### **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.

**Changes in environmental management activities** of the Sumitomo Heavy Industries Group

Sumitomo Heavy Industries Group

#### From FY 1995

Establishment of the Sumitomo Heavy **Industries Environmen** Policy (1997) Establishment of the Sumitomo Heavy Industries Group

recycling

(1999)(Pollution prevention activities. ISO 14001 certification)

#### FY2000-2004

Pollution prevention activities, obtaining and responding to ISO 14001 certification Waste reduction and

Environmental Policy 2000

#### (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 CO<sub>2</sub> 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

Biomass power generation plant

(delivered to Summit Handa Power Corporation)

Efforts will be made mainly in "reduction of environmental impacts in product life cycle", including reduction of (contribution to) CO<sub>2</sub> emissions that have the largest impacts on biodiversity.

# CO<sub>2</sub> emissions in production and product use Production in the Group 5.3% 0.5% Waste disposal Production of raw materials/ purchased products 15%



#### CO<sub>2</sub> emissions reduction in the entire product life cycle and contribution to CO<sub>2</sub> reduction in product use

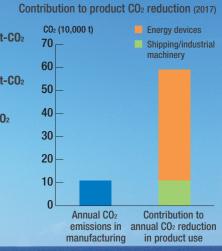
Of CO<sub>2</sub> emissions in the entire product life cycle, CO2 emissions in manufacturing account for 5% (110,000 t), whereas CO<sub>2</sub> emissions in product use (including energy devices and biomass) account for a much higher percentage at 79%. CO<sub>2</sub> emissions reduction effect in product use in FY2017 was 110,000 t, which is equivalent to CO<sub>2</sub> emissions in manufacturing, and contributing to society by improving this figure is an important

(CO<sub>2</sub> emissions excluding biomass)

CO<sub>2</sub> emissions in product life cycle in FY2017 (including energy and environmental devices) Manufacturing 110,405 t-CO<sub>2</sub> Raw materials 313.671 t-CO2 5.3% 15.0% Waste disposal 8,405 t-C02 0.4% Logistics 9,841 t-CO2 0.5% Product use 1,641,750t-CO2 78.7% Use of energy devices 776,000 t

Use of industrial/shipping devices 866,000 t (Reduction of 110,000 t compared to devices from 7 years ago)

(Biomass boilers 470,000 t)



CO<sub>2</sub> emissions in product life cycle (2017) Contribution to CO<sub>2</sub> emissions reduction in product life cycle (2017)



Equivalent to 39% of CO<sub>2</sub> emissions in product use of 1,600,000 t

40,000 t

110,000 t

480,000 t

630,000 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.

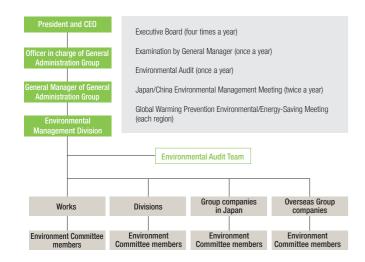
May 1, 2017

#### Environmental management audit

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

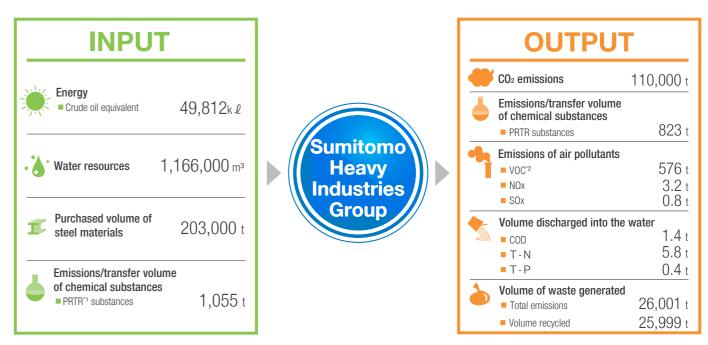
The Environmental Management Department of the Head Office conducts environmental audits on each Works and Group company in Japan once a year. Audits are conducted on environmental risk assessments, global warming prevention activities, and overall environmental management. The audit results are evaluated 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.

