



# Environmental Report

# 2016



# Creating synergy with the twin wheels of our core business and the environment.

The 196 countries agreed to the Paris Agreement at COP 21 (2015 United Nations Climate Change Conference) held from November 30 to December 12, 2015. In order to decrease the rate of global warming, all of the countries presented their own goals, and a framework was established in order to set and make effort for those goals.

At the United Nations Sustainable Development Summit held in September 2015 just a few months before COP 21, world leaders presented and adopted a set of 17 Sustainable Development Goals (SDGs). In addition to the environment, the SDGs serve as a comprehensive plan of action for protecting people and their living environments, asking for participation not only of public institutions at the international, national, and local levels, but of many people in various forms. Companies as well, regardless of industry or size, are expected to cooperate, using their technical strengths in order to solve problems related to and including water, food, energy, global warming. Of course, this applies to SMK as well. We must work together to solve social issues and the problems of today, reform daily business activities, accelerate technological innovation, and discover new businesses. In other words, it is vital to maintain a stance by which our core business and social contribution remain compatible.

In line with these efforts, at SMK TEXPO 2015, our technology expo held last November, we proposed more user-friendly solutions in the home electronics and home network fields (smart energy

creation, energy savings, and storage energy solutions) under the theme Creative Connectivity. It is also our company's duty to provide a strategy for responding to the many needs and solving the many problems related to environment and energy which will most likely come about. This may also lead to business opportunities. As a corporate group which solves social as well as customer problems, SMK will also work at solving environmental issues. Therefore, we also aim at the sustainable growth of our company along with the global environment.

In 2016, environmental related scandals involving companies are being reported. Among these scandals was an incident that occurred in Japan in the beginning of the year involving the resale of disposed food which led us aware more of our responsibility as a company that outsources our business disposal of waste. We will work at improving the quality of environmental preservation activities mindful of our own responsibilities, and treating problems as our own, not those of others.

I would like to see us be a company that is highly aware of issues throughout the entire supply chain, reform ourselves, and in order to provide innovation.

July, 2016

President, Chief Executive Officer  
and Chief Operating Officer

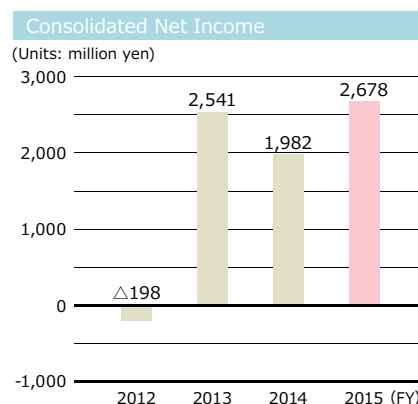
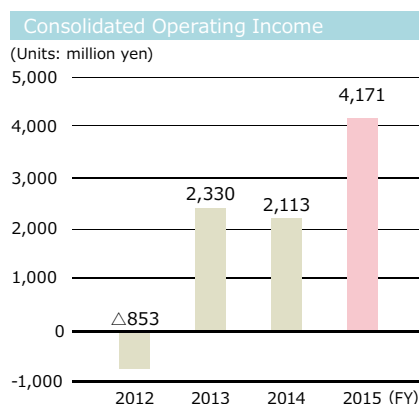
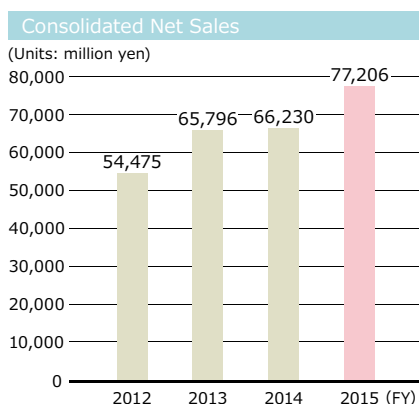
**Yasumitsu Ikeda**

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## Corporate Profile (as of March 31, 2016)

