

Conserving Water Resources

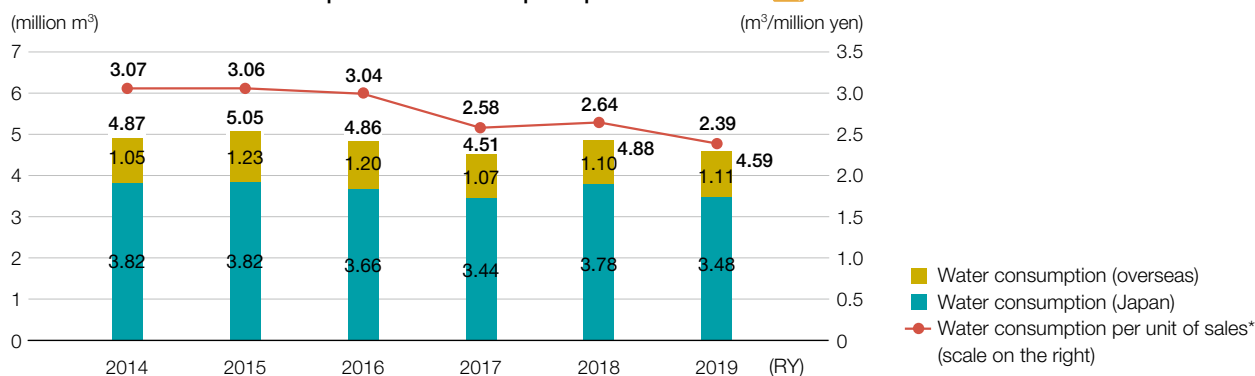
The OECD's 2012 report entitled Environmental Outlook to 2050 states that during the period between 2000 and 2050, global demand for water will increase by approximately 55% owing to economic development and population increase, while more than 40% of the world's population will be living in river basins that suffer from severe water shortages.

The Kubota Group sees conserving water resources as one of its materiality issues, and has been advancing initiatives to promote the effective utilization of water resources and to address water risks, such as the reduction of water consumption by promoting water saving and wastewater recycling, and the proper management of wastewater treatment and wastewater quality. Production sites promote measures not to cause adverse effects on local ecosystems and the lives of local residents, taking into consideration the status of water stress in the respective regions.

Water Consumption in the Business Sites

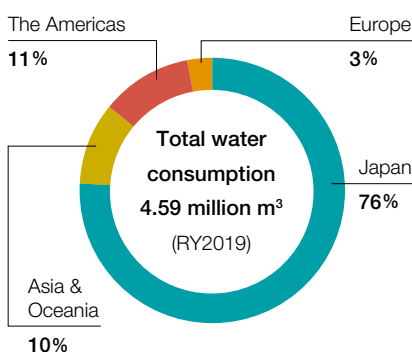
In RY2019, water consumption was 4.59 million m³, a decrease of 5.9% compared to the previous reporting year. Additionally, water consumption per unit of sales was improved by 9.3% compared to the previous reporting year. These are mainly due to a reduction in water usage due to water-saving activities, the use of recycled water, and the efficiency improvement of cooling facilities at some production sites in Japan, as well as a reduction in production volume at cast iron production sites in Japan.

Trends in Total Water Consumption and Consumption per Unit of Sales

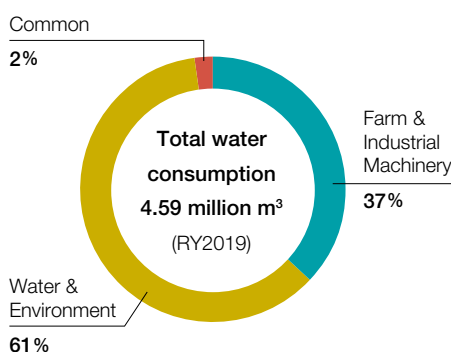


* Water consumption per unit of consolidated net sales. The Kubota Group adopted International Financial Reporting Standards (IFRS) instead of accounting principles generally accepted in the United States of America from RY2018.

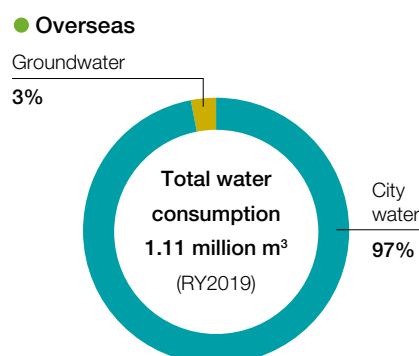
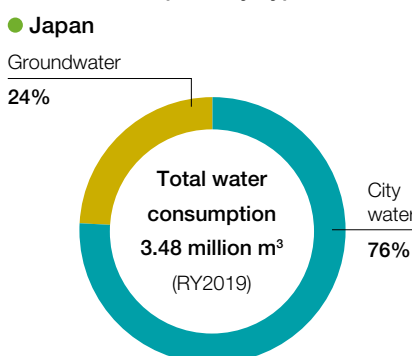
Water Consumption by Region



Water Consumption by Business



Water Consumption by Type



For the calculation method of each item of environmental data, see the Calculation Standards of Environmental Performance Indicators (p.86).

Measures to Reduce Water Consumption

The Kubota Group has established its Medium-Term Environmental Conservation Targets (p.36), and is working on the reduction of water consumption at its business sites. Its production sites, such as those in China, Thailand, Indonesia and the United States, have introduced wastewater treatment facilities or wastewater recycling systems utilizing technologies of the Kubota Group.