Costs for environmental preservation						Effectiveness of environmental preservation				
	Category	Main contents of efforts	Investment		cost		Economic effect		Main contents	
	Galegory	main contents of enorts		FY2016	FY2017	FY2016	FY 2017	FY2016	FY 2017	iviairi contents
(1) Costs within the business area		Maintenance/depreciation of environmental impact facilities	t reduction equipment/	2,976	598	1,329	834	266	247	
	(1) - 1 Pollution prevention costs	Maintenance/management of air/water pollution p facilities, and measurement of noise/vibration	revention equipment/	265	46	246	352			
break- down	(1) - 2 Global environmental conservation costs	Investments in energy saving measures (power monitoring, energy saving equipment, and systems, etc.)	upgrade of lighting	2,655	528	59	82	68	73	Cost reduction by energy/resource saving and 3Rs
	(1) - 3 Resource recycling costs	Investments in waste reduction and resource recoreuse)	very (recycle and	55	24	1,025	400	198	174	Cost reduction by waste reduction Sales value of valuable resources
	ostream/downstream osts	Reduction of product packaging materials, recyclir appliances, and use of the reverse side of paper	ng of home electric	2	1	1	1			
(3) M	anagement activity costs	Maintenance and administration of ISO 140 expansion of green spaces	01 standards, and	20	7	158	138			
,	esearch & development ests	Research/development for environmental impact r and research/development of environmental equip		1,806	3,498	861	1,131			
(5) Sc	ocial activity costs	Global environmental conservation and greening a	ctivities	0	0	1	11			
107	osts for handling environ- ental damage	Levies on air pollution loads, and share of green be compensation	elts and pollution	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: $\bigcirc$ Achieved, $\triangle$ Achievement rate of 90% or more, $\times$ Achievement rate of less than 90% or more, $\triangle$ Achi				han 90%	
Index	ltem	5th Medium-Term Environmental Plan (2017-2019)	FY2017 target	Achievement in FY2017	Evalua- tion
	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	0
	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	0
Strengthening of environ- mental risk management	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 environ- mental audit     Continued activities by using mother plants in Japan as a reference	0
	Promotion of management of chemical substances contained in products	Promotion of management of chemical sub- stances contained in products (RoHS, REACH)	Promotion of management of chemical sub- stances contained in products (RoHS, REACH)	Verified the management status in environmental audits	0
	(\$) 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	0
	① CO <sub>2</sub> 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	0
CO <sub>2</sub> emissions reduction in product life cycle	② CO <sub>2</sub> emissions reduction in product use	Contribution to CO <sub>2</sub> reduction in product use Calculated and published the total amount (in Japan)	Contribution to CO <sub>2</sub> reduction in product use Calculated and published the total amount (in Japan)	Contribution to CO <sub>2</sub> reduction in product use Calculated and published the total amount in the integrated report (in Japan)	×
	③ CO <sub>2</sub> 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)	×
	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	0
	② Planned disposal of PCB waste	Planned disposal	Planned disposal	Verified the disposal status in environmental audits for continued disposal	0
Reduction of environmental impacts in business activities	(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%	Δ
	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)	0
	(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	×
Concernation of his divers	Reduction of CO <sub>2</sub> emissions in product life cycle	Promotion of key Issues	Promotion of key Issues	Efforts of each department are promoted as key Issues	0
Conservation of biodiversity	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 environ- mental accounting	0

# **Global Warming Prevention Activities**

We have been working on the reduction of CO<sub>2</sub> 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.

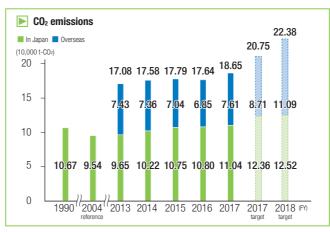
Each department of the Sumitomo Heavy Industries Group works on "full-participation" efforts and "visualization" of activities as well as various process improvement activities for further improving efficient energy use to promote global warming prevention activities.

#### Reduction of CO<sub>2</sub> emissions

# $CO_2$ 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 CO<sub>2</sub> 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.).



 $<sup>^{\</sup>star}$  FY2016 CO  $_{\! 2}$  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

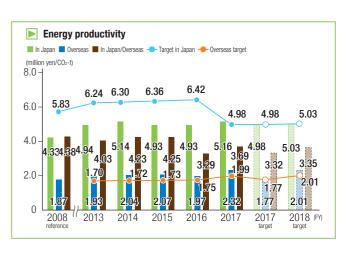
For production activities that account for the majority of  $CO_2$  emissions in the Sumitomo Heavy Industries Group, energy productivity (sales/ $CO_2$  emissions: inverse of emissions per basic unit) is used to carry out monthly management and operation of each BU (business unit).

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.

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



#### **Global Warming Prevention Activities**

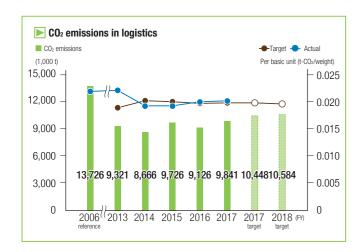
#### Promotion of green logistics

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

We have been working on the reduction of CO<sub>2</sub> 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-CO<sub>2</sub>/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.