<b>Name</b>	SMK Corporation
<b>Established</b>	April 3, 1925
<b>Primary Businesses</b>	Manufacturing and sales of electronic components for use in electrical equipment, communications equipment, electronic equipment, industrial machinery, IT equipment and other applications.
<b>Capital</b>	7,996 million yen
<b>Number of Employees</b>	6,179 (group-wide)
<b>Head office</b>	5-5, Togoshi 6-chome, Shinagawa-ku, Tokyo 142-8511, Japan TEL: +81-3-3785-1111 FAX: +81-3-3785-1878 URL: <a href="http://www.smk.co.jp/">http://www.smk.co.jp/</a>
<b>Major Products</b>	High-frequency coaxial connectors / FPC-to-board connectors / Board-to-board connectors / Jacks / Remote controls / Switches / Wireless modules / Camera modules / Resistive touch panels / Capacitive touch panels / Optical touch panels



## About this Report

**Reporting period** FY2015 (April 1, 2015 – March 31, 2016)

**Scope of calculations** SMK Corporation (nine sites in Japan) and consolidated subsidiaries (two in Japan and 16 overseas)

**CO<sub>2</sub> emissions** CO<sub>2</sub> Conversion factor for domestic sites: Subject to the standards of the Federation of Electric Power Companies of Japan. Conversion coefficients for overseas sites: 2005 – 2011: Subject to the standards of the IEA (International Energy Agency), 2012 – 2016: Subject to the standards of the DEFRA (Department for Environment Food & Rural Affairs). In addition, data from past fiscal years was corrected in order to re-examine CO<sub>2</sub> emission factor.

**Access to corporate information** Our website discloses data profiling our company, IR information, product descriptions, and past environmental reports.

<http://www.smk.co.jp/>

# Environmental Management

## SMK Environmental Charter

### 1. Basic Philosophy

The SMK Group pursues environmental preservation as well as economic development by integrating its current technological strengths and creating advanced technology. As a good corporate citizen, every one of us will contribute to the promotion of sustainable global development.

### 2. Action Guidelines

- (1) Develop environmentally friendly products
- (2) Reduce waste by using everything to its fullest extent
- (3) Preserve natural resources and saving of energy
- (4) Encourage 3R (reduce, reuse, and recycle)
- (5) Realize waste-free procurement and manufacturing

## Organization to Promote Environmental Preservation

In SMK, the Group policies, targets, and initiatives related to environmental preservation are deliberated upon and determined by the Environmental Preservation Committee, which is chaired by the Vice President of the Environment Division. Major items are subject to deliberation and determination at the Executive Officer's Meeting. Upon determination, they are deployed at all Japan and overseas works. At each business site, the Local Environmental Preservation Committee decides local policies, targets, and initiatives in accordance with the Group policies, targets, and initiatives taking locally specific issues into consideration and puts them into practice.

## Environmental Management Systems

SMK's environmental management systems are in accordance with ISO 14001, the international standard for EMS. We have obtained ISO 14001 certification for all of our Japan sites and overseas works. Since fiscal 2007, in addition to individual activities at each site, we have been setting targets and themes to be shared by all members of the SMK Group, reinforcing linkage among our sites, and working to strengthen group-wide systemic arrangements.

SMK's environmental preservation activities are not limited to our Group. The Green Procurement Guidelines that we published in 2004 also make demands on our business partners. Specifically, we request our business partners to pledge not to use any environmental hazardous substances prohibited by SMK, and to put in place ISO 14001-based systems. We visit business partners who have not obtained ISO 14001 certification to check on the status of their environmental preservation activities, and to suggest any necessary improvements.

## Organizational Structure for Environmental Preservation



Chemical handling seminar (SMK Philippines)



Auditors training for environmental hazardous substance management (SMK Toyama Works)



Internal audit (SMK Philippines)

# FY2015 Environmental Preservation Activities

## Preventing Global Warming

As for CO<sub>2</sub> emissions, SMK was unable to achieve our targets for CO<sub>2</sub> emissions per unit of production, mainly due to the expansion of the floor area of our overseas works, which increased energy consumption in air conditioning equipment and other auxiliary facilities. However, SMK achieved a decrease in CO<sub>2</sub> emissions per unit of production than in the previous fiscal year. Total CO<sub>2</sub> emissions increased during the period.

