

Sumitomo Heavy Industries Group 5th Medium-Term Environmental Plan Key Issues

The Sumitomo Heavy Industries Group has been developing a growth strategy in anticipation of global markets. In the 5th Medium-Term Environmental Plan, activities are promoted with the following four points regarded as key issues in global markets, taking into account the details described in the background of formulation.

(1) Strengthening of environmental risk management

The Sumitomo Heavy Industries Group aims to promote activities that consider compliance with environmental laws and regulations, achievement of objectives of each issue, and product life cycle by making efforts to continually improve and vitalize our environmental management system.

(2) Reduction of CO₂ emissions in product life cycle

Among “environmental impacts in product life cycle”, one of the largest “environmental impacts (in particular, impacts on global warming)” is “CO₂ emissions”. Three processes with large CO₂ emissions, namely “production”, “transportation”, and “use”, are regarded as key items in making the reduction (contribution).

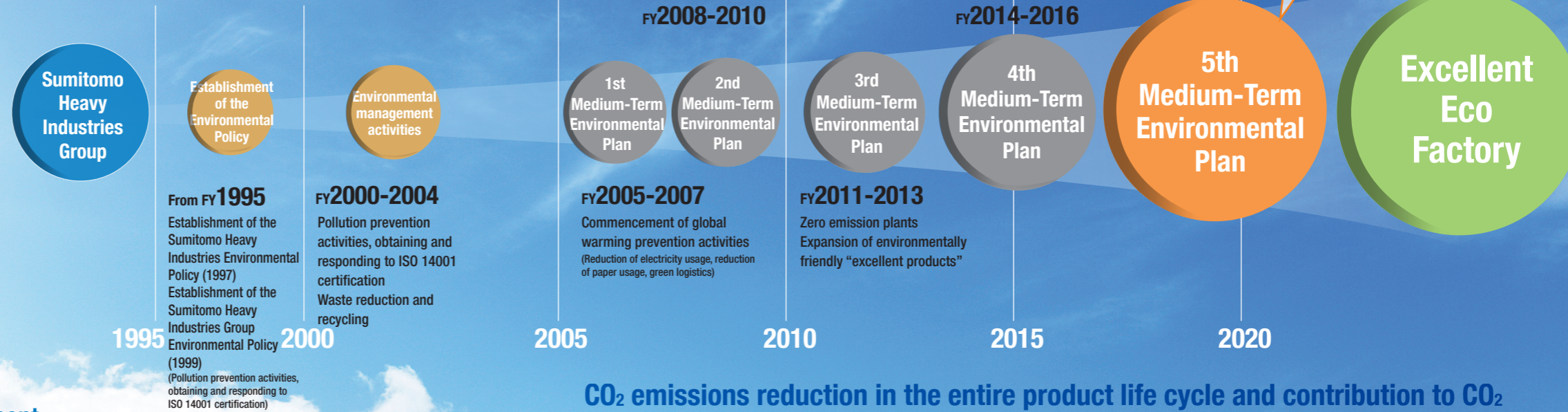
(3) Reduction of environmental impacts associated with business activities

Among “environmental impacts in product life cycle”, efforts will be made for the “reduction of environmental impacts”, other than “CO₂ emissions”, associated with business activities.

(4) Conservation of biodiversity

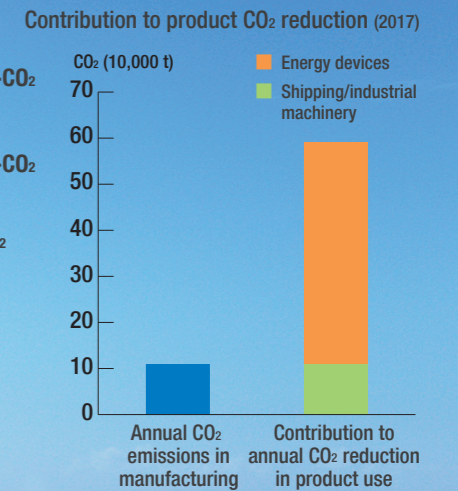
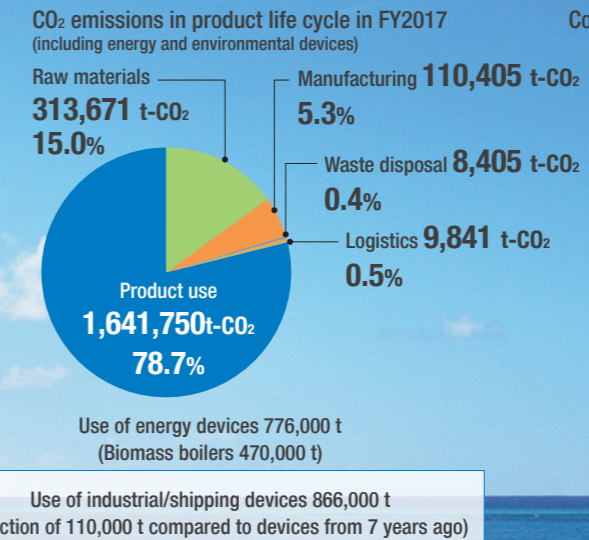
Efforts will be made mainly in “reduction of environmental impacts in product life cycle”, including reduction of (contribution to) CO₂ emissions that have the largest impacts on biodiversity.

Changes in environmental management activities of the Sumitomo Heavy Industries Group

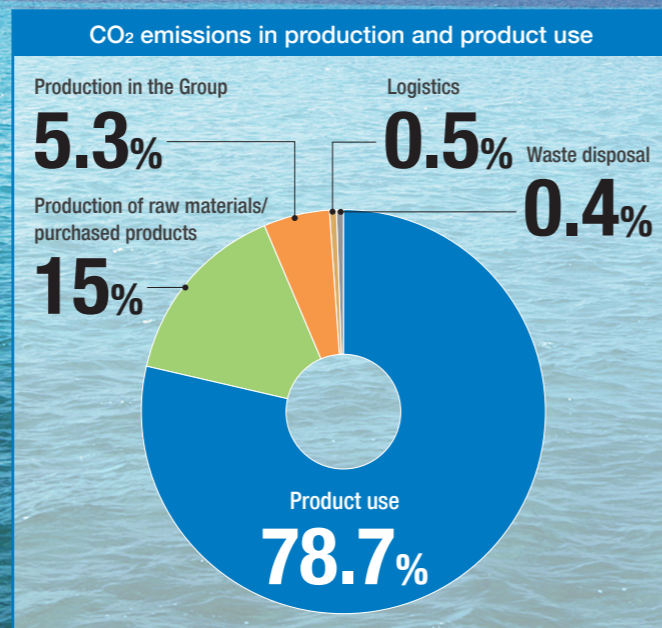


CO₂ emissions reduction in the entire product life cycle and contribution to CO₂ reduction in product use

