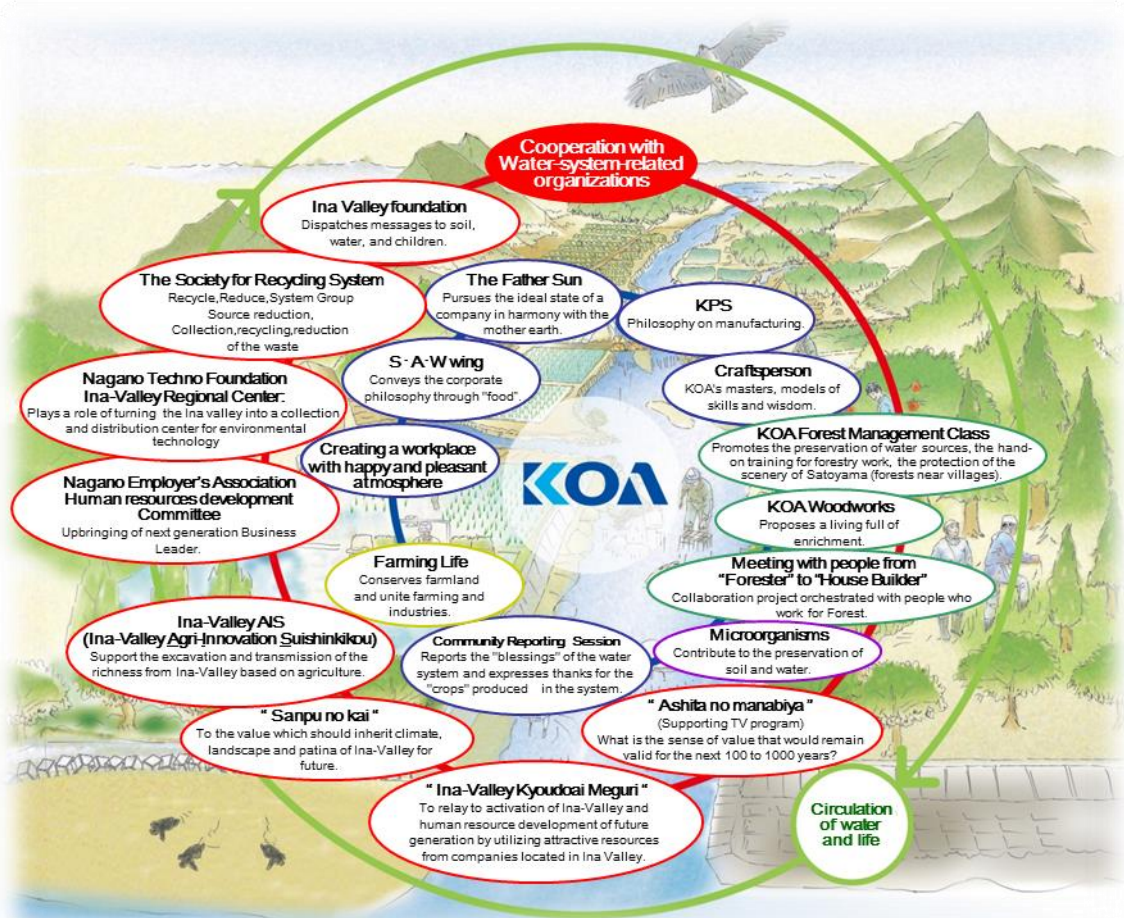


# KOA Group Annual Report of the "Father Sun" Activities 2016



This figure shows the framework of KOA's environmental conservation activities in the water system of the Tenryu River system extending from Lake Suwa to the Sea of Enshu.

The KOA Group embraces "circulation", "harmony", "finite", and "enrichment" as the fundamental value of corporate management, and is conducting various experiments to build models for perpetually circulating local society.

## KOA's mission and the "Father Sun" Activities

The KOA Group regards establishing the bond of trust with 5 Stakeholders – "Shareholders", "Customers and Business Partners", "Community", "Employees and Their Families", and "Mother Earth" – its corporate mission. The "Father Sun Activities" is a name bestowed upon KOA's environmental management system which aims to assort with Earth, creates the model of circulating local society and it's instilled our dedication to do the activities which we can be extremely confident with "Father Sun".

