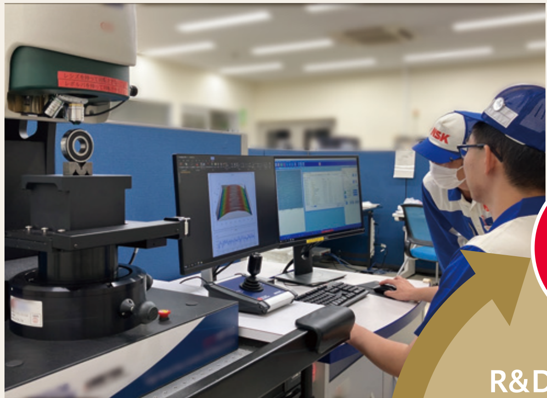
Climate Change

Recognizing that climate change is an urgent global issue, NSK will leverage its core technologies as a means of contributing to carbon neutrality (decarbonization) throughout the supply chain as well as a circular economy (resource circulation).

Initiatives for Minimizing the Environmental Impact of Our Business Activities and Maximizing the Environmental Contribution of Our Products

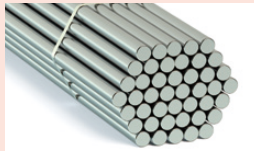
Environmental Contributions through Tribology and Other Core Technologies

- Tribology technology
- Materials technology
- Numerical simulation technology
- Mechatronics technology



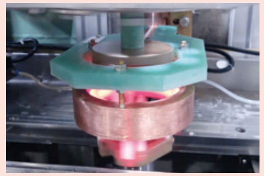
Reduction of CO_2 Emissions from Business Activities

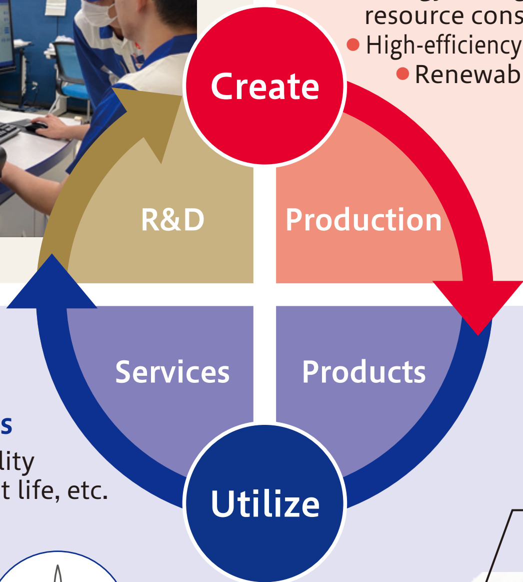
- Low-CO_2 materials
- Energy savings and resource conservation
- High-efficiency production
- Renewable energy


Environmentally conscious raw materials


Solar power generation


DX-based production efficiency enhancements

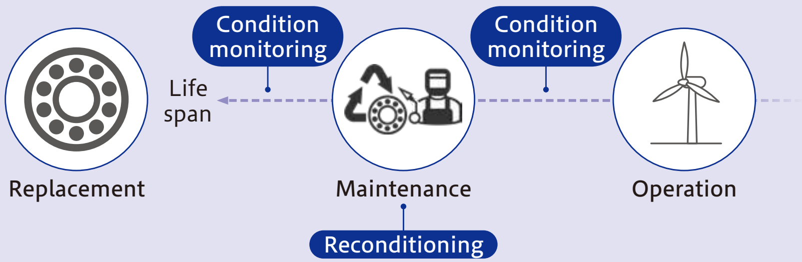

High-efficiency heat treatment technology



Environmental Contributions through Services

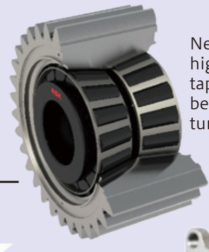
- Improved reliability
- Extended product life, etc.

