

Environmental Performance and Environmental Accounting

Environmental Performance Data

The Group's Environmental Performance

■ Scope of application

Scope	The Group's production bases (Domestic: 9 business sites; Overseas: 14 business sites)
Scope of application regarding greenhouse gas emission	<ol style="list-style-type: none"> The scope of application of Scopes 1 and 2 is the same as the above scope of application. Regarding the scope of application of Scope 3, the scope of calculation is clearly indicated for each category.
Greenhouse gas emissions related to Scope 2	<ol style="list-style-type: none"> Scope 2 emissions show the CO₂ emissions calculated using the methods of the market-based method*. The CO₂ conversion factor in the calculation of CO₂ emissions associated with power usage uses the following published values. However, the conversion factor for electricity derived from renewable energy is set to zero. Japan: Annual coefficient for each power company announced in accordance with the Act on Promotion of Global Warming Countermeasures Outside of Japan: Annual coefficients announced in "Emissions Factors," a publication of the International Energy Agency (IEA).
Remarks	<ol style="list-style-type: none"> Regarding greenhouse gases other than CO₂ are excluded from calculation because their relationship to the Group's business activities is negligible and due to extremely low emissions. Energy usage and CO₂ emissions data are verified by a third party. All data was reviewed prior to disclosure.

*A method of calculating Scope 2 emissions based on the contents of the contract for purchased electricity (a calculation method taking into account the amount of renewable energy procured)

■ CO₂ emissions and water consumption by country (Fiscal 2024)

Country	CO ₂ Emissions* (t-CO ₂)	Water Consumption (m ³)
Japan	151,135	2,417,899
China	1,944	9,371
Taiwan	15,273	85,298
Vietnam	7,187	163,149
Malaysia	970	12,501
Indonesia	55,709	288,759
Thailand	26,407	643,646
Turkey	34,445	678,235
United Kingdom	4,450	74,163
United States	7,635	41,076
Australia	10,669	40,936
Hungary	164	478
Total	315,986	4,455,512

■ CO2 emissions and water consumption by production sites for the Group (Fiscal 2024)

Country	Production site	CO2 Emissions* (t-CO2)	Water Consumption (m ³)
Japan	GS Yuasa International Ltd. (Kyoto, Osadano, Gunma, Ritto and Kawagoe Plants)	115,740	1,348,122
	GS Yuasa Energy Co., Ltd.	26,522	841,557
	GS Yuasa Ibaraki Co., Ltd.	4,366	148,962
	GS Yuasa Moldings Co., Ltd.	2,801	39,677
	GS Yuasa Azumino Co., Ltd.	1,706	39,582
China	GS Battery (China) Co., Ltd.	1,944	9,371
Taiwan	GS Battery Taiwan Co., Ltd.	15,273	85,298
Vietnam	GS Battery Vietnam Co., Ltd.	7,187	163,149
Malaysia	GS Yuasa Battery Malaysia Sdn. Bhd.	970	12,501
Indonesia	PT. Trimitra Baterai Prakasa	27,408	120,349
	PT. Yuasa Battery Indonesia	28,301	168,410
Thailand	Siam GS Battery Co., Ltd.	14,019	438,368
	Yuasa Battery (Thailand) Pub. Co., Ltd.	7,300	155,557
	GS Yuasa Siam Industry Ltd.	5,087	49,721
Turkey	Inci GS Yuasa Aku Sanayi ve Ticaret Anonim Sirketi	34,445	678,235
United Kingdom	GS Yuasa Battery Manufacturing UK Limited	4,450	74,163
United States	Yuasa Battery, Inc.	7,635	41,076
Australia	Century Yuasa Batteries Pty. Limited	10,669	40,936
Hungary	GS Yuasa Hungary Ltd.	164	478

■ Changes in Scope 1 and 2 emissions (Unit: t-CO2)

Items	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Scope 1 emissions	63,867	67,085	64,841	57,838	58,153
Scope 2 emissions	284,985	285,785	249,204	270,299	257,833
Total	348,852	352,870	314,046	328,138	315,986

■ Our calculated Scope 3 emissions (Fiscal 2024)

