possible.</li> </ul>
Railroad	<ul style="list-style-type: none"> <li>○ Achieve recycling rate of 94% for waste from stations and railcars. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 93%</li> </ul> </li> <li>○ Achieve recycling rate of 96% for waste generated at General Rolling Stock Centers, etc. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 95%</li> </ul> </li> <li>○ Achieve recycling rate of 96% for waste generated in facility construction. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 92%</li> </ul> </li> </ul>
Maritime transport	<ul style="list-style-type: none"> <li><input type="checkbox"/> Appropriately manage waste in accordance with international standards.</li> <li><input type="checkbox"/> Make efforts to control waste generation.</li> </ul>
Banking	<ul style="list-style-type: none"> <li>○ Achieve paper recycling rate of no less than 90% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 90.1% [*]</li> </ul> </li> <li>○ Increase purchasing rate of recycled paper and environment-friendly paper to no less than 75% in fiscal 2020. <ul style="list-style-type: none"> <li>➤ Performance in fiscal 2016: 77.3% [*]</li> </ul> </li> </ul>

Non-life insurance	<input type="checkbox"/> At individual insurance companies, <ol style="list-style-type: none"> <li>1. Establish a corporate waste management scheme to promote reductions in general waste from business activities generated at offices and collaborate with waste collection companies to ensure segregated collection and improve recycling rate.</li> <li>2. Make efforts to purchase office supplies that contribute to increasing the utilization rate of environment-friendly products.</li> <li>3. Reduce OA paper use through efforts made toward achieving corporate targets including the active utilization of two-sided copying, 2in1 copying, tablet devices, etc.</li> </ol> <input type="checkbox"/> Reach out to society through automobile insurance (promote use of recycled auto parts).
Securities	<input type="checkbox"/> Make efforts to reduce paper use by utilizing two-sided copying and 2in1 copying and promoting paperless operations by digitalizing documents. <input type="checkbox"/> Make efforts to reduce environmental burden and reuse resources by promoting the use of paper produced in processes reducing environmental-burden and ensuring segregated waste collection.

### (3) Other efforts toward establishing a sound material-cycle society

In addition to efforts under self-determined industry-specific targets, industries are engaged in efforts exemplified in Table 2 [Examples of efforts towards establishing a sound material-cycle society]. (Details can be found in Section 2 (Industry-specific targets) of the *Industry-specific Report* (Japanese version only).)

**Table 2: Examples of efforts towards establishing a sound material-cycle society**

Promoting the 3Rs	
<p>&lt;Reduce&gt;</p> <ul style="list-style-type: none"> <li>• Maintain and improve heat efficiency of thermal power</li> <li>• Develop thin-wall product packaging</li> <li>• Develop high-strength materials and components to allow thinner wall thickness</li> <li>• Reduce defective products by reviewing manufacturing processes</li> <li>• Reduce sludge by reviewing sewage treatment processes</li> <li>• Reduce waste volume through intermediate treatment</li> <li>• Reduce manufacturing process loss by consolidating manufacturing bases</li> <li>• Encourage customers to bring their own shopping bags; reduce checkout bags</li> </ul>	<p>&lt;Reuse/Recycle&gt;</p> <ul style="list-style-type: none"> <li>• Utilize recycled raw material</li> <li>• Effectively use by-products</li> <li>• Accept waste from other industries</li> <li>• Conduct thermal recycling</li> <li>• Recycle used uniforms</li> <li>• Use waste disposal operators that can recycle waste</li> </ul>