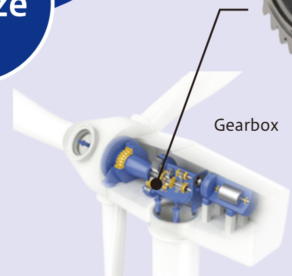

Condition monitoring solutions



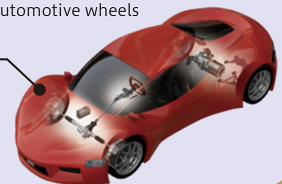
Environmental Contributions through Products

- Compact and lightweight
- Low friction
- Extended product life, etc.


Next-generation high load capacity tapered roller bearings for wind turbines




Low-friction 3rd generation tapered hub unit bearings for automotive wheels



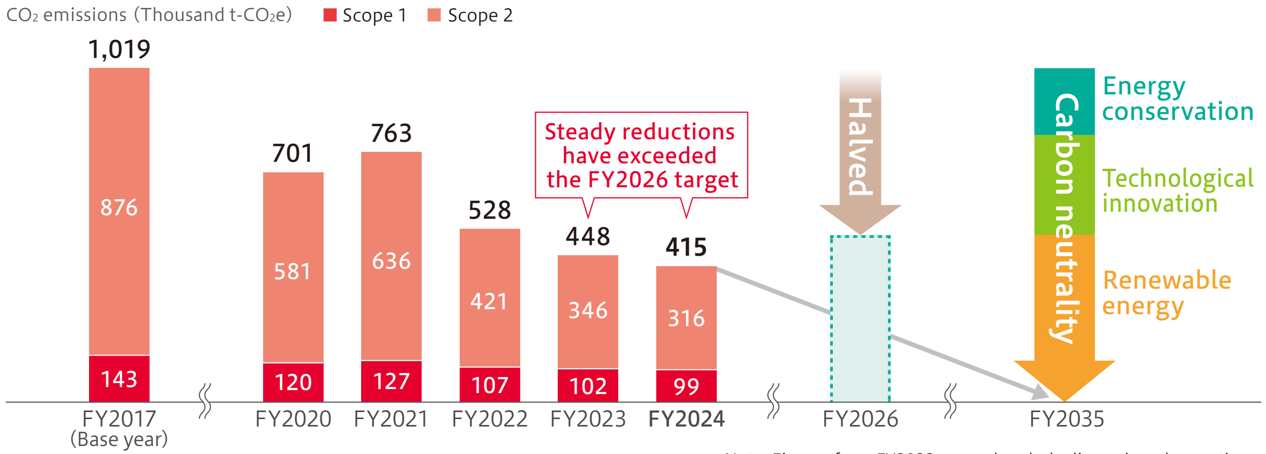
Definition

Scope 1, 2, and 3	Classification method for CO_2 and other greenhouse gas emissions from the manufacture, use, and disposal of products
Scope 1	Direct emissions of greenhouse gases from the use of fuel and gas, etc., by the company itself
Scope 2	Indirect emissions from the use of electricity, heat, or steam supplied by another company
Scope 3	Indirect emissions other than those covered by Scope 1 and Scope 2

"Create" –Efforts to Minimize the Environmental Impact from Our Business–

Toward Achieving Carbon Neutrality for Scope 1 and 2 by FY2035

NSK considers reducing energy consumption to be the top priority in achieving carbon neutrality. Based on this understanding, we are promoting energy conservation by reducing waste and are developing and introducing innovative manufacturing technologies that improve the efficiency of energy use. At the same time, we are expanding the use of renewable energy. These efforts are aimed at achieving carbon neutrality for Scope 1 and 2 by FY2035, while halving CO_2 emissions in FY2026 compared with the base year of FY2017 as part of this process. Efforts to minimize environmental impact have progressed smoothly, driving CO_2 emissions for FY2024 down to approximately 420,000 tons, thereby achieving the FY2026 target ahead of schedule.



Note: Figures from FY2022 onward exclude discontinued operations.