In RY2019, we carried on with daily activities such as raising employees' awareness of saving water and conducting patrols to check for water leakage. We also continued to install water-saving valves and introduce improved methods of watering green areas. Additionally, we worked to reduce the amount of water used for cleaning and cooling in production processes. As a result of the efforts toward achieving the Medium-Term Environmental Conservation Targets 2020 for water consumption reduction, global production sites achieved a reduction of 175,000 m³ in RY2019 compared with the case where countermeasures were not implemented from the base year (RY2014). The economic effects of these measures reached 45 million yen compared to RY2014. Water consumption per unit of production in RY2019 improved by 19.5% compared to RY2014.

We will continue to promote the reduction of water consumption through initiatives to promote the 3Rs of water, such as conducting water-saving activities and promoting water recycling by using the Kubota Group's technologies.



Reducing Water Consumption through Recycling of Wastewater from Production Processes

At P.T. Kubota Indonesia (PTKI) (Indonesia), we worked to reduce water consumption in the painting process by recycling wastewater from other processes.

At PTKI, we manufacture compact diesel engines. In the painting process, a water curtain is used to catch paint that fails to adhere to the product surface to prevent spattering. Up till now, city water was used for the water curtain, so that the painting process accounted for around 20% of the plant's total water consumption.

As the purpose of the water curtain was to catch spattered paint, we realized that it did not require city water, so we switched to using water processed at a wastewater treatment plant. We identified other operations where city water was not necessary, and also began using treated water to mix the chemicals used in wastewater treatment. With these initiatives, we realized a reduction of approximately 6% in the plant's total water consumption.

Going forward, we will continue with initiatives to reduce water consumption.



P.T. Kubota Indonesia
Human Resources, General Affairs Section
Ahmad Ansory (left), MH Saeri (right)

Controlling Wastewater

The Kubota Group has set its own control values that are stricter than the emission standards of relevant laws and regulations. To ensure that the standard values are not exceeded, the Kubota Group carries out regular measurement of designated monitoring items. We also implement thorough daily management activities, such as monitoring the trends in water quality data and inspecting the wastewater treatment facilities.

At our sites, continuing measures to restrict water consumption have resulted in reduced wastewater discharge. In RY2019, the amount of wastewater discharge was 4.77 million m³ (3.26 million m³ into public water areas, 1.51 million m³ into sewage lines), a decrease of 7.0% compared to the previous reporting year.

We will continue to reduce load on the local water environment through activities to manage water discharge and reduce water consumption.

* The amount of wastewater discharge includes rain and spring water at some business sites.

Survey on Regional Water Stress

In order to identify the risks related to the use of water resources and find effective responses to such water risks, the Kubota Group conducts surveys concerning water stress*¹ for all of its production sites.

The results of a survey on water stress of a total of 50 sites in 14 countries using Aqueduct*² (water risk assessment tool developed by the World Resource Institute (WRI)) are as follows:

Results of the Survey on Water Stress of Production Sites (RY2019)

Region, country		Water stress level / Water consumption (thousand m ³) <number of sites>				
		High	High-Middle	Middle	Middle-Low	Low
Asia	Japan	0	0	1,672 (8)	1,513 (11)	19 (2)
	China	0.3 (1)	90 (1)	0	0	16 (2)
	Indonesia	0	0	17 (1)	0	0
	Thailand	206 (3)	16 (1)	7 (1)	0	0
	Saudi Arabia	19 (1)	0	0	0	0
Europe	Russia	0	0.4 (1)	0	0	0
	Norway	0	0	0	0	23 (1)
	Denmark	0	0	43 (1)	0	0
	Netherlands	0	0	0	0	11 (1)
	Germany	0	0	8 (1)	0	4 (1)
	France	0	0	4 (1)	0	1 (1)
	Italy	15 (1)	0	0	0	0
North America	Canada	0	0	0	0	295 (1)
	United States	0	0	130 (2)	26 (6)	0
Total		240 (6)	106 (3)	1,881 (15)	1,539 (17)	369 (9)

The survey results showed that “High” or “High-Middle” levels of water stress applied to 9 production sites, located in the Chinese cities of Daqing and Suzhou, central Thailand, Saudi Arabia, Russia and Italy, which account for approximately 9% of the Group’s total water consumption. In the next “Middle” level category were 15 production sites situated in Japan’s Kanto region and Aichi Prefecture, Indonesia, coastal regions of Thailand, the southeast United States and a number of locations in Europe, which together account for approximately 45% of total water consumption. Production sites in the “Middle-Low” and “Low” categories accounted for approximately 46% of total water consumption.

Although the majority of the water used in the Kubota Group’s production activities is sourced in areas with stress levels in the “Middle” or lower categories, the survey showed that some of the main sites in Thailand and China are located in areas of high water stress. At these production sites, the Kubota Group is now promoting the horizontal rollout of regional examples of good practice in areas including the reduction of water consumption and appropriate management of wastewater.

The Group will also conduct water stress surveys in each case for the water areas around new sites that are scheduled for construction as part of the Group’s more globally oriented business growth.

*1 Water stress refers to the state where the annual water availability per capita is less than 1,700 tons and people feel inconvenience in their daily life. Water stress in this survey is the water stress for each river basin, which is calculated based on the ratio of water intake to the amount of available water resources. (World Resources Institute (WRI))

*2 An update of the Aqueduct survey in August 2019 using a revised statistical model improved the accuracy of the water risk evaluation. As a result, the RY2019 water stress survey at Kubota Group production sites also showed major changes from the RY2018 results.

Water Consumption by Water Stress Level

