








PFU Environmental Action Plan

Results from Activities in Fiscal 2021

During 2021, the last year of the Ninth Environmental Action Plan (Fiscal 2019 - Fiscal 2021), we pursued 16 environmental targets and achieved 15 of them.

Activity	Details	Results from fiscal 2019	Results from fiscal 2020	Results from fiscal 2021		
Green Solution	1 Continuous Creation and Provision of Eco-efficient Products  	To produce products with top-level energy efficiency	Scanner products	Product compliance with the International ENERGY STAR Program Ver. 3.0: 100% (37 models)	Product compliance with the International ENERGY STAR Program Ver. 3.0: 100% (5 models)	Product compliance with the International ENERGY STAR Program Ver. 3.0: 100% (10 models)
			Embedded computing products	Environmental performance index: 5.26 or less (5.19)	Environmental performance index: 4.98 or less (4.94)	Environmental performance index: 4.74 or less (4.67)
				Environmental contribution to our customers' sites 5.0 tons of CO ₂ or more (5.6 tons)	Environmental contribution to our customers' sites 5,000 tons of CO ₂ or more (5,726 tons)	Environmental contribution to our customers' sites 6,500 tons of CO ₂ or more (7,423 tons)
			Interactive KIOSKS	Environmental performance index: 19.4 or less (17.5)	Environmental performance index: 18.41 or less (18.41)	Environmental performance index: 16.6 or less (16.5)
				Environmental contribution to our customers' sites 1,663 tons of CO ₂ or more (1,876 tons)	Environmental contribution to our customers' sites 1,782 tons of CO ₂ or more (1,950 tons)	Environmental contribution to our customers' sites 1,722 tons of CO ₂ or more (2,023 tons)
			Security products	Environmental performance index: 1.63 or less (1.66)	Environmental performance index: 1.42 or less (1.35)	Environmental performance index: 1.286 or less (1.285)
				Environmental contribution to our customers' sites 779 tons of CO ₂ or more (785 tons)	Environmental contribution to our customers' sites 790 tons of CO ₂ or more (773 tons)	Environmental contribution to our customers' sites 841 tons of CO ₂ or more (863 tons)
			Solutions	Environmental contribution to our customers' sites 4,427 tons of CO ₂ or more (6,021 tons)	Environmental contribution to our customers' sites 4,250 tons of CO ₂ or more (5,491 tons)	Environmental contribution to our customers' sites 4,039 tons of CO ₂ or more (8,979 tons)
			Services	Environmental contribution to our customers' sites 27.7 tons or CO ₂ or more (34.1 tons)	Environmental contribution to our customers' sites 32.2 tons of CO ₂ or more (44.2 tons)	—
			To comply with environmental labels (EPEAT)	Scanner products	Maintained and expanded compliance with EPEAT Maintained 100% product compliance (5 models)	Maintained and expanded compliance with EPEAT Maintained 100% product compliance (2 models)

	2	Promotion of Environmentally Conscious Solutions and Services 	To reduce our customers' environmental burden by expanding our environmentally conscious solutions and services	At least one suggestion per department (20 out of 21 departments: 1 department fell short)	At least one suggestion per department (19 out of 19 departments)	At least one suggestion per department (9 out of 9 departments)
	3	Promotion of Green Procurement 	To promote procurement from suppliers that work aggressively in consideration of the environment	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities (60 companies)	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities (64 companies)	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities (71 companies)
Green Process	4	Improve of Quality and Enhance ment of Business Efficiency 	To reduce the burden on the environment with improved business operations	At least one suggestion per department (40 out of 42 departments: 2 departments fell short)	At least one suggestion per department (41 out of 45 departments: 4 departments fell short)	At least one suggestion per department (30 out of 31 departments: 1 department fell short)
	5	Promotion of Global Warming Countermeasures 	To cut the amount of energy consumption (Purchased electricity and gas are converted into crude oil)	Crude oil conversion value: 3,298 kL or less (3,198 kL)	Crude oil conversion value: 3,258 kL or less (3,235 kL)	Crude oil conversion value: 3,224 kL or less (3,028 kL)
Green Mind	6	Promotion of an Environmentally Conscious Culture 	To promote environmental and social contribution activities as well as biodiversity conservation activities, and to improve operation of environmental activities	Promotion of social contribution activities (21 projects)	Promotion of social contribution activities (15 projects)	Promotion of social contribution activities (15 projects)
				Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (37 projects)	Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (38 projects)	Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (42 projects)
				Continuous improvement of the management system (1 project)	Continuous improvement of the management system (1 project)	Continuous improvement of the management system (1 project)

