

Global Environmental Conservation

Energy Management and Responses to Climate Change

Responses to Climate Change

The GS Yuasa Group maintains an awareness of the impacts of climate change on its business activities and on society and is proactively responding to these challenges. We promote initiatives for mitigating and adapting to climate change as well as sustainable technological innovation, and have formulated a strategy considering the risks associated with the transition to a decarbonized society as well as the risk of physical damage accompanying increased severity of natural disasters and extreme weather events. Specifically, we are enhancing our delivery of products that contribute to the reduction of greenhouse gas emissions by improving our energy efficiency and promoting the utilization of renewable energy sources. We are also enhancing our disaster preparedness measures to respond to the impacts of natural disasters and extreme weather events while promoting the delivery of products and services to enable the maintenance of energy supply even in the event of a disaster. We are furthermore building a flexible and sustainable business model to accommodate the tightening of regulations and market changes, thereby ensuring business stability.

The Group will enhance its cooperation with stakeholders, including working closely with its supply chain, to actively contribute to the realization of a sustainable society through various climate change measures.

 [Refer here for more information on responses to climate change \(disclosed information based on the TCFD framework\) \(https://www.gs-yuasa.com/en/ir/tcdf.php\)](https://www.gs-yuasa.com/en/ir/tcdf.php)

Reduction of CO₂ Emissions by Promoting Group-wide Energy Management

The GS Yuasa Group believes that it is important to continuously improve the energy management system associated with its business activities and promotes the reduction of greenhouse gas emissions in order to respond to the social changes accompanying the transition to a decarbonized society (such as requests from stakeholders to reduce greenhouse gas emissions, addition of carbon prices to the use of fossil fuels, and shift from fossil fuels to renewable energy).

To that end, the Group is working on formulating specific action plans under a specialized organization dedicated to promoting group-wide energy management, including promoting energy-saving measures in each business division and installing solar power generation systems at Group factories, in order to achieve our Carbon Neutrality Declaration targeting fiscal 2050 and our long-term environmental goals (reducing CO₂ emissions by at least 30% by fiscal 2030 compared to fiscal 2018*). We also undertake continuous procurement of renewable energy from the market to facilitate the decarbonization of the electricity used in our in-house production processes.

The Group will continuously promote the effective use of energy in its business activities and actively engage in investment toward the mitigation of climate change. Specifically, we will optimize energy consumption in operational processes, introduce equipment and technologies that utilize less energy and which are highly effective, and enhance the utilization of renewable energy. We will promote process improvements and facilities investment aimed at furthering energy saving, particularly in production processes which consume large amounts of energy. In addition, for decision-making on facilities investment, we will carry out assessments that consider the in-house costs associated with greenhouse gas emissions (internal carbon price) and promote the introduction of high-efficiency equipment, the utilization of energy-saving technologies, and the installation of solar power generation systems. Through these initiatives, we will promote the transition to low-carbon business processes and assets, thereby actively aiming to achieve our carbon neutrality targets.

*The Group manages CO₂ emissions in totality and not on a basis of intensity, with the aim of reducing greenhouse gas emissions consistent with the Paris Agreement.

■ Main Measures Relating to Energy Saving and Renewable Energy (Fiscal 2024)

Classification	Items	Main Initiatives
Promoting measures to save energy	Review of facility renewal standards	Formulate an effective facility renewal plan (utilization of facility management ledger)
	Improvement of production processes	●Improvement of storage battery charging process, ●Examining for improvement of charging facilities
	Efficient use of production facilities	Thorough periodic inspections of capacity utilization status
Introduction of solar power generation system in our own factories	Implementation of and examining for the plan to introduce solar power generation system	Investigation of the introduction of solar power generation system at business sites and Group companies in Japan
Procuring renewable energy	Procuring electricity derived from renewable energy	Use of electricity derived from renewable energy at the Kyoto Plant
	Procuring renewable energy certificates	Procuring renewable energy certificates at overseas sites

■ Usage Status of Renewable Energy at Our Factories (Fiscal 2024)

Country	Classification	Electric power (MWh)	Reduction effects (t-CO ₂)
Japan	In-house power generation	5,296	2,222
	External procurement	53,856	22,566
United States	In-house power generation	278	98
United Kingdom	External procurement	1,510	294
Thailand	In-house power generation	6,706	3,226
	External procurement	35,000	16,835
Vietnam	In-house power generation	154	78
	External procurement	30,000	15,240
Indonesia	In-house power generation	90	71

*The renewable energy utilization rate for electricity used at our factories is 19.6%.