Efforts to reduce environmental burden through product life cycles
<ul style="list-style-type: none"> <li>• Establish recovery and recycling routes to collect and recycle waste equipment and cable lines from customers and business clients</li> <li>• Formulate guidelines for designing products that are easy to recycle</li> <li>• Use products that are easy to recycle</li> <li>• Ensure high-recyclability by eliminating Substances of Concern</li> <li>• Label products to indicate what materials they contain to facilitate waste segregation.</li> <li>• Perform environmental assessment of new products at product planning stage; formulate manuals for environmental assessment of newly planned products</li> <li>• Perform environmental assessment of equipment when deploying new equipment</li> </ul>
Technology development and commercialization serving the establishment of a sound material-cycle society
<ul style="list-style-type: none"> <li>• Research and develop technologies to recover resources from products</li> <li>• Develop high-strength thin-wall material technologies</li> <li>• Implement demonstrative tests to turn food waste into biogas</li> <li>• Develop and operate process management systems using location information and images</li> </ul>
Countermeasures against general waste from business activities
<ul style="list-style-type: none"> <li>• Promote paperless operations using OA equipment, electronic “ringi” decision-making systems, and web conferences</li> <li>• Reduce paper waste (by using email and two-side copying, etc.)</li> <li>• Review types and numbers of service products</li> <li>• Deploy food waste disposal equipment to produce feed and compost.</li> <li>• Implement segregated collection of paper, glass bottles, cans, PET bottles, fluorescent tubes, metals and batteries, etc.</li> <li>• Educate employees to ensure segregated waste collection</li> <li>• Establish a recycling manager; conduct periodical patrols by environment managers</li> </ul>
Efforts associated with international material cycles and overseas business activities
<ul style="list-style-type: none"> <li>• Extend domestic zero emissions campaigns to overseas plants</li> <li>• Develop recycling businesses overseas</li> <li>• Provide information and instruct environmental administrators in developing countries</li> <li>• Supply high-efficiency facilities to Southeast Asia, etc.</li> <li>• Provide waste treatment devices featuring low environmental burden</li> </ul>
Other
<ul style="list-style-type: none"> <li>• Cooperate with local governments in treating waste from natural disasters</li> <li>• Showcase good practices of environment-friendly design; award environmental projects of excellence</li> <li>• Provide information on cutting-edge environmental technologies and manufacturers</li> </ul>