Eco-efficient Products

We make efforts to develop and provide eco-efficient products that support "energy-saving", "3R design (*1)", and "management of used chemical substances" in order to reduce the burden on the environment throughout the product's entire life cycle. In fiscal 2021 in order to contribute to reducing the environmental burden at our customers' sites by releasing more products with advanced environmental performance, we engaged in activities setting the improvement of environmental performance as an environmental target for products, solutions, and services in all our business departments and promoted the development and provision of eco-efficient products.

Main Achievements of Fiscal 2021

Producing products with top-level energy efficiency	Scanner products	As planned, we complied with the International ENERGY STAR Program Ver. 3.0 for a sum of 10 newly-developed models.
	Embedded computing products	To make environmental contributions, we made efforts to develop better products by improving the environmental contribution indexes that we defined based on our own standards. We have also made efforts to reduce the environmental burden at our customers' sites by providing our products for customers.
	Interactive KIOSKS	To make environmental contributions, we made efforts to develop better products by improving the environmental contribution indexes that we defined based on our own standards. We have also made efforts to reduce the environmental burden at our customers' sites by providing our products for customers.
	Security products	To make environmental contributions, we made efforts to develop better products by improving the environmental contribution indexes that we defined based on our own standards. We have also made efforts to reduce the environmental burden at our customers' sites by providing our products for customers.
	Solutions	We have made efforts to reduce environmental burden at our customers' sites by providing our solutions for the customers.
	Customer services	We have made efforts to reduce environmental burden at our customers' sites by providing our services for the customers.
Complying with environmental labels	Scanner products	As planned, we acquired certification for a sum of 9 new models that are to be expanded to North America, for EPEAT (Electronic Product Environmental Assessment Tool), an environmental evaluation system for electronic products adapted as a system for promoting green purchasing, primarily in organizations related to the American government.
		As our environmentally conscious activities, such as 3R design and energy-saving functions became recognized, a sum of 10 new models received Eco Mark certification.

(*1) 3R design: Design in which the concepts of "Reduce", "Reuse", and "Recycle" are taken into consideration.

Main Eco-efficient Products for Fiscal 2021

We contribute to reducing the burden on the environment from our customers' business by offering products that comply with the Act on Promoting Green Procurement with energy-saving and 3R design features, and furthermore that comply with various environmental standards. Information about the compliance of our scanners with environmental standards is published on our official company website.



fi-8290



fi-8190



ScanSnap iX1300

- Product compliance with the Act on Promoting Green Procurement
- Product compliance with the International ENERGY STAR Program Ver. 3.0
Power consumption during sleep mode:
fi-8290 2.0 W or less
fi-8190 2.0 W or less
iX1300 1.7 W or less
(when Wi-Fi is off)
- Eco Mark certified product
fi-8290 21 155 011
fi-8190 21 155 010
iX1300 21 155 027
- Product compliance with chemical substance regulations (RoHS Directive Regulation, etc.)



Information for EPEAT 4.7.2.2: [Public disclosure of supply chain toxics](#)

Environmentally Conscious Solutions and Services

We provide environmentally conscious solutions and services that contribute to reducing the burden on the environment from our customers' business, such as energy conservation and paperless work, through more efficient business, reduced consumption, reduced movement, and efficient use of space. In fiscal 2021, we moved forward with the activities that contribute to reducing the environmental burden on our customers, such as developing and shipping various solutions and services, and expanding the provision of solutions and services that utilize scanners.

