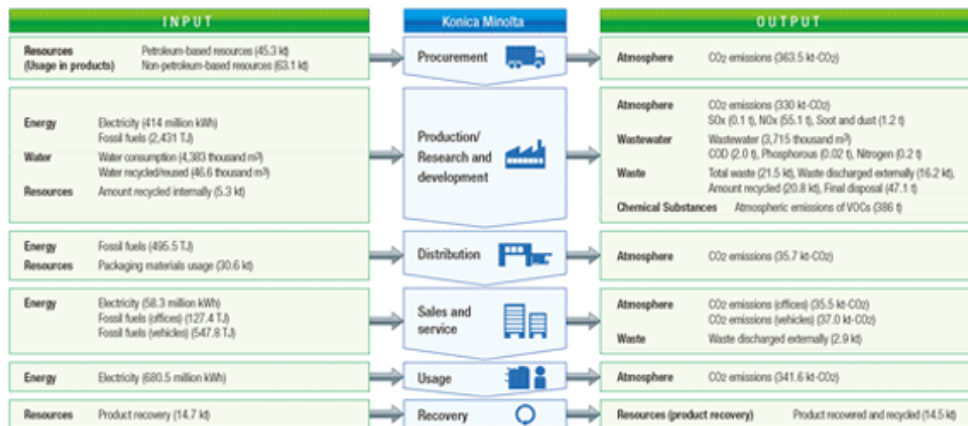


Environmental Data

Konica Minolta measures the amount of energy and resources used in all its business activities, as well as the amount of greenhouse gases emitted and the amount of waste produced at each stage of a product's life cycle. These results are analyzed and used to facilitate concrete approaches to improvement.

Overall Picture of Environmental Impact

[Click image to enlarge](#)



Environmental performance data

INPUT

> [Energy and Water](#)

OUTPUT

- > [Atmosphere](#)
- > [Wastewater](#)
- > [Waste](#)
- > [Chemical Substances](#)

Environmental Performance Data of Each Site

Soil and Ground Water

Standards for Calculating Environmental Data

The items for which targets have been set in the medium-term environmental plan and the standards for calculating the quantity of water intake are given below.

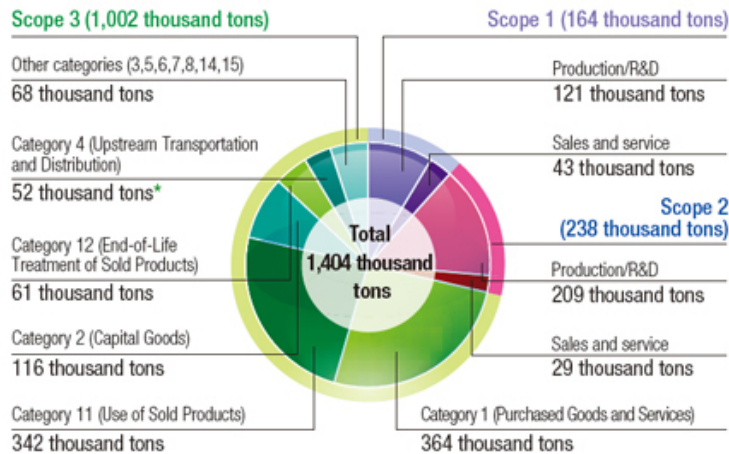
[Standards for Calculating Environmental Data \(PDF:42KB\)](#)

CO₂ Emissions Across the Entire Supply Chain

Konica Minolta has calculated the entire CO₂ emissions associated with the Group's activities across its entire supply chain, from upstream to downstream operations, based generally on the standards of the GHG Protocol,* the international standard. The calculation showed that CO₂ emissions throughout the supply chain were approximately 1.404 million tons.

* The Greenhouse Gas Protocol: Guidelines for calculating and reporting emissions of greenhouse gas (GHG), created by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) with the participation of businesses, NGOs, and government agencies around the world.

Note: The method for calculating CO₂ emissions associated with product use differs slightly from the GHG Protocol.



* CO₂ emissions attributed to product distribution: 36 thousand tons
 Note: Figures do not necessarily match total because of rounding.

› CO₂ Emissions Across the Entire Supply Chain in Fiscal 2013

Environmental Accounting

› Environmental Accounting in Fiscal 2013

CO₂ Emissions Across the Entire Supply Chain in Fiscal 2013

Calculation Result for Each Category

Scope 1,2,3 (Category)		Overview	CO ₂ emissions (t)	Percentage of total (%)	
Scope 1		Production / R&D	120,629	8.6%	11.7%
		Sales and service	43,391	3.1%	
Scope 2		Production / R&D	209,149	14.9%	17.0%
		Sales and service	29,130	2.1%	
Scope 3	1	Purchased goods and services	363,517	25.9%	71.3%
	2	Capital goods	115,615	8.2%	
	3	Fuel- and energy-related activities	7,972	0.6%	
	4	Upstream transportation and distribution	51,739	3.7%	
	5	Waste generated in operations	15,770	1.1%	
	6	Business travel	24,619	1.8%	
	7	Employee commuting	14,802	1.1%	
	8	Upstream leased assets	431	0.0%	
	9	Downstream transportation and distribution	-	-	
	10	Processing of products sold	-	-	
	11	Use of products sold	341,596	24.3%	
	12	End-of-life treatment of products sold	61,336	4.4%	
	13	Downstream leased assets	-	-	
	14	Franchises	1,034	0.1%	
	15	Investments	3,181	0.2%	
Total			1,403,911	100.0%	100.0%

Note: Totals may not add up, since figures have been rounded.