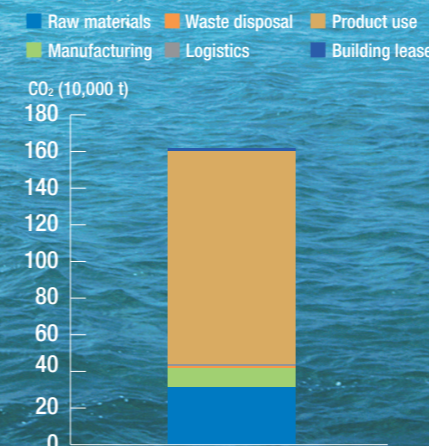
Of CO₂ emissions in the entire product life cycle, CO₂ emissions in manufacturing account for 5% (110,000 t), whereas CO₂ emissions in product use (including energy devices and biomass) account for a much higher percentage at 79%. CO₂ emissions reduction effect in product use in FY2017 was 110,000 t, which is equivalent to CO₂ emissions in manufacturing, and contributing to society by improving this figure is an important issue.



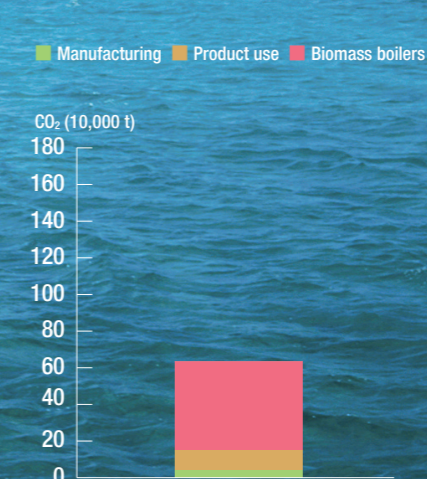
Biomass power generation plant (delivered to Summit Handa Power Corporation)



CO₂ emissions in product life cycle (2017) (CO₂ emissions excluding biomass)



Contribution to CO₂ emissions reduction in product life cycle (2017)



CO₂ emissions reduction in product life cycle

Manufacturing (compared to FY2005)	40,000 t
Shipping/industrial/construction machinery	110,000 t
Energy creation machinery	480,000 t
Total	630,000 t

Equivalent to 39% of CO₂ emissions in product use of 1,600,000 t

Environmental Management System

Sumitomo Heavy Industries Group Environmental Policy

Environmental Philosophy

The SHI Group will adhere to the principles of the Sumitomo Business Spirit, and make sincere efforts towards the preservation of the global environment throughout all of its business activities, with the aim to achieve a sustainable society.

Environmental Policy

The SHI Group will, based on the environmental philosophy, positively and actively make efforts in the following areas:

1. Prevention of environmental pollution
2. Contribution to a low-carbon society
3. Achievement of a recycling-based society
4. Preservation of biodiversity
5. Compliance with laws and other regulations
6. Strengthening and continuous improvement of the environmental management system

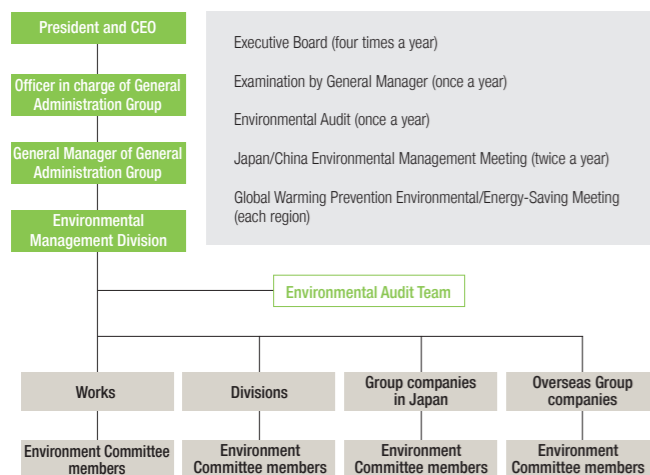
Sumitomo Heavy Industries, Ltd.
May 1, 2017

Environmental management audit

Conducting audits on each Works/Group company in Japan and each overseas subsidiary company

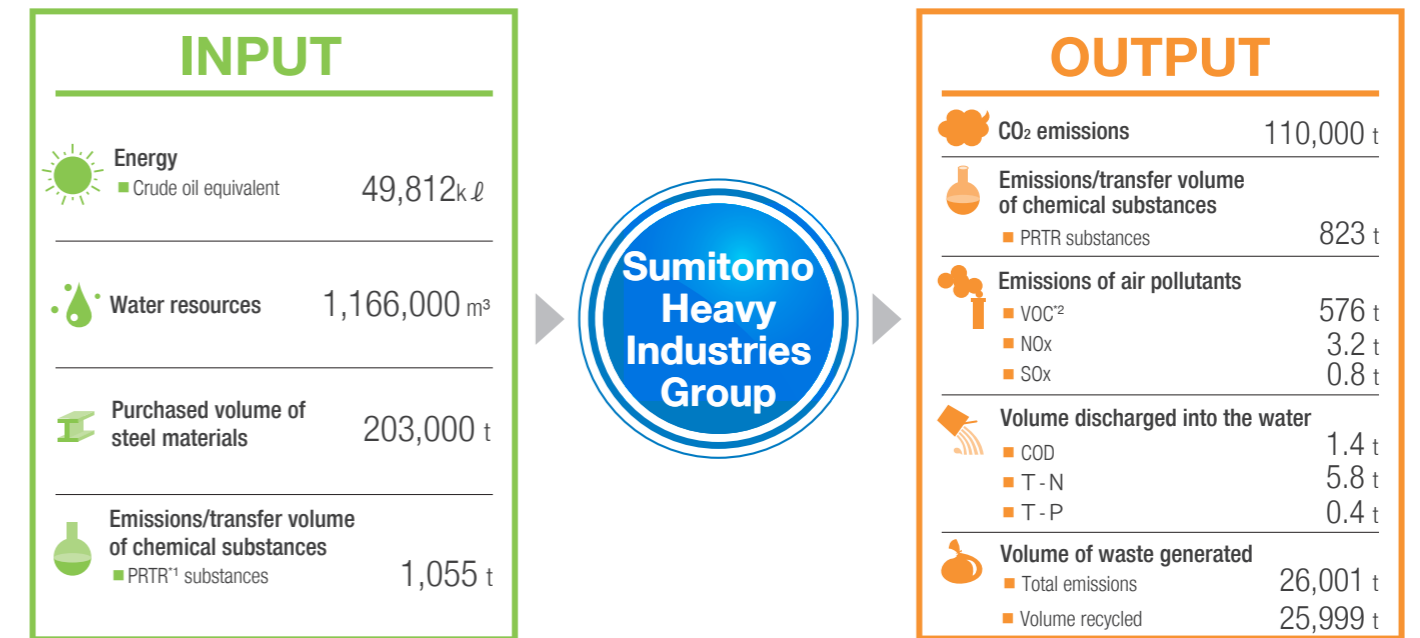
The Environmental Management Department of the Head Office conducts environmental audits on each Works and Group company in Japan once a year. Audits are conducted on environmental risk assessments, global warming prevention activities, and overall environmental management. The audit results are evaluated on a scale of 1 to 5 for each department based on our own evaluation criteria, and the evaluation results are reported in the operating officer meeting for improvement.

