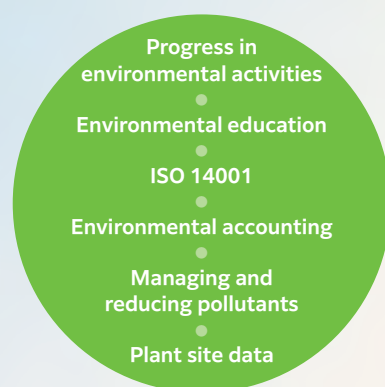


Manufacturing Derived from Springs.

NHK SPRING REPORT 2020 Separate volume

Environmental Data

Committed
Yet Flexible



Progress in environmental activities

	Progress by NHK Spring	Progress by domestic Group companies	Trends in society
2001	Feb.: 5th Revised Environmental Voluntary Action Plan Apr.: Isehara Plant gained ISO 14001 certification (all plants now certified) Jun.: 7th Global Environment Forum held	May: Horikiri gained ISO 14001 certification Jun.: NHK Seating Mizushima gained ISO 14001 certification Aug.: Yokohama Kiko (now NHK Spring Production Company) gained ISO 14001 certification Nov.: Topura gained ISO 14001 certification	Ministry of the Environment established Electric Appliance Recycling Law enacted
2002	Jan.: Recycling Center completed at Yokohama Office Feb.: 6th Revised Environmental Voluntary Action Plan May: 8th Global Environment Forum held Jun.: Received 10th Yokohama Environmental Conservation Work Award Dec.: Yokohama Office received Fiscal 2002 Kanagawa Global Environment Award	Mar.: NHK Teleflex Corporation (now NHK MEC Corporation) gained ISO 14001 certification Apr.: Tokuhatsu gained ISO 14001 certification Oct.: NHK Sales Company gained ISO 14001 certification Oct.: NHK Spring Mutsumi-kai Technical Committee Global Environmental Issues Subcommittee launched	Soil Contamination Countermeasures Law announced Automobile Recycling Law announced Japan ratified the Kyoto Protocol
2003	Feb.: 7th Revised Environmental Voluntary Action Plan Mar.: Zero emissions achieved at Yokohama Office Jun.: 9th Global Environment Forum held	May: NHK Spring Mutsumi-kai Technical Committee Global Environmental Issues Subcommittee meeting Jul.: NHK Transport gained ISO 14001 certification Oct.: Sumihatsu gained ISO 14001 certification Oct.: Uniflex (now NHK FLEX Company) gained ISO 14001 certification Nov.: Nippon Shaft gained ISO 14001 certification	Automobile Recycling Law enacted Soil Contamination Countermeasures Law enacted Amended Law Concerning the Rational Use of Energy enacted
2004	Feb.: 8th Revised Environmental Voluntary Action Plan Jun.: 10th Global Environment Forum held Dec.: Atsugi Plant received Fiscal 2004 Kanagawa Global Environment Award	Jul.: NHK Spring Mutsumi-kai Technical Committee Global Environmental Issues Subcommittee meeting Sep.: Tohoku Nipatsu gained ISO 14001 certification	Amended Air Pollution Control Law announced
2005	Jan.: Yokohama Office received Commendation at PRTR Awards Feb.: 9th Revised Environmental Voluntary Action Plan May: 11th Global Environment Forum held	Mar.: SNIC gained ISO 14001 certification Mar.: Faurecia-NHK Kyushu gained ISO 14001 certification	Amended Automobile Recycling Law enacted Kyoto Protocol came into force
2006	Feb.: 10th Revised Environmental Voluntary Action Plan Jun.: 12th Global Environment Forum held Dec.: Isehara Plant received Fiscal 2006 Kanagawa Global Environment Award	Feb.: NHK Precision gained ISO 14001 certification Mar.: Ayase Seimitsu gained ISO 14001 certification	Amended Law Concerning the Rational Use of Energy enacted Amended Law Concerning the Promotion of Measures to Cope with Global Warming enacted
2007	Jun.: 13th Global Environment Forum held	May: Ites gained ISO 14001 certification May: Sindai gained ISO 14001 certification	Amended Law Concerning the Recovery and Destruction of Fluorocarbons enacted
2008	Jun.: 11th Revised Environmental Voluntary Action Plan Jun.: 14th Global Environment Forum held	Jun.: Group Company Environmental Liaison Committee announced	G8 Toyako Summit (Hokkaido)
2009	Feb.: Installed a solar electric generator panel at Yokohama Office Jun.: 15th Global Environment Forum held		G8 L'Aquila Summit (Italy)
2010	Jun.: 16th Global Environment Forum held	Feb.: NHK Transport gained Green Management certification Mar.: Domestic Group companies achieved zero emissions	Tenth Conference of the Parties to the Convention on Biological Diversity (COP10) Implementation of Amended Soil Contamination Countermeasures Act
2011	Jun.: 17th Global Environment Forum held		Implementation of Amended Water Pollution Control Act (Storage Facilities)
2012	Jun.: 18th Global Environment Forum held Nov.: Yokohama Office recognized as an Excellent office in 3Rs (Let's Reduce, Reuse and Recycle!) by Yokohama City		Implementation of Amended Water Pollution Control Act (Facilities using Hazardous Substances) First commitment period under Kyoto Agreement ended
2013	Feb.: Yokohama Office won the Energy Saving Award of Kanagawa Global Environment Prize Nov.: 24th NHK Spring Forum held (merged with the 19th Global Environmental Forum) Nov.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (two years in a row)	Dec.: Tokuhatsu Sanda Plant completed and solar generation panels installed on plant roof	Start of the Kyoto Protocol second commitment period (2013 - 2020)
2014	Apr.: Starting Clean-up Activity of NHK Spring Mitsuzawa Football Stadium by Volunteers Oct.: Yokohama Office received energy efficiency field visit from the Ministry of Economy, Trade and Industry Nov.: 25th Global Environment Forum Nov.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (three years in a row)	Nov.: NHK Spring Production Company received climate change field survey based on the Kanagawa Prefecture ordinance Dec.: Tokuhatsu Sanda Plant received ISO 14001 certification (expanded authentication)	United Nations Climate Change Summit held Publication of the IPCC Fifth Assessment Report Act on Rational Use and Proper Management of Fluorocarbons enacted
2015	Oct.: 26th Global Environment Forum held Nov.: Komagane Plant (Industrial Machinery & Equipment) receiving on-site GHG countermeasure survey based on regulations of Nagano Prefecture Nov.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (four years in a row)	Jun.: Tohoku Nipatsu, Nippon Shaft and Sumihatsu recognized as S-Class energy conservation method service providers	United Nations Framework Convention on Climate Change (COP21) Adoption of Paris Agreement
2016	Nov.: 27th Global Environment Forum held Nov.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (five years in a row)	Jun.: Tohoku Nipatsu, Nippon Shaft and NHK Precision recognized as S-Class energy conservation method service providers	Minamata Convention on Mercury enacted The enactment of law to prevent mercury pollution Amendments to the Stockholm Convention on Persistent Organic Pollutants (POPs Convention)
2017	Aug.: NHK Spring Group started energy conservation diagnostics Nov.: 28th Global Environment Forum held Dec.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (six years in a row)	Jun.: Tohoku Nipatsu, Nippon Shaft and NHK Precision recognized as S-Class energy conservation method service providers Sep.: NHK Spring Group started energy conservation diagnostics	Issuance of the Chemical Substances Control Law Chinese Waste Import Controls: Restricts imports of some solid wastes
2018	Jun.: NHK Spring recognized as an S-Class energy conservation method service provider Nov.: 29th Global Environment Forum held Dec.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (seven years in a row)	Jun.: Tohoku Nipatsu, Nippon Shaft and NHK Precision recognized as S-Class energy conservation method service providers Oct.: Each NHK Spring plant that had acquired ISO 14001 certification has completed its update to the fiscal 2015 version of the standard.	The 24th United Nations Framework Convention on Climate Change (COP24) was held The particulars (implementation policy) of the Paris Agreement were determined
2019	Jun.: The Yokohama Office received the Yokohama Global Warming Countermeasures Prize Sep.: NHK Spring Group implemented energy conservation diagnostics Nov.: 30th Global Environment Forum held Dec.: Yokohama Office received Yokohama City recognition for excellence in the 3Rs (Let's Reduce, Reuse and Recycle!) (eight years in a row)	Jun.: Tohoku Nipatsu, Nippon Shaft and NHK Precision recognized as S-Class energy conservation method service providers	The 25th United Nations Framework Convention on Climate Change (COP25) was held Decision on market mechanisms for the Paris Agreement The United States officially notifies the United Nations of its withdrawal from the Paris Agreement The Japanese government formulates an action plan on countermeasures for ocean plastic waste
2020			Initial year of the Paris Agreement Fee charged for store shopping bags