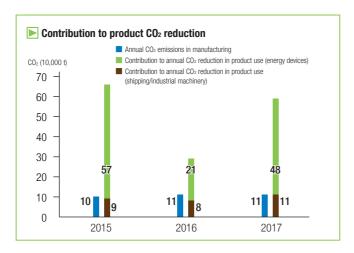


Reduction of CO<sub>2</sub> emissions in logistics by returnable containers made of reinforced corrugated plastic

#### Contribution to CO<sub>2</sub> emissions reduction in

# Calculating the contribution to $CO_2$ reduction in product use

In the 5th Medium-Term Environmental Plan, contribution to CO<sub>2</sub> emissions reduction in product use is to be calculated and disclosed for each business unit. Contribution to CO<sub>2</sub> reduction in use of products sold in FY2017 was approximately 110,000 t-CO<sub>2</sub>, which is almost at the same level as the total CO<sub>2</sub> emissions in production in the Sumitomo Heavy Industries Group. Approximately 590,000 t-CO<sub>2</sub>, 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 CO<sub>2</sub> 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**

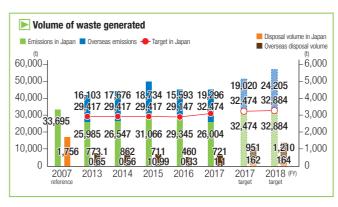
#### **Building a recycling society**

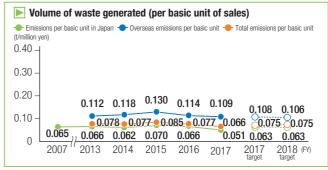
In order to build a recycling society, the Sumitomo Heavy Industries Group has been working to reduce waste emissions from business activities, etc. and recycle and effectively use waste generated as well as to reduce environmental impacts through business activities.

#### 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.





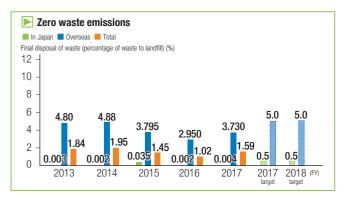
#### Zero emissions

#### 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.

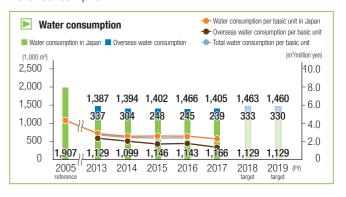
For overseas subsidiary companies, activities have been performed with the target of achieving the percentage of waste to landfill of less than 5%. In FY 2017, the target was achieved at 3.7%. In total in Japan and overseas, the percentage of waste to landfill was 1.6% in FY2017. In order to achieve 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.

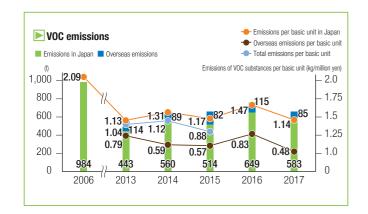
#### Elimination control of VOC substances

# 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**

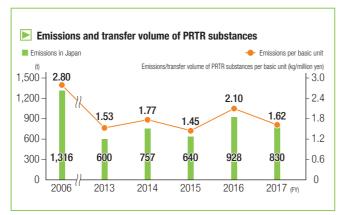
# 42% reduction compared to FY2006 and 43% reduction per basic unit of sales

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)

UNDER THE PRIK LAW IN FY2017 (Substances subject to reporting)			
			Unit: kg
Substance	Cubatanas designation	Emissions + tra	nsferred amount
No.	Substance designation	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**

Environmental impact data for Works\*1 of Sumitomo Heavy Industries and its Group companies in Japan\*2 and main overseas Group companies is as follows.

\*1 Including Group companies within Works \*2 Group companies outside of Works

#### Environmental impact data for each Works

#### Tanashi Works

- ISO 14001 (obtained in Aug. 1998) ■ Established in 1938 ■ Site area: 40,706 m² ■ Building area: 14,368 m²
- Main products: Cryogenic equipment, defense equipment



_	Electric power (1,000 kWh)	6,996
Energy consumption	Gasoline (kL)	0.02
ју со	Kerosene (kL)	0.78
nsur	Heavy fuel oil A (kL)	0.32
nptic	Light oil (kL)	_
ĭ	LPG (t)	_
	City gas (1,000 m <sup>3</sup> )	2.41
Wa	ater consumption (m³)	11,998
	Discharge into the atn	nosphere
	SOx (kg)	-
	NOx (kg)	

PRTR (kg/year)	Emissions	Transfer volume
ethylbenzene	32	
1,2-epoxybutane	4	
ferric chloride	0	6
xylene	74	
cresol	0	
chromium and chromium(III) compounds	0	2
chromium(VI) compounds (including lead chromate)	0	3
ethylene glycol monoethyl ether acetate	4	
toluene	488	
lead	0	2
lead compounds	0	
1-bromopropane	4644	
manganese and its compounds	0	8

#### Chiba Works

- Established in 1965
- ISO 14001 (obtained in Apr. 1999)
- Site area: 294,600 m² ■ Building area: 110,692 m<sup>2</sup>
- Main products: Plastic processing machines, metallic molds, hydraulic excavators

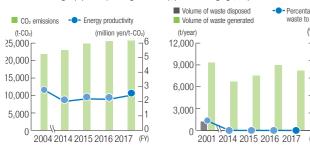
- main productor riaddo produceing machine	, motamo morao, mjaraano ondavatoro
CO <sub>2</sub> emissions - Energy productivity	■ Volume of waste disposed ■ Volume of waste generated (t/year)  Percentage of waste to landfill (t/year)
1,6000	5,000 [ 7 100
1,2000 - 12	4,000 - 80
8,000	3,000 60
0,000	2,000 - 40
4,000	1,000 - 20
0	
2004 2014 2015 2016 2017 (FY)	2001 2014 2015 2016 2017 (FY)