In addition, the Environmental Management Department of each overseas subsidiary company conducts audits in a planned manner, taking into account environmental impacts of each company, with the aim of achieving the targets of environmental risk reduction and global warming prevention activities. The audit results are evaluated on a scale of 1 to 5, just like Group companies in Japan, and the evaluation results are reported in the operating officer meeting. Audits were conducted on two plants in Vietnam and five plants in China in FY2016, and three plants in China in FY2017.



Environmental Targets (Medium-Term Plan) and Accomplishments

Overview of environmental impacts in FY2017 (Sumitomo Heavy Industries Group companies in Japan)



*1 PRTR: Pollutant Release and Transfer Register
*2 VOC: Volatile Organic Compounds

Environmental accounting in FY2017

Active investment in maintenance and administration of ISO 14001 standards

The Sumitomo Heavy Industries Group implements environmental accounting based on the "Environmental Accounting Guidelines 2005" of the Ministry of the Environment as a measure to determine investments/costs and effectiveness related to environmental conservation.

Unit: Million yen

Category	Main contents of efforts	Costs for environmental preservation				Effectiveness of environmental preservation		Main contents
		Investment		cost		Economic effect		
		FY2016	FY2017	FY2016	FY 2017	FY2016	FY 2017	
(1) Costs within the business area	Maintenance/depreciation of environmental impact reduction equipment/facilities	2,976	598	1,329	834	266	247	
break-down	(1) - 1 Pollution prevention costs	265	46	246	352			
	(1) - 2 Global environmental conservation costs	2,655	528	59	82	68	73	Cost reduction by energy/resource saving and 3Rs
	(1) - 3 Resource recycling costs	55	24	1,025	400	198	174	Cost reduction by waste reduction Sales value of valuable resources
(2) Upstream/downstream costs	Reduction of product packaging materials, recycling of home electric appliances, and use of the reverse side of paper	2	1	1	1			
(3) Management activity costs	Maintenance and administration of ISO 14001 standards, and expansion of green spaces	20	7	158	138			
(4) Research & development costs	Research/development for environmental impact reduction of products, and research/development of environmental equipment	1,806	3,498	861	1,131			
(5) Social activity costs	Global environmental conservation and greening activities	0	0	1	11			
(6) Costs for handling environmental damage	Levies on air pollution loads, and share of green belts and pollution compensation	0	0	1	0			
	Total	4,804	4,103	2,351	2,115	266	247	

Environmental Targets (Medium-Term Plan) and Accomplishments

General overview of 5th Medium-Term Environmental Plan (2017-2019) and FY2017 activities

Achieved 14 of 19 items

The achievement status of FY2017 targets and FY2017 activities in the 5th Medium-Term Environmental Plan whose final target fiscal year is set to FY2019 are as follows.

Evaluation: ○ Achieved, △ Achievement rate of 90% or more, × Achievement rate of less than 90%

Index	Item	5th Medium-Term Environmental Plan (2017-2019)	FY2017 target	Achievement in FY2017	Evaluation
Strengthening of environmental risk management	① Review of Environmental Policy	• Review of Environmental Philosophy • Review of Environmental Policy	• Review of Environmental Philosophy • Review of Environmental Policy	Reviewed and issued Environmental Philosophy Reviewed and issued Environmental Policy	○
	② Prevention of environmental accidents through environmental risk reduction	• Zero major environmental accidents • No more than 3 environmental accidents	• Zero major environmental accidents • No more than 3 environmental accidents	• Zero major environmental accidents • 2 environmental accidents occurred	○
	③ Continual improvement of environmental management systems in overseas operations	• Implementation of education for raising the level of environmental personnel • Establishment and expansion of risk assessments	• Implementation of education for raising the level of environmental personnel • Establishment and expansion of risk assessments	• Implemented education at the time of environmental audit • Continued activities by using mother plants in Japan as a reference	○
	④ Promotion of management of chemical substances contained in products	• Promotion of management of chemical substances contained in products (RoHS, REACH)	• Promotion of management of chemical substances contained in products (RoHS, REACH)	• Verified the management status in environmental audits	○
	⑤ Responding to ISO 14001 revision	• Responding to ISO 14001:2015 revision	• Responding to ISO 14001:2015 revision	• All departments have completed switching to the 2015 edition	○
CO ₂ emissions reduction in product life cycle	① CO ₂ emissions reduction in product manufacturing	• Energy productivity (In Japan) 3% increase compared to FY2016 (Overseas) 3% increase compared to FY2016	• Energy productivity (In Japan) 1% increase compared to FY2016 (Overseas) 1% increase compared to FY2016	• Energy productivity (In Japan) 4.5% increase compared to FY2016 (Overseas) 19% increase compared to FY2016	○
	② CO ₂ emissions reduction in product use	• Contribution to CO ₂ reduction in product use Calculated and published the total amount (in Japan)	• Contribution to CO ₂ reduction in product use Calculated and published the total amount (in Japan)	• Contribution to CO ₂ reduction in product use Calculated and published the total amount in the integrated report (in Japan)	×
	③ CO ₂ emissions reduction in product shipping (green logistics)	• Reduction: Per basic unit of shipping weight 3% reduction compared to FY2016 (in Japan)	• Reduction: Per basic unit of shipping weight 1% reduction compared to FY2016 (in Japan)	• Reduction: Per basic unit of shipping weight 1% increase compared to FY2016 (in Japan)	×
Reduction of environmental impacts in business activities	① Reduction of VOC emissions	• Maintaining the reduction amount of 34% compared to FY2006 (In Japan, 2 departments); Total amount of use (In Japan, others): Basic unit of sales • Maintaining the reduction amount of 3% compared to FY2013 (Overseas): Basic unit of sales	• Maintaining the reduction amount of 34% compared to FY2006 (In Japan, 2 departments); Total amount of use (In Japan, others): Basic unit of sales • Maintaining the reduction amount of 2% compared to FY2013 (Overseas): Basic unit of sales	• Reduced amount compared to FY2006 (In Japan, 2 departments): 48% reduction in total amount of use (In Japan, others): 43% reduction per basic unit of sales • Reduced amount compared to FY2013 (Overseas): 39% reduction per basic unit of sales	○
	② Planned disposal of PCB waste	Planned disposal	Planned disposal	Verified the disposal status in environmental audits for continued disposal	○
	③ Reduction and effective use of waste generated	• Amount of reduction per basic unit of sales (In Japan) 6% reduction compared to FY2013 (Overseas) 6% reduction compared to FY2013 • (In Japan) Maintaining the landfill disposal rate of less than 0.5% • (Overseas) Maintaining the non-landfill waste disposal rate of 95%	• Amount of reduction per basic unit of sales (In Japan) 4% reduction compared to FY2013 (Overseas) 4% reduction compared to FY2013 • (In Japan) Maintaining the landfill disposal rate of less than 0.5% • (Overseas) Maintaining the non-landfill waste disposal rate of 95%	• Amount of reduction per basic unit of sales (In Japan) 23% reduction compared to FY2013 (Overseas) 8% increase compared to FY2013 • (In Japan) Landfill disposal rate of 0.004% • (Overseas) Non-landfill waste disposal rate of 96%	△
	④ Reduction of product packaging materials	• Amount of reduction per basic unit of sales 6% reduction compared to FY2013 (in Japan)	• Amount of reduction per basic unit of sales 4% reduction compared to FY2013 (in Japan)	• Amount of reduction per basic unit of sales 21% reduction compared to FY2013 (in Japan)	○
	⑤ Reduction of water consumption	• Amount of reduction in total amount of use (in Japan) Maintaining the average amount used in FY2014-2016 • Amount of reduction per basic unit of sales (overseas) 3% reduction compared to FY2013	• Amount of reduction in total amount of use (in Japan) Maintaining the average amount used in FY2014-2016 • Amount of reduction per basic unit of sales (overseas) 2% reduction compared to FY2013	• Amount of reduction in total amount of use (in Japan) 3.9% increase compared to the average amount used in FY2014-2016 • Amount of reduction per basic unit of sales (overseas) 43% reduction compared to FY2013	×
Conservation of biodiversity	① Reduction of CO ₂ emissions in product life cycle	Promotion of key Issues	Promotion of key Issues	• Efforts of each department are promoted as key Issues	○
	② Tree planting around offices	Continuation of greening of plants	Continuation of greening of plants	• Verified greening plans of each manufacturing base and the implementation status in environmental accounting	○