Environmental education

We conduct a variety of environmental education and consciousness-raising activities to ensure that all our employees carry out their regular jobs with knowledge of the environment and a high level of awareness of the issues.

Environmental education

Raising the environmental consciousness of individual employees is important to carrying environmental work forward. Our Group has an excellent in-house training system to extend awareness of environmental issues, including a range of environmental education programs, training for internal environmental auditors, and encouragement to acquire external qualifications.

At NHK Spring, we offer different levels of education for all employees, as well as specialist training for staff with particular environmental responsibilities. General environmental education at different levels is included in our staff training program and is repeated with promotion. Specialist education is provided when staff begin new positions, and regular skill upgrading is also provided.

Furthermore, abstracts of relevant domestic environmental laws have been periodically distributed to Group companies since fiscal 2014 to share information.



Internal environmental auditor training and refresher courses (environmental education)

● Contents of environmental education (FY2019 results)

Education at different levels		
Recipients	Content of training	
Training for new employees	Description of efforts by NHK Spring Group regarding global environmental issues, environmental management systems, and environmental laws, regulations and other requirements by stakeholders	
Training for new assistant managers		
Training for new senior staff		
Training for new executives		
Specialist education		
Recipients	Content of training	
Internal environmental auditors (Responding to ISO revision)	Training and education	Internal environmental auditor training and refresher courses
	Skills upgrading training	Environmental auditor workshops for lead auditors
Overseas secondees (expatriates)	Environmental management system, overseas environmental laws and regulations, NHK Spring Group environmental requirements, etc.	

Environment-related qualified persons

 **252 people**
(including multiple qualifiers)

● Number of staff with environmental qualifications (as of May 2020)

(Units: Persons)

Qualification	Classification		Numbers holding qualifications
Pollution prevention management	Air	Type 1	7
		Other	29
	Water quality	Type 1	7
		Other	32
	Noise		36
	Vibration		35
Dioxins		1	
Environmental management system auditor	Assistant auditor		1
Working environment measurement experts	Type 1	Dust	4
		Special chemicals	2
		Metals	1
		Organic solvents	2
	Type 2		5
Certified environmental measurers	Level-related		2
Specially controlled industrial waste managers			44
Qualified persons for energy management			32
Energy managers for Type 2 Designated Energy Management Factories			12
Total (including multiple qualifiers)			252

ISO 14001

As an organization, we are involved in protecting the environment, and we have gained ISO 14001 international certification for our environmental management systems.

NHK Spring certification status

We began preparations to acquire the ISO 14001 certification in 1996 and acquired the certification at our Yokohama spring plant in January 1997 before our competitors in the same industry. This was the beginning of acquiring the ISO 14001 at three plants every year until the final plant was certified in April 2001 to succeed in acquiring the certification at all of our 11 plants in Japan. Each NHK Spring plant that had acquired ISO 14001 certification has, as of October 2018, completed its update to ISO 14001 (2015). We will continue our efforts to maintain this status in the future.



ISO 14001 certification **11** Plants (Japan)

● Dates NHK Spring acquired ISO 14001 certification

Divisions	Plants	Dates acquired
Suspension Spring Division	Yokohama Plant (Suspension Springs)	January 1997
	Shiga Plant	March 1998
Seating Division	Gunma Plant	March 1998
	Yokohama Plant (Seating)	May 1999
	Toyota Plant	March 1999
Precision Spring & Components Division	Ina Plant	June 1999
	Atsugi Plant	November 2000
DDS (Disk Drive Suspension) Division	Komagane Plant (DDS)	June 2000
Industrial Machinery & Equipment Division*	Isehara Plant	April 2001
	Komagane Plant (Industrial Machinery & Equipment)	November 1998
	Yasu Plant	August 2000

*The Miyada Plant is scheduled to acquire certification in 2021.

