"Father Sun" Activities Annual Report 2015 KOA Corporation Site Report

KOA Corporation Company Profile (ISO14001 Registered Sites)

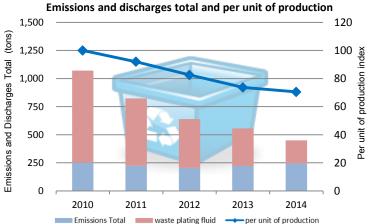
Earthwing (Minowa-machi Kamiina-gun)	: Headquarters and research and development of electronic components
Ina Office (Ina City)	: Quality assurance, sales, sales support, and manufacturing support
Eastwing (Minowa-machi Kamiina-gun)	: Design, development, and manufacture of resistors, circuit protection devices, and inductors
Nishiyama Factory (Ina City)	: Design, development, and manufacture of resistors, inductors, resistor network, and circuit protection devices
MINOWA Wing (Minowa-machi Kamiina-gun)	: Design, development, and manufacture of resistors and hybrid IC
Minowa Factory (Minowa-machi Kamiina-gun)	: Design, development, and manufacture of resistors, inductors, and circuit protection devices
Chuo Factory (Minamiminowa-mura Kamiina-gun)	: Design, development, and manufacture of multi-layer ceramics
Takumi-no-sato (Iida-shi)	: Manufacture of resistors
Nanakuri-no-mori (Achi-mura Shimoina-gun)	: Design, development, and manufacture of resistors and circuit protection devices
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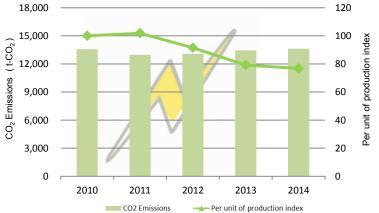
Material flow for FY2014 and undertakings for social environmental activities

INPUT	Business Activity	OUTPUT	Electric power consumption reduction initiatives ~Consolidation of sintering furnaces~
Crude oil equivalent energy consumption 9,408 kL (Vs. last year : Up 4%)	Design, development, manufacture, and sale of resistors and other electronic parts (Products Vs. production volume of last year :	Emitted substances • Reused : 54 tons • Recycled : 447 tons • isposed : 2 tons (Vs. last year : No change)	In response to soaring electric bills stemming from rising fuel prices, Minowa Wing has embarked on manufacturing efficiency improvement via reducing the number of sintering furnaces in operation. Sintering furnace is a production facility needing to operate by maintaining high temperature exceeding 600°C, which prevents frequent start-ups and shut-downs. And having to run the furnaces uninterrupted for an extended period is the reason for consuming huge amount of electricity. But
Clean water 99,048 m ³ (Vs. last year : Up 6%)	Up 6%) Product containing the amount of movement of the substances subject to PRTR 6.6 tons	CO ₂ emissions from fuel combustion 13,620 t-CO ₂ (Vs. last year : Up 1%)	the consolidation has reduced the number of sintering furnaces in operation from 6 to 4, which translated into cutting the electric power consumption (thus electric bill) by approximately 8% and carbon dioxide emissions (calculated by converting from power consumption) by 7 tons per month. Also this consolidation has brought another benefit of doubling the productivity of furnaces and rationalizing factory floor space use with redundant furnaces being removed. To configure 4 remaining sintering
Quantity of substances subject to PRTR contained in purchased materials 25 tons (Vs. last year : No change)	(Vs. last year : Down 3%)	Quantity transferred Substances subject to PRTR •to the environment : 8.6 tons (Vs. last year : Down 2%) •to emitted substances : 8.6 tons (Vs. last year : Up 4%)	furnaces to enable manufacturing of a wide range of products previously handled by 6 sintering furnaces, we worked patiently to tackle technical issues by modifying the furnaces while performing verifications to ensure sustaining the same quality standards.

