Develop and Prosper in Harmony with the **Global Environment**

The importance to our company

To support sustainable development of society, the TDK Group unites in the quest to reduce CO₂ emissions, effluents and waste in production activities, and otherwise use its business activities to minimize the global environmental load.

Expectations by stakeholders

TDK complies with all environmental laws and regulations, working to lower the environmental load of its business activities, promote and invigorate the natural environment and advance other basic initiatives. Through its products, the Group also contributes to reducing energy consumption and implementing climate change countermeasures.

Reduction of CO₂ emissions through

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.

products (environmental contribution)

Basic policy

As stated in the TDK Environmental Charter, "Develop and Prosper in Harmony with the Global Environment" is one of the TDK Group's most important business themes.

"TDK Environmental Vision 2035" has been established to contribute to developing a sustainable society. Based on this vision, "TDK Environment, Health and Safety Action 2025" has been formulated as a basic action plan for specific steps. Work is also underway to formulate industry-wide environmental standards promoting greater public understanding of the value of TDK environmental contributions.

Main achievements in Fiscal 2015

CO₂ emissions from production activities (environmental load)



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.

The calculation method was subjected to a third-party review. For the contents of that review, please refer to the following URL: http://www.global.tdk.com/csr/csr_data/csr05900.htm

Formulation of the New "TDK Environmental Vision 2035" and "TDK Environment, Health and Safety Action 2025"

The TDK Group fast tracked the goal of "carbon neutral" status originally outlined in "TDK Environmental Action 2020" (our third basic environmental action plan), achieving the stated targets in fiscal 2014.¹ Being launched from fiscal 2016 is a new environmental vision with a more global and long-term perspective, and a medium- to long-range action plan to achieve that mission.

*1 In view of the early attainment of TDK Environmental Action 2020, a dialogue with experts was held to help draft the Group's next environmental vision. For details, please refer to the following URL. http://www.global.tdk.com/csr/dialog/csr40000.htm

Formulation of the New "TDK Environmental Vision 2035" toward 100th Anniversary

In "Vision 2035," TDK pledge to strive to achieve further innovation and create value for customers through the delivery of outstanding quality products and services, by utilizing the diverse global resources. Based on this corporate motto, TDK will continue to "contribute to culture and industry through creativity", by revitalizing and protecting the global environment and creating a pleasant and safe society. With the horizon of "Vision 2035", we envision business operations under the environmental load within natural circulation. According to this idea, the goal of "to halve the CO2 emission basic-unit in a life-cycle perspective by 2035" has been formulated as "TDK Environmental Vision 2035."

This stance stems from the belief that minimizing the environmental load in business activities, and revitalizing the natural environment, is the duty of companies that supply products designed to contribute to its customers and the society. Moreover, modeled on the United Nations Climate Change Conference (COP 21) Paris Agreement, which seeks to curb global warming by achieving a balance between greenhouse gas emissions and absorption sources, this is also considered the ideal corporate posture for all TDK activities.

"TDK Environment, Health and Safety Action 2025" Basic Environmental Action Plan

Achieving environmental initiatives requires a basic plan with a long-term horizon. In TDK Environmental Action 2020, which began in April 2011, the ecological contributions of products were positioned as the focus of environmental activities for the first time in the electronic components industry. TDK achieved "carbon neutral" status on the strength of that plan. From fiscal 2016, TDK began steady implementation of TDK Environment, Health and Safety Action 2025, a new basic eco-action plan founded on TDK Environmental Vision 2035. The action categories and target figures of "TDK Environment, Health and Safety Action 2025" *2 reflect dual consideration for "backcasting" from TDK Environmental Vision 2035, and continuity and "forecasting" from "TDK Environmental Action 2020.