Certification status of Group companies

Domestic Group companies

All 18 of our Group companies that are members of the joint Safety and Environment Subcommittee of the Engineering Department of the NHK Spring Mutsumi-kai have acquired the ISO 14001. Each of our domestic Group companies that had acquired ISO 14001 certification has, as of October 2018, completed its update to ISO 14001 (2015). We will continue our efforts to maintain this status in the future.

Overseas Group companies

We will also further the acquisition of the ISO 14001 certification at our overseas Group companies. As of fiscal 2019, we have succeeded in acquiring the certification at 16 overseas Group companies and will work to gradually acquire the certification for the rest of the overseas Group companies in the future.

ISO 14001 certified Group companies



18 companies (Japan), **16** companies (Overseas)

● Dates Group companies acquired ISO 14001 certification

Region	Group companies	Dates acquired
Domestic	Horikiri, Inc.	May 2001
	NHK Seating Mizushima Co., Ltd.	June 2001
	NHK Spring Production Company	August 2001
	Yokohama Kiko Co., Ltd.	August 2001
	Topura Co., Ltd.	November 2001
	NHK MEC Corporation	March 2002
	Tokuhatsu Co., Ltd.	April 2002
	NHK Sales Co., Ltd.	October 2002
	Sumihatsu Co., Ltd.	October 2003
	NHK FLEX Co., Ltd.	October 2003
	Nippon Shaft Co., Ltd.	November 2003
	Tohoku Nippatsu Co., Ltd.	September 2004
	SNIC Co., Ltd.	March 2005
	Faurecia-NHK Kyushu Co., Ltd.	March 2005
	NHK Precision Co., Ltd.	February 2006
	Ayase Seimitsu Co., Ltd.	March 2006
Ites Co., Ltd.	May 2007	
Sindai Co., Ltd.	May 2007	
North, Central and South America	Rassini-NHK Autopeças Ltda.	May 2002
	NHK of America Suspension Components Inc.	January 2003
	New Mather Metals, Inc.	July 2003
Asia	NHK Seating of America Inc.	September 2004
	NHK Spring (Thailand) Co., Ltd.	June 2000
	NHK Manufacturing (Malaysia) SDN. BHD.	August 2001
	NHK Spring India Ltd.	October 2003
	Autrans (Thailand) Co., Ltd.	May 2004
	NHK Precision (Thailand) Co., Ltd.	January 2005
	NHK-Uni Spring (Guangzhou) Co., Ltd.	March 2005
	NAT Peripheral (Dong Guan) Co., Ltd.	October 2005
	NHK Spring Precision (Guangzhou) Co., Ltd.	January 2006
	Uni Auto Parts Manufacture Co., Ltd.	March 2006
	NACI	January 2010
NSP	October 2014	
Europe	Ibérica de Suspensiones, S.L.	December 2003

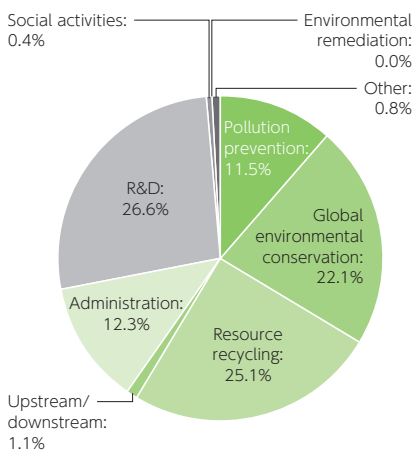
Environmental accounting

We identify the costs and effects of our environmental conservation activities in environmental accounting, and we use this in running the company.

Fiscal 2019 environmental accounts - classifications and results

We introduced environmental accounting in fiscal 2000 in accordance with the Environmental Accounting Guidelines (2005 edition) issued by the Ministry of the Environment while collecting data for the 9 categories listed in the table on the right.

Using the fixed standard we have set, we calculate our fiscal 2019 environmental expenditure at a total of ¥999.6 million. A breakdown can be seen at right, showing an increase in research and development costs due to electric vehicle parts development, together with an increase in resource recycling costs associated with proper treatment of waste containing PCB. Other costs were more or less in line with the previous fiscal year.



Fiscal 2019 - Cost of environmental conservation

(Units: ¥ million/year)

Classification of costs	Main elements	Value* in FY2018	Value* in FY2019
① Pollution prevention	Maintenance of effluent treatment facilities and dust collectors, measurement and monitoring of air and water quality and noise, and other preventive measures	119.7	115.3
② Global environmental conservation	Costs for preservation of green areas at production plants, energy-saving measures for CO ₂ emissions reduction, prevention of global warming, etc.	226.0	220.9
③ Resource recycling	Waste treatment, zero emissions measures, office recycling, etc.	194.0	250.9
④ Upstream/downstream	Limiting environmental burdens from our suppliers and customers associated with our own production activities (green purchasing, product recycling, reduced packaging, and so on)	14.0	11.1
⑤ Administration	Waste manifest management, ISO 14001 maintenance and renewal inspections and ISO 14001 office personnel costs, reporting to the government, etc.	116.7	123.3
⑥ R&D	Research to reduce environmental loads and development of products to contribute to reducing environmental loads	22.9	266.2
⑦ Social activities	Social service activities (cleaning waterways and surroundings of plants), etc.	3.4	4.4
⑧ Environmental remediation	Remediating environmental damage to surroundings	0.6	0.0
⑨ Other	Costs for environmental conservation other than the above (including handling of PCB waste treatment)	15.6	7.5
Total		712.9	999.6

*Value: Totals of Environmental Investments and Environmental Conservation



Fiscal 2019 - Cost of environmental conservation

999.6 million yen

Classification and performance of fiscal 2019 investments

Fiscal 2019 results are shown in the table below. By promoting the recycling and recovering resources from waste into usable resources, we have maintained waste landfill volumes at minimum levels since fiscal 2010. Energy use and CO₂ emissions per unit both increased, but CO₂ emissions volume reduction actions at each plant restricted

the degree of the increase. Landfill waste volume decreased as recycling progressed.

Energy and water costs per unit increased as unit costs rose. We will continue to make improvements for cost-effective investments in the future.