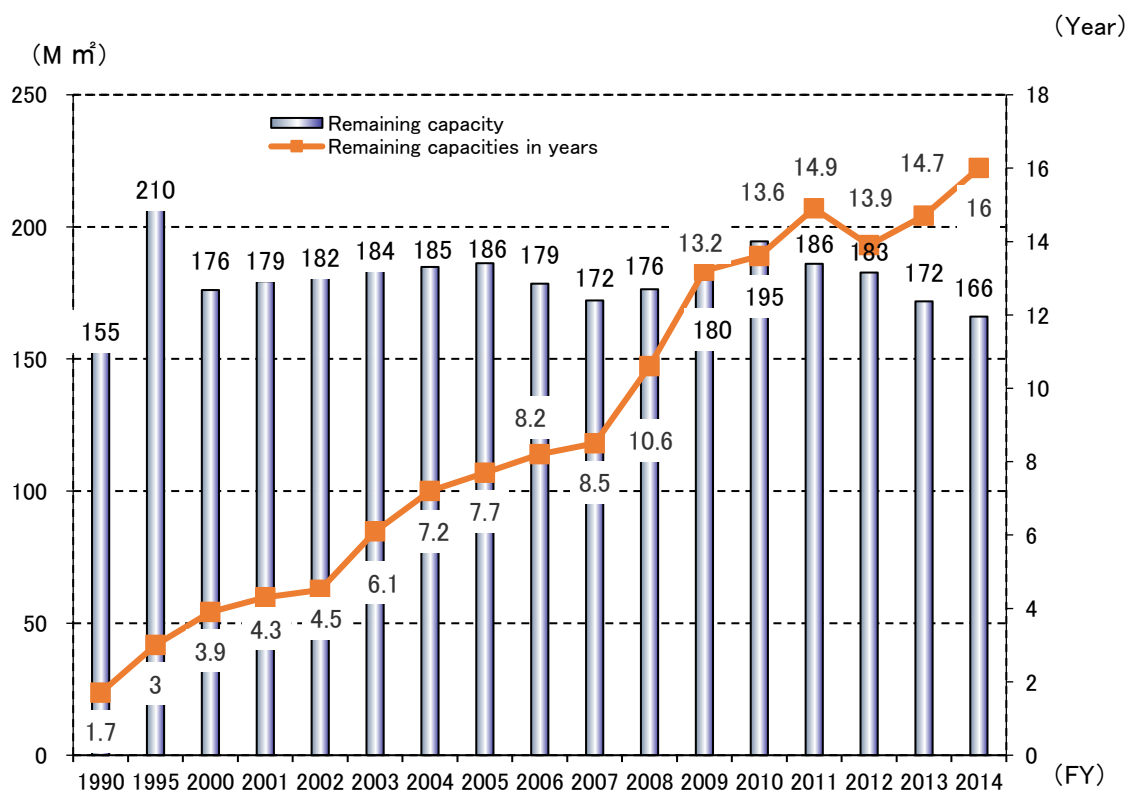


### 3. Challenges to be addressed in the near future

#### (1) Trends in years of remaining capacity at final disposal sites for industrial waste

Up to the 1990s, industrial waste management was a critical social issue. Cases of large-scale illegal dumping of industrial waste came to light one after the other, and we were challenged with few years of remaining landfill capacity for industrial waste. Against this backdrop, the business community has promoted voluntary approaches for the establishment of a sound material-cycle society since the 1990s, thereby achieving significant reductions in the final disposal volume of industrial waste relative to the fiscal 1990 level. The years of final disposal sites remaining increased from 1.7 years in 1990 to 16 years in 2014 (see Figure 2).

**Figure 2: Trends in remaining capacity at final disposal sites for industrial waste**



<Source: Ministry of the Environment>

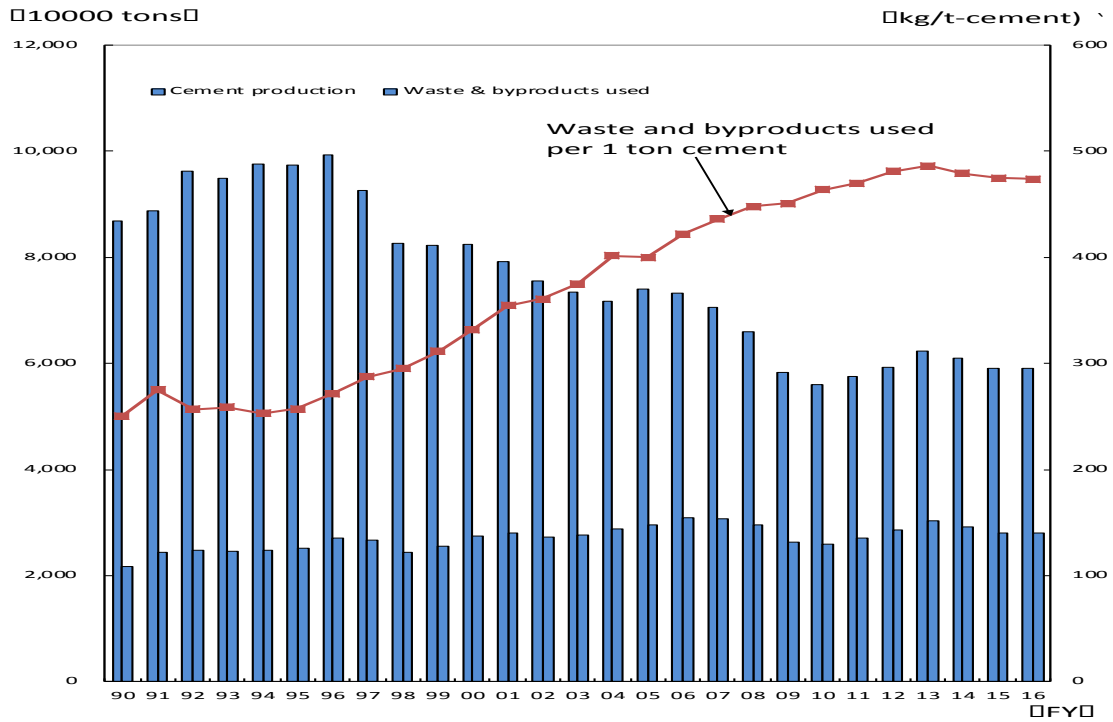
#### (2) Potential for further reductions in final disposal volume of industrial waste

However, in recent years, there has been very limited room for more reductions in the final disposal volume of industrial waste; and therefore, reductions have only slowly increased.

