

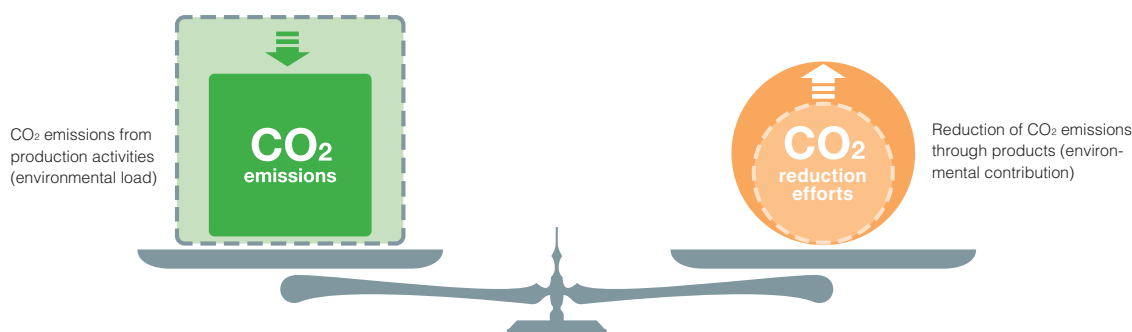
CASE 4

Symbiosis with the Global Environment

TDK has formulated the TDK Environmental Charter as the environmental policy of the TDK Group as a whole. TDK recognizes that symbiosis with the global environment is an important management issue and aims to contribute to sustainable development. To realize this goal, TDK has formulated an environmental vision called TDK Environmental Action 2020 and is conducting activities with the target of becoming the first company in the electronic components industry to achieve carbon neutrality.

TDK's Aim of Achieving Carbon Neutrality

$\text{CO}_2 \text{ emissions from production activities (environmental load)} - \text{Reduction of CO}_2 \text{ emissions through products (environmental contribution)} \leq \text{Zero}$



CO₂ emissions from production activities
(environmental load)

1,068 thousand t-CO₂

Environmental load involves many factors, such as resource and water use, but we realize that the biggest factor at TDK is CO₂ emissions from production activities. That is why we are making efforts to reduce these emissions.

Reduction of CO₂ emissions through products
(environmental contribution)

1,251 thousand t-CO₂

Environmental contribution involves many factors, such as the use of renewable energy, but we realize that the biggest factor at TDK is the reduction of CO₂ emissions through products. That is why we are making efforts to expand the scope of emission-cutting products.



Reduction of CO₂ Emissions from Production Activities (Environmental Load)

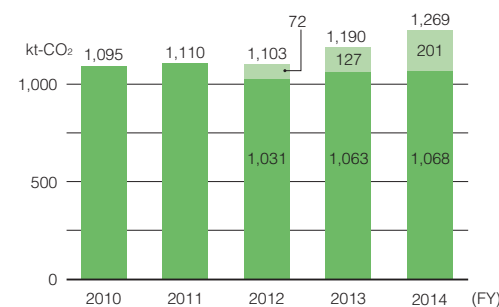
The TDK Group engages in capital investment and energy-saving activities at each site in order to reduce CO₂ emissions from production activities.

Achievements in FY 2014

TDK Environmental Action 2020 sets the target of reducing the TDK Group's global CO₂ emissions to less than one million tons by March 2021.* As a result of the continued promotion of energy-saving activities at production sites around the world, CO₂ emissions amounted to 1.068 million tons in fiscal 2014, which was under the fiscal year target of 1.07 million tons.

*Applicable to sites at the time of compilation of TDK Environmental Action 2020 that commenced activities in fiscal 2011.

Trends in CO₂ Emissions from Production Activities (Global)



Note: The light green parts of the graph indicate emissions at plants that were newly added after compilation of TDK Environmental Action 2020.

Example from the Kofu Plant in Japan

As a replacement for outdated turbo refrigerating machines which produce chilled water for use in production and clean room air conditioning, TDK's Kofu Plant introduced highly efficient machines and also reviewed the system for transporting chilled water, boosting heat quantity visualization, increasing the variability of chilled water flow, and introducing free cooling* in the winter. The resulting reduction of CO₂ emissions amounted to 999 tons per year.

