Avoided Emissions Initiatives

Environmental Initiatives

CO_2 Initiatives

Based on the Paris Agreement adopted at the COP 21 (21st Conference of the Parties to the United Nations Convention on Climate Change), we developed the greenhouse gas emission reduction target by 2030 based on scientific grounds that are consistent with the Paris Agreement and have been promoting the reduction activities under the Shared Value Creation Strategy TOTO WILL2030 toward the realization of a carbon-neutral and sustainable society by 2050.As for the reduction of CO_2 emissions from business sites (Scope 1 + Scope 2), we work to improve energy saving/renew large facilities. As for the reduction of emissions, we work to improve energy saving, renew large equipment, expand the introduction of renewable energy and for electricity to use, we aim to use 100% renewable energy.

In addition, customers use TOTO products in their daily lives for as long as 10 to 20 years, and more than 90% of the CO_2 is emitted during the product use phase when we look at the entire product lifecycle. As for the reduction of CO_2 emissions during the product use phase, we will further evolve our products' environmental performance and by globally commercializing our Sustainable Products, a bathroom and kitchen product group that is unique to TOTO, that balance cleanliness, comfort, and the environment, we will contribute to the realization of a rich and comfortable society that gives consideration to the global environment.

* For more information, please visit our website : (https://jp.toto.com/en/company/csr/environment/warming/tcfd/)

Water Initiatives

In order to preserve water resources, the TOTO Group works to reduce the water consumption and promote water preservation activities throughout the product lifecycle. Many of our products have a long lifecycle as long as 10 to 20 years, and more than 90% of the water use occurs during the product use phase when we look at the entire product lifecycle.
By actively working to reduce the water use in this stage of the lifecycle, we aim to realize both comfortable everyday lifestyles and the sustainability of water resources.
We also promote water resource preservation at production sites by recycling and reusing water used in the production phase.

* For more information, please visit our website : (https://jp.toto.com/en/company/csr/environment/water/)

Regarding initiatives for Avoided

In the process of product planning and design, we promote efforts to reduce environmental impact through evaluation of CO_2 emissions, water conservation during use, energy conservation, and 3Rs considerations using LCA*.In order to grasp the degree of contribution to the reduction of CO_2 emissions and water consumption through products and services, we defined "Avoided Emissions during product use" and "Avoided Emissions of water during product use" as the reduction effect compared to the case if 2005-era products continued to be distributed.

We are targeting a reduction of 1.3 billion m^3 in fiscal 2030 under WILL 2030 STAGE 2. Improvement in water-saving and energy-saving performance of products, increase the share of high-performance products in sales and further popularize such products will contribute to achieving the target of the Avoided Emissions during product use.

*LCA (Life Cycle Assessment): LCA is a procedure to quantitatively and objectively evaluate the environmental impact throughout all stages of the product life cycle from procurement of product-related materials to manufacturing, transport, use, and disposal.

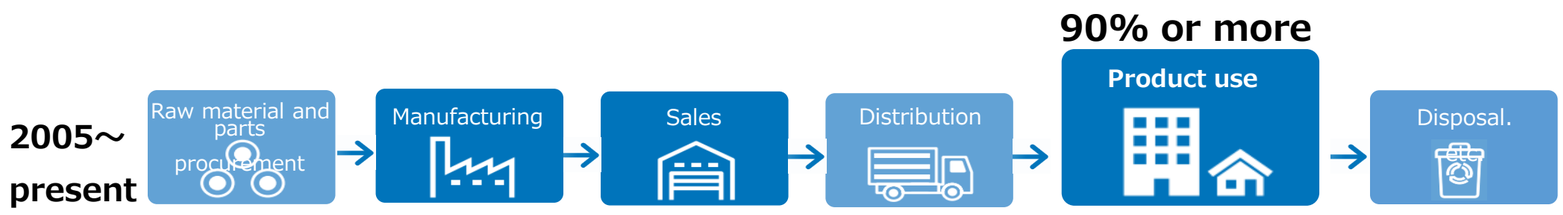
■Avoided Emissions during product use

Scope of calculation

The scope of calculation is "Product use(Scope 3 Category 11 (Use of Sold Products))".On average, our products are used over a period of 10 to 20 years. If analyzed from the perspective of the product life cycle, this means the period of product use accounts for over 90% of our overall CO_2 emissions.The impact other than "Product use" can be ruled out.

