

Environmental Targets and Results

The YKK Group formulates Mid-Term Environmental Management Principles every four years. Under the Fourth Mid-Term Environmental Management Principles (FY2013 to FY2016) from fiscal 2013, which aim to contribute to the creation of a sustainable society, we undertook initiatives in four key themes with the keywords "Pursuing a Low-Energy Consumption, Energy-Saving Approach." In particular, in the Fourth Mid-Term Principles, in addition to traditional energy-saving efforts, we also implemented measures that take advantage of high-efficiency production systems, energy-saving technology, facility development, and other technical capabilities. At the Kurobe Manufacturing Center, where we have set up a manufacturing and development base as "the headquarters of technology," we have achieved target energy intensity reduction of 20% (compared with fiscal 2010).

YKK Group Fourth Mid-Term Environmental Management Principles (FY2013 to FY2016) Activity Summary

Themes	Items	Action plans	Results
Corporate Governance	Strengthen global environmental management system	<ul style="list-style-type: none"> Continue and further develop group environmental management audit (enhance environmental management) Continue standalone environmental cross audits within each global region (maintain environmental compliance) 	Establish a mutual audit system for environmental management across the six global regions
Green Innovation	Monozukuri * for the next-generation (technological innovation)	<ul style="list-style-type: none"> Constantly develop product lines that contribute to a reduced carbon footprint, resource recycling and a society in harmony with nature Develop new products that will help solve social issues 	Aggressive development of environmentally-conscious products in the AP business
Creating Shared Value	Social contribution through primary business (value of corporate presence)	<ul style="list-style-type: none"> Promote and further develop cooperation with society (customers, NPOs, communities, etc.) Promote and expand the scope of mutual disclosure of environmental information (share approach to social issues) 	Develop the Furusato-no-Mori activities for next generation environmental education
Sustainability: low-carbon initiatives, resource recycling and harmonious coexistence with nature	CO ₂ reduction (low energy, energy saving)	<ul style="list-style-type: none"> Keep working to transform energy usage (higher efficiency, stabilization, invention) Gradually reduce CO₂ emissions including in the supply chain (introduction and expansion of Scope 3**) 	Achieved the target reduction of 20% in energy intensity compared with fiscal 2010 (Kurobe Manufacturing Center)
	Biodiversity	<ul style="list-style-type: none"> Introduce and expand efforts related to the conservation of nature, particularly water (WET***) Cooperate with supply chain partners in consideration of biodiversity 	Implementation of WET, establishment of water management methods, Kurobe River alluvial fan groundwater analysis, evaluation of suppliers, Furusato-no-Mori SEGES initial highest rank attained
	Chemical substance risks	<ul style="list-style-type: none"> Clarify environmental obligations in each country and reduce risks of meeting those obligations Secure, maintain and improve the safety of manufacturing and products 	Secure safety by measures against mercury, fluorocarbons and evaluation of handling chemical substances
	Resource recycling	<ul style="list-style-type: none"> Reduce waste volume and increase recycling rate Introduce MFCA**** to further increase use of resource recycling and improve usage efficiency 	Achieved 99% recycling rate at domestic manufacturing bases

* Monozukuri : Japanese term that has multiple meanings centering on manufacturing, such as "design" and "craftsmanship"
 ** Scope 3: GHG emissions from supply chain (at stages of manufacture, transportation, business trips, waste, product use, etc.)
 *** WET (Whole Effluent Toxicity): A method of wastewater management that uses biological impact as an indicator. It assesses groups of species—crustaceans, algae, and fish.
 **** MFCA (Material Flow Cost Accounting): An environmental management accounting system designed to maintain a balance between resource efficiency and economic efficiency

YKK Group Fifth Mid-Term Environmental Management Principles (FY2017 to FY2020)



Making positive contributions to society

- Offering and expanding a full range of products that contribute to health, safety and security, and that take the environment into account
- Promoting environmental contribution activities
- Promoting ecosystem conservation
- Actively disclosing environmental information

Minimizing environmental impact on society (aiming for zero impact)

- Maintaining and improving environmental compliance
- Reducing CO₂ emissions
- Promoting responses to climate change risks
- Sustainable supplies
- Using resources efficiently/reducing resource usage
- Promoting waste reductions
- Tackling water risks
- Promoting chemical substance reductions