*Free cooling is a system for producing chilled water for air conditioning and production equipment that uses a chilling tower to make use of the low external air temperature in the winter.



Voice

Promoting Energy Saving through Cross-Sectional Communication



The energy-saving subcommittee at TDK's Kofu Plant

More than 30 years have passed since the Kofu Plant was built, and on the occasion of the replacement of outdated equipment, it was decided to promote energy-saving activities. In the promotion of these activities, emphasis was placed on communication. The Kofu Plant consists of many divisions, so cross-sectional communication among them was essential. When repairing buildings and production equipment, repeated discussions were held with the users, who asked whether the energy saving would have any adverse impact on manufacturing conditions and also voiced their requests and opinions, such as "Wouldn't it be better like this?" and "Costs would be lowered even more if we did it like this." These discussions clarified the merits for both sides and improved the process. Through these activities, the participants became aware once again of the importance of creating an atmosphere in which related parties can communicate and air their opinions from their respective standpoints. In terms of contributing to the environment as well, the Kofu Plant intends to continue its role as a company that "contributes to culture and industry through creativity."

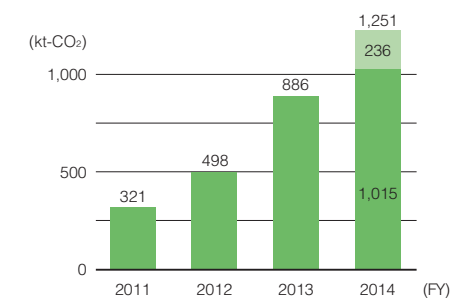
Increasing the Reduction of CO₂ Emissions through Products (Environmental Contribution)

In order to increase its environmental contribution, the TDK Group is promoting visualization as a contribution of its technological achievements in product development and manufacturing.

Achievements in FY 2014

TDK Environmental Action 2020 sets the target of increasing the reduction of CO₂ emissions through products to more than 1.0 million tons by fiscal 2020. In fiscal 2014, this environmental contribution amounted to 1.251 million tons through the expansion of applicable power supply products and efforts to establish calculation criteria for flash memories, aluminum electrolytic capacitors, and lithium ion polymer batteries.

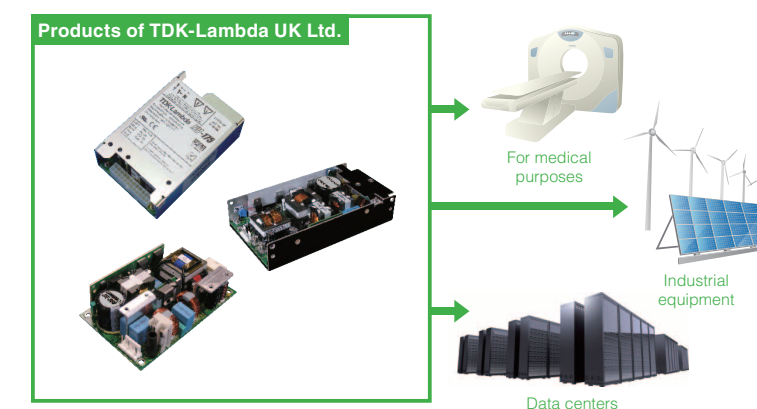
Trends in the Reduction of CO₂ Emissions through Products



*The light green parts of the graph indicate new efforts made possible by the completion of criteria for calculating environmental contributions.

Example from TDK-Lambda UK Ltd.

TDK-Lambda UK Ltd. calculated the environmental contribution of its products on the basis of the method for calculating the environmental contribution of power supply products implemented at TDK-Lambda Corporation. The company's power supply products are used in not only industrial equipment but also medical devices, such as CT scanners. The resulting reduction of CO₂ emissions amounted to 83,000 tons per year.



Voice

Visualization of Environmental Contribution Leads to Further Design Innovation

A major feature of the power supply products of TDK Lambda UK Ltd., which are used in medical applications and measurement equipment, is that the settings and composition can be easily changed to match the varied input-output conditions of the application. Selecting the best power supply product for the application has an impact on energy efficiency throughout the entire lifespan of the product, 10–15 years, and leads to improvements in the final product's energy consumption.