Energy or	Electric power (1,000 kWh)	20,651		
	Gasoline (kL)	122.42		
	Kerosene (kL)	2.40		
nsur	Heavy fuel oil A (kL)	477.59		
notic	Light oil (kL)	_		
ă	LPG (t)	16.75		
	City gas (1,000 m <sup>3</sup> )	1478.31		
Water consumption (m <sup>3</sup> )		78,809		
	Discharge into the atn	nosphere		
	SOx (kg)	_		
	NOx (kg)	171		

PRTR (kg/year)	Emissions	Transfer volume
zinc compounds (water-soluble)	210	2
2-aminoethanol	11	
ethylbenzene	1,328	47
xylene	60,552	11917
styrene	750	43
1,2,4-trimethylbenzene	2,467	102
1,3,5-trimethylbenzene	449	15
toluene	14,916	7,60
naphthalene	605	35
nickel compounds	3	
hexamethylene diisocyanate	38	
n-hexane	382	22
manganese and its compounds	3	
methyl methacrylate	602	35

#### Yokosuka Works

- Established in 1971
- ISO 14001 (obtained in Mar. 1999)
- Building area: 170,635 m²
- Main products: Stage systems, system controllers, laser processing systems, semiconductor manufacturing equipment (molding machines), precision forgings, ships

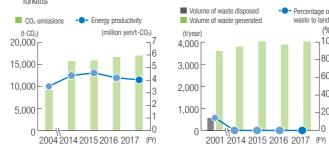


_	(1,000 kWh)	00,100	
Energy consumption	Gasoline (kL)	31.20	
ly co	Kerosene (kL)	_	
nsur	Heavy fuel oil A (kL)	205.36	
nptic	Light oil (kL)	-	
ĭ	LPG (t)	11.47	
	City gas (1,000 m <sup>3</sup> )	1589.45	
Water consumption (m <sup>3</sup> )		166,584	
	Discharge into the at	tmosphere	
	SOx (kg)	-	
	NOx (kg)	890.5	
	Discharge into the	e water	
COD (kg)		359.8	
	Nitrogen (kg)	310.5	
	Phosphorus (kg)	41.2	

PRTR (kg/year)	Emissions	Transfer volume
zinc compounds (water-soluble)	361	19
acetonitrile	0	38
ethylbenzene	79,792	(
ferric chloride	4	69
cadmium and its compounds	0	25
xylene	120,913	(
silver and water-soluble silver compounds	1	56
glutaraldehyde	0.00	0.26
chromium and chromium(III) compounds	0	26
chromium(VI) compounds (including lead chromate)	1	154
chloroform	0	43
cobalt and its compounds	1	122
4,4'-diaminodiphenyl ether	0.0	0.0
dichloromethane	1	(
N,N-dicyclohexylamine	21	394
N,N-dimethylformamide	0	-
mercury and its compounds	0	25
copper salts (water-soluble, except complex salts)	0	(
1,2,4-trimethylbenzene	9	(
1,3,5-trimethylbenzene	13	(
toluene	28,568	137
lead compounds	0	1
nickel	0	Ę
carbon disulfide	0	3
arsenic and its inorganic compounds	0	0.4
hydroquinone	0	2
phenol	0.0	0.2
hydrogen fluoride and its water-soluble salts	17	16,738
1-bromopropane	6,117	2,27
hexamethylene diisocyanate	1	10
n-hexane	0	144.3
betanaphthol	0	1
water-soluble salts of peroxodisulfuric acid	0	
benzene	0.00	0.0
boron and its compounds	4	40
poly(oxyethylene) nonylphenyl ether	1	10
formaldehyde	0	(
manganese and its compounds	1,048	9,80
molybdenum and its compounds	0.2	0.
tritolyl phosphate	0	1,64
triphenyl phosphate	1	19

#### Nagoya Works

- ISO 14001 (obtained in Jan. 1999)
   Building area: 90,000 m<sup>2</sup> Established in 1961 ■ Site area: 293,000 m²
- Main products: Power transmission and controls, gear motors, inverters, construction cranes,

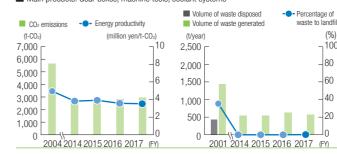


	Electric power (1,000 kWh)	23,443
Ene	Gasoline (kL)	44
Energy consumption	Kerosene (kL)	0.22
nsnc	Heavy fuel oil A (kL)	153
nptk	Light oil (kL)	_
ĭ	LPG (t)	5.9
	City gas (1,000 m <sup>3</sup> )	1,237.29
Wa	ter consumption (m³)	107,005
	Discharge into the at	tmosphere
	SOx (kg)	_
	NOx (kg)	-
Discharge into the water		e water
	COD (kg)	562.1
	Nitrogen (kg)	75.9
	Phosphorus (kg)	7.6