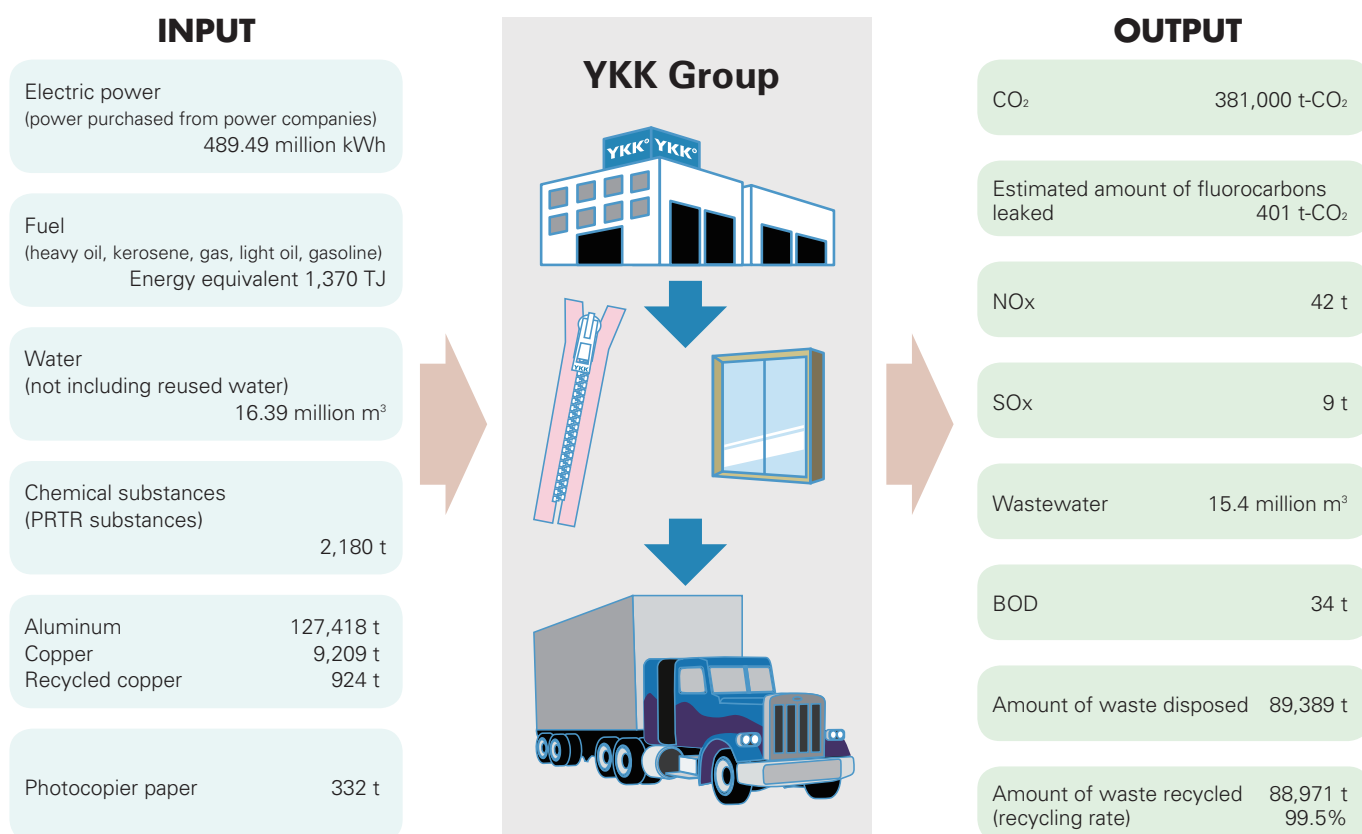
In the Fifth mid-term plan, we set up an action plan to achieve the environmental policies and targets with the themes of "Make positive contributions to society" and "Minimize environmental impact (zero impact) on society." By minimizing the environmental impact of CO₂, water, waste, and chemical substances, etc. as a result of business activities as much as possible; enhancing and expanding sales of products that contribute to the environment, safety, security, and health, etc.; and accelerating activities that are positive for society and ecosystems, we will contribute to the creation of a sustainable society.