With the introduction of KOA's Vision "Earth" in 2011, the basic thinking of all people working for KOA Group companies promoting business practices in harmony with environment and activities that do not burden the environment was presented. As we seek the permeation of our vision, KOA Group companies working in concert are engaging in Father Sun environmental preservation activities.

### ■ KOA's Vision "Earth"

KOA and all its employees, together with their family members and the people of local community, are maintaining the biodiversity of the Tenryu River System (where KOA has its origin) and local communities (where KOA has a presence), and are engaging in activities to realize the perpetually circulating society.

## Company Profile

Location of Head Quarters : Minowa-machi, Kamiina-gun, Nagano, Japan  
 Establishment : March 10, 1940  
 Capital : JPY6.033 billion  
 (Listed on the first section of the Tokyo and Nagoya Stock Exchanges)  
 Representative : President, Hanagata Tadao  
 Employees : 1,349 (As of March 31, 2016)  
 Business Description  
 : Design, development, manufacture, and sale of various electronic components  
 •KOA Group Profile  
 Company structure : (Consolidated) 5 companies in Japan and 10 companies in overseas  
 : (Non-consolidated) 1 company in Japan and 2 company in overseas  
 Employees : 4,029 (As of March 31, 2016) (Japan) 2,063 (Overseas) 1,966

- Environmental Management Representative  
: Managing Director, Kayoko Fukano
- ISO14001 Certification Number  
: JQA-EM0155 (Registered in April 1998)
- Contact : Social Environment Group  
CSR Promotion Center  
Management Administration Initiative

【TEL: 81-265-70-7171 (main number) 】  
 【URL: <http://www.koaglobal.com/> 】

## Origin

How can we live in harmony with mother earth?

## Philosophy

KOA was established and grew up in Ina Valley to provide the environment where farmers can live as farmers. Meanwhile, as we engage in electronic component production, we - as one of living creatures of earth - continuously learn about our association with soil, water and sun to build "trust" with the earth.

With each employee being interested in the circulation of life in the water system that is essential to one's community in responsibly practicing the "Father Sun" (Environmental Management System), we will preserve the biodiversity of the land of our roots to create a model for perpetually circulating society.

