

Environment Vision 2050	Environmental Policy	Governance	Products/Factories	CO ₂ Reduction
Resources Recycling	Water Resource	Chemical Substance	Biodiversity	Global Activities
Supply Chain	Social Contributions	Human Resource	Communication	

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Environment: Factory Waste Management –

Zero Waste Emissions

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Factory Waste Management – Zero Waste Emissions

Improving Factory Waste Recycling Rate

From the viewpoint of effective usage of resources, we believe that generation of waste and revenue-generating waste at factories must be minimized, even if such waste could be sold as valuable commodities. Based on this belief, we identify the amount of generated waste (including both revenue-generating waste and factory generated waste) and classify it into: (1) recyclable waste (including those that can be sold and those which can be transferred free of charge or by paying a fee), (2) waste that can be reduced by incineration or dehydration, and (3) landfill (waste with no option other than being sent to landfills).

We reduce the emission of waste by boosting yield in our production process and increasing the recycling rate of our waste materials. Accordingly, we strive globally toward achieving our Zero Waste Emissions from Factories ^{*1} goal by reducing the amount of landfill to nearly zero. We have reinforced such efforts particularly in China and other Asian countries, where many of our factories are located. We will continue our initiatives to achieve the factory waste recycling rate target of 99% by fiscal 2019.

As a means to reduce the generation of waste, we are fostering resource-saving product design. In our production activities, we are engaging in resource loss reduction, employing our own unique material flow analysis methods. We consider materials that do not become products and excessive use of consumables as resource losses, and make the material flow and lost values for each process visible in order to resolve the issues with close collaboration with the design, manufacturing, and other relevant business divisions. In the future, we will promote further reductions in resource losses through the Resource Loss Navigation, our original system developed to automatically display information to help reduce resource losses.

As measures to reduce the amount of landfill of waste and revenue-generating waste, we constrain the amount of waste materials that are particularly difficult to recycle, such as thermosetting resin. We are also strictly adhering to waste sorting practices in production processes to further expand the reuse of resources.

Because waste recycling rates in our overseas factories lag behind those in Japan, we have worked to improve the average level of recycling activities by sharing information within and between regions outside Japan. Specifically, in addition to accelerating the information sharing on waste recycling issues between our local factories and group companies in Japan, we also promote the sharing of excellent examples and know-how among our factories across regions by utilizing BA Charts^{*2} prepared by each region, following our long-standing approach toward CO₂ reduction activities.

^{*1} Definition by Panasonic: Recycling rate of 99% or higher. Recycling rate = Amount of resources recycled/(amount of resources recycled + amount of landfill).