No.	Category	CO2 Emissions (t-CO2)	Scope of application
1	Purchased goods and services	940,714	GS Yuasa International Ltd. (items directly related to product manufacturing)
2	Capital goods	160,843	The Group's production sites (domestic: 9 business sites; overseas: 14 business sites)
3	Fuel- and Energy-related activities not included in scope 1 or scope 2	60,434	The Group's production sites (domestic: 9 business sites; overseas: 14 business sites)
4	Upstream transportation and distribution	7,979	GS Yuasa International Ltd. (restricted to transportation of freight involving specified shippers*)
5	Waste generated in operations	1,408	Domestic production sites (9 business sites)
6	Business travel	881	Domestic production sites (9 business sites)
7	Employee commuting	2,562	Domestic production sites (9 business sites)
12	End-of-life treatment of sold products	18,412	GS Yuasa International Ltd. (disposal of our manufactured lead-acid batteries)
	Total	1,193,233	

*Shippers whose annual freight transportation volume exceeds 30 million ton-kilometers based on the Law Concerning the Rational Use of Energy

■ Changes in the water intake by the Group (Unit: m³)

Water source	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Water for industrial use (Third party water)	2,412,307	2,259,858	2,129,786	2,101,644	2,111,376
Underground water	1,530,950	1,507,990	1,440,132	1,536,266	1,544,434
Public water supply (Third party water)	789,858	832,153	795,278	790,963	799,702
Total	4,733,116	4,600,001	4,365,196	4,428,873	4,455,512

*There is no water intake from sources other than those listed in the table above.

■ Changes in the amount of wastewater (Unit: m³)

Discharge destination	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
River	1,964,975	1,843,706	1,741,475	1,793,963	1,898,020
Sewage disposal	1,935,404	1,880,884	1,702,239	1,710,687	1,691,371
Total	3,900,379	3,724,591	3,443,714	3,504,651	3,589,391

*There are no discharges from business sites to the oceans or to water treatment facilities other than those at business sites.

■ Percentage of environmentally considered products in total sales of all products

FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
34.8%	36.5%	36.4%	38.7%	36.7%

■ Ratio of recycled lead used as lead raw materials in lead-acid batteries

FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
54.6%	63.3%	56.5%	65.7%	72.4%

Environmental Performance of Domestic Business Sites

■ Scope of application

Scope	Nine domestic sites (GS Yuasa International Ltd. (Kyoto, Osadano, Gunma, Ritto and Kawagoe Plants), GS Yuasa Energy Co., Ltd., GS Yuasa Ibaraki Co., Ltd., GS Yuasa Moldings Co., Ltd. and GS Yuasa Azumino Co., Ltd.)
Greenhouse gas emissions related to Scope 2	(1) Scope 2 emissions refer to CO ₂ emissions calculated based on the market-based method*. (2) Scope 2 emissions are calculated using the annual coefficient for each power company announced in accordance with the Act on Promotion of Global Warming Countermeasures. However, the conversion factor for power derived from renewable energy is set as zero.
Remarks	(1) Environmental performance related to transportation refers to actual values for GS Yuasa International Ltd. (2) Energy usage and CO ₂ emissions data are certified by third parties. (3) All data was reviewed prior to disclosure.

*A method of calculating Scope 2 emissions based on the contents of the contract for purchased electricity.

■ Environmental performance data (Fiscal 2024)

Classification	Product life cycle	Items	Unit	Total	Content	Breakdown	Remarks			
INPUT	Production	Amount of main materials consumption	t	198,821	Virgin materials	101,702	Lead, sulfuric acid, plastics, etc.			
					Recycled materials	97,119				
		Amount of water consumption	m ³	2,417,899	Water for industrial use	1,082,991	Third party water			
					Underground water	1,032,999				
					Public water supply	301,909	Third party water			
		Amount of energy consumption (crude oil conversion)	kL	84,196	Electricity	70,104				
	City gas				10,913					
	LPG				3,016					
						Kerosene, gasoline, diesel	163			
	Physical distribution	Amount of energy consumption (crude oil conversion)	kL	3,014	Gasoline, diesel	3,014	Energy consumption based on volume of cargo transportation			
Waste	Volume of used products recovered	t	4,944	Industrial Batteries, Power Supplies	4,944					
OUTPUT	Production	Amount of waste discharged	t	15,640	Waste plates, batteries, and lead paste	4,873				
					Metal scraps	489				
					Lithium-ion batteries	4,412				
					Waste paper and garbage	1,055				
					Sludge	1,134				
					Waste acids, alkaline substances	1,063				
					Waste plastic	1,088	Emissions at GS Yuasa International Ltd.: 508t			
					Wood scraps	558				
					Other	968				
					Amount of recycling	t	15,079	Waste plates, batteries, and lead paste	4,873	
								Metal scraps	480	
								Lithium-ion batteries	4,412	
								Waste paper and garbage	970	
								Sludge	1,013	
		Waste acids, alkaline substances	970							
		Waste plastic	972							
		Wood scraps	489							
		Other	893							
		Amount of final disposal	t	561				Waste plates, batteries, and lead paste	0	
					Metal scraps	8				
					Lithium-ion batteries	0				
					Waste paper and garbage	85				
					Sludge	121				
					Waste acids, alkaline substances	87				
					Waste plastic	117				
					Wood scraps	69				
					Other	75				
					Amount of wastewater	m ³	2,024,785	Public water body	1,198,111	River
	Sewage disposal	826,675								
	Amount of CO ₂ emissions	t-CO ₂	151,135	Electricity				122,008	Scope 2 emissions	
City gas				21,709						
			LPG	6,984	Scope 1 emissions					
			Kerosene, gasoline, diesel	434						
Physical distribution	Amount of CO ₂ emissions	t-CO ₂	7,979		7,979	Scope 3 emissions (category 4)				
Waste	Volume of used products recycling	t	4,093		4,093					
	Final disposal volume (used products)	t	851		851					

