

## Environmental Improvement Effects

Content of Environmental Effects		Classification of Index to Measure Environmental Effects		In Japan					Outside Japan					
				FY2008	FY2009	FY2010	FY2011	FY2012	FY2008	FY2009	FY2010	FY2011	FY2012	
Effects resulting from business area cost	Effects related to resource input into business operations	Total energy input	(Kl: converted into crude oil quantity)	10,398	9,480	10,382	10,875	10,759	15,482	12,071	15,015	15,067	15,169	
		Water input	m <sup>3</sup>	128,759	98,091	103,722	109,047	113,451	517,115*	455,432*	621,840	582,401	608,441	
	Effects related to environmental impact and waste released from business operations	Release into atmosphere	CO <sub>2</sub> (t-CO <sub>2</sub> /year)		16,831	15,405*	16,841*	16,317	16,156	28,543	21,351	24,903	25,626	25,545
			NO <sub>x</sub> (kg/year)		1,147	1,345	2,000*	1,958	2,023	17,937	8,976	3,647	4,081	3,147
			SO <sub>x</sub> (kg/year)		5.8	5.8	8.6*	9	9	4,852	2,150	111	221	72
	Generation of waste	Amount of waste generation (t)		2,438*	2,142	2,154	2,362	2,023	3,309*	2,280*	3,900	4,087	4,073	
Landfill waste (t)			0	0	0	0	0	19	20	8	16	2		

\* The figures were reviewed retrospectively at the time of reporting FY 2012.

## Economic Effects

(Unit: millions of Yen)

Content of Economic Effects Involving Environmental Effects		In Japan					Outside Japan				
		FY2008	FY2009	FY2010	FY2011	FY2012	FY2008	FY2009	FY2010	FY2011	FY2012
Income	Operating income from recycling of waste generated from main business operations	11.0	4.8	10.1	8.5	4.7	36.4	23.9	33.7	39.9	38.0
Cost reduction	Reduction in energy cost by energy-saving	2.2	1.9	3.6	6.4	1.1	140.0	113.6	97.3	30.7	24.3
	Reduction in waste treatment cost due to resource-saving and recycling	39.1	32.7	31.3	37.9	27.5	61.3	62.8	63.1	13.9	51.1
Other	Publicity effects, such as newspaper reporting, calculated in terms of advertising expenses	3.9	3.5	2.2	1.4	0.8	0.0	0.0	10.7	10.1	16.5
Total		56.2	42.9	47.1	54.3	34.0	237.6	200.2	204.8	94.6	130.0

## Environmental Improvement costs

(Unit: millions of Yen)

Classification	Details of Main Implementation and the Effects	In Japan									
		Investment Amount					Expense Amount				
		FY2008	FY2009	FY2010	FY2011	FY2012	FY2008	FY2009	FY2010	FY2011	FY2012
1. Business area costs: Costs for reducing direct environmental impacts occurring within the facility area		31	2	8	30	8	244	131	128	260	181
Breakdown:	(1) Pollution prevention cost	0	1	0	5	0	32	27	24	32	44
	(2) Global environmental conservation cost	31	0	8	21	8	32	22	20	62	60
	(3) Resource circulation cost	0	1	0	4	1	180	81	83	166	76
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	4	4	0	0	0	142	119	123	113	114
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	54	84	91	179	179	323	276	295	313	328
4. R&D cost: R&D costs for reducing environmental impact	Development of eco-conscious products and technologies; implementation of product environmental assessments; design improvement	2	2	54	19	14	100	108	109	154	124
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	0	16	11	13	13	10
6. Cost to deal with environmental damage: costs incurred to restore the natural environment (including soil remediation)	Soil contamination surveys; soil remediation	0	2	0	0	0	1	2	3	4	2
Total		91	94	153	228	201	825	647	671	857	760

(Unit: millions of Yen)

Classification	Details of Main Implementation and the Effects	Outside Japan									
		Investment Amount					Expense Amount				
		FY2008	FY2009	FY2010	FY2011	FY2012	FY2008	FY2009	FY2010	FY2011	FY2012
1. Business area costs: Costs for reducing direct environmental impacts occurring within the facility area		221	161	109	88	53	244	65	138	100	92
Breakdown:	(1) Pollution prevention cost	16	0	0	26	0	22	24	21	27	34
	(2) Global environmental conservation cost	201	161	102	62	53	195	19	95	50	34
	(3) Resource circulation cost	4	0	7	0	0	27	21	22	22	23
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	0	0	0	2	1	1
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	0	0	0	0	0	14	13	10	15	26
4. R&D cost: R&D costs for reducing environmental impact	Development of eco-conscious products and technologies; implementation of product environmental assessments; design improvement	0	0	0	0	0	0	0	0	0	0
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	0	3	2	3	3	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	0	0	0	0	0	0
Total		221	161	109	88	53	261	80	152	119	122

## Scope of aggregation

Aggregation Scope	Target Period	Name of Site	
		In Japan	Outside Japan
FY2008	April 1, 2008 ~ March 31, 2009	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistic Center*1	Brother Industries (U.K.) Ltd., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Xian Typical Brother Industries, Co., Ltd.*2, Brother Machinery Xian Co., Ltd.*2, Brother Sewing Machine (Shanghai) Co., Ltd.*3, Brother Industries (Shenzhen), Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries Technology (M) Sdn. Bhd., Brother Industries (Vietnam) Ltd.*4
FY2009	April 1, 2009 ~ March 31, 2010	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistic Center*1	Brother Industries (U.K.) Ltd., Taiwan Brother Industries, Ltd., Zhuhai Brother Industries, Co., Ltd., Xian Typical Brother Industries, Co., Ltd.*2, Brother Machinery Xian Co., Ltd.*2, Brother Sewing Machine (Shanghai) Co., Ltd.*3, Brother Industries (Shenzhen), Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries Technology (M) Sdn. Bhd., Brother Industries (Vietnam) Ltd.*4
FY2010	April 1, 2010 ~ March 31, 2011	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistic 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.*2,3, Brother Industries (Shenzhen), Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries Technology (M) Sdn. Bhd., Brother Industries (Vietnam) Ltd.
FY2011	April 1, 2011 ~ March 31, 2012	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistic 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.*2,3, Brother Industries (Shenzhen), Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries Technology (M) Sdn. Bhd., Brother Industries (Vietnam) Ltd.
FY2012	April 1, 2012 ~ March 31, 2013	Head office, Mizuho Manufacturing Facility, Hoshizaki Manufacturing Facility, Minato Manufacturing Facility, Momozono Manufacturing Facility, Kariya Manufacturing Facility, Research & Development Center, Logistic 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.*2,3, Brother Industries (Shenzhen), Ltd., Brother Technology (Shenzhen) Ltd., Brother Industries Technology (M) Sdn. Bhd., Brother Industries (Vietnam) Ltd.

\*1 For Logistic Center, only "Environmental Improvement Effects" was aggregated.

\*2 Xian Typical Brother Industries, Co., Ltd. (whose name was changed to Xian Brother Industries, Co. Ltd. in October 2009) merged with Brother Sewing Machine Xian Co., Ltd. in 2010 to become Brother Machinery Xian Co., Ltd.

\*3 Brother Sewing Machine (Shanghai) Co., Ltd. transferred its business to Brother Machinery Xian Co., Ltd. in 2010.

\*4 For Brother Industries (Vietnam) Ltd. the data cover only the "Economic Effects" and "Environmental Improvement Effects."