

[Important Issues] Improving Efficiency of Water Resource Use

Policy and Basic Approach

Water risks can be largely divided into physical risks caused by drought, flooding and water contamination, and regulatory risks resulting from toughened water quality standards, changes in water and sewer prices, and switching to clean water due to the suspension of industrial water supply, among others. Water is a limited and important resource, and its conservation is considered an important theme throughout the world.

The Nippon Kayaku Group produces a variety of chemical products, and having access to water is essential for the continuation of our business activities. We are ever aware of the importance of our water resources, and are mindful of using water carefully without being wasteful.

System

> [Implementing Responsible Care](#)

Indicators

Total emissions for FY2021 amounted to 10,011,000 m³. This was an increase of only about 0.9% from the previous year's total emissions of 9,919,000 m³, despite the rise in our production volume. We will continue to take strict measures to manage and reduce wastewater in order to protect our valuable water resources.

Usage of Water Resources

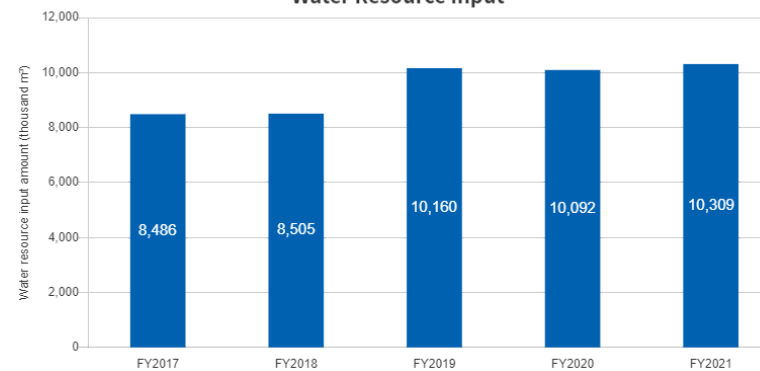
Indicator		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Water resource input	Municipal water (tap water)	Non-consolidated	1,000 m ³	371	348	356	390	363
	Industrial water	Non-consolidated	1,000 m ³	6,507	6,534	7,521	7,874	8,098
	Groundwater	Non-consolidated	1,000 m ³	1,607	1,624	2,283	1,828	1,848
	Total^{*1}	Non-consolidated	1,000 m³	8,486	8,505	10,160	10,092	10,309
	Water withdrawals in water stressed areas ^{*2}	Non-consolidated	1,000 m ³	0	0	0	0	0
Amount of water discharge ^{*3}	Non-consolidated	1,000 m ³	9,596	9,585	10,577	9,919	10,011	
Amount of water recycled for use	Non-consolidated	1,000 m ³	0	0	0	0	0	
Rate of water recycled	Non-consolidated	%	0	0	0	0	0	

*1 The total sum may be incongruent due to rounding.

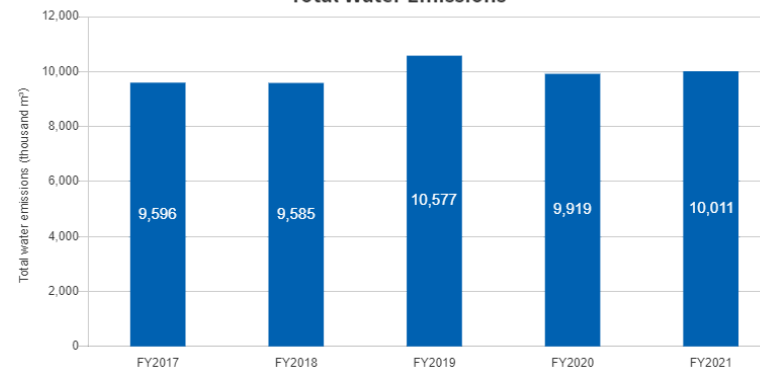
*2 Areas where our plants are located (Fukuyama [Hiroshima], Asa [Yamaguchi], Tokyo, Joetsu [Niigata], Takasaki [Gunma], Himeji [Hyogo] and Kashima [Ibaraki]) are not considered to be water-stressed areas.

*3 This refers to industrial water or groundwater, which is returned to the intake source with its quality equal to or better than its original quality.

Water Resource Input



Total Water Emissions



Fukuyama Plant Initiatives to Reduce Water Usage

The Fukuyama Plant treats wastewater resulting from the colorant manufacturing process within the plant, and then releases the treated water into the Seto Inland Sea. This plant has been manufacturing colorants for inkjet printers since 2000, and has been working on improving the method for treating wastewater resulting from the manufacturing process. As part of such efforts, numerous studies have been performed on implementing individualized treatment in accordance with the brand and revising the manufacturing process to reduce the environmental impact.

Through these efforts, the plant managed to reduce the contracted volume of industrial water from 24,000 m³ per day to 23,000 m³ per day in 2015, and further down to 22,000 m³ per day in FY2018. At present, the plant is implementing even better wastewater treatment techniques, and is succeeding in continuing operations while maintaining the same contracted volume of industrial water, despite the increase in production volume. Moreover, in addition to industrial water, the plant is also working to reduce the use of public water, which is also used during the manufacturing and equipment cleaning processes.

Kayaku Safety Systems Europe

Implementation of Equipment for the Effective Use of Rainwater

Kayaku Safety Systems Europe (KSE) introduced a water storage tank system in 2017 to utilize rainwater more effectively as part of its capital investment activities to promote environmental protection. By FY2020, an equivalent of 750.5 m³ of tanks had been installed. Rainwater, in addition to water discharged from air-conditioning that is used to control the humidity within the plant, is used for non-drinking purposes, which helps to not only increase the efficiency of water usage but also contributes toward reducing costs.



Due to the impact of climate change, the current drop in the amount of precipitation in the Czech Republic poses a significant concern, making the recycling of water extremely important. Since FY2020, the annual water storage at KSE amounts to more than the amount of drinking water used by all of KSE's employees and their families (approximately 4,000 people) for the year. KSE is continuing to promote this project in order to contribute toward the realization of a sustainable society.

	Unit	FY2019	FY2020	FY2021
Water storage capacity (scheduled)	m ³	-	4,877	5,040
Water storage capacity (actual)	m ³	4,433	6,177	7,234
Economic effects	Ten thousand yen	282	361	411