

NHK Spring involvement at production sites

We encourage reducing electricity use and saving energy, and encourage making energy use more visible (transparent); we also practice energy management through electricity monitoring and other initiatives. We continue our zero emissions work through recycling.

Energy-saving equipment

Use of solar energy

We installed solar power generators at our DDS Komagane Plant in 2008, our Yokohama Office in 2009, and our Gunma Plant in 2012. We make extensive use of renewable solar energy to promote energy saving and reducing CO₂ emissions.



DDS Komagane Plant
(20 kW)
Commissioned 2008



Yokohama Office
(100 kW)
Commissioned 2009

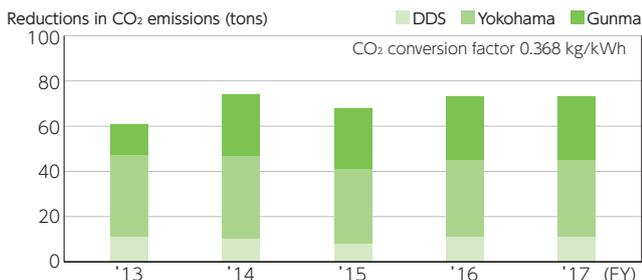


Gunma Plant (56 kW)
Commissioned 2012

NHK Spring solar generation performance



*In fiscal 2013, because of a malfunction in the control system, electric power generation dropped (restored)



Zero emissions

To realize an environmentally-friendly society, we promote recycling of waste and continually strive to reduce emissions by establishing a recycling center and an Environmental Dojo at each of our business establishments.

Recovering resources as valuables from waste plastics and food waste

Soft types of plastics are stored and transported as compact as possible by using compression packing machines. We recycle with the appropriate waste processors. We will also process and recycle high quality waste into raw plastic materials as useful resources and high-calorie fuel. Food waste is being recycled as feed for livestock as well as being processed through fermentation and decomposition process using a food waste processor.

On-site checks of waste processors and waste recovery processors

We confirm whether operators take high quality waste according to contracts before outsourcing while conducting regular checks of waste processors at each plant to confirm that they are treating waste in accordance with the contract, in order to ensure that our zero emissions policies are being implemented.



Exterior of the recycling center



Separating waste at the recycling center



On-site checks of waste processors



On-site checks of waste processors

NHK Spring fiscal 2017 targets and performance

We approach energy saving, reducing CO₂ emissions, recycling wastes and reducing pollutants in production in a planned way, setting specific targets to be achieved.

Energy saving

NHK Spring has long recognized the need for global environmental conservation and has striven to engage in energy-saving activities. We have been engaged in ongoing debate since the 1990s at the Energy Saving Subcommittee set up under the Global Environmental Measures Committee at that time, and today, we continually promote energy-saving activities by actively exchanging ideas at the CO₂ Reduction Committee. Our unit energy consumption in fiscal 2017 decreased by 1.2% compared to the previous fiscal year.

Targets		
Unit energy consumption to sales: Annual reduction of 1% (based on fiscal 2016) (Under the Law Concerning the Rational Use of Energy, evaluation criteria of factories for rationalization of energy use)		
FY2017 target	FY2017 actual	Assessment
Target unit consumption* 99.0	Unit consumption 98.8	

*Target unit consumption: Targeted reduction with fiscal 2016 unit consumption as 100

Movements in target and actual energy consumption to sales



*Unit consumption in fiscal 2016 is set as 100

Reduction in CO₂ emissions

We established the CO₂ Reduction Committee in 2008 to engage in CO₂ reduction activities in cooperation with affiliate companies in Japan. We have laid out specific reduction targets for CO₂ emissions for the entire Group and have been working to prevent global warming. We reduced the unit amount of CO₂ emissions 1.9% in fiscal 2017 compared to the previous year and achieved our fiscal target.

Targets		
Per unit CO ₂ to sales: Annual reduction of 1% (based on fiscal 2016) (According to independent targets) (According to Japan Auto Parts Industries Association Eighth Environmental Voluntary Action Plan)		
FY2017 target	FY2017 actual	Assessment
Target unit consumption* 99.0	Unit consumption 98.1	

*Target unit consumption: Targeted reduction with fiscal 2016 unit consumption as 100

Movements in target and actual CO₂ emissions



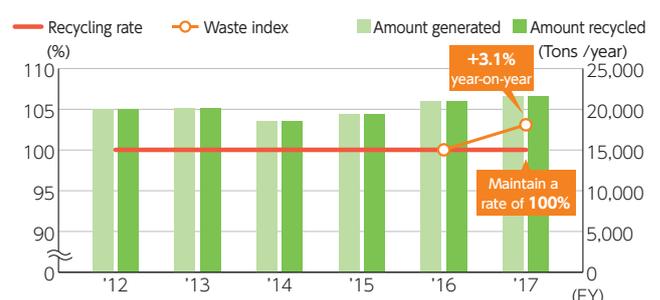
*Unit consumption in fiscal 2016 is set as 100

