How Noritz creates value



INDUTS Sources of value creation

Natural capital Essential resources for Noritz's operations	 147,485 gigajoules of energy consumed annually by Noritz Corporation 28,703 tons of materials used annually by Noritz Corporation (of which metals totaled 28,131 tons)
Human capital Diverse personnel behind the Group's businesses	 6,280 employees in the Noritz Group 43% of all employees working outside Japan
Intellectual capital Core technologies refined over Noritz's history	Combustion control, heat exchange, and fluid control technologies481 R&D personnel group-wide
Social and relationship capital A customer base built up since the Company's founding	 Operations in 17 countries and areas Almost 4.57 million registered customer accounts in Japan Wide-reaching customer service network
Manufactured capital Production technologies applied globally	 7 factories in Japan and 6 overseas Pressing, die casting, resin molding, welding, and pipe production technologies
Financial capital Businesses supported by a solid financial base	 Consolidated net assets of ¥126,667 million Consolidated equity ratio of 58.7%

Process Business activities



Mission The Simple Comforts of Life Outcomes Value offered to people and communities worldwide

Products and services that help communities live more comfortably and contribute to the planet

Sustainability · Facilitating a healthy

creation cycle

Value statement

Everything

starts from

a challenge

Well-being

relationship between people and the planet

 Adding value to user-friendly baths and kitchen appliances

Outputs Targeted results of business activities by 2030

inancial targets	Net sales ¥3	80
	Return on equity	
Environ mental targets -	CO ₂ emissions from the Group's products in Japan	3
	CO ₂ emissions from the Group's operations in Japan	5
	Number of the Group's products recycled in Japan	3

Materiality Key issues



- Manage important risks
- Improve internal controls

and strategies

Care

 Offering support for people and diversity



 * Compared with the amount of CO₂ emissions in 2018

fiority tasks for enhancing resources		
Jse natural resources n ways that facilitate recycling and decarbonization	Apply intellectual resources to expand the Group's businesses	
elop human resources that can sustain Group's businesses	Improve manufacturing resources through digital technologies	

 Increase return on capital Strategically allocate cash flows

Noritz has been releasing innovative products since its founding

By developing products in response to changing societal trends and energy diversification. Noritz has continued to offer value to consumers while growing in step with society over its history.



In the 1960s, Japanese homes widely switched from burning wood and coal to using gas and oil for heat. Accordingly, Noritz began developing gas-powered bathtub water heaters. and launched its highly efficient and smartly designed GS model of water heaters made of aluminum instead of copper, which was commonly used for gas heaters at that time

Noritz was the first in the industry to equip a gas water heater with an electrical power source, allowing the compact yet powerful system to stably heat water and be turned on remotely inside the home

Noritz released its first fully automatic gas bathwater heater, greatly improving convenience for users by

allowing them to fill the bathtub with just a press of a button.

Noritz developed an innovative gas water heater that could efficiently heat water by reusing exhaust heat. Its superior energy-saving performance was good for the environment and helped users save on costs.

system made up of a water storage

tank and heating equipment with a

high-efficiency Eco-Jozu model water

system enabled floors to be heated

heater. In addition to water, the

by solar power

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fuel, but these energy supplies

became scarce following World War

II. Noritz responded by developing

its Noritz Bath Types A and B with

allowing users to efficiently heat a

bath using a small amount of fuel.

tiles that could efficiently retain heat,

and electricity to heat water, and was the world's only one to use propane (R290), a natural refrigerant that is better for the environment. It also came with smart controls for heating water at times optimally suited to users' lifestyles.

heater that uses 100% hydrogen as fuel. As the world aims to achieve carbon neutrality, hydrogen is a promising energy source because it emits no CO₂ when burned. By designing this heater to attain the maximum capacity of currently available household water heaters, Noritz intends to offer products with the same level of convenience while also ensuring safety

Special Feature

Noritz develops a 100% hydrogen-fueled water heater for residential use

-Accelerating efforts to achieve net-zero CO₂ emissions by 2050-

Since its founding, Noritz has strived to ensure a stable supply of safe and dependable water heaters in step with advancements in energy infrastructure. Today, Noritz is developing next-generation water heaters that can contribute to achieving net-zero greenhouse gas emissions by 2050 while maintaining high quality and convenience for users.

Leveraging our technological expertise to ensure a stable supply of safe and dependable water heaters in the future

As countries around the world aim to decarbonize, hydrogen has attracted international attention in recent years as a next-generation clean energy source because it emits no CO₂ when burned. While the combustion of hydrogen gas is clean, it has very different properties than the natural gas conventionally supplied by municipal gas utilities, particularly its higher flame speed and ignitability, as well as its invisibility. Hydrogen's higher flame speed can cause a reverse flow back into the fuel supply line, a phenomenon called flashback. This not only damages equipment, but can also cause a fire in the worst-case scenario. Hydrogen gas also ignites very easily even if only a small amount of air is mixed in. Therefore, the amount of gas in the burner must be limited as much as possible. Furthermore, the flame is

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Noritz Corporation

Components Technology

Research Department

invisible to the naked eye, so it must be handled much more carefully than conventionally used gas. Given these properties, the main difficulties for product developers are devising ways to prevent flashback and reduce emissions of nitrogen oxides (NOx), which cause air pollution.

When developing our new hydrogen-fueled water heater, we deployed a method called premixed combustion. This method emits comparatively less NOx, but due to its structure, it is prone to flashback. Therefore, to design a burner that can prevent this from happening, we carried out a vast number of combustion tests and used simulation software to conduct fluid analyses. As a result, we succeeded in developing a 100% hydrogen-fueled water heater that can prevent flashback and limit NOx emissions at levels comparable with conventional gas water heaters.

This success was possible because of Noritz's expertise in premixed hydrogen gas and combustion technologies, which have been handed down since its founding.

During the development process, there were many times when I felt anxious about handling hydrogen flames because they are invisible. Nevertheless, all members of my development team worked closely together and supported each other. As a result, we were able to develop a water heater fueled entirely by hydrogen, which had been very difficult in the past. This was my first time since joining the Company to experience such a breakthrough with this energy source.

Since its founding, Noritz continued to supply water heaters even when energy sources changed from firewood and coal to gas, while staying true to the belief of its founder, Toshiro Ota, that "quality baths bring joy to people." Today, too, we pay close attention to ensuring high quality and convenience for users when developing our products. Many kinds of energy will be used in the future as the world decarbonizes, and Noritz will develop its products for whatever energy sources are adopted.



and infrastructure. In the country's water heater industry, we expect green hydrogen to be first adopted by factories and public facilities connected to dedicated pipelines. Now that Noritz has developed a 100% hydrogen-fueled water heater, we are confident that it will help commercial and industrial facilities decarbonize in the future.

For these new water heaters to be widely adopted in the residential sector, hydrogen infrastructure must be designed and installed. Therefore, municipalities and companies planning to make effective use of hydrogen energy will need to jointly conduct demonstration tests in advance to confirm the safety and durability of infrastructure while refining compatible products.

The construction of hydrogen infrastructure has progressed more rapidly in Australia and certain European Value Creation

Medium-Term Management Plan Financial and Pre-Financial Results, and Company Overview

2030 2023 2040 2050

countries than in Japan, so Noritz will look to launch its hydrogen-fueled water heaters in those markets first. Nevertheless, as a company with a 40% share of Japan's water heater market, Noritz will work to pave the way for the adoption of this new energy source as soon as possible with a view to helping the country achieve its goal of net-zero emissions.

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