The Topics for "Father Sun" Strategy

AC	FY2014 Targets	Outcomes and achievement (Level of achievement $@:100\%$ O:More than 70% $\triangle:$ More than 50% $\times:$ Less than 50%)		
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	×	There was an incident of wastewater discharged from the kitchen of Nanakurinomori factory exceeding legal limits of pH, BOH and animal fat contents, which are regulated under an agreement on pollution prevention. As corrective measures, we have changed the way we use alkali detergent in dish washers and the frequency of cleaning grease traps, which separate oil and solids contained in the wastewater released from the kitchen. The implementation of remedial measures was conducted in concert with local authorities to ensure their approval.	
п	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	Ø	The reduction of standby electricity of in-house-built production equipment, the promotion of energy conservation through production efficiency improvement and product design improvement to reduce consumed raw materials and disposed materials are some of the environmental effects mitigation measures of core operations undertaken jointly by engineering, quality assurance and operations support departments to successfully achieve many goals.	
Ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	The reduction of paper usage by digitizing various vouchers, the reduction of disposed pastes by reconfiguring manufacturing processes and the start of experiments to recycle non-electrolytic Ni plating fluid are some of the measures we have undertaken to help achieve the per-unit-of-production emissions reduction target by accomplishing a 29.5% reduction from 2010.	
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	Ø	From the perspectives of continuity, safety and energy conservation, we have been systematically replacing aging utility systems. The replacement of components to more energy efficient parts for large facilities using a lot of power, such as sintering furnace and the reduction of the number of facilitates via production process improvement have contributed to reducing the per-unit-of-production CO2 emissions by 23.2% from 2010 levels to achieve our goals.	





CO₂ emissions total and per unit of production from fuel combustion
18,000 120

"Father Sun" Activities Annual Report 2015 **KOA ELECTRONICS CO., LTD. Site Report**

KOA ELECTRONICS CO., LTD. Company Profile

Location of Head Quarters : Anan-chou, Shimoina-gun, Nagano, Japan JapanEstablishment : September 27, 1969 Representative : President, Nakatou Yasuhisa Employees : 302 (As of March 31, 2014) Business Description : Design, development, and production of resistors Environmental Management Representative General Manager of General Affairs Group Noritaka Koike

•ISO14001 Certification Number : 20001591UM (Registered in March 2000) •Contact : Support Center, QC Group

TEL: 81-260-22-2261 URL: http://www.koa-electronics.co.jp

Environmental Policy and Philosophy of KOA Electronics

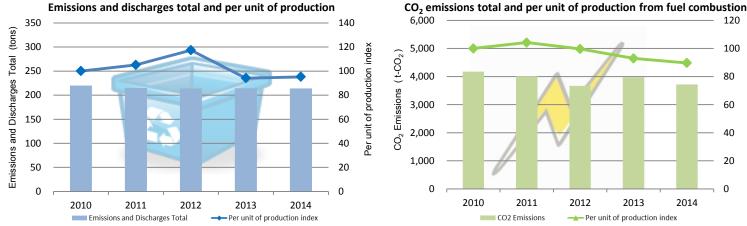
KOA Electronics is a company, which manufactures electronic components (fixed resistors) in the land surrounded by rich natural environment of Nagano Prefecture. To learn the importance of nature by being close to nature and to maintain beautiful environment that people of future generations would also want, each employee is aware of the importance of nature and the responsibly of practicing the "Father Sun ("Environmental Management System") to build the bond of trust with the Mother Earth to ultimately create a model for perpetually circulating society.

Material flow for FY2014 and undertakings for social environmental activities

INPUT	Business Activity	OUTPUT	
Crude oil equivalent energy consumption 2,515 kL	Design, development, manufacture, and sale of resistors and	Emitted substances · Reused : 0.4 tons · Recycled : 213 tons	
(Vs. last year : Down 6%)	other electronic parts (Products Vs. production volume of	• isposed : 0.7 tons (Vs. last year : Up 8%)	
Clean water 4,105 m ³ (Vs. last year : Down 6%)	last year : Down 3%)	CO ₂ emissions from fuel combustion 3,722 t-CO ₂ (Vs. last year : Down 6%)	
	Product containing the amount of movement of the substances subject to		
Quantity of substances ubject to PRTR contained in urchased materials 32 tons	PRTR 15 tons (Vs. last year : No change)	Quantity transferred Substances subject to PRTR • to the environment : 13.3 tons	
(Vs. last year : No change)		(Vs. last year : Down 13%) •to emitted substances : 15.1 tons (Vs. last year : No change)	