Contribute to the Goal Set by Global Society of Net Zero CO_2 Emissions by 2050

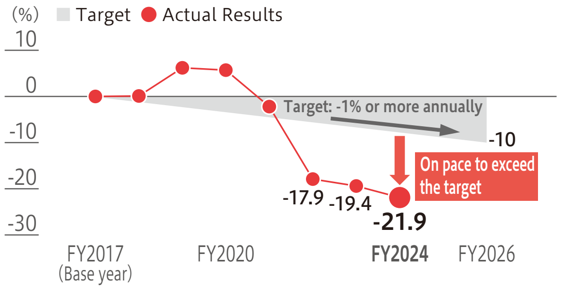
In an effort to achieve a decarbonized society, NSK will increasingly introduce the latest technologies, promote innovative initiatives, and work with suppliers to reduce CO_2 emissions throughout the supply chain up to and including Scope 3.

Item	Classification		Past Initiatives	Key Considerations for Initiatives in the Leadup to 2050
Reduction of energy consumption	Energy conservation	Please see our website for more information.	● High-efficiency equipment use ● Waste reduction ● Productivity enhancement ● Defect reduction	Continuous improvement
	Technological innovation		● Development of high-frequency induction heat treatment hardening ● Ultra-stable production P.30	● Introduction of low-CO_2 heat treatment technology ● Development of higher efficiency production lines and processes
Transition to clean energy	Renewable energy Next-generation energy		● CO_2-free electricity ● Solar power generation	● Adoption of clean fuels (e-methane, hydrogen, biofuels) ● Use of new power generation technologies (perovskite, wave power)
Use of sustainable materials and resources	Resource circulation	Please see our website for more information.	● 3R (reduce, reuse, recycle) P.45 ● Material yield rate improvement	● Use of untapped resources (heat pumps, waste heat, carbon recycling, bio-coke) ● Expanded use of regenerated materials
	Low-CO_2 materials		● Adoption of electric furnace steel ● Bioplastic use ● Development of plant-derived grease	● Adoption of carbon-neutral steel (e.g., hydrogen-reduction iron) ● Expanded use of bioplastic ● Expanded application of plant-derived grease

1 Enhancing Energy Use Efficiency

NSK is working to reduce energy usage per unit of sales by 1% each year compared with the base year of FY2017. As of FY2024, we achieved a reduction of 21.9%, nearly three times the target.

Energy Usage per Unit of Sales Target and Actual Results



Note: Figures exclude discontinued operations.

Energy Conservation

Reducing Air-Conditioning Energy Use

The energy used to operate air-conditioning systems accounts for a major portion of all energy used by NSK plants. In response, we reduced the energy needed to operate air-conditioning systems by applying thermal insulation paint to the exterior of heat treatment furnaces to reduce their surface temperatures. At the same time, energy consumption decreased owing to improved thermal protection as a result of reduced heat loss from the furnace.

Measuring the surface temperature of a heat treatment furnace (Haruna Plant)

Kicking Off Carbon Neutrality Education for Plants

Members of the Carbon Neutrality Department visit NSK plants to explain the Company's carbon neutrality policies and initiatives, and to impress upon employees that they are important stakeholders. These visits include question-and-answer sessions as well as dialogue. With the aim of ensuring that every employee takes the initiative in making everyday improvements, we will implement this initiative at as many plants as possible on an ongoing basis.

Manufacturing Capital P.31

Education for employees with less than 10 years of employment at NSK (NSK Kyushu)

Enhancing Energy Use Efficiency through Technological Innovation

Working toward "Ultra-Stable Production"

In an effort to engage in sustainable manufacturing, NSK is working to further stabilize and enhance the efficiency of its manufacturing sites. To this end, we are pursuing innovative initiatives using digital technologies and AI. As a result of our past digital tool development and utilization activities, we are now able to identify the operating status of equipment in real time and analyze abnormalities in detail, which has significantly accelerated the speed of improvement.