Global Warming Prevention Activities

We have been working on the reduction of CO₂ emissions by regarding it as the most important issue in the procurement/production/logistics business activities.

Promotion of environmental management

Promoting full-participation efforts

The Sumitomo Heavy Industries Group regards global warming prevention activities as part of environmental management, and the results are managed each month by the Environmental Management Department and fed back to persons in charge of business operations. In addition, the results are also reported to the management three times a year at the operating officer meetings.

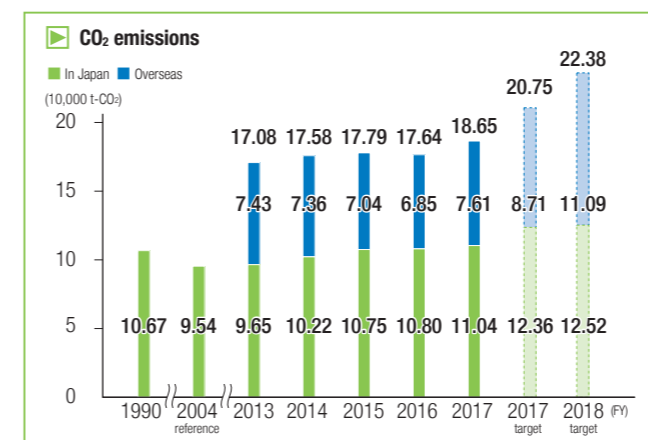
Each department of the Sumitomo Heavy Industries Group works on “full-participation” efforts and “visualization” of activities as well as various process improvement activities for further improving efficient energy use to promote global warming prevention activities.

Reduction of CO₂ emissions

CO₂ is on an increasing trend in non-production departments in Japan

In the 5th Medium-Term Environmental Plan, which commenced in FY2017, non-production departments operated with the target of annually reducing CO₂ emissions by 1% compared to FY2016. The result in FY2017 was a 12% increase compared to FY2016.

The major contributing factor for this is an increase in power usage associated with research and development (constant temperature rooms, clean rooms, and test runs, etc.).



* FY2016 CO₂ emission factor (alternative value) of 5.87 (t-CO₂/10,000 kWh) is used as a fixed value.

Improvement of energy productivity

Achieved the energy productivity targets both in Japan and overseas

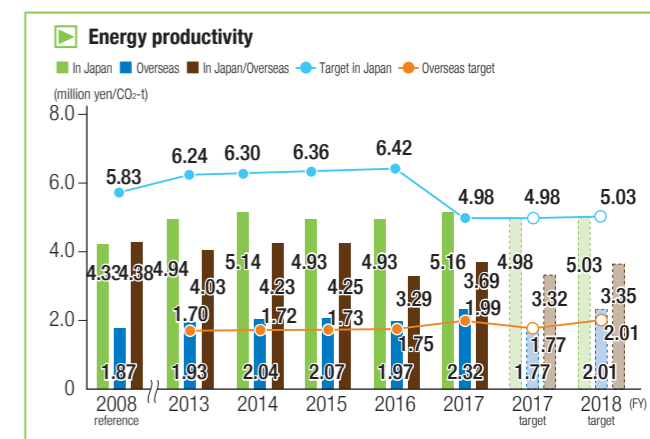
For production activities that account for the majority of CO₂ emissions in the Sumitomo Heavy Industries Group, energy productivity (sales/CO₂ emissions: inverse of emissions per basic unit) is used to carry out monthly management and operation of each BU (business unit).

In FY2017, as a result of carrying out activities with the target of a 1% improvement compared to FY2016, main production bases in Japan achieved the target with a 4.5% improvement.

As for overseas production bases, as a result of promoting activities with the target of improving energy productivity by 1% compared to FY2016, the target was achieved with a 19% improvement in FY2017.

We will continue to promote the following measures.