The Topics for "Father Sun" Strategy

AC	FY2014 Targets	Outcomes and achievement (Level of achievement $\textcircled{O}:100\%$ O:More than 70% $\triangle:$ More than 50% $\times:$ Less than 50%)		
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	Ø	We have maintained zero-environmental-accident status. And we are conducting thorough law-abiding environmental patrols to ensure compliance. Also, as preventive measures to tackle environmental effects, we have abolished large kerosene tanks and installed barriers around small kerosene tanks to prevent leakage to help the company to maintain zero-accident status.	
п	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	Ø	Reinforcement of ceiling to make the building earthquake-resistant has secured the safety of workers and it also improved airtightness to make the climate control system more efficient. And we also engaged in activities to achieve operations in harmony with the environment, such as defect reduction and Web-EDI promotions.	
Ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	The activities to reduce defects generated in production processes and the introduction of a system for archiving manufacturing record have helped us to reduce discharges per unit of production by 4.8% from 2010 levels to achieve our goals.	
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	Ø	The activities, such as converting to LED lighting and improving operational efficiency of compressors have contributed to cutting CO2 emissions per unit of production by 10% from 2010 levels to achieve our goals.	





"Father Sun" Activities Annual Report 2015 KASHIMA KOA DENKO CO., LTD. Site Report

KASHIMA KOADENKOU CO., LTD. Company Profile

Location of Head Quarters : Nakanoto-machi, Kashima-gun, Ishikawa, Japan Establishment : October 15, 1984 Representative : President, Nomuki Kazunori Employees : 125 (As of March 31, 2014) Business Description : Design, development, and production of resistors and resistor/network

Environmental Management Representative : President, Nakatou Yasuhisa
 ISO14001 Certification Number : JQA-EM0155 (Registered in October 2000)
 Contact : General Affairs Center

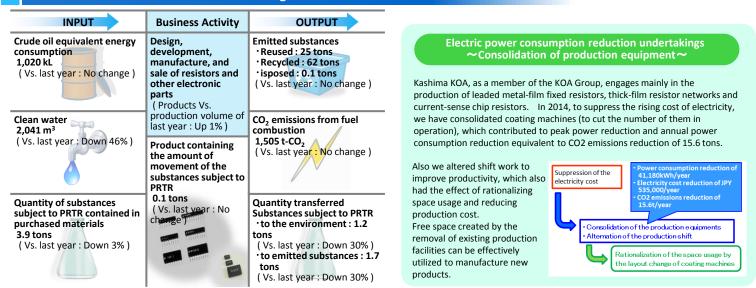
TEL:	81-767-76-1111	1
URL:	http://www.kashimakoa.co.jp	ĵ

Environmental Policy and Philosophy of Kashima KOA Electronics

We have put up "Circulation", "Harmony", "Finite", and "Enrichment" as our corporate philosophy and building the bond of trust with our 5 stakeholders - "Shareholders", "Customers", "Employees and Their Families", "Local Community", and "Mother Earth" - as our corporate mission. We are blessed with rich natural environment at the foot of Mount Ishidou and with people known for having a rich sense of humanity. And by taking advantage of these factors, we are engaging in the manufacturing of electronic components knowing that we have much to learn by dealing with soil, water, and the sun on a daily basis to build the bond of trust with the Mother Earth as a responsible member of its ecosystem.

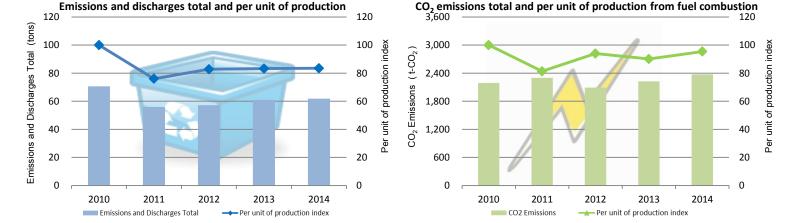
With each employee respecting the circulation of life in the water system of our community, we will responsibly practice the "Father Sun" environmental management system to promote the preservation of biodiversity of our community to create a model for perpetually circulating society.

Material flow for FY2014 and undertakings for social environmental activities



The Topics for "Father Sun" Strategy

AC	FY2014 Targets	Outcomes and achievement (Level of achievement \otimes :100% O:More than 70% \triangle :More than 50% ×:Less than 50%)	
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	Ø	We maintained the status of zero environmental accidents.
п	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	0	From the perspective of air pollution prevention, we have expanded the products on which we do not use solvents containing toluene (a substance subject to VOC emissions suppression regulations) for washing products. Currently, we are filing applications for change to our customers.
Ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	Extending the shelf life of blended coating materials had the effect of reducing discharged coating material residue and redesigning pressing method had the effect of reducing disposed metal plates, both of which helped us to achieve our goals.
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	Ø	Removal of coating machines that we performed in the process of changing the second floor layout and replacing existing compressors with more efficient systems reduced electric power consumption to help us achieve our goals.