Percentages of CO_2 Emissions in Product Life Cycle

From 2005 to the present, the period of "Product use"accounts for more than 90% of total CO2 emissions.



Calculation Method

Lifetime*1CO_2 emissions*2 per unit from major products*3× Sales quantity.Reduction Effect as compared to if 2005-era products continued to be distributed.

*1 Duration of use by product classification (defined by TOTO).(Set for approximately 10-20 years)

*2 CO_2 emissions from consumption of water and energy based on specifications and usage models (based on the information published by industry associations and research articles, etc.) by sales areas.

*3 toilets, WASHLET, water faucets, urinals, bathtubs, bathroom dryers, electric water heaters, and hand dryers

[Additional information]

Other conditions can be viewed on our website: (https://jp.toto.com/assets/files/avoided_emissions_en_2406_document.pdf)

Examples of products that lead to avoided emissions during product use

Water faucets : Economizing in hot water

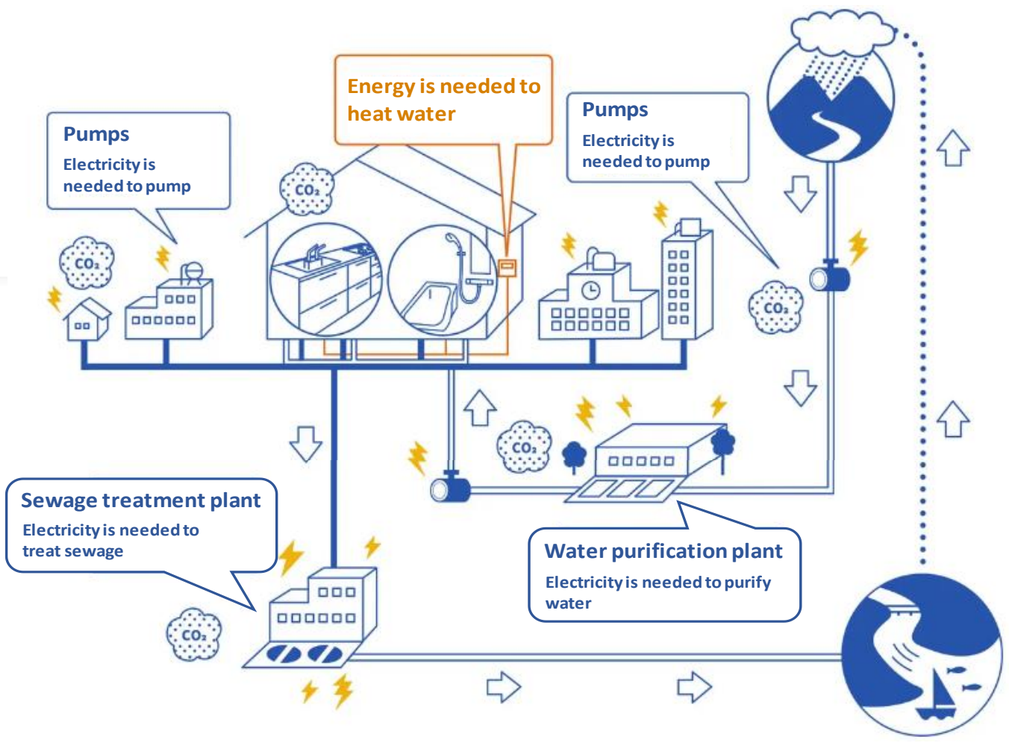
Summary

TOTO has continued to undertake development of water-saving showers, insulated bathtubs, etc., and has been working to improve the water-saving and energy-saving performance of the bathroom which uses more energy than any other plumbing equipment in the home.