[Refer here for data on changes in energy consumption in production at domestic business sites \(https://www.gs-yuasa.com/en/csr/env_performance.php#data1_1_03\)](https://www.gs-yuasa.com/en/csr/env_performance.php#data1_1_03)

[Refer here for data on CO₂ emissions at our Group \(https://www.gs-yuasa.com/en/csr/env_performance.php#data1_2_01\)](https://www.gs-yuasa.com/en/csr/env_performance.php#data1_2_01)

TOPICS

Introducing a Solar Power Generation system

The GS Yuasa Group is actively promoting the utilization of renewable energy to achieve our Carbon Neutrality Declaration and long-term environmental goals. A solar power generation system was installed at the Ritto Plant with total generating capacity of 4.2 MW in fiscal 2022 and fiscal 2023. In fiscal 2024, this system generated approximately 4,900 MWh of electricity, achieving CO₂ emission reduction effects of approximately 2,000 tons. We will continue to install solar power generation systems utilizing renewable energy at other plants going forward.



Solar power generation system



TOPICS

Energy Conservation in Manufacturing Processes

Yuasa Battery (Thailand) Pub. Co., Ltd. is implementing energy-saving initiatives in manufacturing processes. In fiscal 2024, the company improved the combustion efficiency of burners installed in casting machines. Previously, incomplete combustion occurred due to improperly designed air intake ports during combustion, resulting in excess consumption of liquefied petroleum gas. To address this, the company added optimized air intake ports for some burners and made equipment improvements to achieve complete combustion. As result of this initiative, liquefied petroleum gas consumption was reduced by 49 tons in fiscal 2024, achieving a 147-ton CO₂ emission reduction effect. The Group will continue to promote the efficient use of energy in order to curtail greenhouse gas emissions.



Casting machine

TOPICS

Making Energy-Related Information Visible Using a Portal Site

The Group established a dedicated portal site for promoting in-house energy conservation and disseminates related information. The portal site introduces specific case studies of initiatives for reducing energy and water consumption at business sites and in business divisions and also enables visualization of energy usage and provides energy-saving calculation apps. Through this initiative, we have increased employee awareness of energy-saving while enabling rapid and easy sharing of information on the challenges faced by business sites and divisions along with their solutions, leading to the planning and implementation of highly-effective energy-saving measures. The site also distributes information regarding the loan of energy-related measuring instruments, creating an environment where everyone can easily engage in “visualizing” energy usage. Going forward, we will actively use this portal site and make company-wide efforts to promote energy-saving measures.

Collaboration with Economic Organizations on the Mitigation of Climate Change

The GS Yuasa Group participates in the GX League*, which undertakes initiatives to transform the entire economic and societal system toward the aim of realizing a decarbonized society. The GX League is a platform spearheaded by the Japanese Ministry of Economy, Trade, and Industry (METI), for companies to collaborate with the government and academia in promoting the realization of carbon neutrality and societal transformation. Participating companies and organizations work together to enhance their competitiveness by means including the creation of new business opportunities and green markets for the transition to a decarbonized society. Through participating in the GX League, the Group is aiming to enhance its greenhouse gas emissions reduction strategy to achieve its carbon neutrality target. The Group also endorses the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and indicates its business strategy toward the mitigation of climate change through an international framework to promote corporate financial disclosure on climate-related risks and opportunities.

The GS Yuasa Group will continue to cooperate with a diverse range of stakeholders, including economic organizations, and support the enhancement of policies to further expedite the transition to a decarbonized society.

*GX, which stands for green transformation, refers to the transformation of the entire socioeconomic system through measures to create a decarbonized society.

Energy conservation activities for logistics

The GS Yuasa Group promotes energy conservation for freight forwarding (shipping) as one way to reduce the environmental burden during the product life cycle.

As part of coordinated efforts to save energy, we created a system to identify the quantity of goods being shipped, as well as energy consumption and CO₂ emissions during logistics. We have established a system to identify the quantity of goods being shipped, as well as energy consumption and CO₂ emissions during logistics, and are implementing energy saving measures such as reducing the quantity of items shipped between sites by integration of physical distribution bases and a modal shift from trucks to rail containers and other related systems for transportation.

In addition, the Group has been designated as certified by the Eco Rail Mark System* for three series of batteries for automobiles and motorcycles. By getting customers to purchase certified products, we are promoting activities in which customers and companies can participate together to reduce the burden on the environment.

Our Group promotes logistics that consider the environment by active utilization of rail freight transportation.

*A system of certification by the Railway Freight Association, for companies and products that make thorough use of rail transportation for minimal environmental burden.



Examples of GS Yuasa Group products with Eco Rail certification

[Refer here for data on changes in energy consumption and CO₂ emissions during transportation \(https://www.gs-yuasa.com/en/csr/env_performance.php#data1_1_03\)](https://www.gs-yuasa.com/en/csr/env_performance.php#data1_1_03)