- ① Reduction of energy consumption by reducing production leadtime
- ② Setting and practicing of no operation days
- ③ Reduction of standby power of equipment/facilities
- ④ Efficient operation of equipment/facilities



Global Warming Prevention Activities

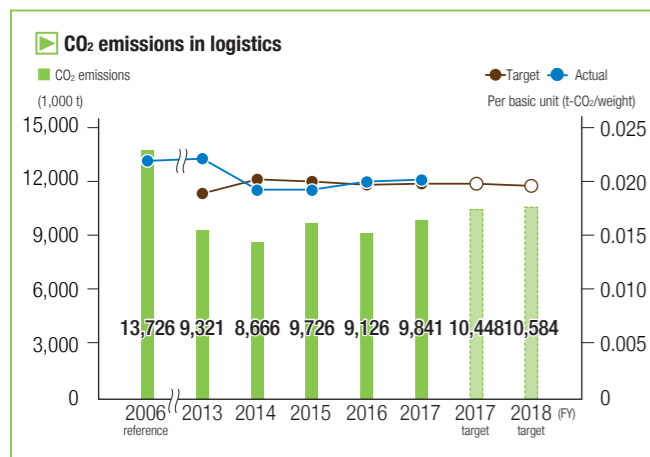
Promotion of green logistics

Promoting load factor improvement, modal shift, and effective utilization of modal mix

We have been working on the reduction of CO₂ emissions by eliminating waste and streamlining in shipping.

Promotion activities, including load factor improvement, modal shift, and effective utilization of modal mix, etc., have been continued with the target of a 1% reduction compared to FY2016. In FY2017, however, the target was not achieved with an increase of 1% in per basic unit of shipping (t-CO₂/weight). The major factor for this is increases in long-distance shipping and shipping of parts.

In FY2018, activities such as modal shift promotion and load factor improvement, etc. will be continued.

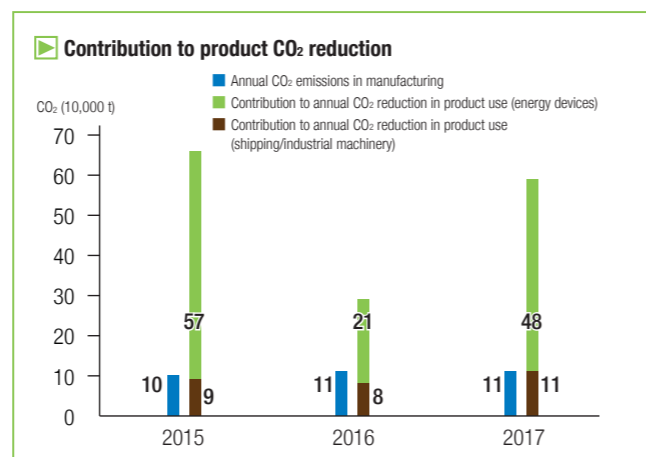


Reduction of CO₂ emissions in logistics by returnable containers made of reinforced corrugated plastic

Contribution to CO₂ emissions reduction in

Calculating the contribution to CO₂ reduction in product use

In the 5th Medium-Term Environmental Plan, contribution to CO₂ emissions reduction in product use is to be calculated and disclosed for each business unit. Contribution to CO₂ reduction in use of products sold in FY2017 was approximately 110,000 t-CO₂, which is almost at the same level as the total CO₂ emissions in production in the Sumitomo Heavy Industries Group. Approximately 590,000 t-CO₂, which is calculated by adding contribution to the reduction by biomass boilers and power generating turbines, etc. to this value will be the contribution of the Sumitomo Heavy Industries Group to CO₂ reduction.



Aframax tanker (SEACHRM)



Biomass power generation plant (delivered to Mombetsu Biomass Electric Power)

Recycling Society-Oriented Activities

We have been making efforts to control waste emissions from business activities, etc. and recycle and effectively use waste generated.

Environmental impact reduction efforts

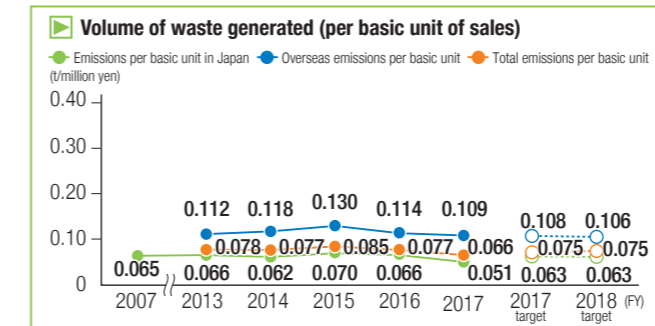
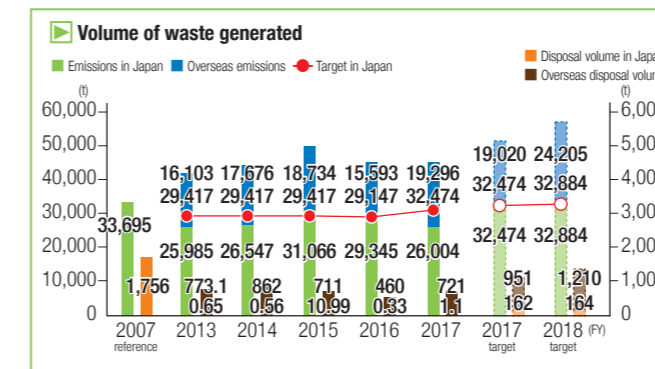
Building a recycling society

In order to build a recycling society, the Sumitomo Heavy Industries Group has been working to reduce waste emissions from business activities, etc. and recycle and effectively use waste generated as well as to reduce environmental impacts through business activities.

Suppression of emissions and reduction of disposal

Achieved the target of emissions per basic unit of sales in Japan

In Japan, the FY2017 target is set to a 5% reduction of the volume of waste generated per basic unit of sales compared to FY2013. (In FY2017) We have worked on the streamlining of production activities, elimination of waste, and emission control of scrap metal, etc. and achieved the FY2017 target with a 14% reduction compared to FY2013. For overseas subsidiary companies, activities have been performed also with the target of a 5% reduction compared to FY2013, but they resulted in an increase of 8% in FY2017.



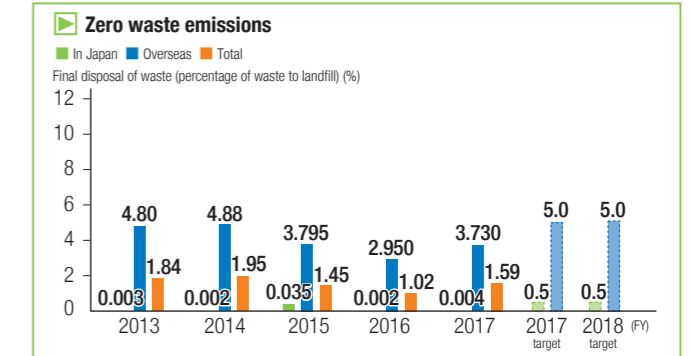
Zero emissions

Zero emissions were achieved at all Sumitomo Heavy Industries Group companies in FY2017

In Japan, the Sumitomo Heavy Industries Group defines a plant with the ratio of landfill disposal volume to waste generation volume (percentage of waste to landfill) of less than 0.5% as a zero-emission plant. Activities have been promoted

since FY2005, and in FY2017, all Works (6 Works and 7 plants) and all sites of Group companies outside of Works in Japan (9 companies) achieved zero emissions. In addition, for the entire Sumitomo Heavy Industries Group, the target was exceedingly achieved with the percentage of waste to landfill of 0.012%, having continuously achieved zero emissions since FY2011.