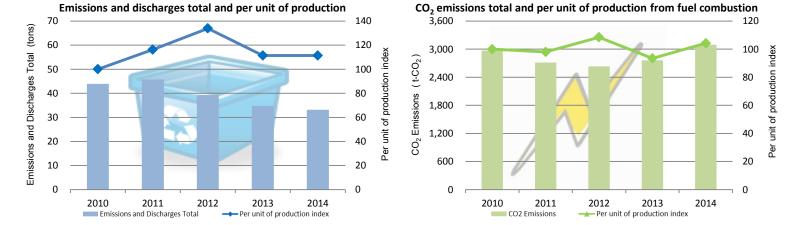
"Father Sun" Activities Annual Report 2015 SANADA KOA Corporation Site Report

TAMA ELECTRIC CO., LTD. Company Profile	
Location of Head Quarters :	 Environmental Management Representative : Director, Kitahara Yoshitatsu
Fuchu Office / Fuchu City, Tokyo, Japan	 ISO14001 Certification Number : JQA-EM0155 (Registered in February 2000)
Sanada no sato / Ueda City, Nagano, Japan	Contact : Support Center Business Support Group
Sanada Factory / Ueda City, Nagano, Japan	TEL: 81-42-364-8321
Establishment : January 31, 1935	【U R L : http://www.sanadakoa.co.jp 】
Representative : President, Sorimachi Akihiro Employees : 230 (As of March 31, 2014)	
Business Description : Design, development, and production of re-	sistors sensors and varistors
Environmental Policy and Philosophy of Tama Electric	
Thanks to being blessed with rich nature of "pristine rivers and	d mountains of Nagano" and "water and greenery of Musashino", the company was
able to grow. We are engaging in corporate activities by not for	getting the blessings of the Mother Earth and the local community.
As we engage in the production of electronic components, we	are learning through dealing with soil, water, and the sun on a daily basis and are
	arch by being conscious that we are just one member of all beings and creatures,
committee to establishing the bond of trust with the Mother Et	and by being conscious that we are just one member of an beings and creatures,
Material flow for FY2014 and undertakings for soc	cial environmental activities

INPUT	Business Activity	OUTPUT	Undertakings for biodiversity ~Biotope maintenance~
Crude oil equivalent energy consumption 2,097 kL (Vs. last year : Up 15%)	Design, development, manufacture, and sale of resistors and other electronic parts (Products Vs. production	Emitted substances · Reused : 0 tons · Recycled : 33 tons · isposed : 0 tons (Vs. last year : No change)	Since its completion in 2013, Sanadanosato had been maintaining a biotope by making use of spring water. As sustaining the biotope became difficult with reduced amount of spring water, we had to seek the cooperation of local councils to allow the factory to also use plentiful agricultural water used to water rice paddies surrounding the factory. Employees' looking after the
Clean water 9,304 m ³	volume of last year : Down 5%)	CO ₂ emissions from fuel combustion	biotope enriched the plants to bring in living creatures, such as
(Vs. last year : Up 28%)	Product containing the amount of movement of the substances subject to PRTR	3,093 t-CO₂ (Vs. last year : Up 31%)	frogs, water skimmers and butterflies. We are now receiving warm words from the people in the community rejoiced to see various
Quantity of substances subject to PRTR contained in purchased materials 3.8 tons (Vs. last year : Up 12%)	0.8 tons (Vs. last year : Down 11%)	Quantity transferred Substances subject to PRTR •to the environment : 1.2 tons (Vs. last year : Up 58%) •to emitted substances : 0.8 tons (Vs. last year : Up 25%)	kinds of flowers and living creatures our biotope is nurturing. We will continue to care our biotope hoping that it plays an instrumental role in linking the Sandanosato, people in the community and the nature.