Performance of fiscal 2019 investment effects

	Material effects* ¹			Economic effects* ²			Assessment
	FY2018 actual	FY2019 actual	Effects	FY2018 actual	FY2019 actual	Effects	
Energy use per unit (GJ/¥ million)* ³	10.05	10.23	-0.18	-	-	-	Average
CO ₂ emissions per unit (ton C/¥ million)* ³	0.113	0.115	-0.002	-	-	-	Average
Wastes to landfill (tons/year)	4.3	2.6	1.7	-	-	-	Good
Wastes recycled (tons/year)	21,941	22,445	504	-	-	-	Good
Energy costs per unit (¥/¥ thousand)* ³	-	-	-	14.9	15.3	-0.4	Average
Gain on sales from recycling (¥ million)	-	-	-	389	393	4.0	Good

*¹ Material effects: Reduction in environmental pollutants, etc. *² Economic effects: Energy savings and cost reduction on waste, etc. *³ Per unit output: Values to Sales

Managing and reducing pollutants

We strive to properly manage and reduce pollutants according to our own standards, and the law and rules of the organizations we belong to.

Pollutant Release and Transfer Register (PRTR) surveys

Since fiscal 1997, we have taken part in voluntary PRTR surveys organized by Nippon Keidanren (Japan Business Federation), in an effort to establish the amounts of pollutants that we handle, release and transfer.

We have been reporting data to the Ministry of Economy, Trade and Industry under the PRTR Law since June 2001. However, we have set up our own survey standards to quantify the use of chemical substances across all departments of the company.

Since fiscal 2005, our domestic Group companies have conducted

the same voluntary PRTR surveys in an effort to reduce the release of pollutants.

The table below lists each of the substances of which we handle a total of at least 0.1 tons per year.

From fiscal 2011, we continued to manage chemical substances so that we did not use substances of very high concern under European REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulations, and also those that we expected to be regulated in future.

● Results of fiscal 2019 survey of pollutant releases and transfers (April 1, 2019 - March 31, 2020)

(Unit: tons /year)

PRTR Law Cabinet Order No.	Name	Types of designated chemical compounds	Amount used yearly	Amount emitted						Amount moved	
				Atmosphere	Water quality	Soil	Buried on-site			Sewage system	Waste (subcont.)
							Stable	Managed	Isolated		
1	Zinc compounds (water-soluble)	Class I	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
20	2-aminoethanol	Class I	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30	Linear alkylbenzenesulfonate	Class I	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
53	Ethyl benzene	Class I	5.3	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
71	Ferric chloride	Class I	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80	Xylene	Class I	21.9	19.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5
296	1,2,4-trimethylbenzene	Class I	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
297	1,3,5-trimethylbenzene	Class I	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
298	Toluene diisocyanate (TDI)	Class I	703.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	Toluene	Class I	81.9	57.6	0.0	0.0	0.0	0.0	0.0	0.0	2.3
309	Nickel compounds	Special Class I	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
384	1-Bromopropane	Class I	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
410	Polyoxyethylene nonylphenyl ether	Class I	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0
412	Manganese and its compounds	Class I	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
448	Methylenebis (4.1-phenylene) = Diisocyanate (MDI)	Class I	145.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
455	Morpholine	Class I	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total volume of PRTR substances			969.8	82.6	0.0	0.0	0.0	0.0	0.0	0.8	4.3
Domestic Group companies											
1	Zinc compounds (water-soluble)	Class I	17.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	8.8
53	Ethyl benzene	Class I	26.7	23.5	0.0	0.0	0.0	0.0	0.0	0.7	0.4
66	1,2-Epoxybutane	Class I	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69	2,3-Epoxypropyl phenyl ether	Class I	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	Xylene	Class I	62.4	52.2	0.0	0.0	0.0	0.0	0.0	1.7	0.8
185	Dichloropentafluoropropane (HCFC225)	Class I	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
232	N,N-dimethylformamide	Class I	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	Styrene	Class I	43.8	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
296	1,2,4-trimethylbenzene	Class I	11.8	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
297	1,3,5-trimethylbenzene	Class I	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	Toluene	Class I	127.0	124.8	0.0	0.0	0.0	0.0	0.0	0.4	0.9
321	Vanadium compounds	Class I	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
354	Bis (n-butyl) phthalate	Class I	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
384	1-Bromopropane	Class I	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
448	Methylenebis (4.1-phenylene) = Diisocyanate (MDI)	Class I	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total volume of PRTR substances			295.5	226.0	0.0	0.0	0.0	0.0	0.0	2.9	14.0

*Industrial wastes include waste materials that have value or no value and that can be recycled. Excludes materials sold.

*Volume moved when discharged into public sewage system

Head office

Research & Development Division, Engineering Division



Location: Kanazawa-ku, Yokohama
Business areas and products: Planning, management, R&D
Commenced operations: February 1991

Overview of our activities

The Head Office is located in the Yokohama Office with the Suspension Spring and Seating Divisions. We engage in business activities that take into consideration the communities around each production division, the head office, and each of our plants. We take care to respond dutifully in cooperation with each municipal, especially in terms of waste water, air, noise, and waste.

Outlook and policies

We will develop new products and new equipment related to reducing CO₂ emissions and using renewable energy as a function of the head office and will support the environmental activities of the Group through a wide range of environmental education and environmental audits. In addition, by taking the lead with projects such as installing solar power generation panels and introducing LED lighting, we are the driving force in overall Group environmental activities.

Fiscal 2019 and 2020 initiatives

Various risk-management efforts

■ In providing support that meets the new ISO 14001 (2015) requirements for efforts to address various risk issues affecting the Group, we move forward with improvements to items in which risk response has been insufficient, using managerial oversight check sheets to confirm the state of compliance with environmental laws and regulations, and of environmental equipment management. Moving forward, we will consider ways of addressing a broader scope of risks while continuing to improve Group environmental performance.

Managing chemicals

■ The Safety & Environment Activities Dept. at our head office compiles chemical substances used in Japan (including Group companies), and aggregates those chemical substances based on our unique criteria every year. We added and managed the chemical substances included in the Green Procurement Guidelines while reporting some of the data we collected to the government. We are also pioneering the promotion of risk assessment of chemical substances and 5S activities so that our operators engage in safe operations within our plants.

Reducing industrial waste

■ During fiscal 2019, we moved forward with waste separation recycling at the Head Office (including the Research & Development Division), reducing waste volume and cost. These efforts resulted in our meeting the targets for corporate headquarters recycling and waste reduction.