Method of Calculation in Each Category of Scope 3 Emissions

Category	Overview	Method of Calculation
1	Purchased goods and services	Calculated by multiplying the sales amount or production amount of office equipment and consumables by a cradle-to-gate CO ₂ emission factor for each of the materials that make up a product; and for other products, multiplying the amount of material used by a cradle-to-gate CO ₂ emission factor for that material.
2	Capital goods	Calculated by multiplying the amount of investment in capital goods purchased over the year by a CO ₂ emission factor per investment value.
3	Fuel- and energy-related activities	<p>Calculated for emissions from the extraction, production, and transportation of fuels purchased by the Group or by electricity producers for the electricity purchased by the Group.</p> <p>(Fuel) Calculated by multiplying the annual purchased volume by a cradle-to-gate CO₂ emission factor for each type of fuel.</p> <p>(Fuels purchased and used by electricity producers) Calculated by multiplying the annual purchased volume of electricity by source, by a CO₂ emission factor for each source. Proportion of sources in electricity generation for each country is identified from the Proportions of Generated Power by Source in Major Countries, published by the Federation of Electric Power Companies of Japan.</p>
4	Upstream transportation and distribution	<p>Emissions in this category are the sum of: A) emissions related to transportation of parts and raw materials the Group purchases, and B) emissions related to transportation of the Group's products.</p> <p>A) Calculated for emissions related to procurement distribution from suppliers to Konica Minolta's plants. Calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO₂ emission factor for each means of transportation.</p> <p>B) Calculated for emissions related to shipping and distribution internationally, within Japan, and within China. Calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO₂ emission factor for each means of transportation.</p>
5	Waste generated in operations	Calculated for waste (not including valuables) from production, R&D, and sales offices. Calculated by classifying waste into different types and multiplying the amount of each type of waste entrusted to a party outside the company by a CO ₂ emission factor for each method of waste disposal.
6	Business travel	For business travel by employees of Group companies in Japan, the emissions are calculated by multiplying the annual business travel expenditure by a CO ₂ emission factor per expense for travel for each means of transportation. The CO ₂ emission factor used is that for travel by domestic air flight in Japan, which is the highest among the emission factors for all methods of travel. For Group companies outside Japan, it is estimated by multiplying the number of

		employees of each company by the emission amount per employee calculated based on the result in Japan.
7	Employee commuting	Calculated by multiplying the annual commutation cost by a CO ₂ emission factor per expense. The CO ₂ emission factor used is for “automobiles (buses and ride-sharing in sales vehicles),” which is the highest among the emission factors for all commuting methods. For Group companies outside Japan, it is estimated by multiplying the number of employees of each company by the emission amount per employee calculated based on the result in Japan.
8	Upstream leased assets	Most leased assets are calculated as Scope 1 and 2 emissions. Scope 3 applies only to some leased assets (e.g., data centers). Calculated by multiplying the actual annual power consumption for the leased servers by a CO ₂ emission factor for electrical power.
9	Downstream transportation and distribution	Konica Minolta has sales bases in 41 countries and runs its business mainly through direct sales. Emissions from the sales activities of some dealers fall under this category, but the amount of those emissions is thought to be minuscule. Moreover, since most dealers handle products from multiple manufacturers, it would be extremely difficult to identify and calculate emissions related to the sale of Konica Minolta's products. Accordingly, the Group has decided to exclude this category from the scope of calculations for the present.
10	Processing of products sold	Konica Minolta's product lineup includes semi-finished products, which accounted for approximately 18% of sales in fiscal 2012. However, it is difficult to rationally calculate emissions related to the processing of these products. Accordingly, the Group has decided to exclude this category from the scope of calculations for the present.
11	Use of products sold	Calculated by multiplying the number of units operating in the market (inferred from sales units each year and the life of the product) by the estimated annual amount of electrical consumption* for each model and the CO ₂ coefficient equal to the fiscal 2005 world average value specified by the GHG Protocol. The calculation method used by Konica Minolta is slightly different from the GHG Protocol method, but it enables the Group to calculate the emissions that more accurately reflect the Group's business operations and thus allows it to implement initiatives to reduce CO ₂ emissions smoothly.
12	End-of-life treatment of products sold	Calculated for emissions related to the end-of-life treatment of products themselves and their containers and packaging. Calculated by multiplying the weight of materials that make up the products sold by a CO ₂ emission factor for each type of disposal method. The calculation is made for anticipated future emissions from the end-of-life treatment of products sold in the previous fiscal year, which will be reported as the data of that fiscal year.
13	Downstream leased assets	Konica Minolta's products are all leased through leasing companies. Konica Minolta does not enter into lease contracts directly with customers. Also, it did not lease large buildings or equipment. For this reason, the company judged that Konica Minolta has no emissions in this category.

14	Franchises	Emissions from Kinko's franchises in Hiroshima and Kyushu are applicable to this category. Calculated based on the proportion of employees, based on energy usage in fiscal 2013 at the head office of Kinko's Japan Co., Ltd.
15	Investments	Calculated for a portion of emissions from the 27 main companies in its investment portfolio, in which Konica Minolta holds specified investment stocks. Calculated by multiplying the invested companies' fiscal 2012 CO ₂ emissions by Konica Minolta's shareholding ratio (%) in those companies (number of shares held by Konica Minolta / number of shares issued).

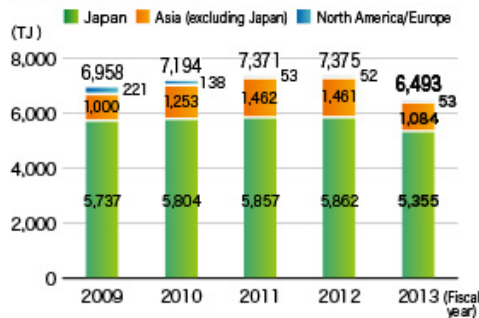
* The annual amount of electrical consumption for office equipment is estimated based on the Typical Electricity Consumption (TEC) value set by the International Energy Star Program, and for equipment for healthcare system it is estimated based on each product's specifications.

Energy and Water

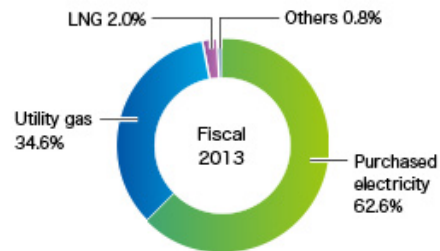
<INPUT>Energy and Water

Click image to enlarge

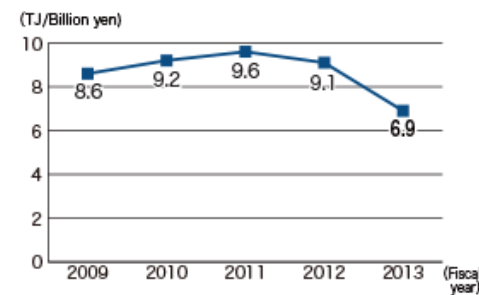
Total Energy Inputs



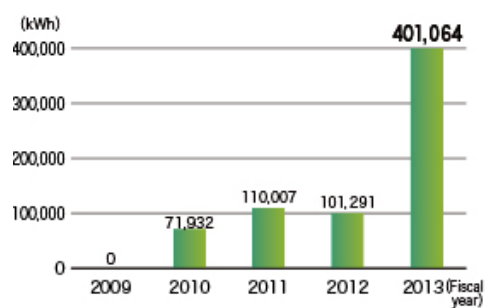
Energy Use by Type



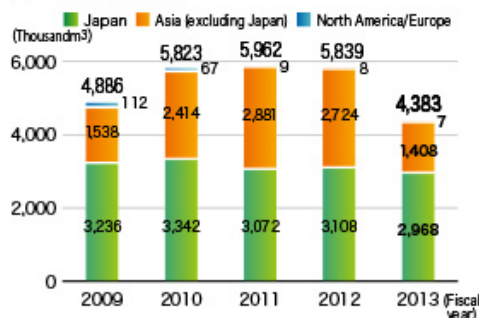
Total Energy Inputs Per Unit of Sales



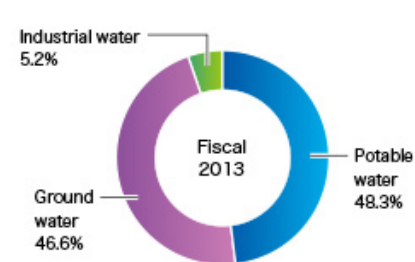
Electricity Generated Using Renewable Energy