## Preserving Biodiversity

SMK is collecting information on measures suitable for activities with our business partners.

## Effective Use of Resources

Landfill waste reduction exceeded our target as a result of recycling promotion, including consistent separation of waste materials at overseas works. Although activities aimed at

eliminating MUDA (wasteful and/or inefficient areas, actions, materials, etc.) in manufacturing processes were promoted, we were unable to reach our industrial waste discharge per unit or production value and total industrial waste discharge targets.

## Effective Responses for the Management of Environment-related Substances

SMK has focus on the development and establishment of a new system for bill of materials (BOM) information. In the future, we will also consider expanding the system overseas.

## Strengthening Eco-friendly Design Approach

We organized operational information as an effort aimed at integrating product assessment and our eco-product management system. In the future, we will establish a new System Integration Promotion Working Group as an effort aimed at creating an integrated system.

Nature of initiative	FY2015		Self-assessment
	Target	Actual result	
Preventing global warming	CO <sub>2</sub> emissions per unit of production value*1: 15% reduction relative to FY2014. Target: 0.46 t-CO <sub>2</sub> /million yen	13% decrease (0.47 t-CO <sub>2</sub> /million yen)	B
	Total CO <sub>2</sub> emissions: 1% reduction relative to FY2014. Target: 32,140 t-CO <sub>2</sub>	4% increase (33,864 t-CO <sub>2</sub> )	C
	Review of SMK standards for LCA (including carbon footprint)	Addition review of Scope 3 trial assessment category and examination of officially announced company business conditions.	B
Preserving biodiversity	Review of activities related to purchasing with preservation of biological diversity in mind	Acquisition of information. Activities under examination	C
Effective use of resources	Industrial waste discharge per unit of production value*2: 10% reduction relative to FY2014. Target: 0.018 t/million yen	5% decrease (0.019 t-CO <sub>2</sub> /million yen)	B
	Total industrial waste discharge amount: Estimated increase of 1% relative to FY2014. Target: 1,225 t	10% increase (1,338 t)	C
	Landfill waste amount: Estimated increase of 10% relative to FY2014. Target: 131 t	21% decrease (94 t)	A
Effective responses for the management of environment-related substances	Register BOM information and efficient administration of the system to support EU-REACH directives	Continued deployment of management system	B
Strengthening eco-friendly design	Enhancement of product assessments	Prepared for integration of product assessment and our eco-product management system	C

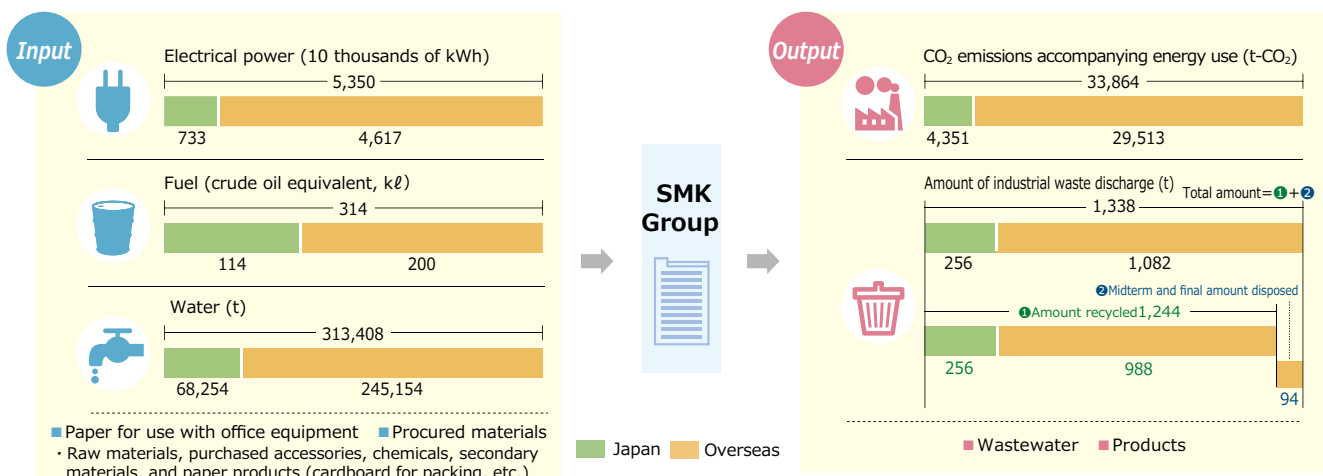
\*1: CO<sub>2</sub> emissions per unit of production value = CO<sub>2</sub> emissions divided by production