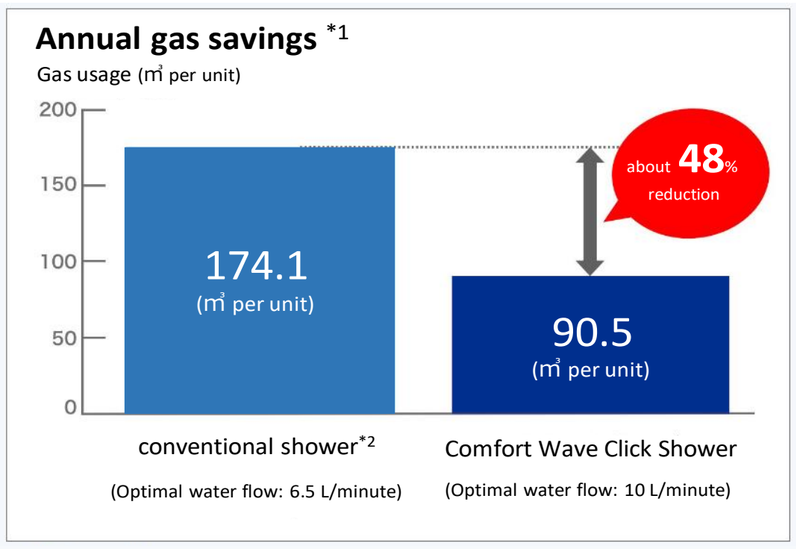
The spread of water-saving and energy-saving products throughout the world will reduce water consumption in society as a whole and help curb CO_2 emissions generated during water use.

Water-saving showers reduce not only water consumption but also the hot water energy used to produce hot water, such as gas and electricity.CO_2 emissions reductions due to energy- and water-saving performance improvements in faucets account for about 40% of our avoided emissions during product use.

Comfort Wave Shower uses a unique nozzle that swings and discharges large drops of water and powerfully spray and swing, ensuring a comfortable bathing experience and contributing to both water conservation and reduction of CO_2 emissions.



Water Use and CO_2 Emissions



*1 Compared to our company based on optimum flow rate

The optimum flow rate is the "flow rate that feels easiest to use" as measured by in-house monitors based on the method defined by Japan Sanitary Equipment Industry Association.