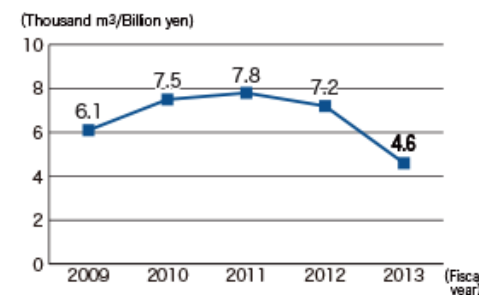
Total Water Inputs



Water Use by Type



Total Water Inputs Per Unit of Sales



* Boundary of data: Electricity generated using renewable energy covers the entire Konica Minolta Group. Other data are for production and R&D sites in the Konica Minolta Group.

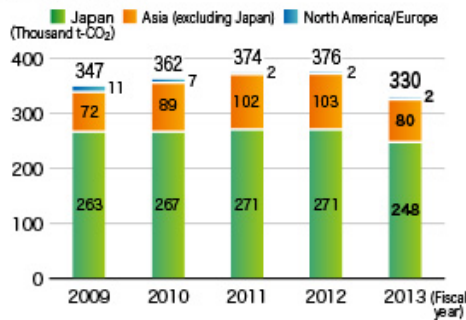
> Standards for Calculating Environmental Data

Atmosphere

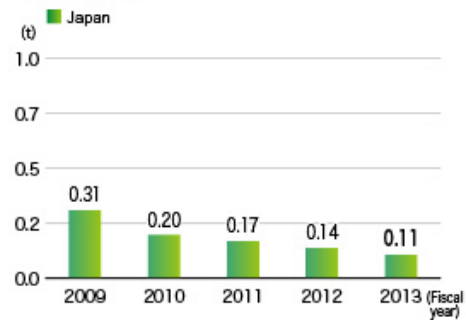
<OUTPUT>Atmosphere (CO₂, SO_x, NO_x, Soot and Dust)

Click image to enlarge

CO₂ Emissions

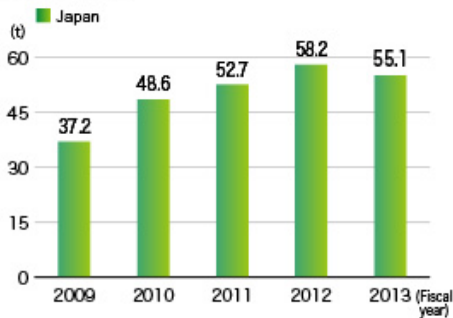


SO_x Emissions

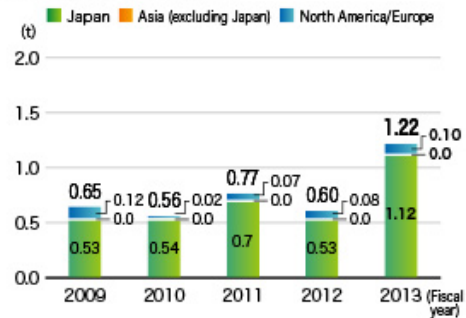


> Standards for Calculating Environmental Data

NO_x Emissions



Soot and Dust Emissions



* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.

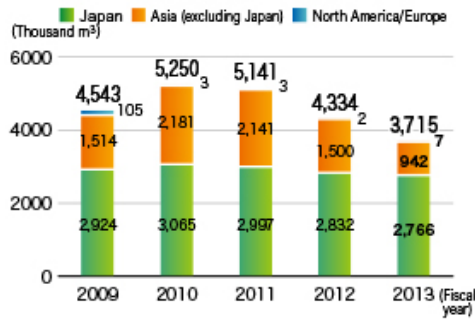
* The figures of atmospheric pollutants are total values for factories that are legally required to measure emissions.

Wastewater

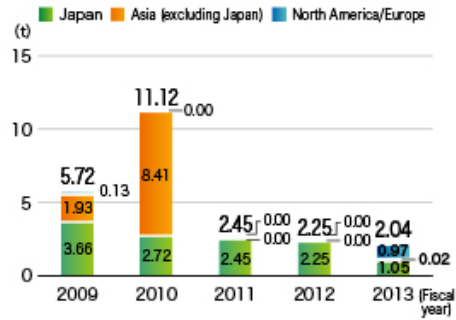
<OUTPUT>Wastewater (Total Wastewater, COD, Phosphorus, Nitrogen)

Click image to enlarge

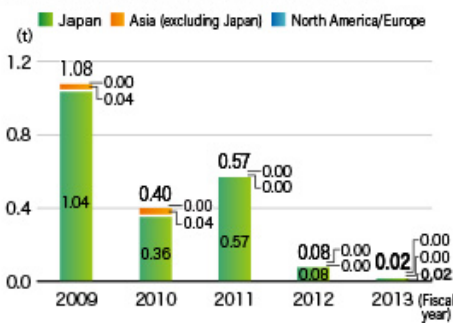
Total Wastewater



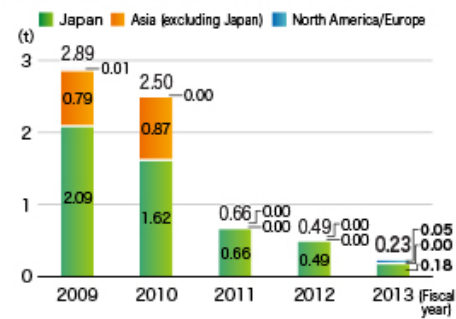
COD into Public Waters



Phosphorus Discharged into Public Waters



Nitrogen Discharged into Public Waters



* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.