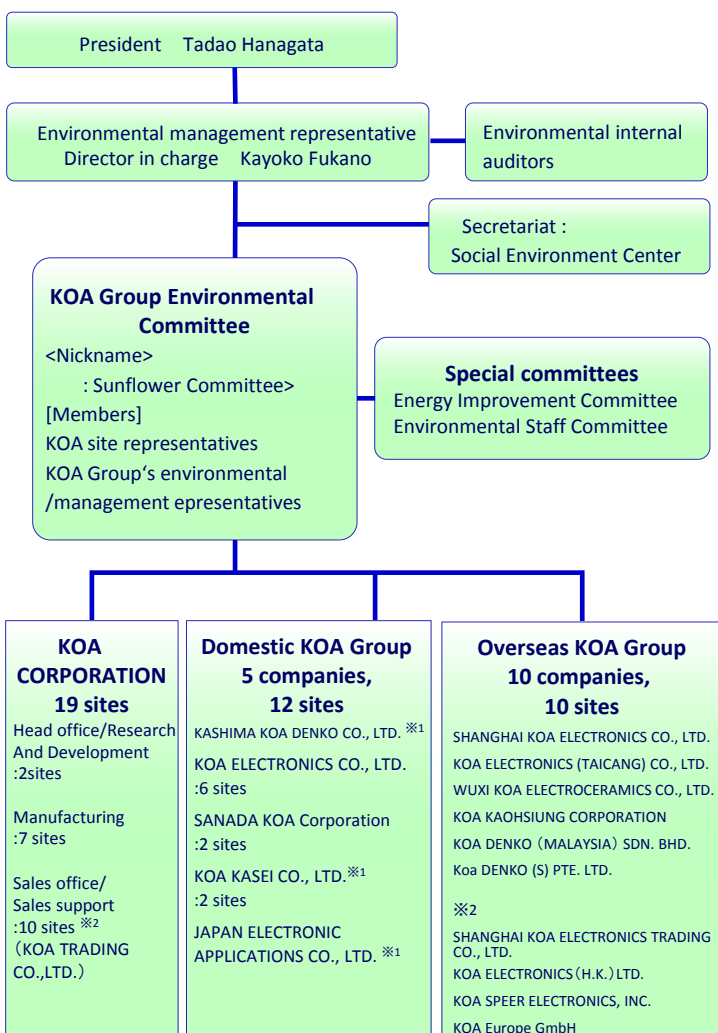
## Policy

- (1) We shall accurately grasp how KOA's development, production, sales activities, product and services affect the environment to establish "Father Sun" (Environmental Management System) and try to continuously improve "Father Sun" as we strive to prevent the environmental pollution.
- (2) KOA's environmental activities shall be developed into two: one is the "Father Sun" activity for improving responsiveness to the social environment and the other is the quality assurance activity for improving responsiveness to the product environment.
- (3) All employees shall adhere to laws and regulations relevant to KOA's environmental aspects, other requirements (including customer requirements) KOA has agreed to abide by, and voluntary standards, to engage in activities conscious of natural environment based on the Environmental Manual and the Quality Manual.
- (4) To take actions consistent with the philosophy of this policy, we shall review each year our environmental improvement activities in pursuit of realizing business affairs in harmony with the environment, in pursuit of realizing the effective use of finite natural resources, in pursuit of realizing products and production processes friendly to the environment, and in pursuit of stopping global warming (energy conservation), in the framework of management objectives and targets.
- (5) We shall conduct internal environmental audits and strive to continuously improve "Father Sun" through self-imposed control.
- (6) This environmental policy shall be disseminated to all members involved in environmental activities at KOA and all KOA group entities to improve our corporate environmental awareness.

April 01, 2013

Tadao Hanagata, President of KOA Corporation

## The "Father Sun" Promotion System



※1 Multi-site Certification Sites: The reference to KOA Corporation and the sites integrated into ISO14001 system.

※2 The sites excluded from ISO14001 registration: The sites "Father Sun" activities are carried out based on KOA's environmental management system

## "Father Sun" activities of the past 5 years.

The year 2015 was the final year of our 5-year plan introduced in 2011. In adherence to KOA's environmental policy and in pursuit of realizing KOA's vision on the preservation of "earth", we have achieved a great deal over the past 5 years. We will be giving you details of our activities in the following pages.

### Major undertakings of the past 5 years for the realization of our vision

We have promoted improvement activities of bringing everybody on board by hosting a variety of events to ensure all people working for KOA are getting involved in Father Sun activities.

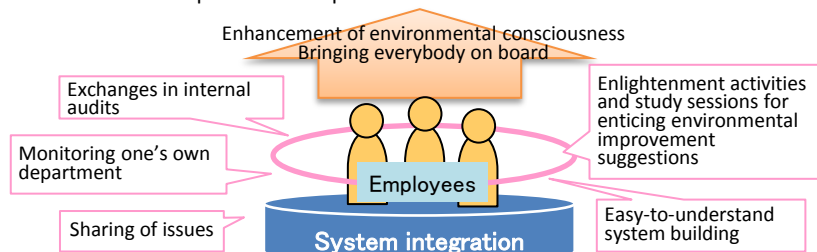
1) Foundation building by integrating the systems of all KOA Group companies in Japan.

In 2013, SANADA KOA was included in multi-site certification, and with this, now 13 sites of 5 KOA Group companies are operating under a single system. This facilitates all group companies working in unison for the betterment.

