

Environmental Accounting

Concept of environmental accounting

The Brother Group performs environmental accounting as an effective means to continuously improve the efficiency of environmental management, targeting eight business sites in Japan ("in Japan") and manufacturing facilities outside Japan ("outside Japan"). The Brother Group quantitatively assesses their effects, and then uses the results to plan environmental activities to be carried out the next fiscal year.

Calculation results for FY2023

These are the expenses, investments, and effects of environmental activities in FY2023 (April 1, 2023–March 31, 2024) which is the middle year in the Brother Group Environmental Action Plan 2024 (2022–2024) (the increases/decreases are based on comparisons with the previous fiscal year).

Environmental conservation costs

The Brother Group invested JPY 359 million in Japan (an increase of JPY 168 million) and JPY 845 million outside Japan (an increase of JPY 767 million). The total amount was JPY 1,204 million (an increase of JPY 935 million). Investments were made mainly to conserve the global environment, such as for implementing energy conservation measures and solar power generation both in Japan and overseas.

Expenditures and labor costs for various environmental conservation activities were JPY 1,010 million in Japan (a decrease of JPY 185 million) and JPY 415 million outside Japan (a decrease of JPY 67 million).

In FY2023, approximately JPY 6 million was spent on the purchase of non-fossil certificates, both in Japan and overseas.

Classification of environmental conservation costs		Details of main activities and their effects	Investment (unit: JPY million)		Expenses (unit: JPY million)	
			In Japan	Outside Japan	In Japan	Outside Japan
1. Business area cost	1) Pollution prevention costs	Pollution prevention measures (including air, water, vibration and noise)	3 (1)	1 (-38)	13 (-7)	178 (58)
	2) Global environmental conservation costs	Global warming prevention (energy-saving) measures	335 (156)	224 (185)	313 (-4)	87 (-125)
	3) Resource circulation costs	Recycling and reduction in waste generation	0 (0)	0 (0)	106 (-4)	73 (-13)
2. Upstream/downstream cost	Costs incurred to reduce environmental impact when procuring parts and materials and after selling products	Green procurement activities; collection and recycling of used products/consumables	0 (0)	0 (0)	107 (15)	0 (0)
3. Administration cost	Costs incurred by activities that contribute indirectly to reducing the environmental impact of business operations	Establishment, administration, and maintenance of the ISO 14001 system; environmental training for employees; disclosure of environmental information; greening and cleanup of manufacturing facilities and their surrounding areas	4 (1)	0 (0)	275 (2)	65 (7)
4. R&D cost	R&D costs for reducing environmental impact	Development of eco-conscious products and technologies that help mitigate climate change such as energy saving and resource conservation designs; implementation and design improvement of product environmental assessments	17 (10)	0 (0)	135 (-219)	5 (5)
5. Social activity cost	Costs of environmental conservation that is not directly linked with corporate activities	Support for environmental conservation groups and organizations; support for environmental activities by local citizens; information services	0 (0)	0 (0)	47 (21)	4 (-2)
6. Cost to deal with environmental damage	Costs incurred to restore the natural environment (including soil remediation)	Soil contamination surveys; soil remediation	0 (0)	0 (0)	14 (11)	3 (3)
Total			359 (168)	225 (147)	1,010 (-185)	415 (-67)

Figures in parentheses show increases/decreases in the amount from the previous fiscal year.

Environmental conservation effects

Energy input decreased 4.4% in Japan and decreased 5.9% outside Japan.

Water consumption increased 0.37% in Japan and decreased 12.0% outside Japan, resulting in an overall decrease of 10.1%.

CO₂ emissions decreased 8.3% in Japan and increased 7.5% outside Japan, resulting in an overall increase of 7.7%.

Content of environmental conservation effects		Classification of index to measure environmental conservation effects		In Japan	Outside Japan
Effects resulting from business area cost	Effects related to resource input into business operations	Energy input	(kL: converted into crude oil quantity)	10,565 (-489)	23,715 (-1,475)
		Water input	m ³	85,503 (-252)	392,859 (-53,558)
	Effects related to environmental impact and waste released from business operations	Release into the atmosphere from energy use	CO ₂ (t-CO ₂ /year) * from energy use Based on the emission factors of international standards	18,744 (-1,705)	56,949 (-4,646)
			NO _x (kg/year)	2,204 (-716)	4,845 (1,008)
			SO _x (kg/year)	10 (-3)	308 (122)
		Generation of waste	Generation of waste	2,039 (83)	6,700 (-794)
			Landfill waste (t)	0 (0)	162 (-65)

Figures in parentheses show increases/decreases in the amount from the previous fiscal year.