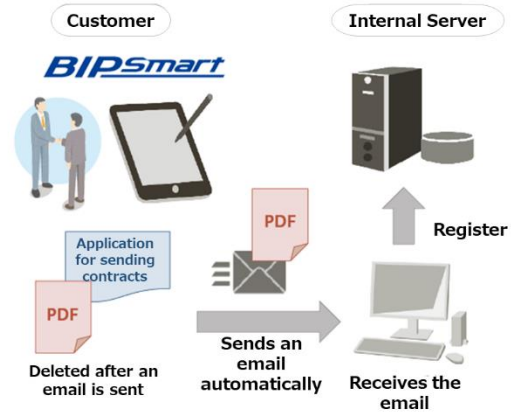
Main Achievements of Fiscal 2021

Reducing our customers' environmental burden by expanding our environmentally conscious solutions and services	Activity	Product
	<ul style="list-style-type: none"> • Development and shipment of environmentally conscious solutions • Expansion of the provision of solutions and services that utilize scanners • Promotion of virtualization, cloud negotiation, etc. 	<ul style="list-style-type: none"> • DynaEye form OCR • BIP Smart • PaperStream Capture

Complete Digitization of Paper Contracts

When exchanging contracts, there was a method where our customers had to ask contract partners to fill in the necessary items on a paper contract, scan the contract with a scanner at hand, then send the scanned contract back via email using an application for sending contracts.

There were two issues with this. First, the contract process took time to complete, and second, since the hard-copy of the contract was moved around a lot, there was a risk that the hard-copy, which contains customer information, would get lost.

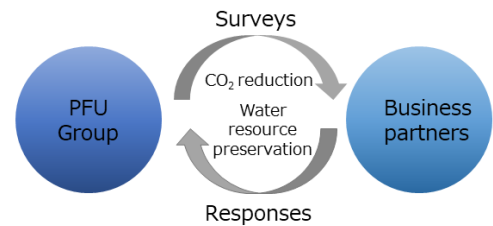


Developed by PFU, "BIP Smart" now allows customers to write on an image of a contract or another form using their finger or a stylus pen, then convert the image to a PDF file, all using a tablet device. Together with the application for sending contracts already in use, a contract can be sent by email without being printed out immediately after text is entered on the tablet device. Since no data is left on the tablet, security can be ensured.

Green Procurement

To provide eco-efficient products, we established "PFU Group Green Procurement Direction", which specifies basic requirements for our suppliers, and we promote environmental activities together with our suppliers.

In fiscal 2021, we promoted activities to reduce CO₂ and to preserve water resources to the upper stream in the supply chain for target business partners, and gained an understanding of the activities of all business partners.



Main Achievements of Fiscal 2021

<p>Promotion of procurement from suppliers that work aggressively in consideration of the environment</p>	<p>Promotion of activities to reduce CO₂ and to preserve water resources to the upper stream in the supply chain (21 new companies + 50 existing companies = 71 companies: 100%)</p>
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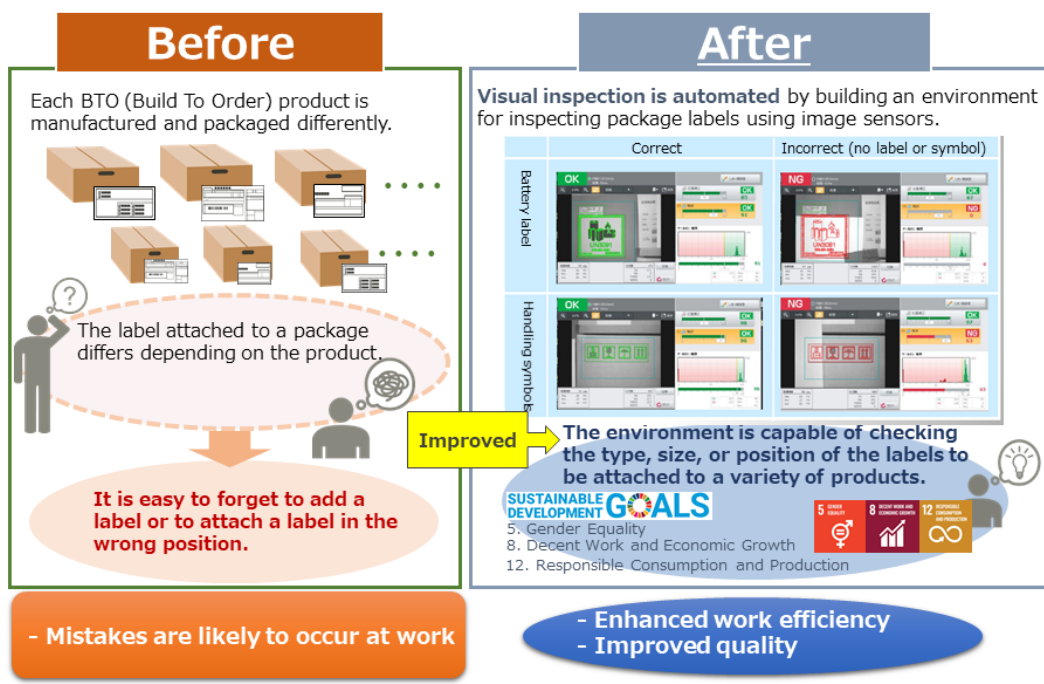
Improvement of Quality and Enhancement of Business Efficiency