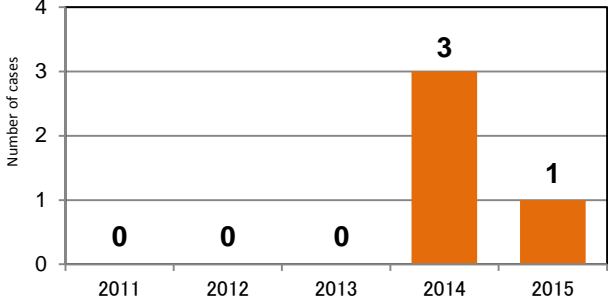
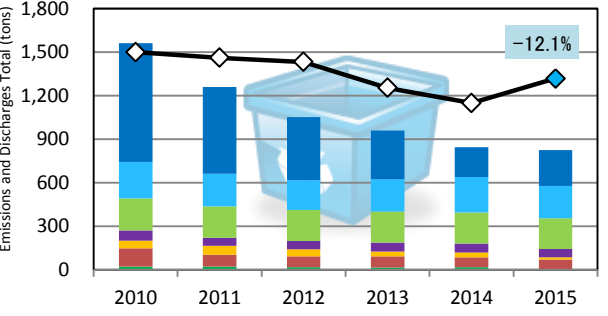
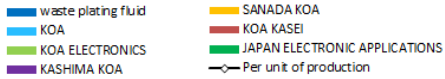

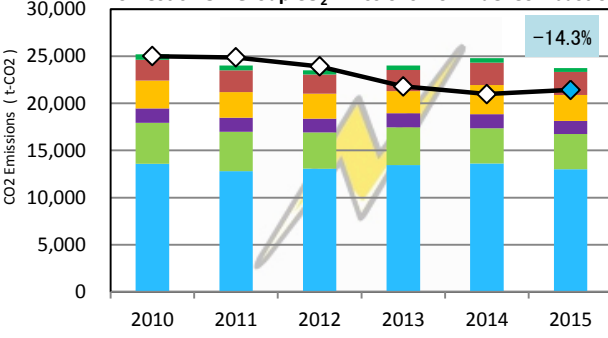

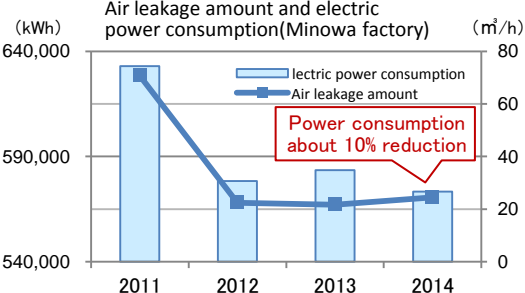
1) Motivating employees through proactive human resource development and enlightenment

We have emphasized the development of internal environmental auditors, and as of the end of 2015, we have 165 internal auditors (152 males and 13 females). At least one internal auditor is assigned per department to vitalize Father Sun activities for monitoring the environmental performance of one's own department and developing future environmental auditors. Through the exchanges between the auditor and auditee in internal audits, problems are pointed out and issues to address are shared to evolve an internal audit to become an event to make suggestions for promoting continuous improvement to contribute to easy-to-understand system building.

KOA's improvement suggestion system, which is an integral part of company's DNA, generates over 10,000 employee suggestions in Japan. To take advantage of this system, we have prepared motivational materials to inspire employees to come up with suggestions from an environmental point of view. And we reviewed these materials with managerial employees who are responsible for evaluating the suggestions. Through promotion of this nature, each employee of KOA is better positioned to practice the Father Sun.