Recycling of waste

NHK Spring also worked to reduce the amount of landfilling disposal of waste with the goal of achieving zero emissions and successfully reached this target at the Yokohama Office at the end of fiscal 2002. This became a company-side initiative in fiscal 2003 and was expanded and furthered by Group companies in Japan in fiscal 2005. Since fiscal 2010, we have maintained a 100% recycling rate. In addition, the amount of waste increased compared to the previous fiscal year due to sludge, chemical treatment, and the transition of some valuables to waste, but waste reduction will improve by enhancing production activities and reforming waste processing in the future.

Targets			
Maintain zero emissions across the entire company (Recycling rate of at least 99% achieved since fiscal 2004)			
FY2017 target	FY2017 actual	Assessment	FY2018 target
Continue recycling rate of 99% or higher	Recycling rate of 100% (at least 99.95%)		Continue recycling rate of 99% or higher

Shift in performance in recovering resources from waste and the waste index



*Waste index in fiscal 2016 is set as 100

Group company involvement

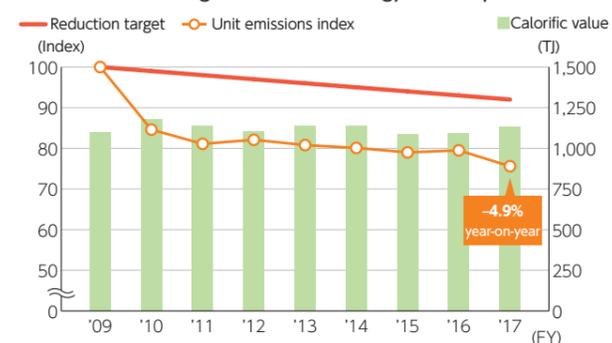
We involve the entire Group in our environmental conservation activities. They are all engaged in reducing environmental pollution.

Domestic Group companies

Energy saving

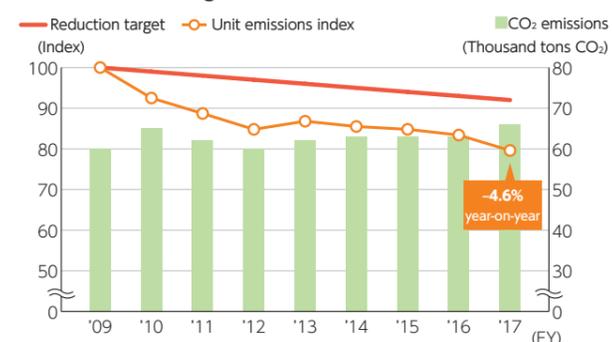
We have set a target to reduce the unit energy consumption 1% annually and conduct cooperative NHK Spring energy-saving activities with the base year set as fiscal 2009. In addition to furthering energy savings through efforts that include rationalizing production, we are striving to reduce CO₂ emissions through measures that include thermal insulation of furnaces. As a result, we reduced the unit amount of CO₂ emissions 4.6% in fiscal 2017 compared to the previous year and achieved our target. In addition, the basic unit of heating decreased year-on-year.

Movements in target and actual energy consumption to sales



*Unit consumption in fiscal 2009 as 100
*Electric heat value coefficient = 9.97 GJ/1,000 kWh

Movements in target and actual CO₂ emissions



*Unit consumption in fiscal 2009 as 100
*Electric CO₂ coefficient = 0.368 tons/1,000 kWh

Towards an environment-friendly society

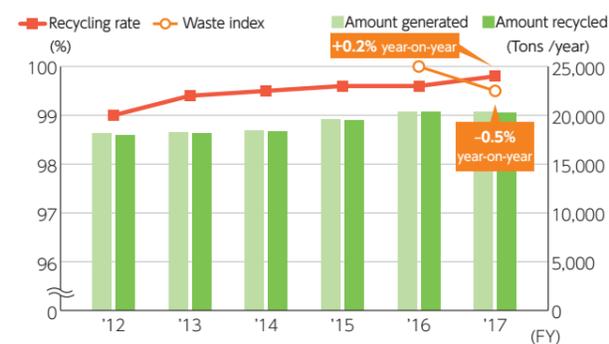
The waste produced by Group companies in Japan during fiscal 2017 was 20,316 tons. We were able to recycle 20,277 tons. This improved the recycling rate from 99.6% to 99.8% by reducing the sludge from wastewater processing in fiscal 2017. Efforts to reduce waste reduction are also undertaken in the same way as NHK Spring. We reduced waste another 0.5% year-on-year thanks to the recovery of resources from waste and improvements to production activities. We will continue these various activities in the future.