Even in in-house work, we promote the reduction of the environmental burden through the enhancement of business efficiency and the improvement of quality using IT, which leads to promoting environmental activities that are focused on our core business. Activities for enhancements are shared as Idea Snap Activities (in-house improvement activities). To promote spreading the activities throughout the company, examples are regularly introduced.

In fiscal 2021, we promoted the improvement of quality and the enhancement of business efficiency of our core business at all departments.

Examples of Improvements in Fiscal 2021

- Automation of visual inspection by building an environment for inspecting attachment of package labels



- Strengthened production and improved quality in manufacturing a wide variety of products in small quantities

PFU Techno Wise promotes efforts to innovate production, such as introducing a moving assembly line (*1), to improve productivity and quality in manufacturing a wide variety of products in small quantities.

Background: The layout of an assembly line has to be changed a few times a year due to a wide variety of products (about 1,400 products) being manufactured at a factory.

Conventional Production Lines

The line has to be fixed to the floor due to the use of a chain-driven conveyor. Therefore, it is difficult to make changes to the layout, such as extending or shortening the line.

Problem

Manufacturing a wide variety of products in small quantities makes it difficult to adjust the production system in response to fluctuating demand.

Improved

Introducing the Moving Assembly Line

Introducing the moving assembly line with a baton passing conveyor system (*2) enables flexible layout changes, such as extending or shortening a production line, through designing and building a production system in-house.

Result

By optimizing the layout of the factory, it is possible to shorten manufacturing lead times, build an environment in which constant production is possible at any time, and provide products with a uniform level of quality.

Effects

- Standardized production
- Uniform level of quality



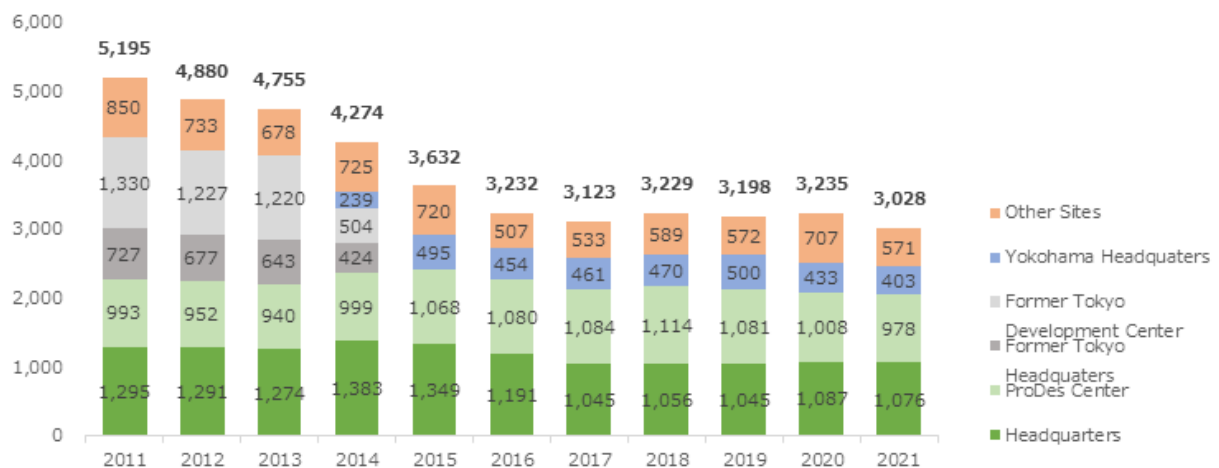
Global Warming Countermeasures

To prevent global warming, we engage in energy-saving and power-saving activities to reduce the amount of energy consumption. (*2)