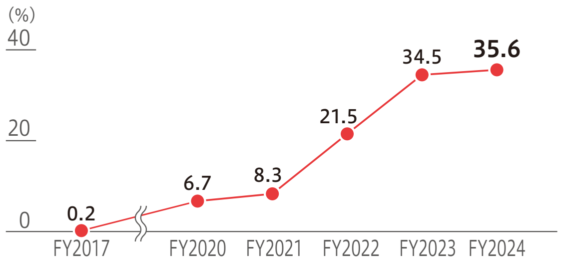
In addition to these production visualization and knowledge digitalization efforts, NSK is applying AI to accelerate and enhance status identification and analysis work. These initiatives seek to achieve stable equipment operations and improve the overall efficiency of production lines, thereby contributing to lower environmental impact through waste reduction and optimized energy use.

Production visualization (Saitama Plant)

2 Reducing Environmental Impact through Renewable Energy Use

NSK is advancing a plan to switch the source of electricity for all locations to renewable energy, and is expanding use of solar power generation at locations in India, the ASEAN region, and South Korea in addition to Japan and China. In FY2024, the Group increased the proportion of renewable energy in its total energy usage to 35.6%.

Rate of Renewable Energy Use



Notes: 1. Renewable energy usage rate = Renewable energy usage/Total energy consumption
2. Figures from FY2022 onward exclude discontinued operations.

Installing NSK's Largest Solar Power Generation System in Japan

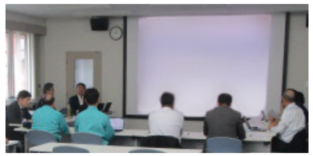
In September 2024, NSK expanded the rooftop solar power generation system at the Fujisawa 2nd Plant by a factor of 6.5. Having installed approximately 2,700 solar panels, the system is now a mega solar-class facility that generates a maximum of 950 kW and reduces CO_2 emissions by 456 tons.

Solar power generation system installed at the Fujisawa 2nd Plant

3 Reducing Scope 3 Upstream Emissions

Strengthening Cooperation with Suppliers

CO_2 emissions from purchased products account for a major share of NSK's total CO_2 emissions. In response, NSK is strengthening cooperation through a variety of means. This includes sharing policies and initiatives to reduce CO_2 emissions throughout the supply chain. In addition, we support suppliers in calculating their CO_2 emissions and will advance future initiatives.



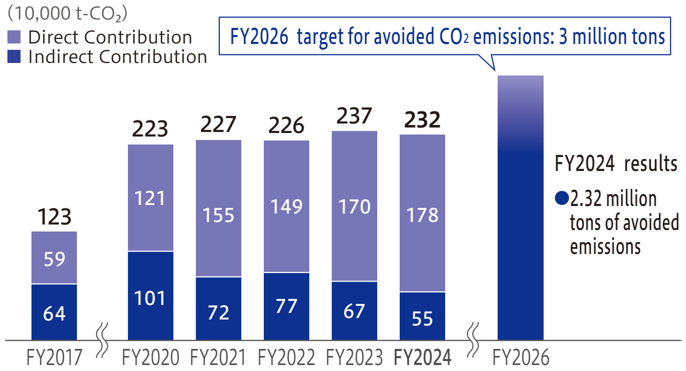
Holding a carbon neutrality briefing for suppliers (Haruna Plant)

"Utilize" –Efforts to Maximize the Environmental Contribution of Our Products–

Reducing CO_2 Emissions from the Use of NSK Products by Customers

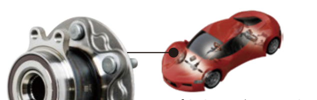
NSK's products also contribute to reducing CO_2 emissions during the "utilize" stage at customers. We promote such efforts in two categories: direct contribution*1 and indirect contribution*2. In FY2024, we contributed to a reduction of 2.32 million tons of CO_2 emissions.