	The Topics for "Father Sun" Strategy					
AC	FY2014 Targets	Outcomes and achievement (Level of achievement ©:100% O:More than 70% Δ :More than 50% ×:Less than 50%)				
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	 Environmental accidents: zero We have introduced measures to prevent leakage of untreated wastewater from treatment facilities, the operations for which are regulated under the Sewage Water Law and the Water Pollution Control Law, and we have obtained the ISO14001 certification for the new factory (Sanadanosato) commissioned in December 2013. 				
п	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	0	We have promoted energy conservation through improving production facilities. Outsourcing of quality control allowed us to effectively use our in-house resources.			
ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	We have digitized regulations and procedures to reduce the amount of used paper generated when regulations and procedures are amended or abolished. Sorting and reusing discarded materials generated after building in-house-made facilities have reduced the amount of discharged materials.			
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	×	Even though we embarked on various electricity consumption control measures, such as operation time management of electric furnace, decommissioning of some furnaces through production consolidation and efficiency improvement, and electricity demand monitoring with the use of WEB, our electricity reduction efforts could not overcome reduced sales of 11.5% below the budget, and as a consequence we failed to reach our as-a-percentage-of-sales goals.			

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"Father Sun" Activities Annual Report 2015 KOA KASEI CO., LTD. Site Report

KOA KASEI CO., LTD. Company Profile Location of Head Quarters : Ina City, Nagano, Japan Establishment : July 12, 1968 Representative : President, Yamagishi Hiromichi Employees : 56 (As of April 1, 2014) Business Description : Design, development, sales, and production of woodwork and Styrofoam and cardboard packaging

Environmental Policy and Philosophy of KOA Kasei

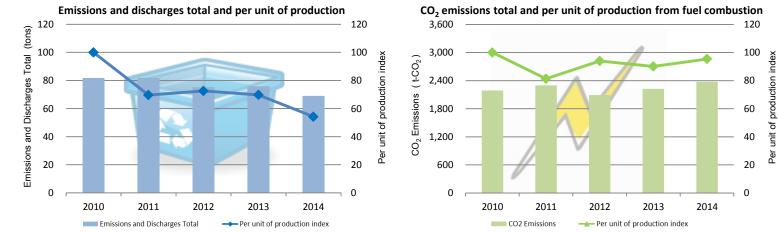
KOA Kasei is a company engaging in the production of Styrofoam packaging and cardboard boxes and woodwork products in the land blessed with rich natural environment of Nagano Prefecture. We are committed to learning the importance of nature through interacting with nature to preserve the environment, in which the people can live without anxiety, for the people of future generations. With each one of us being interested in the importance of nature to practice the "Father Sun (Environmental Management System)" responsibly, we are striving to preserve the biodiversity of our community and create a model for perpetually circulating society.

Material flow for FY2014 and undertakings for social environmental activities

INPUT	Business Activity	OUTPUT	CO2 emissions reduction
Crude oil equivalent energy consumption 981 kL (Vs. last year : Up 8%)	Design, development, sales, and production of woodwork and Styrofoam and cardboard packaging (Products Vs. production volume of last year : Up 17%)	Emitted substances • Reused : 0 .04 tons • Recycled : 69 tons • isposed : 0.4 tons (Vs. last year : Down 20%)	Changing to electrically heated styrofoam compactor Styrofoam is a type of plastic made with expanded synthetic resin, and is mostly made of air. We collect styrofoam materials and melt them to remove the air and reused them as raw materials for various products, such as gardening goods, ballpoint pens, toys, etc. KOA Kasei has replaced the kerosene-burning compactor to melt the styrofoam with electrically heated type. This change not
		CO ₂ emissions from fuel combustion 2,374 t-CO ₂	only prevented kerosene leaking accidents, but also reduced environmental effects of emitting pollutants into the atmosphere. After this change, the amount of kerosene we use per year was reduced by 52%, which translated into
Quantity of substances subject to PRTR contained in purchased materials 8.9 tons (Vs. last year : Up 3%)	Product containing the amount of movement of the substances subject to PRTR 0 tons (Vs. last year : No change)	(Vs. last year : Up 7%) Quantity transferred Substances subject to PRTR 'to the environment : 0.04 tons (Vs. last year : No change) 'to emitted substances : 0 tons (Vs. last year : No change)	equivalent CO2 emissions of 26.6 tons.

The Topics for "Father Sun" Strategy

AC	FY2014 Targets	Outcomes and achievement (Level of achievement $@:100\%$ O:More than 70% $\triangle:$ More than 50% $\times:$ Less than 50%)		
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	Ø	We have replaced kerosene-burning styrofoam compactor with electrically heated type. This change, in addition to preventing the environmental effects of kerosene leakage and pollutant emissions, helped us to curtail CO2 emissions.	
п	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	Ø	We also proposed styrofoam packaging designs that suppress the amount of raw materials consumed. In our woodworking business, we have investigated distribution channels of locally produced lumber to start the purchase directly.	
ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	Our activities to reuse the packaging materials that came with what we purchased to reduce disposed recyclable plastics and to reduce landfill trash we generate have helped the company to cut total emissions 27% more than our target to achieve our goals.	
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	Ø	Large-volume orders of styrofoam blocks we received for ground banking works in January to March have had the effect of increasing CO2 emissions, but with the company recovering and reusing the exhaust heat from a boiler, we were able to reach our reduction goals.	