■ During fiscal 2020, we will strive to maintain recycling (the resource recycling rate) at 100%, and will move forward with a higher quality of recycling in order to reduce waste volume.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

Substance	Equipment	Regulated value	Results
NOx	Hot water boiler	A	0.041
		B	0.025
		C	0.025
	Cooling water generator	A	0.029
		B	0.018
		C	0.024
Dust	Hot water boiler	A	0.050
		B	0.050
		C	0.050
	Cooling water generator	A	0.050
		B	0.050
		C	0.050

NOx units: m³N/h Dust units: g/m³N

● Water quality: Main Building (Regulated values: Yokohama sewage regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	7.6	6.7	—
Oil	5	1.3	0.1	0.6
Fe	3	<0.3	<0.3	<0.3
Zn	1	<0.1	<0.1	<0.1
Ni	1	0.3	<0.1	<0.1
T-Cr	2	<0.2	<0.2	<0.2
Fluorine	8	0.8	<0.8	<0.8
Phenols	0.5	<0.05	<0.05	<0.05
NH ₄	380	<0.3	<0.3	<0.3

Units: mg/ℓ

● Water quality: R&D Building (Regulated values: Yokohama sewage regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	7.4	6.5	—
Oil	5	1.3	0.4	0.8
Fe	3	<0.3	<0.3	<0.3
Zn	1	<0.1	<0.1	<0.1
Ni	1	<0.1	<0.1	<0.1
T-Cr	2	<0.2	<0.2	<0.2
NH ₄	380	0.7	<0.3	0.4

Units: mg/ℓ

Suspension Spring Division

Yokohama Plant (Suspension Springs)



Location: Kanazawa-ku, Yokohama
Products: Coil springs, Leaf springs, and metal bellows
Commenced operations: November 1987



Hiroto Tsuji
Plant Manager

Outlook and policies

At this plant, our slogan is "global environment-friendly spring manufacturing." The improvements we work toward include reducing basic CO₂ emissions per unit and industrial waste. As all of our personnel participate in work on continual improvement of our environmental management systems, we will work to help conserve the global environment and prevent global warming while building the environment that we hand down to the next generation.

Fiscal 2019 and 2020 initiatives

Reducing CO₂ emissions and waste

- The steps we take in keeping with our slogan, "global environment-friendly spring manufacturing," include reductions in CO₂ emissions and industrial waste. At the same time, we are taking environmental management action as part of TPM activities so that our spring Yokohama Plant can all pull together, aiming high in environmental management through daily activities.
- During fiscal 2019, we implemented upgrades to plant air compressors (conversion of motor cores to inverter designs), replacing circuit system to air pressure control and reduction of CO₂ emission through inspections on air leakage sites by all circles and repairing identified sites.
- During fiscal 2020, we will work to conserve water resources through effective reuse of rainwater, while also working to reduce industrial waste volume in our efforts to achieve environmentally friendly spring manufacturing on a global scale.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

Substance	Equipment	Regulated value	Results
NOx	Metal reheating furnace	A	0.128
		B	0.110
		C	0.212
		D	0.169
		E	0.119
	Metal tempering furnace	A	0.202
		B	0.123
		C	0.104
		D	0.085
		E	0.059
Dust	Metal reheating furnace	A	0.1
		B	0.1
		C	0.1
		D	0.1
		E	0.1
	Metal tempering furnace	A	0.1
		B	0.1
		C	0.1
		D	0.1
		E	0.1

NOx units: m³N/h Dust units: g/m³N

● Water quality (Regulated values: Yokohama sewage regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	7.8	6.1	—
Oil	30	15.4	0.9	3.0
		Mineral	5	3.6
Fe	3	<0.3	<0.3	<0.3
Zn	1	<0.1	<0.1	<0.1
Ni	1	0.6	0.2	0.3
Mn	1	0.1	<0.1	<0.1
Fluorine	8	1.0	<0.8	<0.8
Boron	10	<1.0	<1.0	<1.0
Total nitrogen	240	67	43	55
Total phosphorus	32	3.3	2.2	2.8
NH ₄	380	55	33	44

Units: mg/ℓ

Suspension Spring Division

Shiga Plant



Location: Koka, Shiga
 Products: Coil springs, stabilizer bars, and torsion bars
 Commenced operations: November 1973



Masanao Ueda
 Plant Manager

Outlook and policies

Environmental conservation is one of the six core elements of STPM (Strategy for Total Power Management) conducted at our plants, and we take practical measures to allow all our people to engage in it. We are working hard towards making environmentally-friendly springs.

Fiscal 2019 and 2020 initiatives

Reducing CO₂ emissions and waste

- During fiscal 2019, we continued activities such as inspections of air leaks and closing of control panel power circuit breakers. We reduced the use of electricity through a No. 2 Plant compressor upgrade and air pressure optimization, as well as reduction in heated spaces within gas heat treatment furnaces, and insulation of lower furnace wall surfaces to reduce gas usage volume. Moreover, given the vital importance of waste management to maintaining the quality of waste water at our plants that rely on Lake Biwa, we have been working to strengthen management of wastewater treatment facilities and make continual improvements to them as we strive toward global environmental conservation.
- In fiscal 2020 as well, we will continue to pursue yet further CO₂ reductions, in part through efficient operation and revision of heat settings of gas furnaces, and by conserving energy used by compressors. We will also move forward with action to protect the global environment by working to reduce industrial waste and by continuing with activities to reduce sludge volume.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment	Regulated value	Results
NOx	Metal reheating furnace	A	180
		B	180
		C	180
		D	180
		E	180
Dust	Metal reheating furnace	A	0.25
		B	0.20
		C	0.20
		D	0.20
		E	0.20

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Agreement with Koka)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	6-8.5	7.7	6.8	—
BOD	30	9.0	<1.0	<1.0
COD	30	9.0	<1.0	1.3
SS	70	24	<1.0	2.3
Oil	5	2.9	<0.5	0.8
Total nitrogen	12*	9.9	<1.0	4.0
Total phosphorus	1.2*	0.1	<0.1	<0.1
Fluorine	8*	<0.8	<0.8	<0.8
Boron	10*	<1.0	<1.0	<1.0
Zn	1*	<0.1	<0.1	<0.1

Units: mg/ℓ

*Shiga prefectural regulations

Seating Division

Gunma Plant



(Ojima area) (Ota area)
 Location: Ota, Gunma Ota, Gunma
 Products: Automotive seats Automotive interior products
 Commenced operations: December 1986 July 1969



Junichi Oka
 Plant Manager

Outlook and policies

At this plant, we engage in production activities that unify the entire process of making automotive seats and automotive interior parts that are friendly to people and the environment, from development and design to manufacturing and shipment. In this way, we help the development of automotive society. We are aware of having been given the mission of handing down to the next generation "an abundant, beautiful Earth." In implementing safe, people-friendly production with consideration for environmental conservation, we promote volunteer and clean-up activities that are rooted in the local community.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

- During fiscal 2019, we upgraded three compressors to those with highly efficient inverter design specifications, reducing electricity use by about 250,000 kWh per year. We are also advancing educational activities to encourage turning lighting power off when unused or unnecessary.
- We have adopted the companywide goal for fiscal 2020 of a 1% year-on-year reduction in CO₂ emissions per unit (0.115 tons CO₂), and are upgrading to LED lighting and energy-saving air conditioners in line with the Mid-term Plan. Together with these efforts, we are taking a back-to-basics approach, re-analyzing plant energy consumption as we aim for our ideal plant operation.