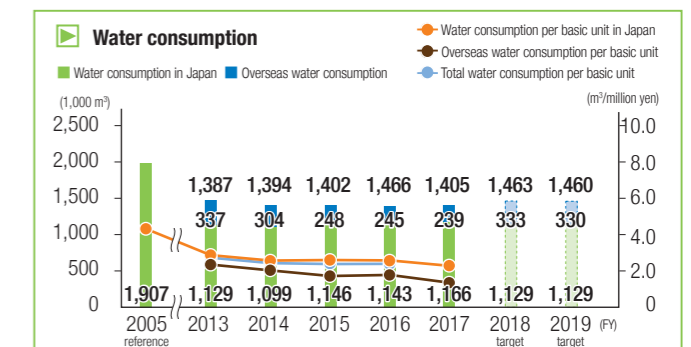
For overseas subsidiary companies, activities have been performed with the target of achieving the percentage of waste to landfill of less than 5%. In FY 2017, the target was achieved at 3.7%. In total in Japan and overseas, the percentage of waste to landfill was 1.6% in FY2017. In order to achieve zero emissions, recycling through waste segregation is considered important. We intend to continue strict waste segregation to maintain zero emissions in the future with the aim of establishing plants that contribute to a recycling society.



Reduction of water consumption

Water consumption in Japan is on an increasing trend

In the Sumitomo Heavy Industries Group, as a result of continued reduction of water consumption, unnecessary water consumption is deemed to have been almost entirely eliminated. In the 5th Medium-Term Environmental Plan, a target is set for Group companies in Japan to maintain the average water consumption of the previous three years (2014-2016 for FY2017). In FY2017, due to increased production and an increase in sprinkling of water as measures against a heat wave, the target was not achieved with an increase of 3.9%. We aim to achieve the target by continuing to work on the reduction of water consumption.



Chemical substance management activities

We manage chemical substances to promote prevention of environmental pollution.

Complete elimination of organochlorine chemicals

Continued complete elimination of use

Complete elimination of substances covered by the Soil Contamination Countermeasures Act

We continue to work on complete elimination of organic chemicals covered by the Soil Contamination Countermeasures Act, namely dichloromethane, tetrachloroethylene, and trichloroethylene.

Complete elimination of ozone-depleting substances

We have completely eliminated (and will continue to eliminate) the use of ozone-depleting substances HCFC-225 and HCFC-141b since FY2008 and FY2010, respectively.

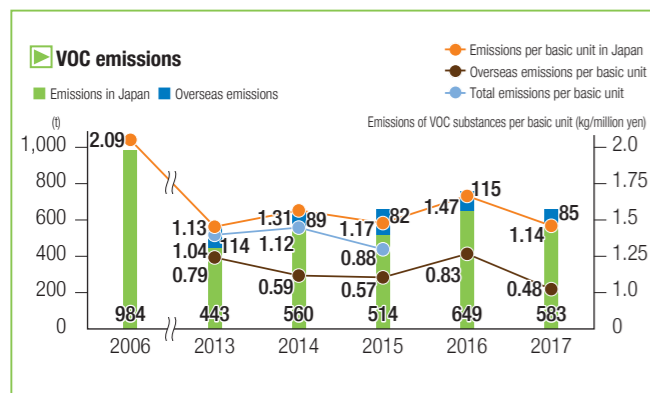
Elimination control of VOC substances

Group companies in Japan achieved a 48% reduction of emissions compared to FY2006 and a 43% reduction per basic unit of sales

Toluene, xylene, and ethyl benzene contained in paint solvents account for at least 90% of VOC substances that we use. We have been working with the target of maintaining at least a 34% reduction compared to FY2006.

In FY2017, we have achieved a 48% reduction compared to FY2006 with the introduction of powder painting, adoption of low solvent paints and cleaning agents not containing VOC, and reduction of paint consumption, etc. In addition, we have also achieved a 43% reduction per basic unit of sales. We will continue to reduce emissions in FY2018 and later by expanding the scope of adoption of low solvent paints and cleaning agents not containing VOC, expanding the use of powder painting, and reducing paint consumption through waste reduction, etc.

Overseas subsidiary companies also commenced the activities in FY2012 and achieved a 39% reduction compared to FY2013 in FY2017.



Emissions and transfer volume of PRTR substances

42% reduction compared to FY2006 and 43% reduction per basic unit of sales

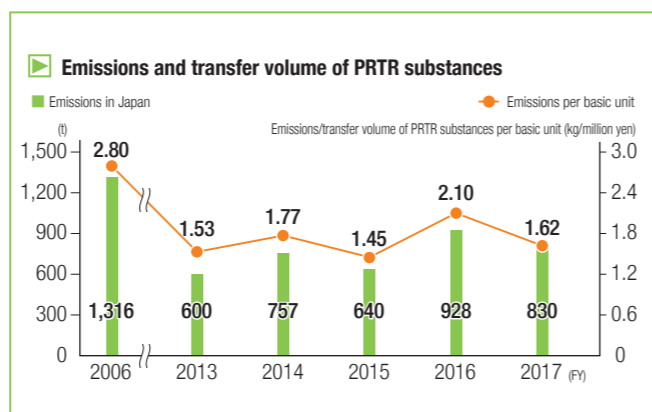
Paint solvents (toluene, xylene, and ethyl benzene) account for at least 90% of PRTR substances. In FY2017, a 42% reduction compared to FY2006 was achieved. In addition, we have also achieved a 43% reduction per basic unit of sales. We will work to reduce emissions and transfer volume by expanding the adoption of low solvent paints while maintaining quality and establishing/expanding solvent recovery and removal equipment/facilities.

Emissions and transfer volume of Class I Designated Chemicals Substances under the PRTR Law in FY2017 (Substances subject to reporting)

Unit: kg

Substance No.	Substance designation	Emissions + transferred amount	
		FY2016	FY2017
53	ethylbenzene	167,544	139,441
80	xylene	504,238	468,451
240	styrene	1,960	1,709
296	1,2,4-trimethylbenzene	12,750	14,915
297	1,3,5-trimethylbenzene	4,906	4,971
300	toluene	176,446	144,615
374	hydrogen fluoride and its water-soluble salts	18,807	19,332
384	1-bromopropane	15,202	13,036
392	n-hexane	1,423	1,150
405	boron and its compounds	1,541	1,126
412	manganese and its compounds	13,275	12,201
420	methyl methacrylate	1,453	1,032

* Emissions + transferred amount is the total amount for Sumitomo Heavy Industries and all Group companies.