■ Status of violations of permits, standards, and regulations related to water quality and quantity (Fiscal 2024)

Items	Number of violations of laws and regulations for which have been imposed penalties	Number of administrative measures
Water intake	0	0
Wastewater	0	0

■ Data on changes in environmental performance

Category	Items	Unit	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
INPUT	Amount of main materials consumption	t	186,225	188,020	186,298	193,473	198,821
	Amount of water consumption	m ³	2,455,407	2,348,351	2,256,768	2,380,824	2,417,899
	Amount of energy consumption in production (crude oil conversion)	kL	96,772	98,869	99,872	100,758	84,196
	Amount of energy consumption in physical distribution (crude oil conversion)	kL	3,409	3,598	3,302	3,040	3,014
	Volume of used products recovered	t	5,006	4,773	4,573	4,515	4,944
OUTPUT	Amount of recycling (waste)	t	11,126	12,083	12,625	13,634	15,079
	Amount of final disposal (waste)	t	598	504	633	625	561
	Amount of wastewater	m ³	2,171,530	2,020,468	1,960,932	2,034,434	2,024,785
	Amount of CO2 emissions in production	t-CO2	146,888	134,505	109,634	133,325	151,135
	Amount of CO2 emissions in physical distribution	t-CO2	8,953	9,484	8,702	8,039	7,979
	Volume of used products recycling (used products)	t	4,156	3,952	3,782	3,733	4,093
	Final disposal volume (used products)	t	850	822	791	782	851

■ Changes in consumption of major raw materials

Items	Unit	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Lead compounds	t	139,299	139,669	134,251	139,087	143,162
Sulfate	t	30,189	30,899	29,286	29,193	30,698
Plastic	t	13,800	13,351	13,493	14,591	13,193

■ Status of release and transfer of substances subject to the PRTR Law (Unit: kg)

Substances subject to the PRTR Law	Sites	Released into the air	Released into public waterways	Transferred to sewage system	Transferred outside the site	Total
Lead compounds*	Kyoto	150.0	0.0	5.1	13,000.0	13,155.1
	Osadano	46.0	0.0	6.0	1,100.0	1,152.0
	Gunma	29.0	3.8	0.0	200.0	232.8
	GS Yuasa Energy	9.0	2.7	0.0	2,800.0	2,811.7
	GS Yuasa Ibaraki	8.0	6.1	0.0	30.0	44.1
	GS Yuasa Azumino	6.9	0.0	0.0	11.0	17.9
Arsenic and its inorganic compounds*	Kyoto	2.4	0.0	0.4	3.3	6.1
	Gunma	0.0	0.5	0.0	0.0	0.5
	GS Yuasa Energy	0.0	0.0	0.0	0.6	0.6
Antimony and its compounds	Kyoto	0.0	5.1	0.4	1.2	6.7
	Osadano	0.0	0.0	1.8	0.0	1.8
	Gunma	0.0	1.9	0.0	0.0	1.9
	GS Yuasa Energy	0.0	0.0	0.0	0.5	0.5
Manganese and its compounds	Kyoto	0.0	0.0	0.0	1,900.0	1,900.0
	Osadano	8.8	0.0	0.0	0.2	9.0
	Ritto	0.0	0.0	0.0	1,900.0	1,900.0
Nickel compounds*	Kyoto	0.0	0.0	0.0	4,500.0	4,500.0
	Osadano	2.9	0.0	0.0	0.3	3.2
	Ritto	0.0	0.0	0.0	2,800.0	2,800.0
Cobalt and its compounds	Kyoto	0.0	0.0	0.0	1,600.4	1,600.4
	Osadano	0.2	0.0	0.0	0.2	0.4
	Ritto	0.0	0.0	0.0	1,100.0	1,100.0
Dichloromethane	GS Yuasa Ibaraki	1,900.0	0.0	0.0	50.0	1,950.0
N,N-dimethylformamide	GS Yuasa Molding	2.0	0.0	400.0	1,500.0	1,902.0
boron compounds	Osadano	2.5	0.0	0.0	1,000.0	1,002.5
N-Methyl-2-pyrrolidone	Kyoto	7,300.0	0.0	0.0	2,748.0	10,048.0
	Osadano	0.0	0.0	0.0	0.0	0.0
	Ritto	0.0	0.0	0.0	0.0	0.0
Diethanolamine	Osadano	0.0	0.0	0.0	0.0	0.0