PRTR (kg/year)	Emissions	Transfer volume
acrylic acid and its solutions	3	0
ethylbenzene	8,445	3,314
xylene	74,089	2,886
cumene	166	0
cobalt and its compounds	0.04	0
styrene	484	9
1,2,4-trimethylbenzene	6,582	457
1,3,5-trimethylbenzene	2,129	1,080
tolylene diisocyanate	342	0
toluene	21,881	589
naphthalene	412	21
nickel	1	2
water-soluble salts of peroxodisulfuric acid	0.2	0
benzene	0.6	0
boron and its compounds	39.4	0
poly(oxyethylene) alkyl ether (alkyl C=12-15)	7	0
manganese and its compounds	32	63
n-butyl methacrylate	2	0
methyl methacrylate	34	0
a-methylstyrene	34	0
1-methyl-1-phenylethyl hydroperoxide	3	0
methylenebis(4,1-cyclohexylene) diisocyanate	0	5
tri-n-butyl phosphate	0.1	0.0

#### Okayama Works

- Established in 1948 ■ ISO 14001 (obtained in Mar. 2000)
- Site area: 425,000 m² ■ Building area: 78,000 m<sup>2</sup>
- Main products: Gear boxes, machine tools, coolant systems



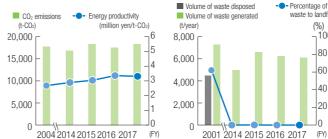
,	Electric power (1,000 kWh)	4,591		
	Gasoline (kL)	0.59		
	Kerosene (kL)	-		
	Heavy fuel oil A (kL)	4.17		
	Light oil (kL)	_		
	LPG (t)	79.37		
	City gas (1,000 m <sup>3</sup> )	-		
ater consumption (m³)		9,088		
Discharge into the atmosphere				
	SOx (kg)	_		
NOx (kg)		171		
	Discharge into the	e water		
COD (kg)		54.7		
Nitrogen (kg)		303.8		
	Phosphorus (kg)	13.5		

10.20

PRTR (kg/year)	Emissions	Transfer volume
ethylbenzene	1,570	(
xylene	2,623	(
1,3,5-trimethylbenzene	381	C
toluene	5,576	C

#### **Ehime Works (Niihama Factory)**

- Established in 1888 Site area: 418,000 m² ■ ISO 14001 (obtained in Nov. 1999)
- Main products: Coating ed
- systems, forge rolling mad



		101 (UDIAIHEU III NUV. 199	9)	I	ergy.	Gasonne (KL)	10.20
					Kerosene (kL)	16.90	
	, ion acce	elerators, transporting ma	chines, parking		nsn	Heavy fuel oil A (kL)	96.90
achines					consumption	Light oil (kL)	930.00
		Volume of waste dispose		,	on I	LPG (t)	601.00
gy productivit	,	Volume of waste generat				City gas (1,000 m <sup>3</sup> )	_
million yen/t-	GU2) 6	(t/year) 8.000 -	(%	100	Wa	ter consumption (m³)	662,856
	٦٥	0,000	7	100		Discharge into the at	mosphere
	- 5	6,000 -		80		SOx (kg)	807
	-4	0,000		60		NOx (kg)	1,410
_•—	_3	4,000 -	7	[		Discharge into the	e water
	2	4,000	-4	40 [		COD (kg)	157.5
	-  -	2.000		<sub>20</sub>		Nitrogen (kg)	490.2
	- 1	2,000	1	20		Phosphorus (kg)	4.0
	$\sqcup_0$			0			
		U 11					

PRTR (kg/year)	Emissions	Transfer volume
zinc compounds (water-soluble)	0	(
ethylbenzene	1254	100
ferric chloride	0	1
xylene	1805	146
chromium and chromium(III) compounds	0	2
chromium(VI) compounds (including lead chromate)	0	1
cobalt and its compounds	16	-
styrene	5	1
1,2,4-trimethylbenzene	49	3
1,3,5-trimethylbenzene	6	(
toluene	1178	103
naphthalene	33	3
di-n-butyl phthalate	69	
n-butyl benzyl phthalate	0.1	0.0
hydrogen fluoride and its water-soluble salts	5	(
n-hexane	8	(
water-soluble salts of peroxodisulfuric acid	1	(
boron and its compounds	38	(
manganese and its compounds	0	3

#### Ehime Works (Saijo Factory)

- Established in 1973
- Site area: 535,000 m²
- Main products: Pressure vessels, stirring/mixing machin structures



	nerg	Gasoline (kL)	15.12
	9	Kerosene (kL)	-
s, steel	nsur	Heavy fuel oil A (kL)	49.36
Doroontono of	nptic	Light oil (kL)	6.45
waste to landfill	ı	LPG (t)	71.09
(%)		City gas (1,000 m <sup>3</sup> )	_
¬100	Wa	ter consumption (m³)	58,149
		Discharge into the at	mosphere
- 80		SOx (kg)	18
_60		NOx (kg)	136
		Discharge into the	e water
40		COD (kg)	278.0
20		Nitrogen (kg)	319.3
720		Phosphorus (kg)	24.6
0			
	(%) 100 -80	Percentage of waste to landfill (%) - 100 - 80 - 60 - 40	Percentage of waste to landfill (%)