Initiative in Recycling Waste

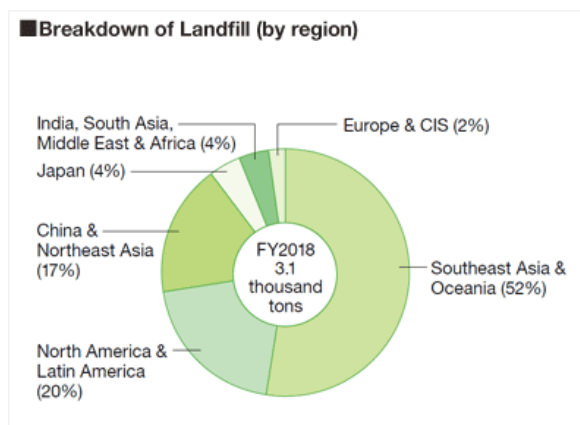
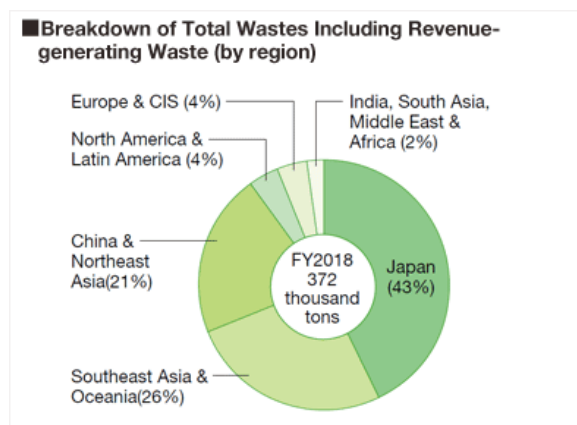
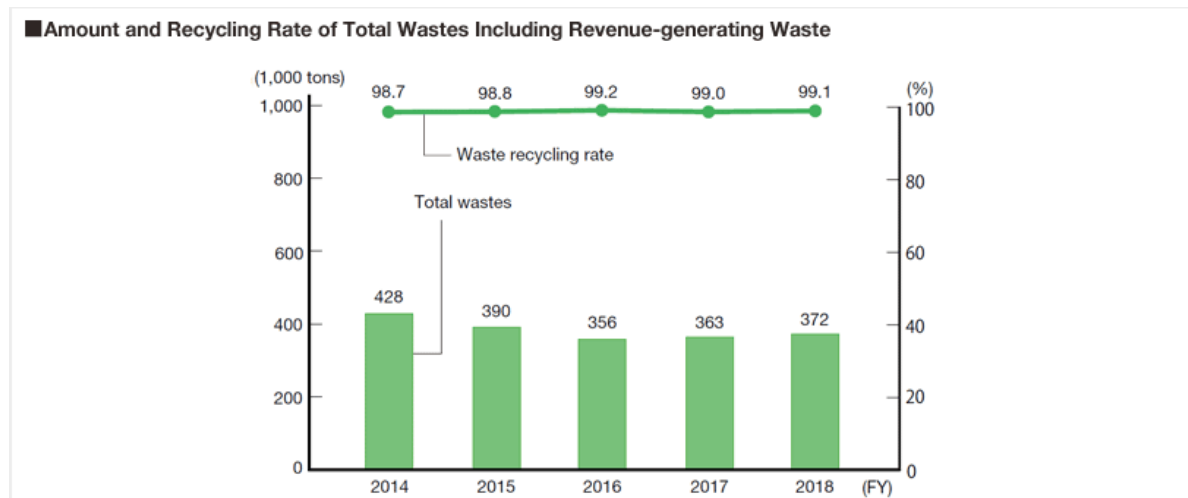
Panasonic Energy Malaysia Sdn. Bhd. (PECMY) had conventionally been unable to recycle sludge emitted from a wastewater treatment facility in their photovoltaic panel production plant, and had disposed of the sludge at a strictly controlled landfill site. Sludge emitted from treatment facilities cannot be used as is because it does not meet the conditions of recycled materials specified by cement companies. Through a waste treatment operator capable of improving the quality of sludge to the level required by cement companies, and by reducing the moisture content in the sludge to one-fifth or less, PECMY achieved converting sludge into a powder as well as making it lighter. Powderizing enables sludge to be recycled as a cement material, and now the powder is detoxified and used at cement companies as an ingredient. As a result, the factory waste recycling rate for PECMY has reached 93.5%.



Sludge (50% moisture)



Powdered sludge (10% moisture)



Breakdown of Total Wastes Including Revenue-generating Waste for

Fiscal 2018 (by category)

1,000 (tons)

Items	Total wastes	Recycled	Landfill
Metal scrap	154	153	0.4
Paper scrap	39	39	0.09
Plastics	44	41	0.5
Acids	32	21	0.1
Sludge	15	10	0.8
Wood	27	26	0.004
Glass/ceramics	6	6	0.05
Oil	19	18	0.08
Alkalis	19	16	0.005
Other*3	17	15	1.0
Total	372	345	3.1

*3 Combustion residue, fiber scraps, animal residue, rubber scraps, debris, ash particles, items treated for disposal, slag, infectious waste, polychlorinated biphenyls (PCBs), waste asbestos.

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