Recycling and reducing waste

- Again in fiscal 2020, we are thoroughly separating waste and converting it into valuable materials as we maintain a recycling rate of 100%.

● Atmosphere: Ojima area (Voluntary values for unregulated equipment)

Substance	Equipment	Regulated value	Results
NOx	Generator	950	172
Dust	Generator	0.1	0.03

NOx units: ppm Dust units: g/m³N

● Water quality: Ojima area (Regulated values: Agreement with Ojima)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	6-8	7.5	6.5	—
BOD	10	9.0	1.0	3.0
SS	10	4.0	1.0	1.2
Oil	Animal and vegetable	3	1.4	<0.3
	Mineral	3	0.4	0.1

Units: mg/ℓ

● Water quality: Ota area (Voluntary regulatory values)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5.8-8.6	8.0	7.2	—
BOD	40	10.0	2.0	2.8
COD	40	7.0	1.0	3.6
SS	50	2.0	<1.0	0.8
Oil	5	1.2	0.1	0.6

Units: mg/ℓ

Seating Division

Yokohama Plant (Seating)



Location: Kanazawa-ku, Yokohama
 Products: Automotive seats and interior products
 Commenced operations: April 1990



Chihaya Yamamoto
 Plant Manager

Outlook and policies

We will obtain an accurate understanding of the effects this factory's operational activities exert on the global environment, specify environmental goals, and manage progress as we make continual improvements in environmental performance. We will pursue the potential of resource conservation, recycling and environmental impact reduction by comprehensively promoting activities based on NHK's own concept of elimination, reduction and change while helping to prevent global warming. In this endeavor, we will work to reduce CO₂ emissions volume, help stop environmental pollution and environmental conservation.

Fiscal 2019 and 2020 initiatives

Reducing CO₂ emissions recycling waste into resources

- Air conditioning equipment at our plants had been using fan coil units with steam adsorption refrigeration, but it became impossible to obtain steam from utilizing waste heat generated by cogeneration gas engines. As the gas-burning boilers that supply steam to steam adsorption refrigerators are inefficient in terms of CO₂ emissions, we have therefore continued each year to convert to electric air conditioners, which would reduce CO₂ emissions.
- In fiscal 2019, we switched to electric air conditioning with a priority on our two-shift process, and by turning off our gas-burning boiler during night shifts, we achieved major cuts in the volume of municipal gas used.
- In fiscal 2020, we aim to keep municipal gas turned off during daytime work as well and are switching three fan coils to electric air conditioners and rerouting our air conditioning ductwork as needed for optimal operation. We are also focusing effort on waste separation education within the organization to improve our waste recycling efficiency as we continue to maintain our 100% recycling rate.

● Atmosphere (Regulated values: Air Pollution Control Law, Yokohama Guidelines)

Substance	Equipment	Regulated value	Results
NOx	Boiler	0.064	0.014
Dust	Boiler	0.05	<0.004

NOx units: m³N/h Dust units: g/m³N

● Water quality (Regulated values: Yokohama sewage regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	7.8	7.0	—
Oil	Animal and vegetable	3.0	0.5	1.0
	Mineral	5	0.8	<0.5

Units: mg/ℓ

Toyota Plant



Location: Toyota, Aichi
 Products: Automotive seats and interior products
 Commenced operations: June 1961



Tsuyoshi Furukawa
 Plant Manager

Outlook and policies

Our plant performs unified design, manufacturing and shipment of finished automotive seating COMP products, frames and component parts. In consideration of our ideal for environmental impact, we are working to achieve lower energy consumption and to cut CO₂ emissions. While responding flexibly to changes in the external environment and performing manufacturing with state-of-the-art technologies and automation, we will contribute to society through continued promotion of our Environmental Voluntary Action Plan.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions / environmental conservation

- During fiscal 2019, we acted to reduce CO₂ emissions by upgrading the air conditioners and compressors in the health and welfare office building, and by improving air leakage. We also relocated and updated our waste management facilities, revising our routine day-to-day inspection items, and engaged in other environmental conservation activities including pollution prevention.
- During fiscal 2020, we are reducing CO₂ emissions by upgrading aging air conditioners. In addition, with our plant reconstruction, we are also carrying out press-type rack warehouse construction. In compliance with laws and regulations, we are holding down noise and vibration generated by construction, taking care that construction does not inconvenience residents living nearby.

Environmental education

- During fiscal 2020, we are performing education for members in their third and fifth years of employment in order to reestablish recognition of the crucial nature of environmental conservation and to raise awareness of environmental activities.

● Water quality (Regulated values: Sewage Law)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	7.5	6.8	—
BOD	600	69.0	3.0	12.3
COD	600	123	3.0	28.3
SS	600	19	2.0	7.2
Oil	5	3.5	0.5	1.8
Zn	2	0.4	<0.2	<0.2
Cu	3	<0.3	<0.3	<0.3

Units: mg/ℓ

Precision Spring & Components Division

Atsugi Plant



Location: Aikawa-machi, Aiko-gun, Kanagawa
 Products: Thin leaf springs and precision stamped products
 Commenced operations: November 1970



Yasuhiro Shinkai
Plant Manager

Outlook and policies

At this plant, we produce highly efficient drive train parts for electric vehicles that are friendly to the earth. We engage actively in information exchange with the Council for Waste Countermeasures in the Atsugi Region as we respond to rapid changes in the environment and to revisions of laws and ordinances.