Fiscal 2017 Environmental Policy and Environmental Action Plan

	Environmental Policy	Fiscal 2017 Environmental Action Plan
Making positive contributions to society	Offering and expanding a full range of products that contribute to health, safety and security, and that take the environment into account	<ul style="list-style-type: none"> • Further promotion of value propositions and high levels of insulation through high added-value windows • Respond to harmful substances in products and send response information • Apply to and win prize at external environmental award system
	Promoting environmental contribution activities	<ul style="list-style-type: none"> • Expand environmental activities for children
	Promoting ecosystem conservation	<ul style="list-style-type: none"> • Cooperate with NPOs and NGOs, etc. and engage in ecosystem conservation programs
	Actively disclosing environmental information	<ul style="list-style-type: none"> • Create draft plan for renewal of environmental website • Implement communication with stakeholders at manufacturing sites
Minimizing environmental impact on society (aiming for zero impact)	Maintaining and improving environmental compliance	<ul style="list-style-type: none"> • Confirm environmental management level through company-wide self-checks • Confirm environmental compliance using environmental management audits
	Reducing CO ₂ emissions Promoting responses to climate change risks	<ul style="list-style-type: none"> • F: (Japan) Reduce energy intensity by 1% compared with fiscal 2016, reduce CO₂ emission intensity by 1% compared with fiscal 2016 (Overseas) Reduce energy intensity by 1% compared with fiscal 2016, reduce CO₂ emission intensity by 1% compared with fiscal 2016 • AP: (Japan) Reduce energy intensity by 7% compared with fiscal 2013, reduce CO₂ emission intensity by 14% compared with fiscal 2013 (Overseas) Reduce energy intensity by 7% compared with fiscal 2013, reduce CO₂ emission intensity by 7% compared with fiscal 2013 • Investigation and identification of climate change risks at all YKK Group plants
	Sustainable supplies Using resources efficiently/ reducing resource usage Promoting waste reduction	<ul style="list-style-type: none"> • Improve chemical substance management level including in the supply chain • (Overseas) Understand the current situation towards improvement of waste recycling rate • AP: (Japan) Reduce waste shipping intensity by 11% compared with fiscal 2013 Promote recycling of waste and conversion into valuable resources at sales bases
	Tackling water risks	<ul style="list-style-type: none"> • Identify water risks in regions and implement countermeasures • Guidance on wastewater treatment facility technology and implement periodic equipment assessments • AP: Reduce water consumption per unit of sales by 16% compared with fiscal 2013
	Promoting chemical substance reduction	<ul style="list-style-type: none"> • F: Reduce emissions of PRTR substances by 3% compared with fiscal 2013 • AP: Reduce emissions of PRTR substances by 22% compared with fiscal 2013

F: Fastening Products Business AP: Architectural Products Business

Environmental impact mass-balance of YKK Group plants/offices in Japan (fiscal 2016)



Environmental management system

In order to realize the environmental principles, the YKK Group has established an environmental management system (EMS) according to the international standard ISO 14001 for each business and promotes continuous environmental activities.

Environmental accounting

◆ Fiscal 2016 environmental conservation costs (total for YKK Group companies in Japan)

Unit: ¥1 million/year

Item		Description of main initiatives	Equipment investment	Cost	
Costs within business area	Prevention of pollution	Operation, upgrading and maintenance of wastewater treatment facilities, and the treatment cost for minimal amounts of PCBs	255	1,075	
	Conservation of the global environment	Improvement of energy-saving efficiency, replacement of air conditioning and renewal of compressors and high efficiency boilers	816	241	
	Recycling of resources	Promotion of resource recycling and management of industrial waste	174	645	
Business area internal cost total			1,244	1,961	
Upstream/downstream costs		Disassembly of returned window waste and copper scrap, etc.	0	636	
Management activities costs		Maintenance of ISO certifications, participation in environmental exhibits, environmental and social reports, environmental analyses, tree planting and biodiversity protection	0	500	
R&D costs		Development of eco products	13	2,942	
Social activities costs		Collaborative volunteer activities with local community, environmental activities video	3	52	
Environmental damage repair costs			0	0	
Other costs		Inspection/management of fire extinguishing equipment	1	15	
Total			1,261	6,107	
			Fiscal 2015	1,686	5,101
			Fiscal 2014	1,221	5,479
			Fiscal 2013	809	4,975
			Fiscal 2012	650	5,191