7,288	PRTR (kg/year)	Emissions	Transfer volume
15.12	bisphenol A (not bisphenol A based liquid epoxy resin)	1	1
49.36	ethylbenzene	3,509	2,851
6.45	xylene	11,598	9,837
71.09	cumene	2	2
-	styrene	3	2
8,149	1,2,4-trimethylbenzene	228	166
re	1,3,5-trimethylbenzene	35	33
18	toluene	3,727	4,575
136	naphthalene	28	15
	nonylphenol	11	9
278.0	hexamethylene diisocyanate	0.2	0.3

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

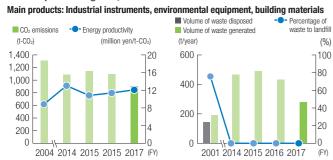
#### Shin Nippon Machinery. Co., Ltd. Main products: Turbines, pumps



_	Electric power (1,000 kWh)	3963.4		
ner	Gasoline (kL)	0.1		
Jy co	Kerosene (kL)	183.4		
nsur	Heavy fuel oil A (kL)	3.7		
Energy consumption	Light oil (kL)	-		
B	LPG (t)	5.4		
	City gas (1,000 m <sup>3</sup> )	0.1		
W	ater consumption (m³)	17,351		
	Discharge into the atn	nosphere		
	SOx (kg)	_		
	NOx (kg)	_		
	Discharge into the water			
	COD (kg)	_		
	Nitrogen (kg)	_		
	Phosphorus (kn)	_		

PRTR (kg/year)	Emissions	Transfer volume
2-aminoethanol	6	
antimony and its compounds	3	
ethylbenzene	669	7
xylene	2,029	21
cumene	14	
chromium and chromium(III) compounds	6	
cobalt and its compounds	83	
styrene	1	
1,2,4-trimethylbenzene	785	8
1,3,5-trimethylbenzene	349	3
toluene	751.84	77.7

#### Nihon Spindle Mfg. Co., Ltd.



	Electric power (1,000 kWh)	1450.2
inerc	Gasoline (kL)	1.8
ју сс	Kerosene (kL)	-
Energy consumption	Heavy fuel oil A (kL)	_
nptic	Light oil (kL)	_
ĭ	LPG (t)	_
	City gas (1,000 m <sup>3</sup> )	24.0
Wa	ater consumption (m³)	9,376
	Discharge into the atn	nosphere
	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

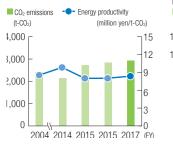
### Sumitomo Heavy Industries Ion Technology Co., Ltd. (formerly SEN) Main products: Ion implanters

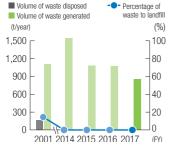


y SEN)	_	Electric power (1,000 kWh)	11179.8
entage of	Energy consumption	Gasoline (kL)	_
e to landfill	Jy 00	Kerosene (kL)	_
(%)	nsur	Heavy fuel oil A (kL)	_
¬100	nptic	Light oil (kL)	
	ă	LPG (t)	_
<b>-</b> 80		City gas (1,000 m <sup>3</sup> )	-
-60	W	ater consumption (m³)	15,615
		Discharge into the atn	nosphere
- 40	SOx (kg) —		
-20	NOx (kg)		-
120			

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





ш	Electric power (1,000 kWh)	3490.0
nerg	Gasoline (kL)	13.6
00	Kerosene (kL)	-
Gasoline (kL)  Kerosene (kL)  Heavy fuel oil A (kL)  Light oil (kL)		22.6
Light oil (kL)		-
LPG (t)		108.7
City gas (1,000 m <sup>3</sup> )		210.3
Water consumption (m <sup>3</sup> )		12,447
	Discharge into the atn	nosphere
	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
a-methylstyrene	14	1

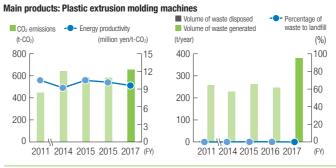
#### Sumitomo Heavy Industries Gearbox Co., Ltd. (formerly Seisa) Main products: Gear reducers



	Electric power (1,000 kWh)	5381.3
inerc	Gasoline (kL)	1.5
97 00	Kerosene (kL)	0.6
nsur	Heavy fuel oil A (kL)	1.7
Energy consumption	Light oil (kL)	_
ĭ	LPG (t)	7.5
	City gas (1,000 m <sup>3</sup> )	120.3
W	ater consumption (m³)	9,620
	Discharge into the atn	nosphere
	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

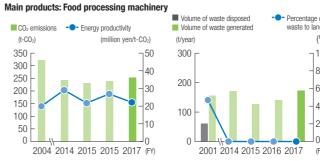
#### Sumitomo Heavy Industries Modern, Ltd.