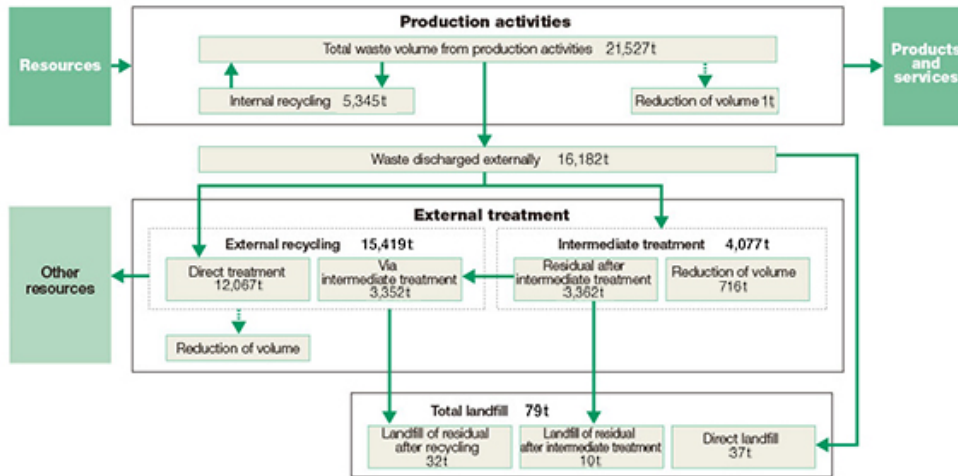
* The figures of water pollutants are total values for factories that are legally required to measure waste.

Waste

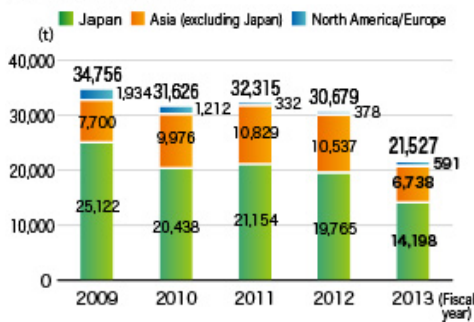
<OUTPUT>Waste

Click image to enlarge

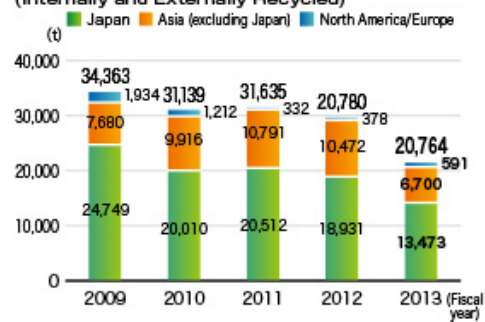
Waste Flows (Results of Recycling and Waste) Fiscal 2013



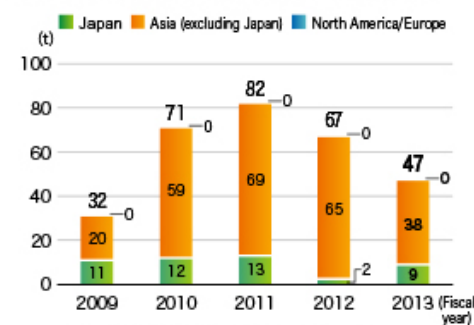
Total Waste Volume



Total Volume of Recycled Resources (Internally and Externally Recycled)

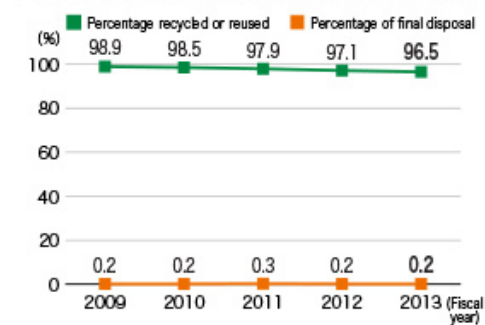


Total Volume of Final Disposal (Landfill Waste)*



* The figures are the sum of direct landfill and landfill of residual after intermediate treatment.

Percentage Recycled or Reused/Percentage of Final Disposal



› Standards for Calculating Environmental Data

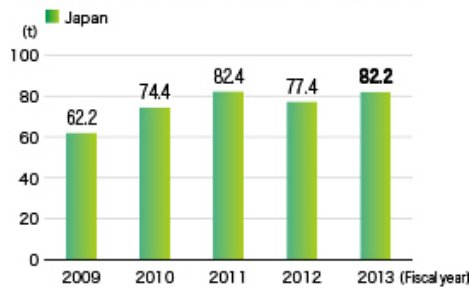
* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.

Chemical Substances

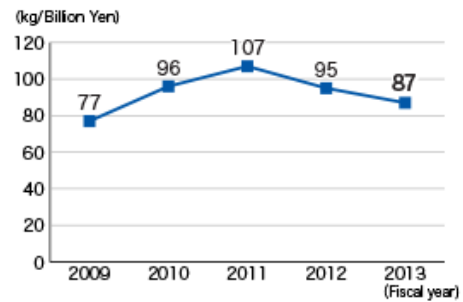
<OUTPUT>Emission of Chemical Substances (PRTR Substances)

Click image to enlarge

Atmospheric Emissions of PRTR Substances



Atmospheric Emissions of PRTR Substances Per Unit of Sales



Unitt

Substances Controlled by Pollution Release and Transfer Register (PRTR) System Fiscal 2013

Identifi- cation Nu- mber	Name o- f Chemi- cal Sub- stance	Amount Handled	Releases			Amount Used (in product s)	Treat- ed on- site (I- ncine- rated, Deco- mpos- ed)	Amount Transf- erred Externall- y		Recy- cled
			To Air	To Wat- er	To Soil			Wast- e*	Sewa- ge	
4	Acrylic a- cid and i- ts water- soluble salts	4.1	0.0	0.0	0.0	4.0	0.0	0.1	0.0	0.0
7	n-Butyl acrylate	1,811.6	1.1	0.0	0.0	1,793.9	0.0	16.5	0.0	0.0
13	Acetonit- rile	37.9	2.3	0.0	0.0	2.3	4.4	29.0	0.0	0.0
23	p-Amino phenol	4.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
31	Antimon- y and its compou- nds (Sb equival- ent)	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
71	Ferric ch- loride	88.5	0.0	0.0	0.0	0.0	88.5	0.0	0.0	0.0
81	Quinolin- e	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
82	Silver a	56.3	0.0	0.0	0.0	56.2	0.0	0.0	0.0	0.0