	Environmental equipment investment			Environmental costs		Sales (Unit: ¥100 million)	Total equipment investment (Unit: ¥100 million)
	(Unit: ¥100 million)	Ratio to sales (%)	Equipment investment ratio (%)	(Unit: ¥100 million)	Ratio to sales (%)		
Fiscal 2016	12.6	0.3	4.2	61.1	1.6	3,904	298
Fiscal 2015	16.9	0.4	4.5	51.0	1.3	3,883	377
Fiscal 2014	12.2	0.3	4.1	54.8	1.4	3,844	295
Fiscal 2013	8.1	0.2	3.3	49.6	1.3	3,904	245
Fiscal 2012	6.5	0.2	3.0	51.9	1.5	3,465	220

Reinforcing YKK's global environmental management system

The YKK Group is working to reinforce its global environmental management system by carefully checking its environmental compliance and governance practices, with the ultimate goal of improving the quality of its environmental management.

● YKK Group environmental management audits (Japan/overseas)

The Environmental Policy Board Committee implements the YKK Group Environmental Management Principles and Environmental Policies as well as monitors the status of the environmental management system in order to maintain and enhance environmental compliance. In turn, improvements are made regarding any deficiencies. The heads of each region spearhead efforts to examine environmental activities and the legality of actions taken by each site within the region based on cultural differences and unique environmental laws and regulations in place. Through these efforts, environmental risks are mitigated and environmental compliance maintained and improved.

Conservation of biodiversity

The YKK Group continually monitors the impacts its business activities have on ecosystems. We strive to reduce these impacts while also adding to the biodiversity of ecosystems in the communities where we operate.

● Vegetation management based on IPM

Pesticides used to control vegetation are believed to have major impacts on the surrounding ecosystem. Given this, we have established the Pesticides used to control vegetation are believed to have major impacts on the surrounding ecosystem. Given this, we have established the YKK Group Pest Management Guidelines as a way of controlling vegetation at our bases based on integrated pest management (IPM) in order to mitigate the effects bases have on the surrounding environment. Going forward, we will utilize this method of vegetation control at our bases in Japan and overseas.

● Initiatives for WET testing

Water discharged from our main bases in Japan is in full compliance with the water quality standards set forth in the Water Pollution Control Act, by local government ordinances, and per agreements with local governments. However, we did not fully understand the impacts on the environment caused by chemicals not included in water quality standards or by the reaction of chemicals. As a result, we conducted WET testing and aquatic life surveys on the water we discharged into rivers and determined that none of the water discharged from our bases has an impact on ecosystems.

Resource recycling

The YKK Group considers waste to be a resource and thus recycles it where possible. All of our bases around the world are working to achieve the goal of zero net emissions of waste. In fiscal 2005, our production bases in Japan achieved zero net emissions of waste. Going forward, we will continue to reduce the total amount of waste we generate and improve the quality of recycling methods.

● Social responsibilities of waste generators

We have introduced an electronic manifest system in order to manage and dispose of waste using appropriate means. 100% of our production bases used the electronic manifest system in fiscal 2016. Also, every year we systematically visit waste processing providers at their place of business to examine items such as their handling of contracts and manifests, storage and processing of waste, environmental and risk management measures, and their relationship with the local community following a check list.

● Waste recycling

The YKK Group proactively recycles waste in order to build a resource-circulation society. Our waste recycling ratio stood at more than 99% in fiscal 2016.

Risk management of chemical substances

The YKK Group strives to not only comply with laws and agreements, but also mitigate environmental risks by appropriately managing chemical substances, preserving the local environment, including soil, groundwater, air, and water, and taking steps to prevent environmental accidents before they occur. In addition, the YKK Group properly manages and disposes of fluorocarbons, asbestos, soil pollutants and PCBs as one of its most important environmental liabilities.

● Overseas environmental liabilities

The YKK Group strives to understand environmental liabilities at its overseas bases and has confirmed that there is no possibility that environmental liabilities could lead to negative health consequences. Going forward, we will continue to address environmental liabilities as well as properly store and treat chemical substances at each site, while considering the situation of each country.

● Initiatives to address ozone layer destruction and global warming

The YKK Group has established guidelines stipulating renewal deadlines for certain fluorocarbons contained in products that use fluorocarbons. Fluorocarbons contain substances that can destroy the ozone layer and they have a major negative impact on global warming. The entire YKK Group will continue to work toward reducing emissions of fluorocarbons while also systematically renewing equipment.