

# Examples of Sanden's Activities in Fiscal 2014 under Its "Green" Strategies



#### **Green Technology**

To help preserve the Earth's environment, Sanden is giving priority to research on its core technologies of "cooling" and "heating" to develop products that embody technology for natural coolants and heat pumps that reduce the burden on the environment. In fiscal 2014 also, Sanden actively introduced environment-friendly products and systems that incorporate Sanden compressors using  $CO_2$  as a natural coolant, mainly for the commercial store systems, including vending machines that have the lowest level of electric power consumption in Japan.

In its automotive systems business, Sanden is also working to reduce the environmental burden of vehicles through the provision of electric-powered compressors and other products that help the world's automobile manufacturers meet increasingly strict environmental regulations.





#### **Green Management**

Sanden conducted a questionnaire survey, containing about 100 items, regarding the "assessment of environmental activities" that was answered by internal respondents on a self-assessment basis. The business locations responding were then ranked in four categories from "S" to "C" on the basis of their implementation of environment-related activities. In the fiscal 2014 survey, "A" rankings or higher, indicating a high level of implementation of the environmental PDCA cycle, were assigned to 10 of the 13 domestic locations and 5 of Sanden's 27 overseas locations. Going forward, Sanden will strengthen its environment-related activities at its overseas offices.

To enhance the level of environmental awareness among Group personnel, Sanden newly launched an environmental education program for managerial-level personnel in the latter half of fiscal 2014, and a total of about 380 personnel including persons overseas participated.



### Green Process

Under its Medium-Term Basic Policy on the Environment, which was introduced in fiscal 2014, the Group has set specific goals for fiscal 2018 for reducing the burden its activities place on the environment, including the level of energy usage, and is implementing measures to attain them. The goals are stated in terms of usage per unit of sales, and Sanden is working to strengthen its capabilities for meeting these goals. However, in fiscal 2014 sales expanded along with corporate growth, and, although the Group may attain these goals, overall usage volumes will rise over the previous year. Accordingly, along with the conclusion of the first year under the Medium-Term Basic

Policy on the Environment, to conduct its environmental preservation activities more aggressively, in fiscal 2015, in addition to goals per unit of sales, the Group has also set new goals for maximum overall usage and will also set medium-term goals for usage volume.

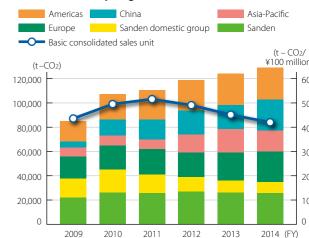
Also in fiscal 2014, the Environment Division restarted to check the environment activities of each overseas affiliate and give instructions on site. Looking ahead, the Group will work to contribute to society by reducing the environmental burden of its activities by increasing the efficiency of all business processes and the "elimination of all forms of waste."

#### Information on the Sanden Group's Environmental Performance in Fiscal 2014

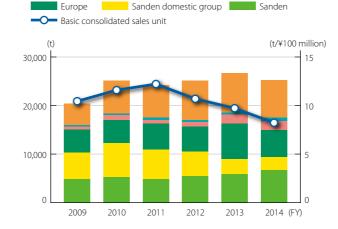
#### ■ Trends in Energy Usage by Region



#### ■ CO<sub>2</sub> Emissions by Region

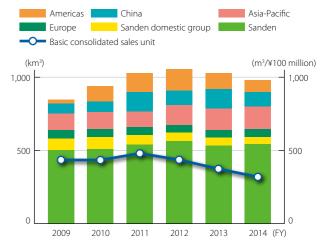


#### ■ Trends in Waste Emissions by Region



Asia-Pacific

#### ■ Trends in Water Usage by Region



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#### **Green Communication**

Sanden displayed its products at the Eco-Products 2014 exhibition held in December 2014 for the fourth consecutive year. Inside the exhibition space, timber from thinning of the Sanden Forest was used extensively and environment-related products were on display. The exhibition was an expression of the concept underlying the Sanden Forest/Akagi Plant, which is "harmonious coexistence of industry and environment." The Sanden exhibition space, which expressed this message, received the Special Grand Prize for Eco-Design.



Sanden participated in the meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 12) held in Pyeongchang, South Korea, in October 2014, as a member of the Nippon



Keidanren (Japan Business Federation), and gave presentations on Sanden's activities at the Sanden Forest/Akagi Plant.

Sanden Manufacturing Europe S.A.S. in France held an Industrial Waste Week in 2014. Activities at these events included a range of exhibits, etc., and were aimed at deepening the understanding of people inside and outside the company, including primary school



children from the surrounding region, of the company's initiatives to reduce industrial waste.

SME <France>



Presentation at the Competition for "Low Carbon Trophy 2015"

the Green Children Project, which involves dispatching its employees to local schools to give talks on the environment. Sanden regards environmental education for children, who will be the next generation, as an extremely important issue.

SandenVendo

Europe S.p.A. in

Italy is conducting



SVE < Italy>

Sanden also participate actively in environment-related events and area cleanup activities in Japan and overseas.