*2 To examine the action categories and target figures, please refer to the following URL: http://www.global.tdk.com/csr/environmental_responsibility/pdf/csr03209.pdf



Environment, Health and Safety Action 2025 Action Plan



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 Fiscal 2015

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.* In Fiscal 2015, TDK continued to promote energysaving activities at its production sites in all countries. Unfortunately, those efforts failed to produce the targeted value of lowering CO₂ emissions to 1,050 thousand tons or less, with the final level tracked at 1.126 thousand 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)



Biomass Boiler Introduction

Over the past three years TDK has studied the introduction of the biomass boiler-a system anticipated to contribute to lowering both CO₂ emissions and cost. Such boilers are engineered to run on renewable energy with animal- and plant-derived resources as fuel, while exerting a minor impact on the environment. For this project, the Honjo Plant of TDK-MCC Corporation (a facility with high demand for steam year-round) was selected as the installation site. Once operations begin, it is projected that CO₂ emissions at Honjo will be lowered by 3.4%, while simultaneously cutting existing boiler fuel costs by 15%.



Biomass boiler (TDK-MCC Corporation Honjo Plant)

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Pursuit of Sustainable Monozukuri for a Sound Environmental-Economic **Balance**



The biomass boiler plan is based on the three core concepts of (1) reducing CO₂ emissions, (2) cutting costs and (3) diversifying en-

TDK-MCC Corporation TDK Corporation Safety & Environment Office

ergy sources. With the introduction of such a system, the goal is to achieve balanced plant management effective in lowering the environmental load while simultaneously generating economic benefits. The concept extends to generating new value from the perspective of lowering oil dependency through the use of wood chips, and advancing local consumption of locally produced energy through procurement from the vicinity of Yuri Honjo City in Akita Prefecture. In moving to introduction, the ability to secure a stable supply of wood chips posed the single greatest challenge. This was resolved by cooperating with the plant divisions in charge of facilities, materials and other areas in conducing on-site studies of nearly all suppliers near the Honjo Plant. Such investigations, necessary for effective use of facilities and considered indispensable for maintaining and improving fuel quantity and quality, and will be continued after introduction as well. As beneficial side effects of this boiler introduction, it will also become feasible to study potential use as fuel of wooden pallets adopted in transporting materials and other waste disposed of by the plant, sparking high hopes for approaches aimed at in-plant resource recycling. We visualize further reduction of the environmental load through production activities, spearheading the push toward a truly ideal operation mode.

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 Fiscal 2015

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. Efforts to reach this target were subsequently accelerated, enabling that level to be achieved in fiscal 2014. Declared in fiscal 2015 was the new aim of raising this contribution above 1.050 thousand tons, expanding the magnetic products and multilayer chip inductors were included among the targets and putting effective calculating standards into place. As a result, the fiscal 2015 product contribution volume was at 1.580 thousand tons.

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.

Lowering Environmental Load through a Diversified Multilaver Chip Inductor Lineup

The multilayer chip inductors used in the signal processing lines and power supply circuitry of general electronic equipment also play a role as components of mobile phones and computers. By switching from the conventional coil format to a multilayer construction using ferrite or ceramic materials, smaller and thinner sizes can be achieved, which contributes to reducing the environmental impact of the end product. This environmental contribution amounted to 14,000 tons.



Multilayer chip inductor and use examples

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Fulfilling Customer Demands and Expectations. Realizing a Balance with Reduced **Environmental Load**

> Products Technology Division Ouchi Plant TDK Ugo Corporation

Multilayer chip induc-

tors were a global-

first development by

TDK, based not on

the "winding" of wire

but rather on the creative concept of "layering." This layering technology enables unique, "oneof-a-kind" designs to be tailored to specific customer uses or needs, helping address rising demands for smaller size and lower height. When product development commenced, the work was advanced with a keen stress on the importance of customer demands, reliability, production efficiency and other parameters. In time, however, it was learned that improving the properties, downsizing the configuration and other pursuits of monozukuri were also effective in contributing to the environment. Multilayer chip inductors are electronic components small in size and stellar in performance, while coming in rich-ranging lineups. There is the sense, in other words, that ample potential exists for these inductors to further contribute to the downsizing and slimming of numerous electronics devices. Going forward, TDK is motivated by the high expectations placed in companies to continue to help lower the environmental load. We therefore stand ready to excel as a bold corporate leader in the electronic components industry, drawing from the strengths of outstanding environmental load reducing technology that only TDK can trulv deliver.