In fiscal 2021, we made efforts to enhance the effects of power-saving by switching to production facilities that consume less electricity, as well as to expand the use of renewable energy.

(*2) Amount of consumption of purchased electricity, gas, and heat, converted into crude oil (kL)

Trends in Energy Consumption (Crude Oil Conversion Value: kL)



Energy-saving Effects of Updated Facilities

PFU Techno Wise saved energy by switching the apparatus used in the DIP process for printed circuit boards in the course of production to a point soldering apparatus.

Installation Location	PFU Techno Wise
Start of Operation	September 2021
Reduction in Electric Power	7,200 kWh



Point Soldering Apparatus

Environmentally Conscious Culture

Our Group workers promote the protection of the environment through environmental and social contribution activities and biodiversity conservation activities, by entering into a contract and working together with the community and the local government around the company sites. In 2021, to prevent the spread of COVID-19, some regularly held annual events were canceled, but we participated in events such as beautification activities in the reclaimed land in the Kahoku Lagoon and Hama Road Supporter activities.

List of Main Activities

No.	Event name	Done	Implemented at:
1	Green Fund donation	April 2021	Ishikawa
2	Turning the Lights Off	July 2021	All offices/locations
3	Advertising SDG activities (e-messe kanazawa2021)	July 2021	Ishikawa
4	Creation Workshop	July 2021	Ishikawa
5	Beautification activities on the Kahoku Lagoon reclaimed land	October 2021	Ishikawa
6	Hama Road Supporter activities	November 2021	Yokohama Headquarters
7	Plantation of nandina saplings	December 2021	Ishikawa
8	Displaying Certificate of Green Power (at PFU Charity Concert)	December 2021	Ishikawa
9	Use of local ingredients in the company cafeteria	August 2021 to December 2021	Ishikawa
10	Collection of plastic bottle caps	All year	All the sites in Japan
11	Collection of used disposable wooden chopsticks	All year	Tokai Office
12	Conversion of food residue into fertilizer	All year	Ishikawa
13	Social contribution through sports	All year	Ishikawa, all sites in Japan
14	Support for regional education	All year	Ishikawa

Volunteer Activities for Kahoku Lagoon Reclaimed Land

In March 2007, we entered into a contract to take part in voluntary activities such as weeding and beautification of the environment to help maintain the beauty of the reclaimed land in the Kahoku Lagoon (in Kahoku) and the function of its agricultural facilities, as private company No. 1 for the Kahoku Lagoon reclaimed land Improvement Area and Kahoku Lagoon reclaimed land Periphery Improvement Area. In accordance with this contract, we joined in the beautification activities on the Kahoku Lagoon reclaimed land in October 2021.



Beautification activities on the Kahoku Lagoon reclaimed land

Green Fund Donation and Plantation of Nandina Saplings

Every year we donate to the "Green Fund", and we plant the saplings we are gifted in return on the grounds of our headquarters. The purpose of the Green Fund is to plant trees, protect forests against droughts and other problems, educate children about forests and the environment, help with African green belt restoration activities, and more.



Plantation of nandina saplings

Local Environment Beautification Activities

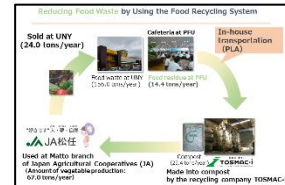
As part of our CSR activities and environmental activities, we participated in the Hama Road Supporter activities sponsored by Yokohama City at the Yokohama Headquarters.



Hama Road Supporter activities

Food Residue Recycling



We continuously achieved zero waste emissions by switching food residue recycling from the in-house food recycling system to the regional food recycling system (outsourced with an outside vendor) in the community.