The cement industry utilizes waste and byproducts from other industries in cement production. However the amount of waste accepted per ton of cement as alternatives to raw materials is already reaching its capacity limits. Moreover, in recent years,

total production of cement has dropped to approximately 60% of peak production. Therefore, the volume of waste and byproducts accepted by the cement industry has remained stagnant (see Figure 3).

**Figure 3: Trends in the utilization of waste and byproducts in the cement industry**



<Source: Japan Cement Association>

(3) Challenges to be addressed in the near future

Given the limited domestic availability of natural resources, Japan needs to promote further measures toward establishing a sound material-cycle society from the viewpoint of efficiently utilizing the limited resources available to us.

In 2015, the UN adopted the SDGs (Sustainable Development Goals), which are common international goals for realizing a sustainable society. The private sector is expected to demonstrate its creativity and innovation in reaching these goals. Among the seventeen SDGs, Goal 12 (Ensure sustainable consumption and production patterns (responsible consumption and production)) is closely associated with making progress under the Voluntary Action Plan for Establishing a Sound Material-Cycle Society. Hence, the efficient use of natural resources and substantial reductions in

waste volume are globally considered to be promising approaches.

**Figure 4: 17 Goals under the SDGs (Sustainable Development Goals)**



Furthermore, the Government’s Fundamental Plan for Establishing a Sound Material-Cycle Society (formulated in May 2013) provides that “in addition to the reductions in final disposal volume that have progressed through past efforts, the business community is expected to engage all businesses in collective efforts by setting industry-specific targets.” Therefore, our enhancement of individual targets and efforts designed in line with industry-specific features under Keidanren’s Voluntary Action Plan - for Establishing a Sound Material-Cycle Society is drawing much attention.

In light of these circumstances, Keidanren will pursue voluntary approaches to realizing a sound material-cycle society by continuing to promote the Voluntary Action Plan for Establishing a Sound Material-Cycle Society and to endeavor to reduce the final disposal volume of industrial waste, while enhancing industry-specific targets other than those for industrial waste final disposal volumes.

To make further progress toward a sound material-cycle society, roles must be appropriately shared among not only the business community but also various actors including national and local governments and citizens. It is important that each actor fulfills its role in partnership with other actors. Given limited room for the further promotion of the 3Rs under current technological standards and laws, in particular, it is critical that the Government improve and review law administration and provide policy support (see Attachments 1 & 2). In addition, the utilization of AI and IoT, as well as the digitization of waste information promise to bear important roles (see Attachment 3). Keidanren will continue to urge the Government and local government authorities to implement regulatory reform and digitize waste

management-related information.

## **Background of the Voluntary Action Plan for Establishing a Sound Material-Cycle Society**

Companies of industries participating in the Voluntary Action Plan for Establishing a Sound Material-Cycle Society have promoted voluntary approaches with high standards, endeavoring to achieve self-determined targets since 1997 when the Voluntary Action Plan on the Environment for waste disposal measures was first formulated.

### **1. Formulating the Voluntary Action Plan on the Environment (Section on Waste Disposal Measures) and setting up an economy-wide target (first target).**

In April 1991, Keidanren compiled the Keidanren Global Environment Charter in which it declared that it would promote voluntary and active efforts for environmental conservation. Based on this Charter, in 1997, Keidanren formulated the Voluntary Action Plan on the Environment to address waste disposal issues with the participation of 35 industries and incorporated industry-specific quantitative targets and concrete measures for the achievement of targets. Keidanren has followed up on the progress achieved in each industry every fiscal year thenceforth.