*2 Thermostatic mixer Faucet and shower

example : Gas saving effect by Comfort Wave Click Shower

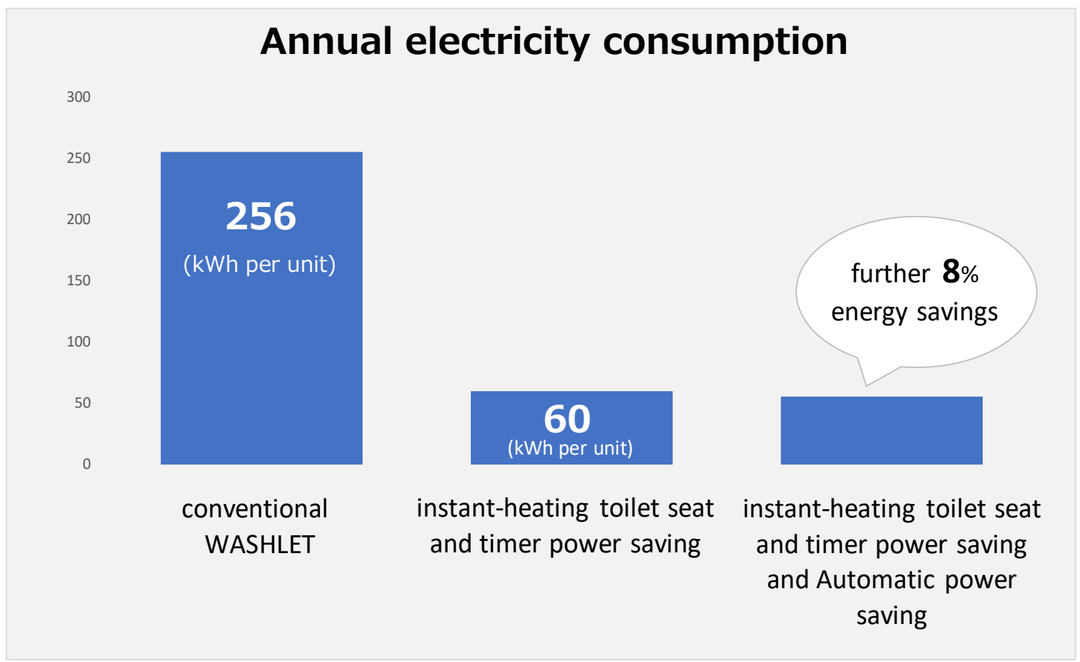
WASHLET : Conservation of electricity

Raw material and parts procurement → Manufacturing → Sales → Distribution → **Product use** → Disposal

TOTO has evolved the energy-saving performance of WASHLET.Widespread use of products with high energy-saving performance will lead to a reduction in electricity consumption and CO_2 emissions generated during electricity use in society as a whole.

The amount of CO_2 emissions reduction due to improved energy-saving performance of WASHLET accounts for about 30% of our Avoided Emissions during product use.

The total time spent using the toilet in a day is only about 50 minutes (for a family of four). By reducing power consumption for heat retention through a variety of energy-saving functions, such as "instant heating toilet seat" that heats up only when it is used and "double heat retention" of toilet lid and toilet seat, the WASHLET has achieved significant energy savings compared to the WASHLET of about 20 years ago.



example : Improvement of energy-saving performance of WASHLET

instant-heating toilet seat

A sensor detects human movement and heats the toilet seat only when it is in use, thereby reducing the amount of electricity used to keep the seat warm in standby mode.

example : Power-saving features

■Avoided Emissions of water during product use

Scope of calculation

The scope of calculation is "Product use(Scope 3 Category 11 (Use of Sold Products))".On average, our products are used over a period of 10 to 20 years. If analyzed from the perspective of the product life cycle, this means the period of product use a large portion of their life cycle, The impact other than "Product use" can be ruled out.

reference
Annual water withdrawal at time of production : About 2.5 million ㎥
Water usage during product use : About 3.00 billion ㎥

Calculation Method

Lifetime*1Water consumption*2 per unit from major products*3× Sales quantity.　Reduction Effect　as compared to if 2005 -era products continued to be distributed.
*1 Duration of use by product classification (defined by TOTO).(Set for approximately 10-20 years)
*2 Water consumption based on specifications and usage models (based on the information published by industry associations and research　articles, etc.) by sales areas.
*3 toilets, water faucets, urinals, and bathtubs