	nd its water-soluble compounds (Ag equivalent)									
151	1,3-Dioxolane	18.8	4.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8
181	Dichlorobenzene	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
186	Dichloromethane (also known as methylene chloride)	985.7	57.4	0.0	0.0	10.8	0.0	594.5	0.0	319.7
232	N, N-Dimethylformamide	32.9	0.0	0.0	0.0	0.0	0.1	32.8	0.0	0.0
240	Styrene	5,069.2	5.0	0.0	0.0	5,036.2	0.0	28.0	0.0	0.0
275	Sodium dodecyl sulfate	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.972	0.0
277	Triethylamine	1.4	0.0	0.0	0.0	0.6	0.2	1.2	0.0	0.0
300	Toluene	68.0	11.7	0.0	0.0	0.2	0.4	55.3	0.0	0.0
342	Pyridine	2.3	0.0	0.0	0.0	1.8	0.0	2.1	0.0	0.0
353	Diethyl phthalate	1.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
392	n-Hexane	22.2	0.0	0.0	0.0	0.0	0.0	22.1	0.0	0.0
395	Water-soluble salts of peroxodisulfuric acid	158.0	0.0	0.0	0.0	15.8	142.2	0.0	0.0	0.0
412	Manganese and its compounds (Mn equivalent)	252.8	0.0	0.0	0.0	252.9	0.0	0.0	0.0	0.0
415	Methacrylic acid	517.0	0.4	0.0	0.0	511.7	0.0	4.8	0.0	0.0

420	Methyl methacrylate	84.3	0.2	0.0	0.0	83.8	0.0	0.3	0.0	0.0
461	Triphenyl phosphate	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0

* In accordance with PRTR system definitions, even if materials were recycled later, they were counted here as waste if they were not sold at a profit.

* Boundary of data: Charts cover Konica Minolta Group production sites in Japan.

Environmental Performance Data of Each Site

Environmental Performance Data of Each Site

Sites of Konica Minolta, Inc. in Japan(FY2013)

Site name / Location	Main Business Contents	CO ₂ Emissions (kt-CO ₂)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m ³)				Wastewater (Thousand m ³)	Atmospheric VOC Emissions (t)	Atmospheric Emissions of PRR Substances (t)
						Ground Water (Thousand m ³)	Industrial Water (Thousand m ³)	Drinking Water (Thousand m ³)			
Tokyo Site Hino (Hino, Tokyo)	Development and production of office equipment, healthcare products, optical devices, and industrial ink jet	25.3	781	0.0	463.9	463.9	-	-	430.2	*1	0.0
Tokyo Site Hachioji (Hachioji, Tokyo)	Development and production of office equipment, optical devices, and healthcare products	15.9	732	0.0	104.4	89.9	-	14.5	110.9	*1	0.4

Kofu Site (Kofu, Yamana shi Prefe cture)	Manuf acturi ng of health care e quipm ent pr oduct s	2.7	161	0.0	46.4	30.0	-	16.4	36.5	*1	0.0
Atsugi Site (Atsu gi, Ka naga wa Pr efectu re)	Softw are de velop ment and te sting f or offi ce equip ment produ cts; pr ovisio n of te chnica l trainin g for s ales p erson nel	0.4	20	0.5	3.9	-	-	3.9	3.9	*1	0.0
Mizuh o Site (Toyo kawa, Aichi Prefe cture)	Devel opme nt and manuf acturi ng of office equip ment-r elated produ cts	4.8	339	1.0	20.7	-	-	20.7	18.6	*1	0.0
Mikaw a Site (Toyo kawa, Aichi Prefe cture)	Devel opme nt of o ffice e quipm ent-rel ated produ cts	0.8	94	0.0	9.6	-	-	9.6	8.4	*1	0.0

Toyokawa Site (Toyokawa, Aichi Prefecture)	Production management and manufacturing of office equipment-related products	0.4	20	0.2	5.7	-	-	5.7	5.0	*1	0.0
Osakasayama Site (Osakasayama, Osaka)	Development and manufacturing of optical products	6.6	138	0.0	34.0	-	-	34.0	45.6	2.9	0.0
Sakai Site (Sakai, Osaka)	Development, manufacturing and sales of measuring instruments for industrial applications	1.5	46	0.0	31.7	21.3	-	10.3	31.7	*1	0.0
Itami Site (Itami, Hyogo Prefecture)	Development and manufacturing of optical products; of office equipment software development	3.3	111	0.0	21.2	-	-	21.2	15.0	*1	0.0

Takatsuki Site (Takatsuki, Osaka)	Research and development; intellectual property management and operation, industrial design	1.4	32	0.0	15.9	-	-	15.9	11.3	*1	0.0
Kobe Site, Kobe Second Site, Seishin Site (Kobe, Hyogo Prefecture)	Manufacturing of electronic materials (TAC films)	150.7	2,880	0.0	811.4	281.6	-	529.8	600.2	61.9	53.2

Affiliate production sites in Japan(FY2013)

Site name or Company name / Location	Items produced	CO ₂ Emissions (kt-CO ₂)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m ³)				Wastewater (Thousand m ³)	Atmospheric VOC Emissions (t)	Atmospheric Emissions of PRT Substances (t)
						Ground Water (Thousand m ³)	Industrial Water (Thousand m ³)	Drinking Water (Thousand m ³)			
Konica Minolta Supplies Manufacturing Co., Ltd. (Kofu, Yamanaashi Prefecture)	Consumables of MFPS and laser printers	11.8	436	5.2	365.1	347.1	-	18.0	365.1	46.9	18.4

Konica Minolta Supplies Manufacturing Co., Ltd., Tatsuno Site (Tatsuno-machi, Nagano Prefecture)	Consumables of MFPs and laser printers	7.0	1,013	1.9	353.3	353.0	-	0.3	369.3		
Konica Minolta Supplies Manufacturing Kansai Co., Ltd., Miki Site (Miki, Hyogo Prefecture)	Consumables of MFPs and laser printers	1.2	15	0.0	5.0	-	-	5.0	3.6	*1	0.0
Toyohashi Precision Products Co., Ltd. (Toyohashi, Aichi Prefecture)	Consumables of MFPs and laser printers	1.4	192	0.2	43.5	42.4	-	1.1	91.1	*1	0.0
Konica Minolta Electronics Co., Ltd. (Tsuru, Yamana shi Prefecture)	Electronics parts	0.8	71	0.0	6.0	-	-	6.0	6.0	*1	0.0
Konic	Optica	6.4	115	0.0	409.	409.	-	-	409.	*1	0.0

a Minolta Optical Products Co., Ltd., Kofu Site (Kofu, Yamanaashi Prefecture)	Optical devices				2	2			2		
Konica Minolta Optical Products Co., Ltd., Yamanaashi Site (Minaamitsuru-gun, Yamanaashi Prefecture)	Optical devices	0.1	0	0.0	0.2	-	-	0.2	0.2	*1	0.0
Konica Minolta Glass Tech. Co., Ltd., Iruma Site (Iruma, Saitama Prefecture)	Optical devices	1.1	79	0.0	53.2	-	-	53.2	53.2	13.8	0.0
Konica Minolta Techno products Co., Ltd., Sayama Site (Sayama, Saitama Prefecture)	Healthcare and graphic imaging equipment	2.0	79	0.0	10.5	-	-	10.5	10.5	*1	0.0

a Prefecture)											
Konica Minolta Chemical Co., Ltd., Shizuoka Site (Fukuroi, Shizuoka Prefecture)	Chemicals	2.5	1,703	0.0	153.1	-	151.0	2.1	140.3	43.8	10.2