Reducing food waste by using a food recycling system

Action Plan from Fiscal 2022 to Fiscal 2024

In fiscal 2022, we established the 10th Environmental Action Plan (Fiscal 2022 - Fiscal 2024), and we are already working towards its implementation.

Activity		Details		Targets for fiscal 2022	Targets for fiscal 2023	Targets for fiscal 2024	
Green Product	1	Continuous Creation and Provision of Eco-efficient Products 	To produce products with top-level energy efficiency To comply with environmental labels (EPEAT)	Scanner products	Product compliance with the International ENERGY STAR Program Ver. 3.0: 100%	Product compliance with the International ENERGY STAR Program Ver. 3.0: 100%	
				Embedded computing products	Environmental performance index: 4.51 or less	Environmental performance index: 4.33 or less	Environmental performance index: 4.15 or less
					Environmental contribution to our customers' sites 8,113 tons of CO ₂ or more	Environmental contribution to our customers' sites 9,210 tons of CO ₂ or more	Environmental contribution to our customers' sites 10,455 tons of CO ₂ or more
				Interactive KIOSKS	Environmental performance index: 15.80 or less	Environmental performance index: 14.50 or less	Environmental performance index: 12.00 or less
					Environmental contribution to our customers' sites 1,437 tons of CO ₂ or more	Environmental contribution to our customers' sites 1,318 tons of CO ₂ or more	Environmental contribution to our customers' sites 876 tons or CO ₂ or more
				Network products	Environmental performance index: 1.221 or less	Environmental performance index: 1.163 or less	Environmental performance index: 1.108 or less
					Environmental contribution to our customers' sites 934 tons of CO ₂ or more	Environmental contribution to our customers' sites 1,016 tons of CO ₂ or more	Environmental contribution to our customers' sites 1,106 tons of CO ₂ or more
				Solutions	Environmental contribution to our customers' sites 5,836 tons or CO ₂ or more	Environmental contribution to our customers' sites 6,017 tons of CO ₂ or more	Environmental contribution to our customers' sites 6,203 tons of CO ₂ or more
				Scanner products	To maintain and expand compliance with EPEAT Product compliance with EPEAT: 100%	To maintain and expand compliance with EPEAT Product compliance with EPEAT: 100%	To maintain and expand compliance with EPEAT Product compliance with EPEAT: 100%
				2	Promotion of Environmentally Conscious Solutions and Services 	To promote our customers' environmental burden by expanding our environmentally conscious solutions and services	At least one suggestion per department (all relevant departments)

	3	Promotion of Green Procurement  	Promotion of activities to reduce CO ₂ emissions to the upper stream in the supply chain	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities	Promotion of activities to reduce CO ₂ emissions and to preserve water resources to the upper stream in the supply chain: 100% understanding of business partners' activities
Green Process	4	Improve of Quality and Enhance of Business Efficiency 	To reduce the burden on the environment with improved business operations	At least one suggestion per department (all relevant departments)	At least one suggestion per department (all relevant departments)	At least one suggestion per department (all relevant departments)
	5	Promotion of Global Warming Countermeasures  	To reduce GHG emissions at business operation locations	GHG emissions 5,182 tons of CO ₂ or less (37.3% reduction compared to fiscal 2013)	GHG emissions 4,978 tons of CO ₂ or less (39.8% reduction compared to fiscal 2013)	GHG emissions 4,774 tons of CO ₂ or less (42.2% reduction compared to fiscal 2013)
Green Mind	6	Promotion of an Environmentally Conscious Culture 	To promote environmental and social contribution activities as well as biodiversity conservation activities, and to improve operation of environmental activities	Promotion of social contribution activities (22 projects)	Promotion of social contribution activities (23 projects)	Promotion of social contribution activities (24 projects)
				Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (13 projects)	Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (14 projects)	Promotion of the sharing/transmitting of environmental information and improving operation of environmental activities (15 projects)
				Continuous improvement of the management system	Continuous improvement of the management system	Continuous improvement of the management system

The environmental performance index is calculated by the amount of power consumed per product and the number of shipments.

The amount of reduction in CO₂ emissions at customers' sites are calculated from the number of solutions and services provided.