Economic effects derived from environmental conservation measures*

The main economic effects were reduction in waste treatment costs mainly due to recycling in Japan, and operating income from the waste recycling and reduction in energy cost due to energy conservation measures outside Japan.

Content of economic effects		In Japan (unit: JPY million)	Outside Japan (unit: JPY million)
Income	Operating income from recycling of waste generated from main business operations	15.6 (1.1)	84.9 (-91.5)
Cost reduction	Reduction in energy cost by energy saving	29.3 (-7.6)	94.9 (36.2)
	Reduction in waste treatment cost due to resource conservation and recycling	43.3 (4)	283.7 (-315.5)
Other	Publicity effects, such as newspaper reporting, calculated in terms of advertising expenses	21.4 (-20.6)	0.2 (-0.1)
Total		109.6 (-23.1)	463.7 (-370.9)

Figures in parentheses show increases/decreases in the amount from the previous fiscal year.

*: Economic effects derived from environmental conservation measures are those that can be calculated in monetary terms from among the effects derived from the environmental conservation activities. Effects that cannot be calculated based on solid grounds (i.e., assumed effects and accidental effects) are not calculated.

Scope of aggregation

Eight business sites in Japan (head office of Brother Industries, Ltd., Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center*), Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., and Brother Industries (Philippines), Inc.

*: For Logistics Center, only "Environmental conservation effects" was aggregated.

Environmental Accounting (Detailed Data: FY2019-FY2023)

Environmental Conservation Effects

Content of Environmental Conservation Effects		Classification of Index to Measure Environmental Conservation Effects		In Japan					Outside Japan				
				FY2019	FY2020	FY2021	FY2022	FY2023	FY2019	FY2020	FY2021	FY2022	FY2023
Effects resulting from business area cost	Effects related to resource input into business operations	Total energy input (kL: converted into crude oil quantity)	9,849	10,169	10,775	11,054	10,565	24,214	23,392	25,122	25,190	23,715	
		Water input (m ³)	83,049	80,331	76,787	85,755	85,503	504,594	454,540	477,739	446,417	392,859	
	Effects related to environmental impact and waste released from business operations	Release into the atmosphere from energy use	CO ₂ (t-CO ₂ /year)	20,434	20,299	20,654	20,449	18,744	50,777	47,112	54,876	61,595	56,949
		NOx (kg/year)	2,165	2,208	2,437	2,920	2,204	3,789	3,438	4,085	3,837	4,845	
		SOx (kg/year)	11	11	11	13	10	73	142	197	186	308	
Generation of waste	Amount of waste generation (t)	1,658	1,668	1,944	1,956	2,039	7,936	6,832	6,575	7,494	6,700		
	Landfill waste (t)	0	0	0	0	0	110	123	174	227	162		

*1: In FY2016, the CO₂ emission factors were changed from the values in accordance with the Act on Promotion of Global Warming Countermeasures to the values based on the international standards. The calculated values for FY2017 using the emission factors of the Act were 16,318 in Japan and 39,659 outside Japan.

Economic Effects Derived from Environmental Conservation Measures

Unit: millions of Yen

Content of Economic Effects		In Japan					Outside Japan				
		FY2019	FY2020	FY2021	FY2022	FY2023	FY2019	FY2020	FY2021	FY2022	FY2023
Income	Operating income from recycling of waste generated from main business operations	2.8	3.2	14.3	14.5	15.6	58.6	51.6	114.0	176.4	84.9
Cost reduction	Reduction in energy cost by energy-saving	11.4	10.3	15.2	36.9	29.3	90.1	121.9	43.2	58.7	94.9
	Reduction in waste treatment cost due to resource-saving and recycling	32.1	34.3	37.0	39.3	43.3	87.5	167.1	78.3	599.2	283.7
Other	Publicity effects, such as newspaper reporting, calculated in terms of advertising expenses	4.7	15.4	17.6	42.0	21.4	0.2	0.2	0.2	0.3	0.2
Total		51.0	63.2	84.1	132.7	109.6	236.4	340.8	235.7	834.6	463.7