Affiliate production sites outside Japan(FY2013)

Site name or Company name / Location	Items produced	CO ₂ Emissions (kt-CO ₂)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m ³)				Wastewater (Thousand m ³)	Atmospheric VOC Emissions (t)
						Ground Water (Thousand m ³)	Industrial Water (Thousand m ³)	Drinking Water (Thousand m ³)		
Konica Minolta Business Technologies (Wuxi) Co., Ltd. (China)	MFPs, laser printers and consumables	11.0	2,017	0.0	74.7	-	74.7	-	63.5	11.0
Konica Minolta Business Technologies (Dongguan) Co., Ltd. (China)	MFPs, laser printers and consumables	15.4	3,265	0.3	149.8	-	-	149.8	149.8	25.5
Konica Minolta Supplies Manufacturing U.S.A., I	Consumables of MFPs and Laser printers	1.6	361	0.0	4.6	2.4	-	2.2	4.6	*1

nc. (U.S.A.)										
Konica Minolta Supplies Manufacturing France S.A.S. (France)	Consumables of MFPs and Laser printers	0.5	230	0.0	2.2	-	-	2.2	2.2	*1
Konica Minolta Opto (Dalian) Co., Ltd. (China)	Optical devices	29.0	278	3.9	170.2	-	-	170.2	144.7	118.7
Konica Minolta Optical Products (Shanghai) Co., Ltd. (China)	Optical devices	9.3	44	0.0	79.3	-	-	79.3	71.3	*1
Konica Minolta Glass Tech (M) Sdn. Bhd. (Malaysia)	Optical devices	14.9	930	33.9	934.2	-	-	934.2	512.8	70.8

* Sites outside Japan are not controlled by Japan's PRTR System.

* The amount of substances subject to the PRTR Law released to the atmosphere from sites in Japan do not need to be calculated if the quantity handled is no more than 1 ton.

*1 Under the threshold defined in Standards for Calculation

➤ [Standards for Calculating Environmental Data](#)

Standards for Calculating Environmental Data(CO₂ Emissions)

Boundary and Standards for Calculation

Stage		Methods of Calculation
1.Procurement	1) Boundary	Office equipment and consumable supplies, optical products, equipment for healthcare system manufactured and sold by Konica Minolta, Inc.
	2) Standards	Calculated by multiplying the sales amount or production amount of office equipment and consumables by a cradle-to-gate CO ₂ emission factor for each of the materials that make up a product; and for other products, multiplying the amount of material used by a cradle-to-gate CO ₂ emission factor for that material.
2.Production / R&D	1) Boundary	All production and R&D sites around the world
	2) Standards	CO ₂ emissions are calculated by multiplying the amount of energy used at each site by the following Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures Electricity in Japan: Fiscal 2005 average value of all electrical power sources, as specified by the Federation of Electric Power Companies of Japan Electricity outside Japan: Fiscal 2005 emissions coefficients applicable to each country, as specified by the GHG Protocol
3.Distribution	1) Boundary	Japanese domestic distribution, Chinese production distribution (from factory to port), and international distribution of office equipment, optical products, equipment for healthcare system
	2) Standards	CO ₂ emissions are calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO ₂ emissions coefficient of each means of transportation. Chinese production distribution and international distribution: Coefficients specified by the GHG Protocol Japanese domestic distribution: Coefficients stipulated in Japan's CO ₂ Emissions Calculation Method for Logistics Operations—Joint Guidelines Ver.3.0
4.Sales and service	1) Boundary	Major sales companies around the world
	2) Standards	Offices: CO ₂ emissions are calculated by multiplying the amount of energy used at main sites (including estimated values for some sites) by the following coefficients. Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures Electricity in Japan: 2005 average value of all electrical power sources, as specified by the Federation of Electric Power Companies of Japan Electricity outside Japan: 2005 emissions coefficients applicable to each country, as specified by the GHG Protocol Vehicles: CO ₂ emissions are calculated by multiplying the amount of vehicle fuel used by the following Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures
5.Usage	1) Boundary	Office equipment and equipment for healthcare system * Optical products are excluded since they are used as parts of other companies' products
	2) Standards	CO ₂ emissions are calculated by multiplying the number of units operating in the market (inferred from sales units each year and the life of the product) by the estimated annual amount of electrical consumption*1 for each model and the CO ₂ coefficient equal to the fiscal 2005 world average value specified by the GHG Protocol.

Notes

*1 The annual amount of electrical consumption for office equipment is estimated based on the Typical Electricity Consumption (TEC) value set by the International Energy Star Program, and for equipment for healthcare system it is estimated based on each product's specifications.

* Figures in graphs may not add up to totals due to rounding.

Soil and Groundwater

Surveys and Measures Taken on Soil and Groundwater Contamination

Efforts regarding soil and groundwater contamination

Konica Minolta is striving to manage the state of contamination through regular monitoring, to facilitate cleanup, and to prevent the spread of contamination.

It conducts robust management through periodic observation at sites where soil or ground water contamination has been identified to ensure that the contaminants do not affect the surrounding environment.

The Group has organized a special team to manage remediation of polluted sites and to prevent the spread of contamination.. Detailed surveys conducted under the team's supervision serve as the basis for developing countermeasures and examining suitable purification technologies.

The Group reports the results of its observations and remediation efforts periodically to local government agencies and to concerned neighboring residents.