Our aim was to achieve a recycling rate of over 99% between fiscal 2007 and fiscal 2009 at Group companies in Japan and succeeded in reaching this target by furthering zero emission activities.

As an example of recycling activities, Nippatsu Service at Group companies in Japan and Nippatsu Harmony separate and

collect various waste at the Yokohama Office to encourage recycling and waste reduction.

Shift in performance in recovering resources from waste and the waste index



*Unit consumption in fiscal 2016 as 100



Weighing separate waste via the Nippatsu Service



Kazuyuki Onchi
Topura Co., Ltd.
Manager, Environmental Section,
Safety & Environmental Activities Department



Striving to Conduct Business Activities in Harmony with the Environment

My company develops, manufactures and sells a wide range of springs from small springs and turbine springs to high-strength bolts from production sites in Kanagawa, Shizuoka, and Osaka as a specialized spring manufacturer. Our environmental activities move forward under an environmental management system that complies with the ISO 14001: 2015 in accordance with our policy to pass on to the next generation a prosperous and beautiful world.

In reducing CO₂ emissions, we improved energy-savings of the actual heat treatment equipment and reduced the losses when switching temperatures during operation. We also worked to improve unit consumption in each process through activities to enhance manufacturing and promoted the transition to LED lighting. We also engaged in other efforts to reduce emissions and recycle such as the reduction in emissions of industry sludge, activities to improve product yield, and improve the accuracy of waste sorting. We are also working to develop environmentally-friendly products such as products that are lighter and support EV applications.

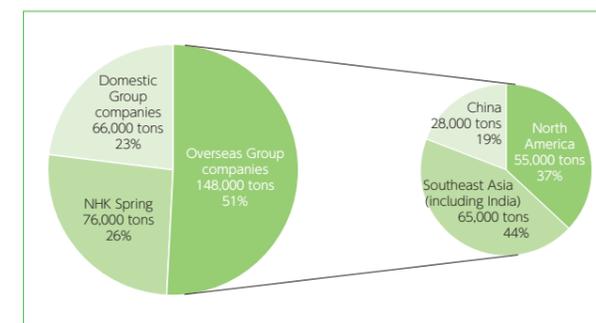
In the future, we will strive to conduct business activities that think about harmony with the environment to contribute to further reductions of the global environmental burden.

Overseas Group companies

CO₂ emissions

The volume of CO₂ emissions for overseas Group companies in fiscal 2017 accounted for 51% of the whole Group, which is the same ratio as the previous fiscal year. This breakdown shows a decrease of 2,000 tons in North America and an increase of 7,000 tons in Southeast Asia as well as 1,000 tons in China. In the future, we will further new activities to reduce CO₂ emissions through energy conservation diagnostics of our plants and the expansion of energy-saving examples.

Fiscal 2017 CO₂ emissions by Group segment

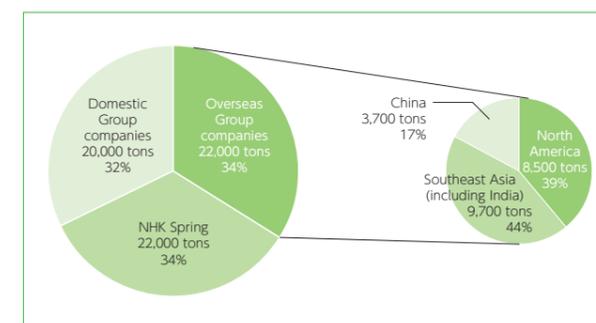


Waste emissions

The basic unit for the amount of waste in Japan has a tendency to increase, and our overseas Group companies are also showing a tendency for an increase in the amount of waste.

The ratio of overseas waste for fiscal 2017 was 34% throughout all of the Group companies, but the emissions increased 2 points compared to last year. We will further resource recovery from waste through recycling activities on each site in the future because we are showing an upward trend of waste, especially in Southeast Asia and China.

Fiscal 2017 volumes of waste generated by Group segment



Energy saving

Each company is engaged in energy-saving activities to mitigate energy consumption during production. We are systematically promoting improvement activities based on energy-saving examples of each company in North America and Southeast Asia.

We also are expanding similar improvement activities as were carried out in Japan even in other regions, to progress energy saving actions throughout the Group overseas.

Movements in CO₂ emissions in overseas Group companies (10 manufacturing companies)



*Unit consumption in fiscal 2009 as 100

Movements in waste generated in overseas Group companies (10 manufacturing companies)



*Unit consumption in fiscal 2009 as 100