What I noticed in our efforts to calculate the environmental contribution is that even a really small improvement in product design can have a colossal impact on the environmental contribution of the final product. Our company receives much praise from customers for supplying the most appropriate power supply products, and from now on, we will also search for ways to further improve energy efficiency in product design, manufacturing, and operation. We want to continue taking on challenges so that we can always surpass the expectations of our customers.

Tim Puttick
Production Manager,
TDK-Lambda UK Ltd.



Dialogue with an Expert

Toward Compilation of the Next Environmental Vision

TDK Environmental Action 2020 set fiscal 2020 as the target year for achieving carbon neutrality, but the goal was reached ahead of schedule in fiscal 2014. So we have reached the stage where we should stipulate the next target of our activities. TDK invited Mr. Keisuke Takegahara, director of the Environmental Initiative & Corporate Social Responsibility Support Department at the Development Bank of Japan, Inc. and a leading figure in the field of environmental finance in Japan, for a talk with Mr. Tetsuya Kuwashima and Mr. Ryo Yokoyama of the Safety and Environment Group of Manufacturing HQ.



Date of implementation: May 8, 2015

Industry-Wide Efforts to Establish International Standards

The first point to be confirmed in the discussion was that in-house understanding and cooperation are essential to promote the two objectives of reducing CO₂ emissions and increasing TDK's environmental contribution. Mr. Kuwashima explained confidently that "our activities are steadily spreading, and we are shifting from the stage of calculating reductions and contributions in each business division to positively calling on sites to put them into practice." In order to make employees understand the value of these environmental contributions and to feel the significance of their own efforts, he said, it is important to have an external assessment of TDK's contributions and to feed that back to sites.

In addition, the participants agreed that in order for TDK to receive an appropriate assessment, it is essential for the industry to have rational standards that can serve as a foundation.

Mr. Yokoyama resolutely remarked, "If companies in the industry all have their own standards, even if we shout about consideration for the environment, there will just be confusion. Standardization is essential. International standards formulated under the leadership of the Japanese electric and electronic industries have been issued, and guidance for electronic component manufacturers compiled on the basis of these standards in collaboration with JEITA [Japan Electronics and Information Technology Industries Association] has taken shape at last. Now we must publicize this guidance globally." Mr. Takegahara highly praised the fact that TDK is calculating and disclosing its environmental load and environmental contribution according to globally acceptable criteria.

Going beyond Carbon Neutrality to Create Even Higher Value

Mr. Takegahara commented, "TDK's environmental activities are extremely advanced and unparalleled by other companies. Now that you have realized carbon neutrality, the next point is how to create value not only environmentally but socially as well." Citing the example of wearable devices, Mr. Kuwashima spoke of the potential, saying, "Electronic components account for most of the total weight, so if they can be made lighter and smaller, that part can be allotted to other useful functions, which will increase the

convenience of the final product. In that sense, I think there is room for quantification of our social contribution."

As for the future, Mr. Kuwashima said enthusiastically, "The target set in TDK Environmental Action 2020 was so ambitious that people in the company asked whether it could really be achieved at first. The next environmental vision must set targets with the same impact, and we must display the hallmark of TDK in executing it."



Keisuke Takegahara

General Manager,
Environmental Initiative &
Corporate Social Responsibility
Support Department,
Development Bank of Japan,
Inc.

Mr. Takegahara joined the Japan Development Bank (now the Development Bank of Japan, Inc.) in 1989. He was stationed for a total of six years in Frankfurt, Germany and developed the DBJ's environmental rating loan scheme and is a leading figure in the field of environmental finance in Japan.

■ Mr. Takegahara's Main Opinions and Proposals

Carbon neutrality is generally discussed in terms of individual products and individual efforts, but TDK has achieved real carbon neutrality after building an internationally acceptable framework. This is truly outstanding. To put it another way, TDK's positive impact on society in environmental terms grows in proportion to the spread of its products in society and the increase in its sales. This is a powerful

message to both investors and society.

In addition, TDK is conducting M&As. If a company comes under the TDK Group umbrella, that company also adopts TDK's standard environmental countermeasures, which in turn leads to a curbing of the environmental load in the world. I think TDK should be more aware of this form of contribution and broadcast it to society.