In December 1999, it set up a target covering the entire business community to enhance voluntary industrial efforts: 75% below the fiscal 1990 performance level of final disposal volume of industrial waste in fiscal 2010 (First Target)

### **2. Upgrading to “Section on the Establishment of a Sound Material-Cycle Society” and renewing the economy-wide target (March 2007)**

The business community continued to achieve its economy-wide fiscal 2010 target set up in 1999 for four consecutive years from fiscal 2002 to fiscal 2005 prior to the target year. Therefore in March 2007, Keidanren revised the Voluntary Action Plan on the Environment (Section on Waste Disposal Measures) to the Voluntary Action Plan on the Environment (Section on the Establishment of a Sound Material-Cycle Society), which aimed to promote a wide range of efforts reaching beyond waste disposal measures toward a sound material-cycle society. This was accompanied by a renewal of targets:

#### **(1) Reviewing the economy-wide target (reduction target for final disposal volume of industrial waste)**

The economy-wide target was renewed to: 86% below the fiscal 1990 performance level of final disposal volume of industrial waste in fiscal 2010 (Second Target). Keidanren decided to continue to call for reductions in the final disposal volume of industrial waste in each industry, setting up the abovementioned target for the entire business community and engage in efforts to further promote the 3Rs.

## **(2) Setting up industry-specific targets**

Each industry newly set up individual targets using indicators other than the final disposal volume of industrial waste, further enhancing voluntary approaches to the establishment of a sound material-cycle society. Industry-specific targets include improved recycling rates, reduced waste generation and increased use of waste from other industrial processes.

### **3. Formulating the post-fiscal 2010 Voluntary Action Plan on the Environment**

#### **(Section on the Establishment of a Sound Material-Cycle Society)**

##### **(December 2010)**

The second target for reducing final disposal volumes of industrial waste had established fiscal 2010 as its “target fiscal year.” In December 2010, for the continued voluntary and active promotion of the 3Rs beyond fiscal 2010, Keidanren formulated a renewed Plan embracing the two following pillars and scheduled follow-up surveys: 1) setting up the Third Target for reductions in the final disposal volume of industrial waste across the entire business community with fiscal 2015 as the target year: 65% below the fiscal 2000 performance level of final disposal volume of industrial waste in fiscal 2015 (third target); and 2) establishing industry-specific targets accommodating industrial features.

### **4. Formulating the post-fiscal 2015 Voluntary Action Plan for Establishing a Sound Material-Cycle Society (March 2016)**

Welcoming the “target fiscal year” for the Third Target in March 2016, with a view to continuing voluntary and active promotion of the 3Rs, Keidanren formulated a new post-fiscal 2015 Plan, which would be subject to annual follow-up surveys. The new targets are provided below (see Attachment 2 for details):

#### **(1) Fourth target for economy-wide reductions in final disposal volume of industrial waste**

Aim to reduce by fiscal 2020, the final disposal volume of industrial waste appropriately treated with consideration of the achievement of a low-carbon society by around 70% from the actual performance level in fiscal 2000.

#### **(2) Enhancing industry-specific targets to improve quality of resource recycling**

## **Formulating the Voluntary Action Plan for Establishing a Sound Material-Cycle Society for fiscal years beyond 2015 (March 2016)**

March 15, 2016  
Keidanren

### 1. Continuing and renaming the Voluntary Action Plan on the Environment

The Keidanren Voluntary Action Plan on the Environment (Section on the Establishment of a Sound Material-Cycle Society) has endeavored to meet the economy-wide target to "reduce the final disposal volume of industrial waste in fiscal 2015 by 65% from the fiscal 2000 performance level" (third target) with the participation of 41 industries.

Given the need for ongoing efforts toward establishing a sound material-cycle society, the business community will engage in voluntary efforts beyond fiscal 2015 and seek to communicate industrial efforts to the public at large by continuing the voluntary approach under a renewed name: the Voluntary Action Plan

for Establishing a Sound Material-Cycle Society\*

\* Since 1997, the Keidanren Voluntary Action Plan on the Environment comprised the Section on Global Warming Measures and the Section on the Establishment of a Sound Material-Cycle Society. Given the reorganization of the Section on Global Warming Measures into the Keidanren Commitment to a Low Carbon Society in January 2013, the Section on the Establishment of a Sound Material-Cycle Society will also change its name.