Fiscal 2019 and 2020 initiatives

Maintaining zero emissions and reducing waste

■ Since fiscal 2017, we have been actively advancing the conversion of waste into valuable commodities in our efforts to reduce waste volume. Since fiscal 2005, we have continued with a recycling rate of 99.9%, and will work to continue doing so in the future. Moreover, we are working to gather environmental information through related organizations as we continue to work on appropriately disposing of waste while reducing disposal costs.

Reduction in CO₂ emissions

■ Regarding energy saving to reduce CO₂ emissions, we are engaged in demand management using electric power management systems that help us understand electric power use in a timely manner as we work to reduce it. We issue reports on a regular basis of information related to CO₂ emissions reduction as the entire plant pulls together in our reduction efforts. Moving forward, we aim to continue to be a plant that is friendly to the earth.

● Water quality (Regulated values: Sewage Law)

Item	Regulated value	Results			
		Maximum	Minimum	Average	
pH	5-9	7.5	7.0	—	
BOD	600	59	3	25	
COD	—	190	12	33	
SS	600	189	2	27	
Oil	Animal and vegetable	30	7.1	1.6	3.9
	Mineral	5	0.8	0.1	0.3
Fe	10	1.3	<1	<1	
Total nitrogen	380	55	8	22	
Fluorine	8	<0.8	<0.8	<0.8	
Boron	10	<1.0	<1.0	<1.0	

Units: mg/ℓ

Ina Plant



Location: Miyada-mura, Kami Ina-gun, Nagano
 Products: Wire springs and precision machined components
 Commenced operations: December 1943



Atsushi Shitama
Plant Manager

Outlook and policies

Situated in an abundant natural environment between the Southern and Central Alps, our plant aims to practice both conservation of the natural environmental and business activities as we engage in our day-to-day production and improvement work. In addition, our production is primarily of compact, lightweight drive train springs that support increased fuel efficiency in vehicles, so we contribute to improving the environment on a global level. Moving forward, we will actively adopt new technologies and production methods that help reduce environmental impact as we move forward with environmental protection and improvement activities.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

■ Our plant has led the Group in the adoption of heat exhaust fans that expel hot air from within the plant. We succeeded in lowering internal ambient plant temperatures by 4°C using earth-friendly manufacturing methods that do not rely on freon. Last fiscal year, while working to deploy the system horizontally throughout the plant, we introduced it to other Group companies to spread its adoption.

■ Our proactive work in reducing CO₂ emissions by improving our facilities includes replacing hydraulics with servomechanisms in the actuators for our evaluation equipment and durability testing devices, which enable us to meet customer needs for high quality and durability. We also perform clean-up activities along the banks of the Tenryu River together with the local community as part of a diverse array of environmental maintenance and improvement work, ranging from steady efforts in close association with the local community to upgrades with new technologies and manufacturing processes.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment	Regulated value			Results
		A	B	C	
NOx	Heating boiler	A	250	62	
		B	250	42	
		C	250	52	
Dus	Heating boiler	A	0.3	<0.004	
		B	0.3	0.009	
		C	0.3	<0.003	
SOx	Heating boiler	A	—	<0.001	
		B	—	<0.001	
		C	—	<0.001	

NOx units: ppm SOx units: m³N/h Dust units: g/m³N

● Water quality (Regulated values: Sewage Law and Nagano prefectural regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5.7-8.7	7.3	6.7	—
BOD	600	40	4	18
COD	—	28	5	17
SS	600	53	<1.0	11
Oil	5	2.1	<0.5	1.1
Fe	10	1.9	<1.0	<1.0
Cu	3	<0.3	<0.3	<0.3
Total nitrogen	380	52	2	11

Units: mg/ℓ

DDS (Disk Drive Suspension) Division

Komagane Plant



Location: Komagane, Nagano
Products: HDD suspensions
Commenced operations: November 1983



**Yoichi
Ikeji**
Plant Manager

Outlook and policies

We aim to continue to protect the environment and have an environmentally friendly plant efficiently producing the best quality HDD suspensions in the world, so that future generations can inherit our beautiful environment in good shape.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

- In fiscal 2019, members of the promotion team established an annual plan for CO₂ emissions reduction action. As a result of monthly follow-up on each item slated for improvement, we achieved a 4.8% year-on-year reduction in CO₂ emissions.
- In fiscal 2020, we completed an energy visibility effort we had been preparing since fiscal 2019. This is leading to further progress in CO₂ emissions reduction.

Waste reduction (zero emissions)

- We continue to maintain our 100% resource recycling rate and meet our emissions index numerical targets. In fiscal 2020, we continue to reduce and separate trash in order to meet our goals.

Water quality (Regulated values: Nagano prefectural regulations)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5.8-8.6	7.6	7.0	—
BOD	20	10.0	2.0	4.8
COD	20	7.0	<1.0	4.3
SS	30	11.0	1.0	2.5
Oil	5	1.2	<0.5	0.8
Total phosphorus	16	2.3	<1.0	1.1

Units: mg/ℓ

Industrial Machinery & Equipment Division

Isehara Plant No. 1 and No. 2



Location: Isehara, Kanagawa
Products: Semiconductor process components, pipe support systems, specialized springs, security products
Commenced operations: March 1993



**Junichi
Miyahara**
Isehara Plant No. 1
Plant Manager



**Kenichi
Akao**
Isehara Plant No. 2
Plant Manager

Outlook and policies

At our plant, we will continue to develop and manufacture environmentally friendly sophisticated joint technology products, TERA high-stress disc springs used in machine tools, and anti-counterfeiting products. We will work to improve environmental performance by having all of our personnel participate in 3R efforts including conservation of resources, energy saving for CO₂ emissions reduction, and reduction of waste and substances with environmental impact.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

- Our stated goal for fiscal 2019 was a 3% reduction compared to fiscal 2016, but we were unable to meet our goals for the first six months of the year. We therefore revised our goal for the second half to a more manageable objective, and took action accordingly. In the end, we were able to achieve our targets for both CO₂ emissions per unit and waste volume. For fiscal 2020, we started the year by narrowing our target to CO₂ emissions reduction activities. Each department formulated a numerical target it could manage, and we have been proceeding to implement measures accordingly. We are endeavoring in each department to eliminate the three common procedural faults of omission, error and reworking in order to reduce CO₂ emissions through improvement in quality of work.