[Additional information]
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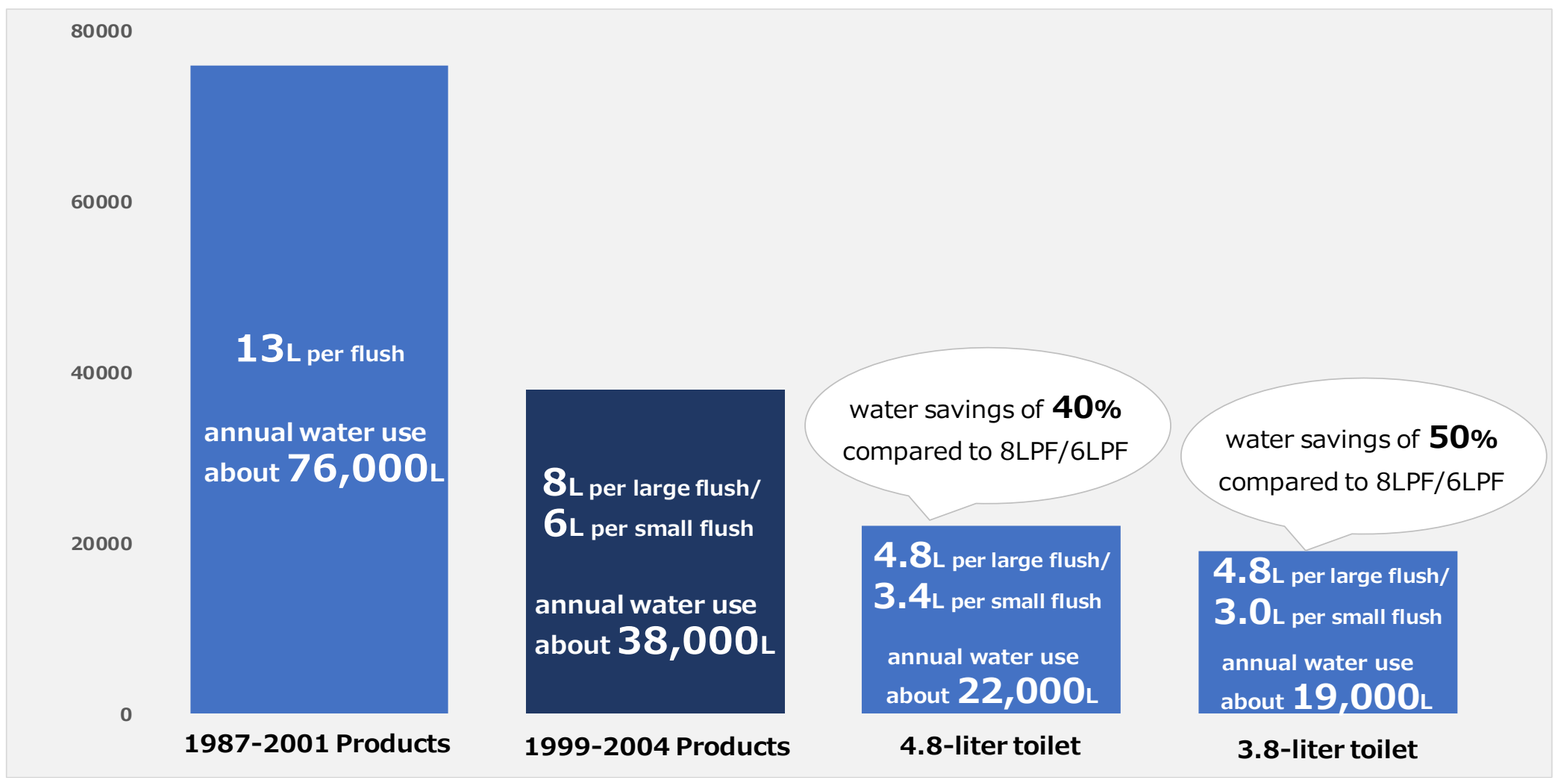
Examples of products that lead to Avoided Emissions during product use
Toilets : Water conservation

Raw material and parts procurement → Manufacturing → Sales → Distribution → **Product use** → Disposal

We have evolved water-saving performance for toilets, which are the most water-intensive of all water features.
The spread of products with high water-saving performance throughout the world will lead to a reduction in water consumption and CO_2 emissions generated during water use in society as a whole.Because our products have a long life cycle and are used many times in society as a whole, the amount of water saved by improving the water-saving performance of toilets accounts for about 60% of our avoided emissions of water during product use.We have made great progress in the water-saving performance of our toilets, which now flush with a minimum of 3.8 liters per full flush, less than half the water used 20 years ago.



Improved water-saving performance of toilets