_	Electric power (1,000 kWh)	1053.2	
Energy consumption	Gasoline (kL)	_	
W 00	Kerosene (kL)	_	
nsu	Heavy fuel oil A (kL)	13.9	
l Bit	Light oil (kL)	_	
ı	LPG (t)	0.8	
	City gas (1,000 m <sup>3</sup> )	_	
W	ater consumption (m³)	2,350	
	Discharge into the atmosphere		
	SOx (kg)	_	
	NOx (kg)	_	

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

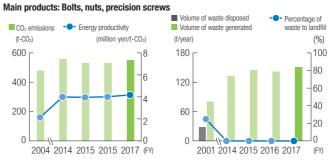
#### Izumi Food Machinery Co., Ltd.



ш	Electric power (1,000 kWh)	430.1	
Energy consumption	Gasoline (kL)	_	
Jy 00	Kerosene (kL)	_	
nsur	Heavy fuel oil A (kL)	0.1	
nptk	Light oil (kL)	0.2	
ĭ	LPG (t)	_	
	City gas (1,000 m <sup>3</sup> )	_	
W	ater consumption (m³)	2,002	
	Discharge into the atmosphere		
	SOx (kg)	_	
	NOx (kg)	_	

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

#### SFK Co., Ltd.



_	Electric power (1,000 kWh)	895.7
nerg	Gasoline (kL)	2.4
ју со	Kerosene (kL)	7.2
Energy consumption	Heavy fuel oil A (kL)	_
npti	Light oil (kL)	_
n	LPG (t)	_
	City gas (1,000 m³)	0.4
Water consumption (m <sup>3</sup> )		909
Discharge into the atmosphere		
SOx (kg) —		
NOx (kg)		_
Discharge into the water		
COD (kg) 4.545		
	Nitrogen (kg)	_
Phosphorus (kg)		_

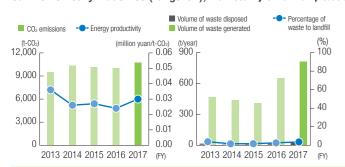
Complete elimination of PRTR substances

#### 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

#### [Environmental impact data for main overseas Group companies]

#### Sumitomo Heavy Industries (Tangshan), Ltd. Country: China Main products: Power transmission and controls



Energy consumption		
Paper (A4 1,000 sheets)	744	
Electric power (1,000 kWh)	10,127	
Gasoline (kL)	_	
Heavy fuel oil (kL)	-	
Light oil (kL)	_	
LPG (t)	_	
Natural gas (1,000 m <sup>3</sup> )	1,335	
Water consumption (m <sup>3</sup> )	28,619	

Discharge into the atmosphere	
VOC emissions (t/year)	Less than 1 t
SOx emissions (t/year)	0.01
NOx emissions (t/year)	0.53

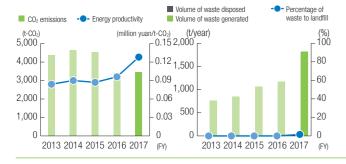
#### Sumitomo (SHI) Cyclo Drive China Ltd. Country: China Main products: Power transmission and controls



Energy consum	ption
Paper (A4 1,000 sheets)	1,130
Electric power (1,000 kWh)	4,361
Gasoline (kL)	_
Heavy fuel oil (kL)	_
Light oil (kL)	237
LPG (t)	_
Natural gas (1,000 m <sup>3</sup> )	_
Water consumption (m <sup>3</sup> )	34,184

Discharge into the at	tmosphere
VOC emissions (t/year)	1.
SOx emissions (t/year)	0.1
NOx emissions (t/year)	1.0

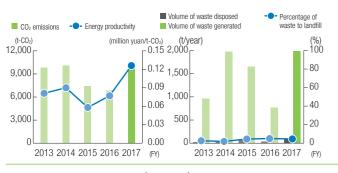
#### Ningbo Sumiju Machinery, Ltd. Country: China Main products: Plastic injection molding machines, components for power transmission equipment



Energy consun	ention
Paper (A4 1,000 sheets)	602
Electric power (1,000 kWh)	4,528
Gasoline (kL)	_
Heavy fuel oil (kL)	_
Light oil (kL)	17
LPG (t)	_
Natural gas (1,000 m <sup>3</sup> )	_
Water consumption (m <sup>3</sup> )	15,850

Discharge into the at	tmosphere
VOC emissions (t/year)	1.1
SOx emissions (t/year)	_
NOx emissions (t/year)	_

#### Sumitomo (S.H.I.) Construction Machinery (Tangshan) Co., Ltd. Country: China Main products: Hydraulic excavators



Energy consumption	n
Paper (A4 1,000 sheets)	865
Electric power (1,000 kWh)	10,153
Gasoline (kL)	-
Heavy fuel oil (kL)	_
Light oil (kL)	27
LPG (t)	24
Natural gas (1,000 m <sup>3</sup> )	1,100
Water consumption (m <sup>3</sup> )	46,551