\*2: Industrial waste discharge per unit of production value = industrial waste discharge divided by production value

Self-assessment : A : attained B : insufficiently attained C : not attained

# Material Balance

At SMK, we work to track, analyze, and reduce the material balance (environment footprint) of each process throughout the Group, from product design and development to manufacturing and sales.



# Energy and Resource Saving Results

SMK aims to improve efficiency of its energy usage as an important management policy to help prevent global warming. We are also working to reduce the discharge of industrial waste and achieve zero emissions (i.e. zero landfill waste) by using out resources more effectively.

## Energy-Saving Results

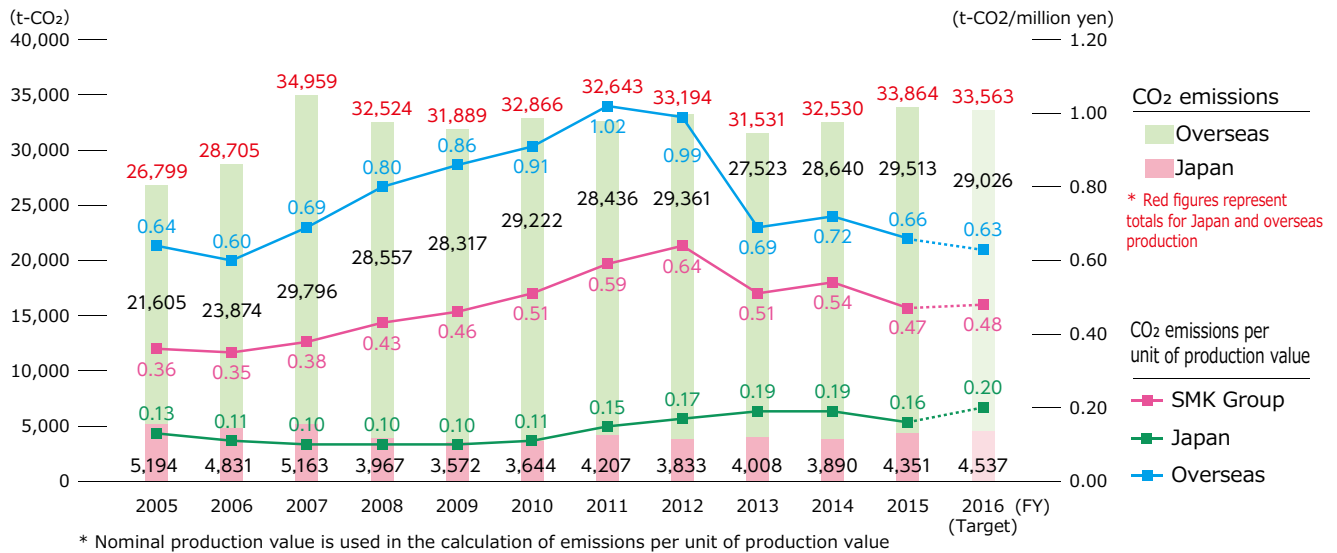
© SMK decreased its CO<sub>2</sub> emissions per unit of nominal production value (87% against the previous fiscal year), and increased its total CO<sub>2</sub> emissions (104% against the previous fiscal year) in FY2015. The reason for the increase in total CO<sub>2</sub> emissions is explained in the section "Environmental Preservation Activities."