Summary of Contaminated Soil or Ground Water at Operation Sites

Operation Site	Substances	Progress in Fiscal 2013
Tokyo Site Hino (Hino, Tokyo)	Fluorine, Boron, Mercury, Benzene	The company makes periodic observations at monitoring wells located at the site boundary. It has been confirmed that specified hazardous substances with a history of use are all below the limit of environmental standard values, and have no impact on the surrounding environment. The company cleaned up the main part of the area where benzene had been found in excess of the standard value by excavation. It is now considering remediation technology for the remaining part. There has been no effect on groundwater.
Tokyo Site Hachioji (Hachioji, Tokyo)	Hexavalent chromium	The company continues with measures for remediation and prevention of dispersion by pumping ground water taken from wells located within the site. Through continued periodic observation of ground water, the company has confirmed that there is no runoff from the site.
Kofu Site (chuo, Yamanashi Prefecture)	Fluorine	The company has been continuing with periodic monitoring of site boundary and has found no fluorine exceeding the standard value in groundwater.
Mikawa Site, Western Zone (Toyokawa, Aichi Prefecture)	TCE*1, Fluorine	The company concluded the water pumping measure with the consent of the government, as the concentration of TCE in groundwater has been below the limit of standard values for two years at all monitoring wells in the western part of the site since implementing excavation and removal of contaminated soil in fiscal 2010. Through continued periodic observation of ground water, the company has confirmed that there is no runoff of fluorine from the site.

Itami Site (Itami, Hyogo Prefecture)	Lead, Arsenic, Cadmium, Fluorine, Boron	Regarding the boron exceeding the standard value in the ground water found in a specific area of the site, the company continues with remediation and prevention of dispersion of the contaminant through pumping, and has confirmed that there is no runoff from the site. Regarding lead, arsenic, cadmium, and fluorine, the company has performed observation of ground water to confirm that there is no runoff of these substances from the site.
Sakai Site (Sakai, Osaka)	TCE, PCE*2, c-DCE*3, Lead, Arsenic, Cadmium	Regarding TCE, PCE, and c-DCE, the company continues with remediation prevention of dispersion by pumping ground water and carries out preventing runoff from the site. Regarding lead, arsenic, and cadmium, the company performed periodic observation of the ground water. It confirmed that the concentrations are below the limit of environmental standard values in all the monitoring wells located at the site boundary, and have no impact on the surrounding environment.
Osaka Sayama Site (Osaka Sayama, Osaka)	TCE, PCE, c-DCE	On-site remediation using the Jet Rinse method in the area around the company's effluent treatment facility, which was implemented in fiscal 2012, has produced a significant improvement in the downstream groundwater contamination.
Site of the former Nankai Optical Co., Ltd. (Kainan, Wakayama Prefecture)	TCE, PCE, c-DCE	The company is continuing with measures to prevent runoff using the bio fence method.
Toyohashi Precision Products Co., Ltd. (Toyohashi, Aichi Prefecture)	TCE, PCE, c-DCE, Hexavalent Chromium	The company confirmed through periodic monitoring that there is no runoff outside the site of the relevant substances. It is continuing with remediation of groundwater through pumping on the site and has kept the levels of the relevant substances in recovered groundwater within the standard values even before treatment.
Konica Minolta Opto Products Co., Ltd. (Fuefuki, Yamanashi Prefecture)	TCE, PCE, c-DCE	The company has implemented remediation of ground water through pumping, permeable reactive barriers, and bio-barriers, and continued periodic observation to confirm that there is no runoff of the relevant substances from the site.
Konica Minolta Supplies Manufacturing Co., Ltd. (Kofu, Yamanashi Prefecture)	TCE, PCE, c-DCE	The company conducted a trial of groundwater remediation through a new method of bioremediation and is validating the results.

*1 TCE: trichloroethylene

*2 PCE: tetrachloroethylene (perchloroethylene)

*3 c-DCE: cis-1,2-dichloroethylene (resolvent of TCE and PCE)

Standards for Calculating Environmental Data (Emissions Other Than CO₂)

Boundary and Standards for Calculation

Item		Methods of Calculation
1. Petroleum-based resource usage in products	1) Boundary	Office equipment and consumable supplies, optical products, equipment for healthcare system ^{*1} manufactured and sold by Konica Minolta, Inc.
	2) Standards	Calculated by multiplying the raw material or part weight by content percentage of petroleum-based resources set for each material, based on the product specification
2. Packaging materials usage	1) Boundary	Raw materials and parts used in packaging for office equipment and consumable supplies, optical products and equipment for healthcare system
	2) Standards	Calculated by multiplying the weight of packaging material per single product (based on product specifications, etc.) by the number of units of the product sold, based on sales results
3. Waste discharged Externally from manufacturing	1) Boundary	All production and R&D sites around the world
	2) Standards	The total actual weight of waste discharged externally from production ^{*2}
4. Final disposal	1) Boundary	All production and R&D sites around the world
	2) Standards	The total weight of final disposal ^{*3} (Weight of waste discharged externally from production × Percentage of final disposal ^{*4})
5. Atmospheric emissions of VOCs	1) Boundary	Production sites around the world with ten or more environmental impact index ^{*5} points, when points are added for every compound that is rated of one point or more.
	2) Standards	The sum of the environmental impact index for atmospheric emissions of VOCs ^{*6}
6. Water consumption	1) Boundary	All production and R&D sites around the world
	2) Standards	The total amount of water intake (city water, ground water, industrial water)

Notes

*1 The boundaries for some figures are slightly different between those shown in the Overall Picture of Environmental Impact and those used in the calculation of the petroleum-based resource usage.

*2 Of the waste (refuse, etc.) generated at production and research and development sites for which Konica Minolta has responsibility as generator of waste, the amount discharged outside the Konica Minolta site. However, some wastes unrelated to production are excluded.

*3 Except for residues after recycling.

*4 Percentage of final disposal are calculated based on the value from industrial waste disposal companies.

*5 Environmental impact index: An index unique to Konica Minolta.

Environmental impact index (point) = Atmospheric emissions of VOCs [t] × Hazard coefficient × Location coefficient

Hazard coefficient: Set at 1-fold, 10-fold, or 100-fold depending on the severity of the impact on human health and the environment (set independently by Konica Minolta based on the coefficient used in the safety evaluations conducted by Kanagawa Prefecture in Japan)

Location coefficient: Outside the industrial estate 5, inside the industrial estate 1

*6 The overall picture of environmental impact does not take into account the hazard coefficient and location coefficient, and the atmospheric emissions are shown as is.

* The petroleum-based resource usage, for which reduction targets are set in the Medium-Term Environmental Plan, is calculated by taking the total amount of (1) petroleum-based resource usage in products; (2) petroleum-based resource waste in waste discharged externally from manufacturing; and (3) fuel consumption of sales and service vehicles.