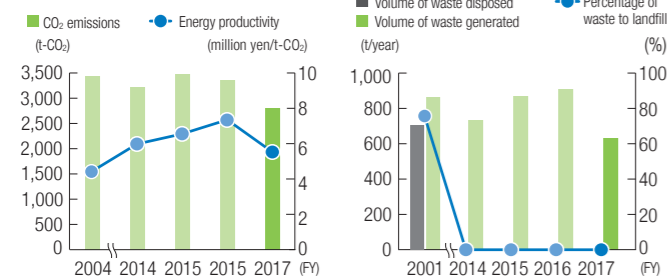
Control of PCB and complete elimination of devices

Stabilizers containing PCB are gradually being replaced/detoxified

All the devices containing high concentration PCB have been registered to the Japan Environmental Safety Corporation through early registration, and are detoxified in a planner manner based on the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes. Transformers containing PCB and stabilizers for lighting equipment containing PCB are gradually replaced/detoxified. Transformers containing PCB and stabilizers for lighting equipment containing PCB are gradually being replaced/detoxified.

[Environmental impact data for Group companies in Japan (outside of Works)]

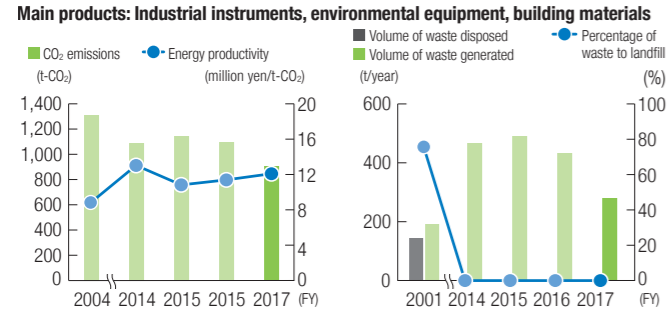
Shin Nippon Machinery Co., Ltd. Main products: Turbines, pumps



Electric power (1,000 kWh)	3963.4
Gasoline (kL)	0.1
Kerosene (kL)	183.4
Heavy fuel oil A (kL)	3.7
Light oil (kL)	--
LPG (t)	5.4
City gas (1,000 m ³)	0.1
Water consumption (m ³)	17,351
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--
Discharge into the water	
COD (kg)	--
Nitrogen (kg)	--
Phosphorus (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
2-aminoethanol	6	1
antimony and its compounds	3	0
ethylbenzene	669	73
xylene	2,029	219
cumene	14	2
chromium and chromium(III) compounds	6	1
cobalt and its compounds	83	9
styrene	1	0
1,2,4-trimethylbenzene	785	87
1,3,5-trimethylbenzene	349	39
toluene	751.84	77.76

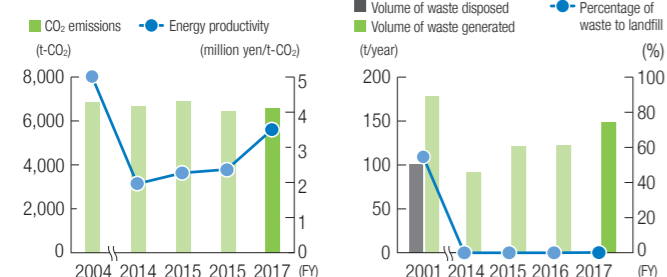
Nihon Spindle Mfg. Co., Ltd. Main products: Industrial instruments, environmental equipment, building materials



Electric power (1,000 kWh)	1450.2
Gasoline (kL)	1.8
Kerosene (kL)	--
Heavy fuel oil A (kL)	--
Light oil (kL)	--
LPG (t)	--
City gas (1,000 m ³)	24.0
Water consumption (m ³)	9,376
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
antimony and its compounds	0.03	0.02
ethylbenzene	447	351
xylene	845	683
chromium(VI) compounds (including lead chromate)	0.04	0.03
cobalt and its compounds	0	0.1
triethylenetetramine	1.39	1.20
1,2,4-trimethylbenzene	5	4
1,3,5-trimethylbenzene	1	1
toluene	992	999.15
naphthalene	0.07	0.07
lead compounds	0	0.01
vanadium compounds	2	1.68
hexamethylene diisocyanate	0.13	0.07
benzene	4.04	0.00

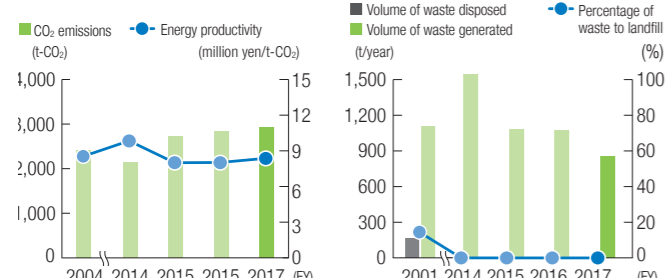
Sumitomo Heavy Industries Ion Technology Co., Ltd. (formerly SEN) Main products: Ion implanters



Electric power (1,000 kWh)	11179.8
Gasoline (kL)	--
Kerosene (kL)	--
Heavy fuel oil A (kL)	--
Light oil (kL)	--
LPG (t)	--
City gas (1,000 m ³)	--
Water consumption (m ³)	15,615
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
2-aminoethanol	0.000	9.000
antimony and its compounds	0.00	0.17
indium and its compounds	0.00	0.01
ethylene glycol monomethyl ether (2-methoxyethanol)	0.00	5.40
toluene	0.00	14
arsenic and its inorganic compounds	0.00	1
hydrogen fluoride and its water-soluble salts	0.00	21
boron and its compounds	0.00	1.58

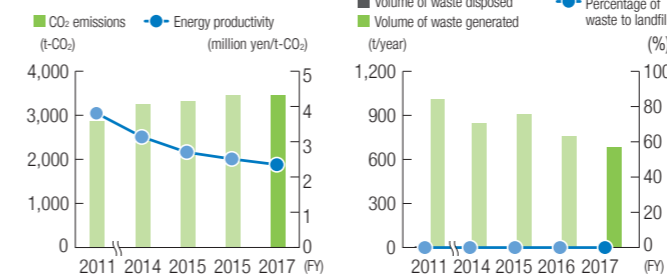
Sumitomo NACCO Forklift Co., Ltd. Main products: Forklifts