© We have been working to progressively increase our level of in-house processing of parts (molding, stamping, etc.) rather than outsourcing since our base year (FY2015) towards the achievement of greater efficiency through integrated manufacturing. We evaluate our energy efficiency using actual CO<sub>2</sub> emissions (which exclude the increase due to bringing production in-house) and actual

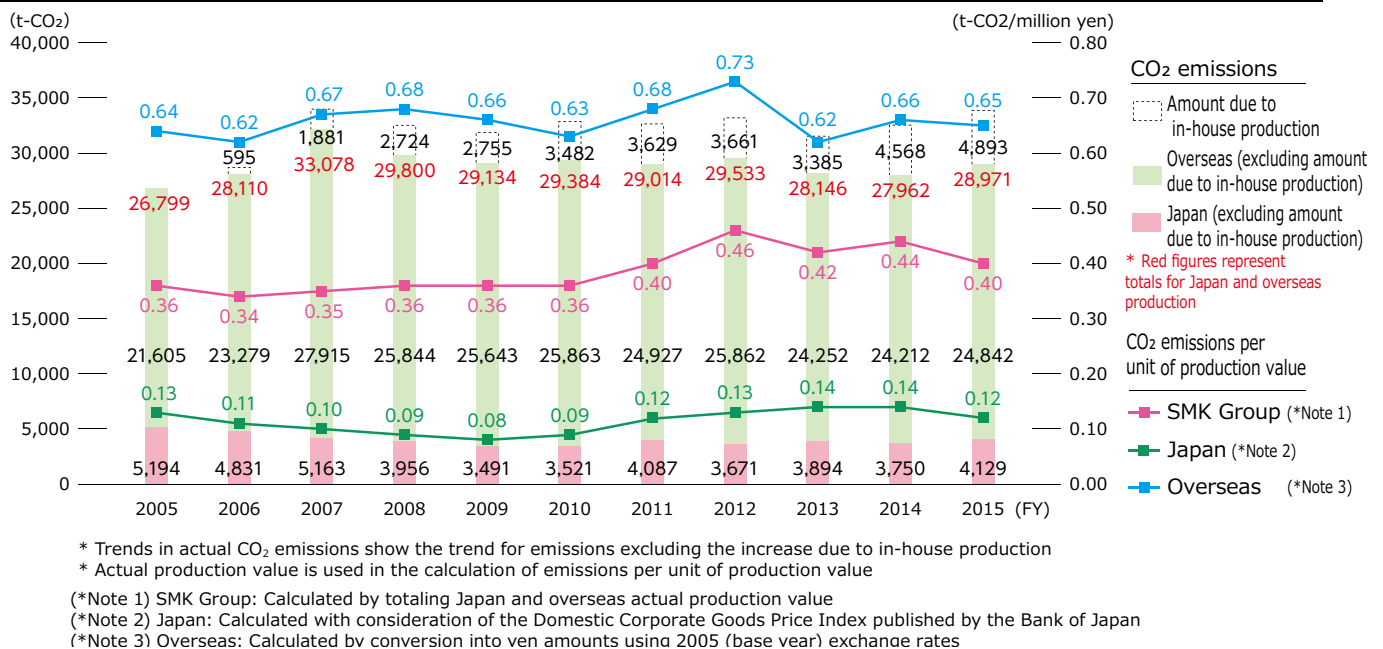
production value (which minimizes the effect of changes in commodity prices and exchange rates) (see graphs below). Considering that product structure has changed and production of touch panels, which have to be manufactured in cleanrooms that consume large amounts of energy, has increased in comparison to the base year, our energy efficiency is improving step by step.