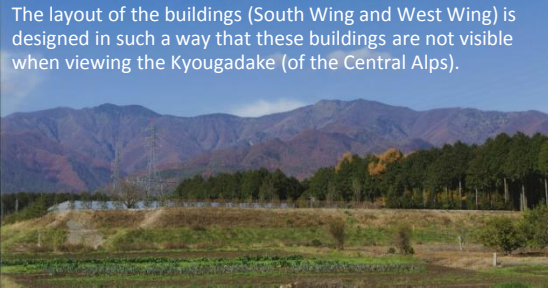
AC	Long-term goals	Activity Performance	
I	<b>Prevention of environmental impact (Prevention of pollution・Compliance)</b>  <FY2015 Targets> No environmental accidents. : Execute prevention / improvement measures on environmental effects each fiscal year.	<b>Environmental incidents occurred at KOA Group companies in Japan and overseas</b>  	[Occurred environmental incidents] 2014: Sewage effluent from kitchen exceeding standards Nanakuri no mori: 2 incidents; TAICANG: 1 incident  2015: Styrofoam products scattered outside the company's premises because of torrential rain and gust (KOA KASEI)  We have swiftly reported to the authorities and picked up all styrofoam debris after the incident. Even though there were no disciplinary actions taken against the company, with this incident, we failed to achieve our target of no environmental incidents.
		There were 4 environmental incidents (exceeding legal limits) regarded as environmental accidents. To absolutely prevent the recurrence, we have reestablished liaison mechanism and response procedures to handle environmental incidents and identified all environmental aspects relevant to these incidents for the purpose of controlling them. And to strengthen risk identification, we have environmental patrols and internal environmental audits to continuously search potential risks from a broader perspective.	
III	<b>Effective use of finite natural resources.</b>  <FY2015 Targets> Maintain the status of zero emissions (Reduce final disposal rate to less than 1%)  Cut total emissions and discharges per unit of production below 2010 results.  Continually reduce emissions and discharges.	<b>Domestic KOA Group Emissions and Discharges Total</b>  	[Results] Maintain zero emissions and achieve final disposal rate of less than 1% (Recycling rate of 99.6%) Achieved total amount discharged per unit of production less than 2010 (12.1% reduction from 2010)  
	Plating effluent, which constitutes a large percentage of total waste, was reduced by 70% compared to 2010 by improving treatment method of effluent and by optimizing manufacturing.  KOA has established a recycling system of extracting high purity nickel and phosphorus contained in non-electrolytic nickel plating effluent to enable the reuse of nickel and phosphorus previously disposed as wasted acid (specially-controlled industrial waste).		
IV	<b>Prevention of global warming.</b>  <FY2015 Targets> Reduce CO <sub>2</sub> emissions from fuel consumptions by 5% from 2010 results.  Execute continuous energy conservation activities.	<b>Domestic KOA Group CO<sub>2</sub> Emissions from Fuel Combustions</b>  	[Results] Reduced CO <sub>2</sub> emissions from fuel consumptions per unit of production by 5% from 2010 (14.3% reduction from 2010)  
	Reducing power usage and cutting peak power demand not only contributes to mitigating global warming through electric power consumption reduction but also is important from business continuity standpoint given how uncertain future electric power supply and demand balance is going to be. Accordingly, KOA has a systematic utility system updating plan and promotes company-wide energy conservation activities of strictly managing the operations of production facilities and continuously making improvements on them.  As an example, there is an activity to eliminate the leakage of compressed air, which is something all factories are using. With the use of leak detector along with the ears and hands of equipment engineers, we have diligently checked all pipe fittings to identify spots where air is leaking and fixed them one by one, which resulted in lowering the utilization rate of air compressors to reduce CO <sub>2</sub> emissions by 123 tons or approximately 325,000kWh (2012 results) of electric power consumption on a group-wide basis.	<b>Air leakage amount and electric power consumption (Minowa factory)</b>  	

## Undertakings to preserve the landscape of the Ina Valley: “Sanpu no kai” and the Pocket Park

Magnificent panorama of Southern Alps from the Pocket Park



The layout of the buildings (South Wing and West Wing) is designed in such a way that these buildings are not visible when viewing the Kyougadake (of the Central Alps).



The Ina Valley surrounded by the Southern Alps and the Central Alps is a treasure-trove of beautiful scenery. “Sanpu no kai”, a society lead by KOA, engages in activities to protect and nurture the “culture, landscape and dignity” (regarded as valuable assets) of the Ina Valley and pass them on to future generations. As one of its activities, it has set up “viewpoints”. From the south east side of the South Wing and the West Wing, you can see a magnificent view of Southern Alps and greenery-rich Ina Valley below, and this is a place perfect for a viewpoint. We have created the Pocket Park and will make it open to public (even though it is within KOA’s premises) with the wish to also give visitors the chance to enjoy the view. Our buildings were designed and trees were planted in a way they blend into the mountains of the Central Alps behind them. (A photograph on the upper right hand corner: At the center of the photograph are the buildings of the South Wing and the West Wing.) As we plan to open the Pocket Park in the fall of 2016, we are currently finishing the construction of the facility. Upon completion, we will be making a public announcement using media such as KOA’s webpage. When you get a chance to visit Ina, please stop by at the Pocket Park.