### 2. Outline of post-2015 Voluntary Action Plan

#### (1) Economy-wide target for continued efforts to reduce final disposal volume of industrial waste

① The Voluntary Action Plan set up an economy-wide target to reduce the final disposal volume of industrial waste. The target was renewed three times in order to pursue higher targets and as a result, the final disposal volume in fiscal 2014 marked a reduction of 73% from the fiscal 2000 level (91% reduction from the fiscal 1990 level). Through such efforts, the Plan has contributed to improving the pressing situation regarding the availability of final disposal sites that had challenged Japan in the 1990s (the years of remaining industrial waste final disposal capacity increased from just two years in the 1990s to approximately 14 years in fiscal 2012).

② In recent years, efforts by business operators to further reductions in the final disposal volume of industrial waste have been approaching their limits; and therefore the pace of reductions has slowed down. It has been pointed out that with the Tokyo Olympics and Paralympics Games to be hosted in Japan, the final disposal volume of industrial waste is likely to increase.

- ③ Amid such circumstances, the Japanese business community has set up the following economy-wide target under the idea that it “will not increase the final disposal amount of industrial waste above the current level” to continue to engage in reduction efforts.

Aim to reduce by fiscal 2020, the final disposal volume of appropriately treated industrial waste by 70% from the actual performance level in fiscal 2000 with consideration of the achievement of a low-carbon society\*

\* Some industries point out that further reductions in the final disposal volume may increase energy use and in turn cause regression in the achievement of a low-carbon society or increase waste requiring final disposal as a result of tightened environmental regulations. Under such restrictions, it was decided that it should be indicated that efforts to reduce final disposal volume would be continued with consideration of reducing environmental burden by providing for “the final disposal volume of industrial waste appropriately treated with consideration of the achievement of a low-carbon society.”

\* In case of large changes in the socioeconomic situation, the target will be reviewed as required after fiscal 2016.

(2) Industry-specific targets with a view to improving the quality of resource recycling

- ① Given their differences in industrial characteristics and circumstances, industries are quite varied in their approaches, including the 3Rs, toward establishing a sound material-cycle society; and therefore it is difficult to determine an economy-wide target other than reductions in final disposal volume. Therefore, under the Keidanren Voluntary Action Plan on the Environment, industrial organizations have set up “industry-specific targets” since fiscal 2006 to voluntarily engage in establishing a sound material-cycle society.

In the medium- to long-term, amid global constraints on resource availability, Japan, with very limited natural resources, is particularly challenged with resource issues in its endeavors to achieve sustainable socioeconomic development. We need to promote measures focused on the quality of resource recycling for the efficient use of limited resources. A few examples of such measures are curbing the consumption of natural resources and reducing environmental burden.

- ② Therefore, in the post-fiscal 2015 Voluntary Action Plan, we will set up appropriate industry-specific targets accommodating industrial characteristics and circumstances, in addition to the final disposal volume target. We will consider shifting to quantitative targets aiming to improve the quality of resource recycling, to the furthest extent possible. When it is difficult to set up a qualitative target, we will set up qualitative targets that will serve the purpose of improving the material cycle and report the progress achieved in the annual *Industry-specific Report*.
- ③ Industries have set up individual targets as indicated in the appendix (omitted) to improve the quality of resource recycling. Some examples are: pursuing added-value through the use of byproducts generated in the manufacturing process



as raw materials, promoting the use of high-performance recycling facilities with high recycling rates and waste reduction rates, and reducing the amount of industrial waste generated by reducing construction material input at the planning stage.

- ④ Some industries have yet to determine an industry-specific target. We are determined to present a clearer view of our concept of improving the quality of resource recycling and continue our endeavors to enhance industry-specific targets that will serve this purpose .