Cleanup Activity by Polish Factory



Cleanup Activity < Japan>



### Targets and Performance

The following table summarizes the environmental goals set for fiscal 2018 under Sanden's Medium-Term Basic Policy on the Environment and activities to attain these objectives.

\* Level of attainment: A: goal(s) attained; B: generally attained; and C: insufficient

|  | Basic Strategy         | Medium-Term Targets<br>for FY2018   | FY2014 Targets   | Results of Activities in FY2014  | Evaluation |
|--|------------------------|---|--|--|------------|
|  | Green<br>Technology    | All mass-produced products<br>meet product environment<br>indicators (Goals are set by<br>product)  | Attain product environmental indicators of 0.9 or less in priority products  | All priority products attained indicators of 0.9 or less   | Α          |
|  |                        |   | Obtain Eco-Leaf environmental label for vending machines   | Newly registered 37 types of heat pump machinery   | Α          |
|  |                        |   | Reduce environmental burden in use of products through application of innovative technology  | Expanded sales of electric- powered compressors     Developed and introduced ultra- lightweight HVACs equipped with filters for ultrafine PM2.5 particles     Attained energy-conservation ratios of 20% in the whole store     Developed and introduced heat pumps for canned beverage vending machines with the lowest electric power consumption in Japan   | Α          |
|  | Green<br>Process       | Reduction in environmental burden  15% or more in energy usage 15% or more in waste emissions 5% or more in water usage 5% or more in emissions of harmful chemical substances (All figures are on a per unit of sales basis and are comparisons with fiscal 2013.) | Reduce CO <sub>2</sub> emissions per unit of sales by 3% in comparison with fiscal 2013  | $<$ Consolidated $>$ • Reduced $<$ O $_2$ emissions per unit of sales by 8% $<$ In Japan $>$ • Reduced $<$ O $_2$ emissions per unit of sales by 13%   | Α          |
|  |                        |   | Reduce emissions of waste per unit of sales<br>by 3% in comparison with fiscal 2013  | <consolidated> • Reduced waste emissions per unit of sales by 17% <in japan=""> • Reduced waste emissions per unit of sales by 10%</in></consolidated>   | Α          |
|  |                        |   | <sanden and="" companies="" domestic="" group=""><br/>Maintain recycling ratio of 99% or more<br/>(zero emissions)</sanden>          | Maintained 99% or more recycling ratio at all sites in Japan<br>that have received ISO 14001 certification (eight sites)   | Α          |
|  |                        |   | Reduce water usage per unit of sales by 1% in comparison with fiscal 2013  | <consolidated> • Reduced water usage per unit of sales by 15% <in japan=""> • Reduced water usage per unit of sales by 10%</in></consolidated>   | Α          |
|  |                        |   | <sanden><br/>Reduce emissions of harmful chemical<br/>substances per unit of sales by 1% in<br/>comparison with fiscal 2013</sanden> | <sanden> • Reduced emissions of harmful chemical substances by 46% (substances subject to PRTR registration)</sanden>  | Α          |
|  |                        |   | <sanden><br/>Reduce energy usage per unit by 1% or<br/>more (in comparison with the previous<br/>fiscal year)</sanden>               | <sanden> • Energy usage per unit rose 6.9% from the previous fiscal year Note: The per unit usage of energy increased because of growth in sales of large retail store showcases that resulted in a deterioration in transportation efficiency.</sanden>   | С          |
|  |                        |   | Standardize calculation of SCOPE 3   | Calculation standardized for all categories covered  | Α          |
|  | Green<br>Management    | Level of attainment of<br>environment activities at all<br>sites: A or higher   | Strengthen implementation of environmental policy and environmental management system  | Strengthened global communication activities through holding environment convention and morning meets Convened the Central Environmental Committee and Environmental Strategy Meeting Implemented guidance for overseas business locations Implemented internal environmental audits at domestic locations Convened meeting(s) of persons in charge of promoting environmental activities at domestic Group companies Held meetings for promoting environmental activities at business locations | Α          |
|  |                        |   | Heighten awareness through implementation of environmental education   | <ul> <li>Promotion of attaining eco-certifications (163 qualified additionally)</li> <li>Implemented ISO 14001 training for internal auditing staff</li> <li>Conducted environmental education for managerial-level personnel in domestic locations, China, and Southeast Asia</li> </ul>  | Α          |
|  |                        |   | Feedback assessments of environmental activity levels to business locations  | • Implemented feedback on assessments of domestic and overseas business locations and took initiatives to make improvements  | Α          |
|  | Green<br>Communication | External evaluation: A level  | Exhibit products/systems at environmental exhibits   | Presented exhibit at Eco Products 2014 exhibition.     Received Special Grand Prize for Eco-Design   | Α          |
|  |                        |   | Participated in international environmental meetings   | Attended meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 12) in Pyeongchang, South Korea as a member of the Nippon Keidanren Nature Protection Council Participated in "United Nations 10 Years of Education in Sustainable Development" meeting held in Nagoya, Japan   | Α          |

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