A sign put up by “Sanpu no kai” to direct visitors to a viewpoint (Guide post)  
Color and design are selected to match the scenery

## Compliance Involvement in the construction

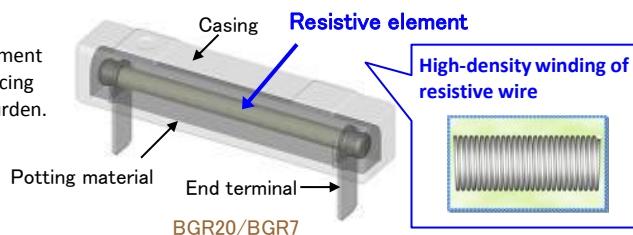
In the design and construction of the South Wing and the West Wing commissioned in 2015, we made sure compliance to all relevant laws and regulations and minimization of environmental impact associated with the construction of these buildings. Consequently, we were able to identify potential risks in the early stages and introduce risk mitigation measures swiftly to allow on-time completion without any environmental problems.

Oil retaining wall around liquid waste storage



## Manufacturing realizing products and processes with little environmental burden

With the tightening of environmental regulations on automobiles on a global basis, automobile makers are developing more environmentally friendly hybrid and electric vehicles. In these vehicles, large motors and large-capacity batteries are used. The new product “high-power wire-wound resistor BGR20/BGR7” was developed to regulate large transient current generated by a battery when the motor is started to protect capacitors in motor drive circuit. Making the pitch (space between windings) as tight as possible allowed BGR20/BGR7 to achieve the size 60% less and the weight 50% less than conventional wire-wound resistors yet having performance parameters equivalent to much larger wire-wound resistors. This downsizing contributes to customers designing smaller and lighter drive circuit modules, which also means less use of raw materials. We are dedicated to developing new products and production equipment conscious of reducing environmental burden.



## Next phase of Father Sun activities long-term plan “2020 social environmental targets”

In response to the end of our long-term environmental plan in 2015, we have instituted a new long-term plan with “2020 social environmental targets” being set. Environmental preservation is a global trend. In the UN General Assembly, “Sustainable Development Goals” for the year 2030 were adopted. And in the COP21, “Paris Agreement” was adopted to put the world on track to avoid dangerous climate change. The activities to build a sustainable society are accelerating. In our 2020 social environmental plan, we have set forth 3 main tasks and 3 targets associated with them. In the Target I, our goal is to maintain zero environmental accident status, and in addition, we will be preparing for frequently occurring abnormal weather events. In the Targets II and III, we have set goals for the year 2030 for resource conservation and low carbon emissions, as well as for making products, engaging in business activities and providing services conducive to contributing to the realization of a sustainable society.

The basis of Father Sun activities is pursuing “circulation”, “finite”, “harmony” and “enrichment”, which is KOA’s philosophy. And with our mission to establish trustful relations with KOA’s five stakeholders, we will continue to embark on activities to contribute to the realization of a sustainable society and the growth of the KOA Group.

## Three Main Tasks

Suppress the increase of environmental burden stemming from business expansion and changes

Seek manufacturing geared for a sustainable society

Seek products, business activities and services in line with the changes of the times

Setting the goals

	Zero Defects Activities	Target numbers and the state of accomplishment for the year 2020
I	Identify all environmental risks without omission and continue to be relentless about compliance and environmental pollution prevention.	Zero environmental accidents 1) Risks stemming from business changes are addressed 2) Risks stemming from environmental factors, such as abnormal weather, are addressed.
II	Realize business activities pursuing effective use, recycling and reuse of finite resources, and low carbon emissions.	Target numbers and the state of accomplishment for the year 2020 1) Cut energy consumption measured in crude oil consumption per unit of production by 14% in 2020 versus 2012 2) Starting investigation, experiments and trials to reduce total energy consumption towards the year 2030 3) Promoting minimization of resources consumed - Reducing discharged waste per unit of production in 2020 to below 2015 result - Monitoring water usage and using water without wasting
III	Contribute to the realization of sustainable society with products, business activities and services by grasping social trends that continue to change	1) Products: Grasping the environmental needs and expectations of the five stakeholders, and engaging in product/production process design and improvement, technology development and offering solutions for the benefit of our customers. 2) Activities and provided services: Engaging in activities to enhance the enterprise value by grasping the expectations and environmental needs of five stakeholders.