Resource Circulation

ENVIRONMENT

Policy and Concept

In accordance with the aims stated in the Kansai Electric Power Group Environmental Policy, we are working actively to reduce emissions and recover resources. For industrial waste generated from our business activities, our Group is undertaking proactive 3R (Reduce, Reuse, Recycle) efforts with the goal of achieving zero emissions. For general waste such as copy paper and other office waste, we are also conducting 3R efforts with sorting as the foundation in each business place.
Efforts are also underway to promote green procurement.

<Kansai Electric Power Group Environmental Policy 3. Promoting resource circulation>

3. Promoting resource circulation
   At the Kansai Electric Power Group, recognizing that natural resources are limited, we advance efforts toward resource circulation in society as a whole. Our efforts include reducing natural resource consumption in our business activities, proactively promoting 3R (reduce, reuse, recycle) practices, and providing products and services that contribute to resource circulation.

Goals

Maintaining industrial waste recycling rate	99.5%

Efforts

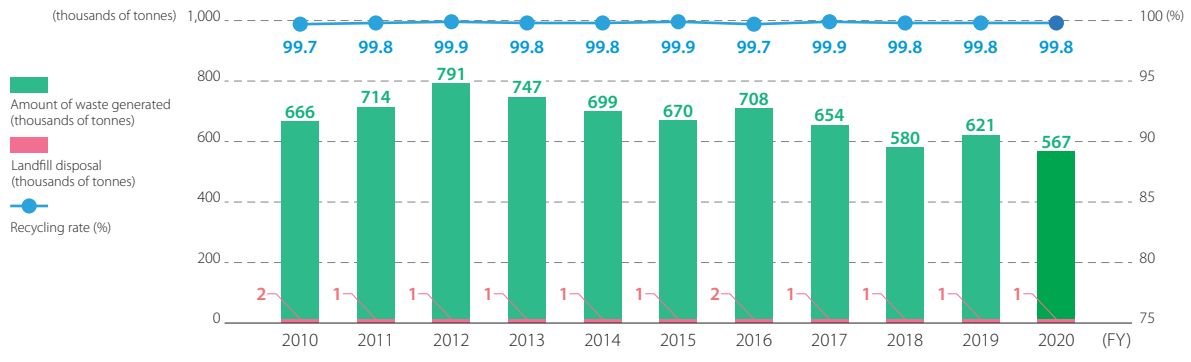
Efforts to achieve zero emissions

The principal types of industrial waste generated by our Group include coal ash from coal-fired thermal power plants and concrete pole fragments remaining from power grid construction. In order to achieve zero emissions, we set a target for our Group of "a 99.5% or higher recycling rate" for industrial waste, and we are advancing efforts that include recycling all coal ash as raw material for cement and paving material for roads, for example. We achieved a 99.8% recycling rate in fiscal 2020, which marks the eleventh consecutive year that we have reached our target. We are also working to reduce and recycle general waste (copy paper, etc.) from our offices.

Efforts to reduce plastic

Our Group's all-out efforts to reduce plastic include recycling of waste plastics originating from facility operations and construction work, reduction of plastic bags used in in-house shops, and promotion of reusable drink bottles.

Changes in the amount of industrial waste generated and the recycling rates



Industrial waste recycling rate (%) = [(amount of industrial and other waste − amount of landfill disposal) ÷ (amount of industrial and other waste)] × 100

Promoting green procurement

Our Group is working on green procurement to promote resource circulation in society.

Green procurement concept

(1) Given that all procured goods or all machines and methods used for construction have an environmental impact, wherever possible we will opt for environmentally friendly office supplies, materials, equipment and construction machines/methods.

(2) The concept is to "rethink" whether goods to be purchased are necessary at all, "reduce" the amount of purchase as much as possible, "reuse" unnecessary goods at other locations (including extended use of purchased goods), "recycle" resources and "repair" things wherever possible.

Performance data

Waste-related*1*2	Unit	FY 2018	FY 2019	FY 2020
Amount of industrial and other waste	1,000 t	580.0	621.3	566.7
		(636.6)	(662.5)	(608.8)
• Soot particles (heavy/crude oil ash, coal ash, etc.)		387.0	384.7	381.2
		(387.0)	(384.8)	(381.4)
• Sludge (desulfogypsum, waste water processing sludge, etc.)		107.9	129.7	91.3
		(112.7)	(135.5)	(97.5)
• Cinders		25.3	45.8	30.8
		(25.5)	(46.1)	(31.0)
• Demolition debris (waste concrete utility poles, etc.)		18.2	18.1	17.1
		(56.5)	(36.9)	(38.0)
• Metal scraps		23.9	25.5	26.6
		(25.6)	(27.4)	(28.7)
• Glass/ceramic scraps (thermal insulation scraps, insulator scraps, etc.)		1.3	2.4	2.1
		(4.5)	(4.7)	(4.0)
• Waste oil		3.0	4.1	4.5
		(3.7)	(5.9)	(4.9)
• Waste plastic		0.9	1.4	1.1
		(2.4)	(3.1)	(2.5)
• (Repeated) Ash and gypsum		515.7	553.2	498.6
		(515.9)	(553.6)	(499.0)
• Other		12.6	9.6	12.0
		(18.8)	(18.1)	(20.5)
(Repeated) Special controlled industrial waste		8.3	7.1	11.2
		(8.4)	(7.5)	(11.5)
Amount of industrial waste for landfill disposal	1,000 t	0.9	1.1	0.9
		(19.2)	(12.6)	(11.5)
• Glass/ceramic scraps (thermal insulation scraps, insulator scraps, etc.)		0.09	0.19	0.15
		(0.7)	(0.8)	(1.5)
• Sludge (wastewater processing sludge, etc.)		0.48	0.41	0.03
		(3.7)	(5.3)	(6.2)
• Demolition debris		0.03	0.00	0.00
		(8.6)	(1.2)	(0.4)
• Cinders		0.00	0.00	0.00
		(0.2)	(0.3)	(0.2)
• Waste plastic		0.10	0.27	0.08
		(1.0)	(0.6)	(0.4)
• Metal scraps		0.05	0.03	0.02
		(0.9)	(0.2)	(1.3)
• Other		0.14	0.20	0.61
		(4.0)	(4.2)	(1.5)
• (Repeated) Amount except for special controlled industrial waste		0.77	0.95	0.04
		(19.0)	(11.6)	(10.5)
Industrial waste recycling rate*3	%	99.8	99.8	99.8
		(97.0)	(98.1)	(98.1)
Ash and gypsum waste recycling rate*3	%	100	100	100
		(100.0)	(99.9)	(99.9)

*1 The totals may not match up due to rounding.
*2 The figures in parentheses include the results of group companies (excluding those of some group companies)
*3 Industrial waste recycling rate = [(amount of industrial and other waste – amount of landfill disposal) ÷ (amount of industrial and other waste)] × 100