*Production of Specific Class I Designated Chemical Substances

Environmental Accounting

■ Scope of calculations for environmental accounting

Structures Nine domestic sites (GS Yuasa International Ltd. (Kyoto, Osadano, Gunma, Ritto and Kawagoe Plants), GS Yuasa Energy Co., Ltd., GS Yuasa Ibaraki Co., Ltd., GS Yuasa Moldings Co., Ltd. and GS Yuasa Azumino Co., Ltd.). Note, however, that environment-related equipment costs within business area costs do not include onsite affiliated companies.

Period covered April 1, 2024 - March 31, 2025

Reference Environmental Accounting Guidelines 2005 Edition (issued by the Ministry of the Environment)

■ Environmental conservation costs (categorized by business activity)

Category		Key initiatives	Total (Thousands of yen)
Business area costs (total)			2,044,637
Breakdown	Pollution prevention costs	Efforts to prevent air pollution	483,441
		Efforts to prevent water pollution	1,026,783
	Global environmental conservation costs	Efforts to reduce greenhouse gas emissions	196,904
	Resource recycling costs	Efforts to ensure suitable disposal of waste	337,510
Upstream and downstream costs*1		Additional efforts to reduce environmental burden	18
Management activity costs*2		Employee education and ISO 14001 maintenance and management	4,480
Research and development costs		Research and development efforts in consideration of the environment	8,948,000
Social activity costs		Environmental volunteer efforts	5,130
Environmental remediation costs		Efforts related to soil pollution measures	4,890
Total			11,007,154

■ Economic effect of environmental conservation initiatives

Category	Key item	Monetary amount (Thousands of yen)
Economic effects of more efficient water use	Water use and wastewater cost reduction*3	2,894
Energy conservation effects	Cost reductions for electricity, heavy oil and gas (city gas, LNG, LPG)*3	-325,689
Waste reduction effects	Cost reduction for industrial waste treatment*3	-19,816
Resource recycling effects	Profit from recycling and reusing waste	621,389

■ Effect of environmental conservation

Category	Key items	Material amount	Unit
Effects related to resources used in business activities	Amount of recycled water used	1,127,418	m ³
	Amount of reduction in water use*3	-37,076	m ³
	Amount of energy saved (crude oil conversion)*3	16,562	kL
Effects related to environmental burden and waste from business activities	Amount of CO ₂ reduced*3	-17,810	t-CO ₂
	Amount of waste reduced (final disposal volume) *3	64	t
	Amount of wastewater reduced*3	9,649	m ³
	Amount of waste recycled	15,079	t
	Recycling rate*4	96	%
	[Water quality] Amount of lead discharged	24	kg
	[Air] Amount of lead emitted	249	kg

*1 Upstream and downstream costs are the total of consulting expenses and expenses for contracts to create new products based on the Law for Promotion of Sorted Collection and Recycling of Containers and Packaging.

*2 In addition to employee education, and costs related to ISO 14001 maintenance and management, the management activity cost includes expenses related to information disclosure.

*3 The tables show amounts reduced compared with the previous fiscal year (negative amounts represent increases).

*4 Recycling rate (%) = (amount recycled / amount of waste) x 100