Avoided CO_2 Emissions



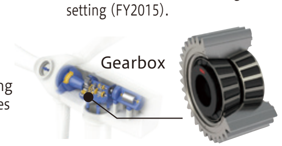
Notes:
1. Figures from FY2022 onward exclude discontinued operations.
2. Avoided CO_2 emissions in past fiscal years have been revised based on the emission coefficients used to calculate CO_2 emissions from electricity consumption in FY2024.
3. This calculation is based on the "Quantification Guidelines for CO_2 Emission Reduction Contributions by Bearings" from the Japan Bearing Industry Association (for direct contribution only).
4. "FY2026 target for avoided CO_2 emissions: 3 million tons" was calculated using the emissions coefficients at the time of target setting (FY2015).

*1 Direct contribution to reducing CO_2 emissions through the performance of individual NSK products



Low-friction 3rd generation tapered hub unit bearings for automotive wheels

*2 NSK's products help reduce CO_2 emissions indirectly by contributing to equipment or facilities of decarbonization industry customers, or through services such as product restoration.



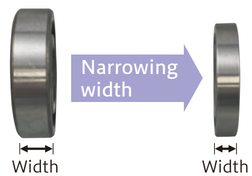
Next-generation high load capacity tapered roller bearings for wind turbines

Avoided CO_2 emissions from environmentally friendly products
= CO_2 emissions reduced per product × Number of units sold × Product service life

Compact and Lightweight Deep Groove Ball Bearings for EVs

By combining the newly developed "narrow-width combined plastic cage" with our existing technologies, NSK developed a compact, lightweight, low friction bearing. This bearing helps reduce CO_2 emissions by improving electricity consumption.

Developed product



Please see our website for more information on this product.

CO_2 Emission Reduction through Services

Through condition monitoring solutions, reconditioning, and various other services, NSK seeks to reduce CO_2 emissions throughout the life cycle of its products.

Condition Monitoring Solutions and Reconditioning

Condition monitoring solutions measure and analyze the vibrations of rotating and linear motion mechanisms inside equipment to diagnose the product's condition and life span. This contributes to improved machine reliability and extended product life. In addition, reconditioning enables product repair and reuse.

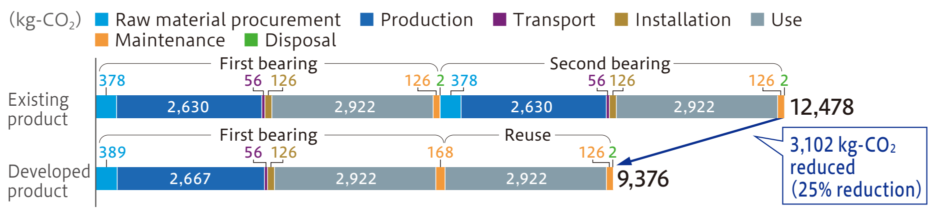
Strategy and Progress of the Industrial Machinery Business P.23

Reducing CO_2 Emissions throughout the Product Life Cycle

NSK seeks to strengthen its service delivery system throughout products' entire life cycle, including equipment maintenance and repairs after product sale. As far as the environment is concerned, we are advancing efforts to minimize environmental impact by curtailing the amount of resources used and by reducing CO_2 emissions from energy use. As part of this effort, we developed the first bearing in the industry that can be reconditioned (enabling reuse through repairs). This product has twice the service life of conventional bearings thanks to NSK's proprietary high-precision service life prediction system, and can be reused by removing the inner ring to inspect and repair every component. This extends the life span of the product and reduces product waste. Using this bearing on the wheels of a dump truck reduces more than 3,000 kg of CO_2 emissions.

NSK has disclosed information on this product in the Carbon Footprint Report and specified the CO_2 emissions calculation items for the entire life cycle with the aim of engaging in more transparent, credible disclosure.

Carbon Footprint (CFP) Estimation Result per Bearing



Please see our website for more information on this product.

Please see our website for more information on the CFP Report.