Electric power (1,000 kWh)	3490.0
Gasoline (kL)	13.6
Kerosene (kL)	--
Heavy fuel oil A (kL)	22.6
Light oil (kL)	--
LPG (t)	108.7
City gas (1,000 m ³)	210.3
Water consumption (m ³)	12,447
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
zinc compounds (water-soluble)	0.00	112
ethylbenzene	12,231	627
ethylene glycol monoethyl ether (2-ethoxyethanol)	191	10
ethylenediamine	81	11
1-octanol	0.0	0.1
xylene	26,033.10	1,460.51
cumene	94	5
ethylene glycol monoethyl ether acetate	462	23.77
tetrachloromethane	0.19	0
2,6-di-tert-butyl-4-cresol	0.0	0.4
styrene	12	1
1,2,4-trimethylbenzene	2,873	148
1,3,5-trimethylbenzene	258	13
toluene	9,227	473
naphthalene	313	18
nickel compounds	0.00	13
di-n-butyl phthalate	0	0.02
hexamethylene diisocyanate	10	1
n-hexane	372	19
benzene	65	3
boron and its compounds	766	39
formaldehyde	15	1
manganese and its compounds	0.00	17
n-butyl methacrylate	56	3
methyl methacrylate	37	2
α-methylstyrene	14	1

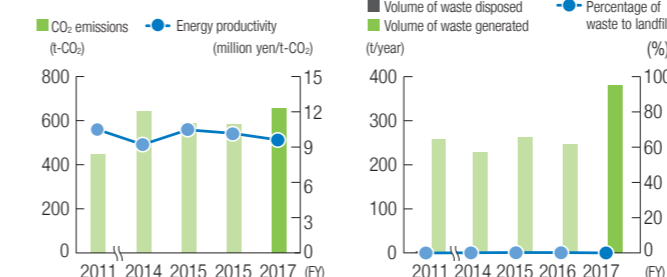
Sumitomo Heavy Industries Gearbox Co., Ltd. (formerly Seisa) Main products: Gear reducers



Electric power (1,000 kWh)	5381.3
Gasoline (kL)	1.5
Kerosene (kL)	0.6
Heavy fuel oil A (kL)	1.7
Light oil (kL)	--
LPG (t)	7.5
City gas (1,000 m ³)	120.3
Water consumption (m ³)	9,620
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	150.0

PRTR (kg/year)	Emissions	Transfer volume
Ethylbenzene	108	166
ethylene glycol monoethyl ether (2-ethoxyethanol)	13	18
xylene	219	330
styrene	2	1
1,3,5-trimethylbenzene	8	10
toluene	3,650	5,539
lead	29	46
hexamethylene diisocyanate	4	5
methyl methacrylate	2	2

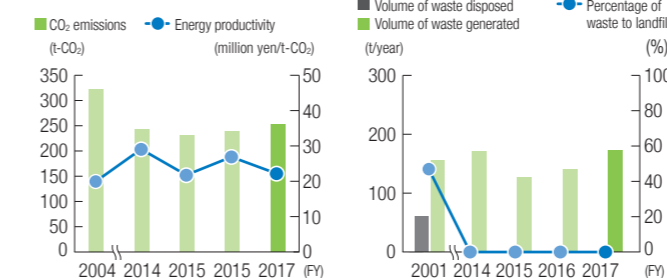
Sumitomo Heavy Industries Modern, Ltd. Main products: Plastic extrusion molding machines



Electric power (1,000 kWh)	1053.2
Gasoline (kL)	--
Kerosene (kL)	--
Heavy fuel oil A (kL)	13.9
Light oil (kL)	--
LPG (t)	0.8
City gas (1,000 m ³)	--
Water consumption (m ³)	2,350
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
ethylbenzene	595	0
xylene	851	0
cumene	0	0
1,2,4-trimethylbenzene	27	0
1,3,5-trimethylbenzene	15	0
toluene	5,411	0
di-n-butyl phthalate	30	0

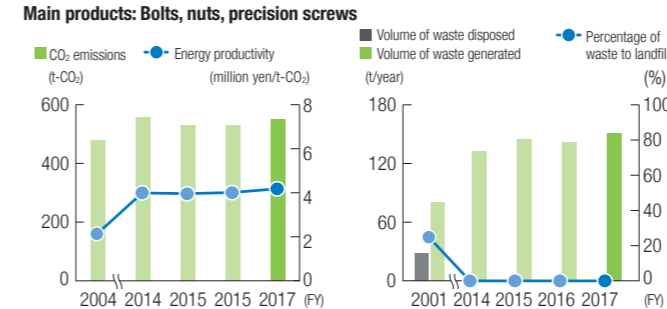
Izumi Food Machinery Co., Ltd. Main products: Food processing machinery



Electric power (1,000 kWh)	430.1
Gasoline (kL)	--
Kerosene (kL)	--
Heavy fuel oil A (kL)	0.1
Light oil (kL)	0.2
LPG (t)	--
City gas (1,000 m ³)	--
Water consumption (m ³)	2,002
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--

PRTR (kg/year)	Emissions	Transfer volume
hydrogen fluoride and its water-soluble salts	11	0.03

SFK Co., Ltd. Main products: Bolts, nuts, precision screws



Electric power (1,000 kWh)	895.7
Gasoline (kL)	2.4
Kerosene (kL)	7.2
Heavy fuel oil A (kL)	--
Light oil (kL)	--
LPG (t)	--
City gas (1,000 m ³)	0.4
Water consumption (m ³)	909
Discharge into the atmosphere	
SOx (kg)	--
NOx (kg)	--
Discharge into the water	
COD (kg)	4,545
Nitrogen (kg)	--
Phosphorus (kg)	--

Complete elimination of PRTR substances

Group companies in Japan that have independently received the ISO14001 certification

Group company	Date of certification	Group company	Date of certification
Sumitomo NACCO Forklift Co., Ltd.	Mar. 2000	Nihon Spindle Mfg. Co., Ltd.	Mar. 2006
Shin Nippon Machinery Co., Ltd.	Feb. 2002	Japan Electron Beam Irradiation Service Co., Ltd.	Jan. 2007
Izumi Food Machinery Co., Ltd.	June 2002	Sumitomo Heavy Industries Power Transmission & Controls Sales Co., Ltd.	Sep. 2007
Sumitomo Heavy Industries Ion Technology Co., Ltd.	Oct. 2002	SFK Co., Ltd.	Aug. 2008
Sumiju Environmental Engineering Co., Ltd.	Oct. 2002	Sumitomo Heavy Industries Gearbox Co., Ltd.	Aug. 2009
Sumitomo Heavy Industries Environment Co., Ltd.	Nov. 2002	Sumitomo Heavy Industries Modern, Ltd.	Dec. 2009
Lightwell Co., Ltd.	Feb. 2005	Kyokuto Seiki Co., Ltd.	Feb. 2015