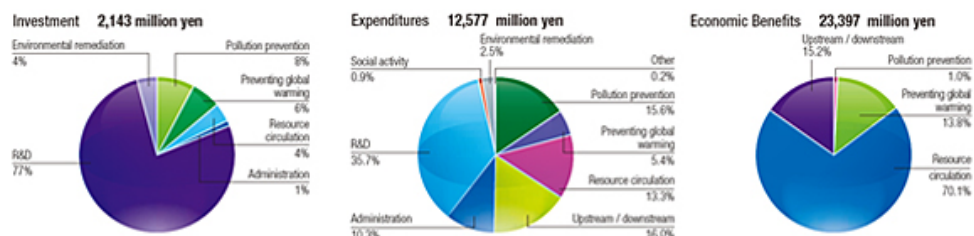
* Figures in graphs may not add up to totals due to rounding.

Environmental Accounting in Fiscal 2013

Konica Minolta has implemented global-scale, consolidated environmental accounting in order to quantitatively assess the costs of environmental conservation in business operations and the benefits obtained from those activities.

Investments in fiscal 2013 totaled about 2.1 billion yen, down 12% year on year. The main investments went into a new R&D building (Tokyo Site Hachioji), which has an atrium that brings in a large amount of natural light and a variety of environmentally friendly equipment such as solar power generation equipment, and the world's first plant (Kofu Site) for mass-producing flexible organic EL lighting panels on resin substrate.

Expenditures totaled about 12.5 billion yen, which is the same as the previous fiscal year.



* Percentages do not necessarily total 100 because of rounding.

Million yen

Results for Fiscal 2013 and Budget for Fiscal 2014

Types of Environmental Conservation Activities	Major Initiatives	Fiscal 2013 Results			Fiscal 2014 Budget	
		Investment	Expenditures	Economic Benefits	Investment	Expenditures
1. Business area cost		372	4,322	19,851	931	4,500
1) Pollution prevention cost	Implemented wastewater treatment facilities maintenance, reduced atmospheric emission of VOCs, and carried out chemicals management	162	1,960	231	503	2,288
2) Preventing global warming cost	Promoted energy conservation	126	685	3,225	233	752
3) Resource circulation cost	Recovered solvents	84	1,678	16,396	196	1,460
2. Upstream / downstream costs	Collected and recycled products	0	2,010	3,546	0	1,977
3. Administration cost	Implemented environmental management systems	28	1,295	0	0	1,341

4. R&D cost	Developed energy-saving products and products containing no hazardous substances	1,653	4,495	0	597	4,511
5. Social activity cost	Implemented environmental conservation activities	0	119	0	0	114
6. Environmental remediation cost	Restored contaminated soil	89	310	0	250	279
7. Other costs		0	26	0	0	12
Total		2,143	12,577	23,397	1,779	12,735

Fiscal 2013 Results: Environmental Conservation Benefits

Stage	Type of benefit	Benefits
Production	Water use reduced *1	27,966 t
	Electricity reduced *1	101,113 MWh
	Natural gas reduced *1	16,864 thousand m ³
	Heavy oil reduced *1	98kL
	Emissions of target chemical substances reduced *1	13 t
	Resource input reduced *1	121,893 t
	External recycling and reuse of waste *2	15,584 t
Sales	Packaging reduced *1	156 t
	Recycling and reuse of materials from used products *2	14,234 t
Usage	CO ₂ emissions reduced *3	12,698 t-CO ₂

*1 Calculated by subtracting the actual consumption amount from the consumption amount estimated for cases in which the environmental conservation activity was not implemented.

*2 The environmental conservation benefits are calculated as the volume recycled and reused.

*3 CO₂ emissions are calculated for major new products that were shipped in fiscal 2012 by subtracting the estimated CO₂ emissions associated with the new products in use from the estimated CO₂ emissions associated with the conventional products in use.

Fiscal 2013 Results: Impact of End User Usage

Stage	Type of benefit	Benefits
Usage	Electricity consumption reduced *4	25.3 million kWh
	Electricity bills reduced *5	364 million yen

- *4 Electricity consumption reduced is calculated for major new products that were shipped in fiscal 2013 by subtracting the estimated energy consumption of the new products in use from the estimated energy consumption of the conventional products in use.
- *5 Calculated by multiplying the average electrical power unit price over the Group's production sites in Japan by the amount of electricity consumption reduced.

Boundary for Fiscal 2013 Results

Konica Minolta, Inc.

16 Japanese affiliates

- Konica Minolta Planetarium Co., Ltd.
- Konica Minolta Information System Co., Ltd.
- Konica Minolta Supplies Manufacturing Co., Ltd.
- Konica Minolta Supplies Manufacturing Kansai Co., Ltd.
- Toyohashi Precision Products Co., Ltd.
- Konica Minolta Electronics Co., Ltd.
- Konica Minolta Business Solutions Japan Co., Ltd.
- Konica Minolta Chemical Co., Ltd.
- Konica Minolta Opto Products Co., Ltd.
- Konica Minolta Opto Device Co., Ltd.,
- Konica Minolta Glass Tech. Co., Ltd.
- Konica Minolta Technoproducts Co., Ltd.
- Konica Minolta Healthcare Co., Ltd.
- Konica Minolta Technosearch Co., Ltd.
- Konica Minolta Engineering Co., Ltd.
- Konica Minolta Business Associates Co., Ltd.

19 affiliates outside Japan

- Konica Minolta Business Technologies (Dongguan) Co., Ltd.
- Konica Minolta Business Technologies (Wuxi) Co., Ltd.
- Konica Minolta Business Solutions (China) Co., Ltd.
- Konica Minolta Supplies Manufacturing U.S.A., Inc.
- Konica Minolta Business Solutions U.S.A., Inc.
- Konica Minolta Business Solutions Europe GmbH
- Konica Minolta Business Solutions Deutschland GmbH
- Konica Minolta Business Solutions (UK) Ltd.
- Konica Minolta Supplies Manufacturing France S.A.S.
- Konica Minolta Business Solutions France S.A.S.
- Konica Minolta Business Solutions Australia Pty. Ltd.
- Konica Minolta Opto (Dalian) Co., Ltd.
- Konica Minolta Optical Products (Shanghai) Co., Ltd.
- Konica Minolta Opto (Shanghai) Co., Ltd.
- Konica Minolta Glass Tech (M) Sdn. Bhd.
- Konica Minolta Sensing Americas, Inc.
- Konica Minolta Sensing Europe B.V.
- Konica Minolta Sensing Singapore, Pte. Ltd.
- Konica Minolta Medical Imaging U.S.A., Inc.

Changes in the boundary for fiscal 2013 results

Konica Minolta Logistics Co., Ltd. was removed from the boundary with the transfer of its business.
Konica Minolta Sogo Service Co., Ltd. changed its name to Konica Minolta Business Associates Co., Ltd.