	Year on Year	
	Japan	Overall SMK Group
CO <sub>2</sub> emissions per unit of production value (nominal production value)	84%	87%
CO <sub>2</sub> emissions	112%	104%

## Trends in CO<sub>2</sub> emissions and CO<sub>2</sub> emissions per unit of nominal production value



## Reference: Trends in CO<sub>2</sub> emissions and CO<sub>2</sub> emissions per unit of actual production value



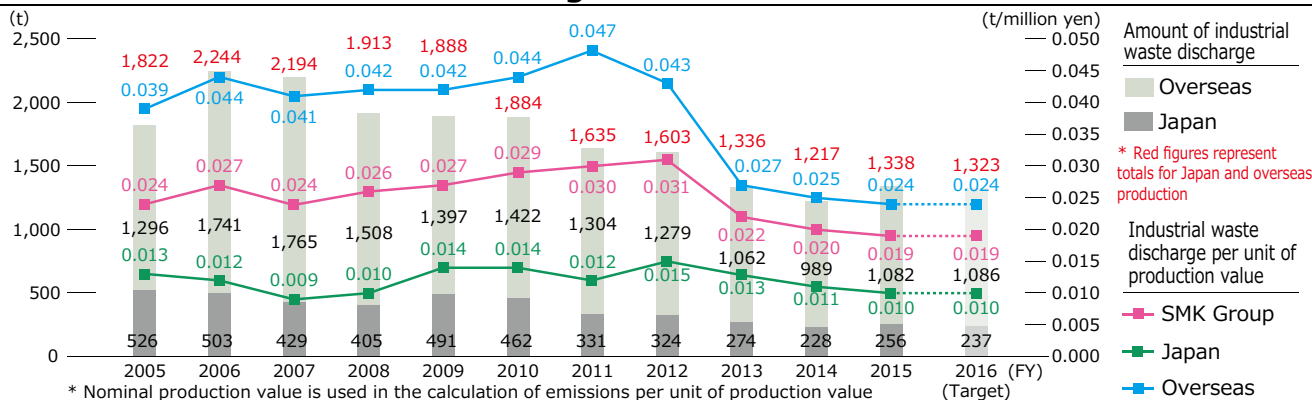
## Resource-saving Results

© Although SMK continued to improve its industrial waste per unit of production value from 2014 (95% of the value of the previous fiscal year), the amount of industrial waste discharge increased (110% of the value of the previous fiscal year) due to the impact of waste related to new business lines at overseas works.

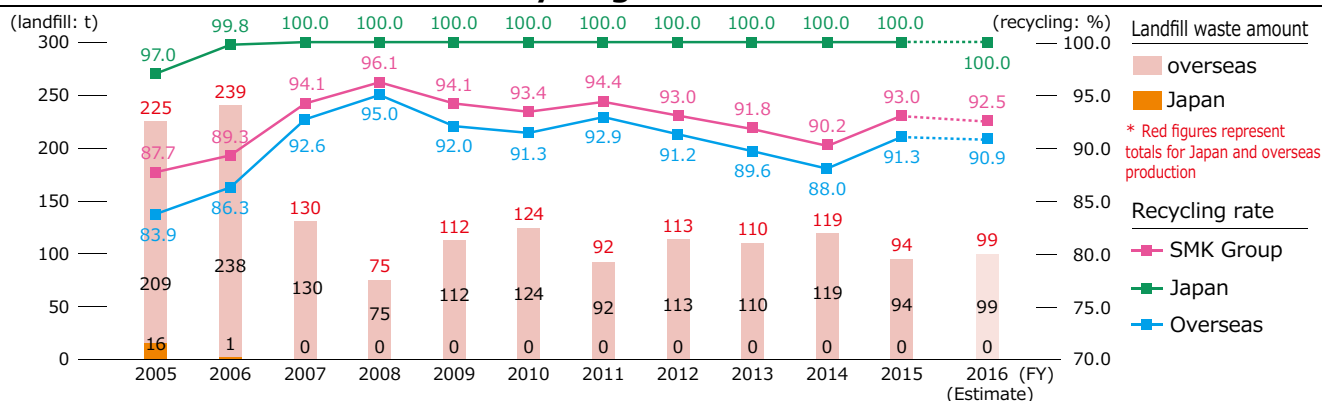
© SMK has been working to limit landfill waste at our overseas works through glass waste recycling, implemented since the 2012 fiscal year. As a result, we were able to achieve a big reduction in landfill waste (79% of the value of the previous fiscal period).