Discharge into the atmosphere	
VOC emissions (t/year)	37.0
SOx emissions (t/year)	1.67
NOx emissions (t/year)	6.9

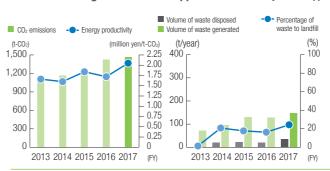
#### $\textbf{Sumitomo Heavy Industries} \ (\textbf{Vietnam}) \ \ \textbf{Co., Ltd.} \ \ \textbf{Country: Vietnam} \ \ \textbf{Main products: Power transmission and controls, motors}$



Energy consur	nption
Paper (A4 1,000 sheets)	6,230
Electric power (1,000 kWh)	17,269
Gasoline (kL)	_
Heavy fuel oil (kL)	_
Light oil (kL)	_
LPG (t)	480
Natural gas (1,000 m <sup>3</sup> )	_
Water consumption (m <sup>3</sup> )	22,669

Discharge into the at	tmosphere
VOC emissions (t/year)	1.1
SOx emissions (t/year)	-
NOx emissions (t/year)	_

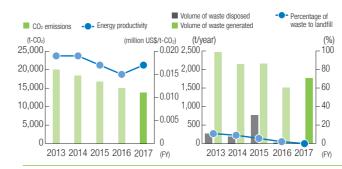
#### SHI Manufacturing & Services (Philippines) Inc. Country: The Philippines Main products: Precision parts and components



Energy consumptio	n
Paper (A4 1,000 sheets)	1,322
Electric power (1,000 kWh)	2,893
Gasoline (kL)	2
Heavy fuel oil (kL)	9
Light oil (kL)	_
LPG (t)	1
Natural gas (1,000 m <sup>3</sup> )	_
Water consumption (m3)	10,229

VOC emissions (t/year)	Less than 1 t
S0x emissions (t/year)	_
NOx emissions (t/year)	-

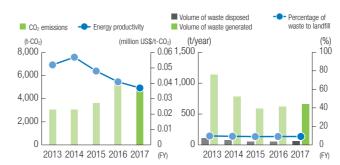
#### Link-Belt Construction Equipment Company, L.P., LLLP Country: United States Main products: Construction cranes



Energy consumption	n
Paper (A4 1,000 sheets)	1,853
Electric power (1,000 kWh)	17,548
Gasoline (kL)	_
Heavy fuel oil (kL)	-
Light oil (kL)	-
LPG (t)	_
Natural gas (1,000 m <sup>3</sup> )	1,829
Water consumption (m <sup>3</sup> )	22,843

	Discharge into the atmosphere			
1	VOC emissions (t/year)	22.3		
	S0x emissions (t/year)	0.03		
	NOx emissions (t/year)	3.28		
ĺ				

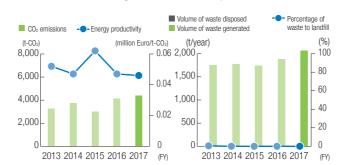
#### Sumitomo Machinery Corporation of America Country: United States Main products: Power transmission and



Energy consur	nption
Paper (A4 1,000 sheets)	795
Electric power (1,000 kWh)	5,434
Gasoline (kL)	_
Heavy fuel oil (kL)	_
Light oil (kL)	_
LPG (t)	7
Natural gas (1,000 m <sup>3</sup> )	942
Water consumption (m3)	3,632

VOC emissions (t/year) 1.  S0x emissions (t/year) -	1.4
S0x emissions (t/year) -	_
NOx emissions (t/year)	-

#### Sumitomo (SHI) Demag Plastics Machinery GmbH Country: Germany Main products: Plastics molding machines



Energy consumption		
Paper (A4 1,000 sheets)	6,425	
Electric power (1,000 kWh)	8,073	
Gasoline (kL)	-	
Heavy fuel oil (kL)	_	
Light oil (kL)	1	
LPG (t)	217	
Natural gas (1,000 m <sup>3</sup> )	437	
Water consumption (m3)	10,289	

Discharge into the atmosphere			
VOC emissions (t/year)	8.6		
S0x emissions (t/year)	_		
NOx emissions (t/year)	_		

#### Hansen Industrial Transmissions NV Country: Belgium Main products: Power transmission and controls



Energy consumption				
Paper (A4 1,000 sheets)	1,551			
Electric power (1,000 kWh)	8,519			
Gasoline (kL)	_			
Heavy fuel oil (kL)	_			
Light oil (kL)	-			
LPG (t)	_			
Natural gas (1,000 m <sup>3</sup> )	794			
Water consumption (m <sup>3</sup> )	4,688			

umption		Discharge into the a	tmosphere
	1,551	VOC emissions (t/year)	3.7
	8,519	S0x emissions (t/year)	_
	_	NOx emissions (t/year)	1.14
	-		