Water quality (Regulated values: Isehara sewage regulations)

Item	Regulated value	Results			
		Maximum	Minimum	Average	
pH	5.0-9.0	8.8	8.1	—	
BOD	600	270	62	184	
Oil	Animal and vegetable	30	25.0	2.0	9.8
	Mineral	5	1.0	1.0	1.0
Fe	3	0.13	0.03	0.07	
Zn	1	0.09	0.02	0.02	
Mn	1	0.02	0.02	0.02	
Pb	0.1	0.01	0.01	0.01	

Units: mg/ℓ

Miyada Plant



Location: Komagane, Nagano
 Products: Semiconductor process components
 Commenced operations: September 2019



Hiroshi Kaneko
 Plant Manager

Outlook and policies

Ours is a new plant that was completed in March 2019 on the same property as the Industrial Machinery & Equipment Komagane Plant No. 2. We produce environmentally-friendly high-precision bonding products as a mass-production plant for the Isehara Plant No. 1. Having adopted the environmental management system of the Industrial Machinery & Equipment Komagane Plant, all of our employees work to advance efforts toward a recycling-oriented society rooted in the local community and based on the NHK Spring Employees Code of Conduct and Global Environmental Activities Plan.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

- A breakdown of our plant's energy use shows that it comprises 99.5% electric power and 0.5% water, making us an all-electric powered plant.
- Our active efforts to reduce CO₂ emissions include moving forward with steps to address electric power use, including solar power generation, compressors (water circulation inverter devices and controls on numbers of compressors), top lighting, LED plant lighting, electric power monitoring and demand control (vacuum furnace).

Recycling and reducing waste

- We have maintained a 100% recycling rate in fiscal 2019.
- All plant personnel are also working to reduce waste volume and processing costs by recycling and converting waste into valuable commodities.

Environmental management system

- This was added to the Industrial Machinery & Equipment Komagane Plant Environmental Manual in fiscal 2020, and environmental conservation activities have begun.
- We have established an environmental management system with the aim of obtaining certification in fiscal 2021 under the fiscal 2015 version of the ISO standard.

Komagane Plant



Location: Komagane, Nagano
 Products: Specialized polyurethane foam products, integrated metal products
 Commenced operations: December 1981



Tatsuya Saito
 Plant Manager

Outlook and policies

Situated amid verdant scenery with a view of both Alps ranges, this plant develops and produces functional urethane products and metal substrates. All of our employees work to advance efforts toward a recycling-oriented society rooted in the local community and based on the NHK Spring Employees Code of Conduct and Global Environmental Activities Plan.

Fiscal 2019 and 2020 initiatives

Reducing CO₂ emissions and emissions per unit

- In fiscal 2019, we not only achieved our goal for CO₂ emissions per unit output, but cleared the target by 1.7%.
- Although the impact of the COVID-19 pandemic has given rise to concerns for fiscal 2020, we are moving forward with CO₂ emissions reduction efforts toward the goal of a 1% cut from last year.

Recycling and reducing waste

- In fiscal 2019, we maintained a 100% recycling rate. However, waste volume increased by 4.8% from the previous fiscal year, while processing costs increased by 9.7%.
- During fiscal 2020, we are working to reduce waste through recovering iron (II) chloride waste, which has been an issue since last fiscal year.

Environmental conservation activities

- Through litter clean-up held twice a year in the vicinity of Plant No. 2, we demonstrate our environmental conservation activities to employees, their families, and the local community.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment	Regulated value		Results
		A	B	
NOx	Hot water boiler	A	180	31
		B	180	35
Dust	Hot water boiler	A	0.3	<0.003
		B	0.3	<0.004
SOx	Hot water boiler	A	—	<0.001
		B	—	<0.001

NOx units: ppm SOx units: m³N/h Dust units: g/m³N

● Water quality (Regulated values: Nagano prefectural regulations) Production Building 1

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5.8-8.6	8.2	7.7	—
BOD	20	3.0	1.0	1.8
COD	20	1.0	<1.0	<1.0
SS	30	5.0	<1.0	<1.0
Oil	5	1.4	<0.5	0.7

Units: mg/ℓ

● Water quality (Regulated values: Nagano prefectural regulations) Production Building 2

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5.8-8.6	7.6	6.6	—
BOD	20	18	5	12
COD	20	11	5	8
SS	30	4.0	<1	1.3
Oil	5	1.5	<0.5	0.7
Fe	10	<1	<1	<1
Cu	3	0.8	<0.3	<0.3
NH ₄	100	2.2	1.5	1.8

Units: mg/ℓ

Yasu Plant



Location: Yasu, Shiga
 Products: Mechanical multilevel parking systems
 Commenced operations: October 1996



Takuo Higuchi
 Plant Manager

Outlook and policies

Our plant develops and manufactures mechanical multilevel parking systems as well as other mechanical components under a slogan to reduce the impact on the environment. We aim to further protect the global environment and continue improving our care for the environment to ensure that we pass on the green mountains and clear air and rivers of these superb natural surroundings to later generations.

Fiscal 2019 and 2020 initiatives

Reduction in CO₂ emissions

- With the termination in fiscal 2019 of powder coating equipment operation, use of LPG in production is ending. The Yasu Plant is therefore taking 2020 to be its Year 1 for CO₂ emissions reductions as it moves ahead with efforts centering on reduction of electric power use.
- While continuing to advance conversion of plant lighting to LED in fiscal 2020, we are introducing electric power monitoring efforts at new facilities to renew our understanding of the current situation as we seek out ideas for how to affect future reductions in CO₂ emissions.

Recycling and reducing waste

- We will carry out improved and thorough separation to maintain our 100% recycling rate.
- This fiscal year, we will continue to promote recycling of waste into useful resources and to respond to changes in waste by look for a new waste treatment contractor and reduce processing costs.

● Atmosphere (Regulated values: Air Pollution Control Law)

Substance	Equipment	Regulated value	Results
NOx	Boiler	150	45
	Drying oven	230	31
Dust	Boiler	0.1	<0.003
	Drying oven	0.2	<0.003

NOx units: ppm Dust units: g/m³N

● Water quality (Regulated values: Sewage Law)

Item	Regulated value	Results		
		Maximum	Minimum	Average
pH	5-9	8.0	7.4	—
BOD	600	4.0	1.0	1.8
SS	600	6.0	1.0	3.8
Oil	5	1.5	<0.5	0.7
Ni	1	0.1	<0.1	<0.1
Total nitrogen	60	22	11	16
Total phosphorus	10	3.7	<1.0	<1.0

Units: mg/l