	Year on Year	
	Japan	Overall SMK Group
Industrial waste discharge per unit of production value (nominal production value)	91%	95%
Overall industrial waste discharge amount	112%	110%
Landfill waste amount	—	79%

### Amount of industrial waste discharge



### Amount of landfill waste and recycling rate



## Environmental Accounting

### Environmental Preservation Costs and Benefits

(Units: million yen)

Category	Major Activities	Environmental Preservation Costs				Economic Benefits		Environmental Preservation Benefits (Quantity)	
		Investments		Expenses		Amount	YoY	Consumption/Output Savings	YoY
		Amount	YoY	Amount	YoY				
Business area costs	Pollution Prevention	6.3	—	34.9	101%	0	—	Use of Environmentally Hazardous Substances: -8.4 t	—
	Global environmental preservation	39.7	33%	60.4	114%	31.5	176%	CO <sub>2</sub> emissions per unit of production value: 0.051 t-CO <sub>2</sub> /million yen	—
	Resource circulation	0	—	26.5	112%	89.6	108%	Landfill waste amount: 25.1t Industrial waste discharge per unit of production value: 0.0014 t/million yen	88%
	Sub-total	46.0	38%	121.8	110%	121.2	120%	—	—
Upstream/Downstream	Green procurement, etc.	0	—	0.3	89%	0	—	—	—
Administration	X-ray fluorescence spectrometer replacement, activities which aim to guarantee eliminating the use of environmentally hazardous substances in products, environmental management promotion, etc.	25.2	—	204.8	111%	0	—	—	—
R&D	Development of environmentally friendly products, etc	0	—	25.2	103%	0	—	—	—
Social activities	Initiatives to expand green areas at works, etc	0	—	8.5	104%	0	—	—	—
Environmental damage	—	0	—	0	—	0	—	—	—
<b>Total</b>	—	<b>71.3</b>	<b>59%</b>	<b>360.6</b>	<b>110%</b>	<b>121.2</b>	<b>120%</b>	—	—

# Environmental Preservation Activity Reports

## Environmental Communication

**SMK  
Electronica  
S.A. de C.V.**

SMK Mexico held recycle workshops at regional events, 15 employees from the company hosted the workshop as part of Environment EXPO 2015, sponsored by the state of Baja California (Mexico), which was visited by more than 1,000 people. Out of the more than 100 companies that participated in that event, SMK Mexico team received honorable mention for conducting this outstanding workshop for two consecutive years from among more than 100 participated companies in the EXPO. The participated children could learn about the meaning of 3R (reduce, reuse, and recycle). We will actively continue these activities in order to improve environmental preservation awareness.



## Community Clean-up

**SMK  
Electronics  
Corporation  
U.S.A.**

Nine employees from SMK America Group and their family members participated in "Beautify Chula Vista," a community volunteer activity in which they cleaned up our neighbor park, located near our office where people go to relax and enjoy themselves. The mayor of Chula Vista also participated in this activity and posed together with other participants in a photo willingly after the activity.

**SMK  
Manufactur  
-ing, Inc.**





## Conservation of our nature

**SMK  
Electronics  
(Dongguan)  
Co., Ltd.**

21 employees of SMK Dongguan and their family members participated in a volunteer herbicidal activity of the invasive weed at a park in the city of Dongguan. The weed targeted for herbicidal was the Mikania micrantha. Vine-like in nature, the Mikania micrantha kill plants native to the park since they tightly wrap around them. This dangerous plant was selected as one of the "100 of the World's Worst Invasive Alien Species" by the International Union of Conservation of Nature (IUCN).



**SMK  
Electronics  
(Shenzhen)  
Co., Ltd.**

As part of our 20th anniversary commemoration activities, SMK Shenzhen planned out a tree planting activity on Arbor Day in China where the company planted 20 young camphor trees in a Shenzhen city park. 12 employees of SMK-Shenzhen and their families participated in this event and the participated children had a good opportunity to understand the importance of nature.