Environmental Conservation Costs

Unit: millions of Yen

Classification of Environmental Conservation Costs		Details of Main Implementation and the Effects		In Japan									
				Investment Amount					Expense Amount				
				FY2019	FY2020	FY2021	FY2022	FY2023	FY2019	FY2020	FY2021	FY2022	FY2023
1. Business area costs: Costs for reducing direct environmental impacts occurring within the facility area		218	258	372	181	338	387	385	373	447	432		
Breakdown:	(1) Pollution prevention cost	0	0	1	2	3	22	21	17	20	13		
	(2) Global environmental conservation cost	218	257	318	179	335	259	259	245	317	313		
	(3) Resource circulation cost	0	1	53	0	0	106	105	111	110	106		
2. Upstream/downstream cost: Costs incurred to reduce environmental impact when procuring parts and materials and after selling products		35	1	0	0	0	84	82	85	92	107		
3. Administration cost: Costs incurred by activities that contribute indirectly to reducing the environmental impact of business operations		28	43	93	3	4	296	288	266	273	275		
4. R&D cost: R&D costs for reducing environmental impact		18	42	8	7	17	131	151	340	354	135		
5. Social activity cost: Costs of environmental conservation that is not directly linked with corporate activities		0	0	0	0	0	20	22	18	26	47		
6. Cost to deal with environmental damage: Costs incurred to restore the natural environment (including soil remediation)		0	5	0	0	0	2	4	3	3	14		
Total		299	349	473	191	359	920	932	1085	1,195	1,010		

Unit: millions of Yen

Classification		Details of Main Implementation and the Effects		Outside Japan									
				Investment Amount					Expense Amount				
				FY2019	FY2020	FY2021	FY2022	FY2023	FY2019	FY2020	FY2021	FY2022	FY2023
1. Business area costs: Costs for reducing direct environmental impacts occurring within the facility area		58	257	69	78	225	133	144	177	418	338		
Breakdown:	(1) Pollution prevention cost	23	148	35	39	1	70	75	102	120	178		
	(2) Global environmental conservation cost	35	109	34	39	224	7	23	23	212	87		
	(3) Resource circulation cost	0	0	0	0	0	56	46	52	86	73		
2. Upstream/downstream cost: Costs incurred to reduce environmental impact when procuring parts and materials and after selling products		0	0	0	0	0	0	0	0	0	0		
3. Administration cost: Costs incurred by activities that contribute indirectly to reducing the environmental impact of business operations		0	0	0	0	0	32	35	47	58	65		
4. R&D cost: R&D costs for reducing environmental impact		0	0	0	0	0	6	0	0	0	5		
5. Social activity cost: Costs of environmental conservation that is not directly linked with corporate activities		0	0	0	0	0	10	4	5	6	4		
6. Cost to deal with environmental damage: Costs incurred to restore the natural environment (including soil remediation)		0	0	0	0	0	0	0	0	0	3		
Total		58	257	69	78	225	181	183	229	482	415		

Scope of aggregation

Fiscal Year	Target Period	Name of Site	
		In Japan	Outside Japan
FY2019	April 1, 2019–March 31, 2020	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center ¹	Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., Brother Machinery Vietnam Co., Ltd. ² , Brother Industries (Philippines), Inc.
FY2020	April 1, 2020–March 31, 2021	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center ¹	Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., Brother Machinery Vietnam Co., Ltd. ² , Brother Industries (Philippines), Inc.
FY2021	April 1, 2021–March 31, 2022	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center ¹	Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., Brother Industries (Philippines), Inc.
FY2022	April 1, 2022–March 31, 2023	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center ¹	Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., Brother Industries (Philippines), Inc.
FY2023	April 1, 2023–March 31, 2024	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistics Center ¹	Brother Industries (U.K.) Ltd., Brother Industries (Slovakia) s.r.o., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Brother Machinery Xian Co., Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries (Vietnam) Ltd., Brother Industries Saigon, Ltd., Brother Industries (Philippines), Inc.

*1: For Logistics Center, only "Environmental Conservation Effects" was aggregated.

*2: Brother Machinery Vietnam Co., Ltd. ceased production on December 23, 2020.