"Father Sun" Activities Annual Report 2015 JAPAN ELECTRONIC APPLICATIONS CO., LTD. Site Report

JAPAN ELECTRONIC APPLICATIONS CO., LTD. Company Profile

Location of Head Quarters : Tonami City, Toyama, Japan Establishment : May 26, 1984 Representative : President, Habano Ryuuhou Employees : 55 (As of April 1, 2014) Business Description : Manufacturing of Thick Film Wiring Substrate and Hybrid IC

 Environmental Management Representative : President, Habano Ryuuhou ISO14001 Certification Number : JQA-EM0155 (Registered in October 2010) TEL: Contact : General Group 81-763-33-5700 1

http://www.jeacnet.com URL:

Environmental Policy and Philosophy of Japan Electronic Applications

In this land where rich-in-nature Tonami Plain spreads, we are dedicated to preserve the environment for the people of future generations where they can live without anxiety. And we would like to preserve the biodiversity of our community and realize perpetually circulating society through promoting the Father Sun activities.

Material flow for FY2014 and undertakings for social environmental activities

INPUT	Business Activity	OUTPUT	Electric power reduction initiatives
Crude oil equivalent energy consumption 317kL (Vs. last year : Down 2%)	Design, development, manufacture, and sale of resistors and other electronic parts (Products Vs. production volume of last year : Up 6%) Product containing the amount of movement of the substances subject to PRTR 0.1 tons (Vs. last year : Down 67%)	Emitted substances • Reused : 0 tons • Recycled : 19 tons • isposed : 0 tons (Vs. last year : No change)	In the factory, there are many ventilation fans to eject the heat. But because of the difficulty to manually switch on and off the fan, we were running the fans continuously except on non-working days. We have synchronized the operations of fans with production facilities with the use of temperature sensors to switch the fan on and off according to operating conditions of production facilities and room temperature, which had the effect of curbing electricity consumed for ventilation by approximately 53%. And we are hoping that reduced time the fans had to be run extends their lives. The parts and materials we used to make the modification were mostly surplus materials and the work was done by employees themselves. As there are many more fans we can synchronize the operations with manufacturing facilities, we will be continuing to engage in our activities for electric power consumption reduction and environmentally friendly manufacturing.
Clean water 41,393 m ³ (Vs. last year : Up 32%)		CO ₂ emissions from fuel combustion 468 t-CO ₂ (Vs. last year : Down 2%)	
Quantity of substances subject to PRTR contained in purchased materials 7.2 tons (Vs. last year : Up 4%)		Quantity transferred Substances subject to PRTR 'to the environment : 2.4tons (Vs. last year : Up 14%) 'to emitted substances : 4.5 tons (Vs. last year : Up 4%)	

The Topics for "Father Sun" Strategy				
AC	FY2014 Targets	Outcomes and achievement (Level of achievement ©:100% O:More than 70% \triangle :More than 50% ×:Less than 50%)		
I	No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	Ø	We have reexamined the method and route of carrying the oil for lubricating compressors to minimize risks.	
Π	Promote Kaizen (improvements) to realize operations in harmony with the environment and products/production processes with reduced environmental burden.	Ø	We have made the newest version of the SDS (Safety Data Sheet) electronically accessible by everybody. In manufacturing processes, the change of lot size helped us to reduce the number of vouchers we had to issue.	
Ш	Maintain the status of zero emissions and cut emissions and discharges per unit of production below 2010 results.	Ø	Rationalization of abolishing a variety of record forms and the reuse of cardboard boxes as cushioning materials are some of the activities we engaged in to reduce discharges.	
IV	Reduce CO2 emissions from fuel consumptions by 4% from 2010 results.	Ø	Enlarging the capacity of air receiver tanks of compressors and synchronizing the operations of ventilation fans to automatically switch on and off in accordance with running conditions of manufacturing facilities and room temperature had the effect of reducing electric power consumption.	



Emissions and Discharges Total (tons)

CO₂ emissions total and per unit of production from fuel combustion