### Actual results of Power Generation at photovoltaic power plant

1,370,000 kWh of electricity was produced by photovoltaic power plant owned by SMK and its subsidiaries in fiscal 2015. This reduced CO<sub>2</sub> emissions by 432 tons.

\* Conversion values used in accordance with Industry Independent Rules of the Japan Photovoltaic Energy Association.



# Creation of Environmentally Friendly Products

## Connectors for Photovoltaic Module

These connectors link photovoltaic modules with cables. The original multi-point contact structure assures excellent contact performance. The original waterproof structure facilitates cable waterproofing with easy operation without tools. The connectors have UL and TÜV certifications. Available in a wide variety of configurations, such as small connectors and splitters.



## Connectors for LED Lighting (COB type) LT-10/LT-11 Series

A connector for LED lighting thought to provide energy-saving benefits. SMK developed a socket for COB LED package and added it to its product inventory.

This product is composed of two parts, a top cover and a bottom cover, which radiate heat from the LED into a heat sink. This structure contributes to overall improvements in easy of assembly and in reliability.



## FPC connectors for High-speed Transmission: EN-31 Series

0.3 mm pitch FPC connectors compatible with products such as digital home electronic equipment and IT devices in which signal transmission speeds are increasing.

The connectors are compatible with the MIPI<sup>SM</sup>/D-PHY standard for high-speed interfaces, and are ideally suited for realizing high-speed transmission in mobile devices. RoHS compliant, halogen-free design and material selection.



\* MIPI is a registered service mark or service mark of MIPI Alliance, Inc.

## Micro USB Connectors (Spring Terminal)

Micro USB connectors for use in smart phones, mobile telephones, and similar products.

The spring terminals allow the connectors to be directly installed to circuit boards without using solder. RoHS compliant, halogen-free design and material selection.



## Bluetooth® Smart Sensor Unit

This product is a wireless sensor unit for the IoT market compatible with Bluetooth® Smart wireless protocol. Easy to install, the sensor is extremely small with dimensions of  $\phi$  30mm x 14mm in height (approximately the size of a PET bottle cap) which contributes to resource savings. Loaded with temperature, humidity, lighting, and other sensors, it allows environmental data to be acquired via Bluetooth® Smart. Linkage with other devices using IoT technology has made it possible to optimize living environments through monitoring.



\* The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc., and any use of such marks by SMK Corporation is under license.

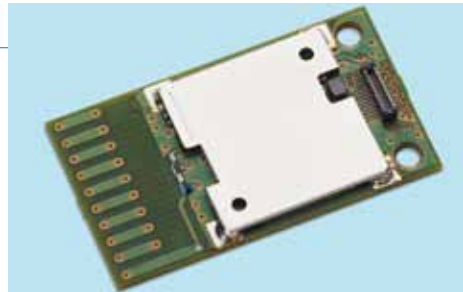
## “CapSleek Touch” Capacitive Touch Panel Featuring a Curved Surface

Using a film sensor rather than the glass sensor commonly used in touch panel sensors to date not only achieves a curved, lightweight design but also reduces the amount of scrap film, as a greater percentage of the product is usable during processing.



## Wireless Modules

Our various types of wireless modules feature power management functions for power conservation. In addition to power conservation, our 920 MHz Band Specified Low-power Wireless Module in particular is a product for the HEMS and BEMS markets which contributes to energy savings.



## TEXPO 2015

SMK’s technology expo “TEXPO 2015” was held at Garden-city Shinagawa for three days November 4-6, 2015. At the Ecology corner, visitors were introduced to technologies, including solar power generation, batteryless, power control, and LED connector technologies, which were each demonstrated.

In addition, the expo also exhibited a school chairs and a drawing books made from recycled packing materials in SMK Philippines. An employ of SMK Philippines create them and SMK Philippines donate them to local elementary schools continuously.

We really appreciate to everyone who attended our memorable event, SMK TEXPO 2015.



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