

E Environment

Daiken Group Environment Policy

The Daiken Group recognizes the important duty to engage in environmental issues as we carry out our business activities, and we are committed to the building of a sustainable society that is friendly to the Earth and its people. To deliver long-term sustainability, we will maintain our Environmental Management System with our progressive efforts.



- **Building a recycling-oriented society**

We are committed to the effective use of wood resources and untapped resources in developing, producing, and selling our ecological products as part of our efforts to realize a recycling-oriented society.



- **Minimize environmental burden**

We strive to reduce emissions of greenhouse gases, waste, and chemicals in all our business activities and efforts to promote conservation of the environment and prevention of pollution.



- **Contribution to biodiversity**

We will promote the procurement of wood resources with consideration for biodiversity.



- **Compliance**

We will continue to be a company trusted by our customers and society by complying with laws, regulations, and company regulations related to our business activities.



- **Communications**

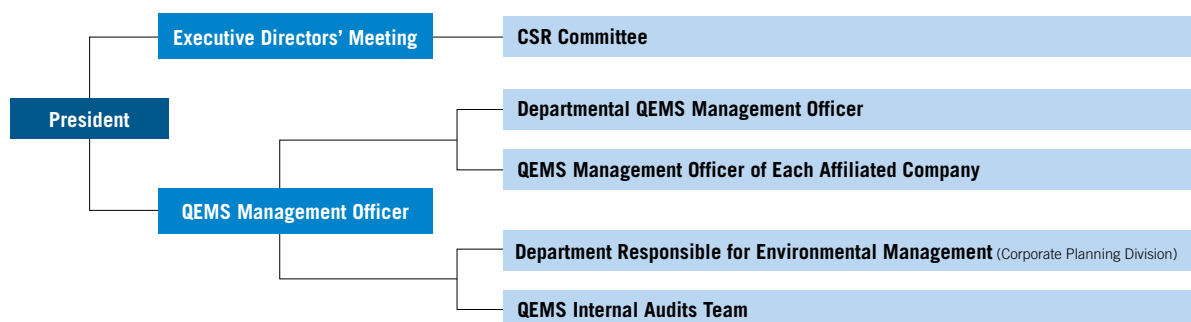
We strive to disseminate information proactively and enhance communication with various groups in society.

Environment Management

Basic Approach

The Daiken Group is continuously striving to improve our environmental activities throughout the Group with the formulation of the medium-term environment plan to achieve our environmental policy while optimizing the Environment Management System (EMS). Furthermore, for efficient operation, we promote and develop the Quality and Environmental Management System (QEMS) to be integrated with the Quality Management System (QMS).

Structure to Promote Environment Management



Fifth Medium-Term Environmental Plan (for fiscal 2017–2019)

| Theme and content | | Goal | Result | |
|--|--|---|---|---|
| | | Fiscal 2019 | Fiscal 2018 | |
| Eco-friendly products | Contribution for achieving sales targets in the final year of the medium-term plan (fiscal 2019) by expanding eco-friendly products and their sales | Development of eco-friendly products that contribute to reducing the environmental burden | Number of new products five items/year 5 items | |
| | Introduce carbon fixation by using wood | Fixation through the supply of recycled wood boards | Amount of carbon fixation (CO ₂ equivalent) 800,000 t-CO ₂ /year 749,000 t-CO ₂ /year (breakdown) MDF: 608,000 t-CO ₂ /year IB: 141,000 t-CO ₂ /year | |
| Contribution for building a low-carbon society | Reduce CO ₂ * emissions from energy sources * CO ₂ emitted by the combustion of fuels or the use of electricity or heat supplied by a third party | Reduction of emissions by the domestic production sites | Discharge rate 62.5 (t-CO ₂ /¥100 million) or below (CO ₂ emission factors from electricity generation is fixed at the value of fiscal 2014) | 60.4 (t-CO ₂ /¥100 million) (CO ₂ emission factors from electricity generation is fixed at the value of fiscal 2014) |
| | | Promotion of energy savings through the introduction of energy-saving equipment and improvement of efficiency in equipment operation | Total emissions 110,000 t-CO ₂ or below/year (CO ₂ emission factors from electricity generation is fixed at the value of fiscal 2014) | 103,000 t-CO ₂ (CO ₂ emission factors from electricity generation is fixed at the value of fiscal 2014) |
| | | Reduction of emissions from logistics and transport divisions (Improved modal shift rate and loading rate) | Unit of energy use 44.7 kl/million tkm or below (reduction by more than 1% in annual average) | 46.8 kl/million tkm |
| | | Reduction of emissions from sales and administrative divisions (Thorough implementation of energy-saving measures) | CO ₂ emissions 1,500 t-CO ₂ or below | 1,600 t-CO ₂ |
| | | Promote the 3Rs* to reduce the volume of waste destined for final disposal *Reduce, Reuse, and Recycle | Promotion of recycle and conversion of waste into valuables | Final disposal rate (proportion by volume disposed of in landfill outside the company) 5% or below |
| Contribution to creating a recycling-oriented society | Introduce the cascading use of wood | Material recycle of construction waste | Ratio of old material/virgin material: 90% | 93% |
| | | Use of wood biomass energy (internal use) | Input amount of wood biomass energy 1,350×10 ¹² J Use of fuel chip 95,000 t/year | 1,433×10 ¹² J 101,000 t/year |
| | | Promotion of shift to biomass energy and other eco-friendly energy from heavy oil, LNG, etc. | Reduction of heavy oil (heat quantity equivalent) 35,000 kl/year | 37,000 kl/year |
| Contribution for biodiversity | Procure wood in a biodiversity friendly way | Improvement in the rate of use of certified wood, domestically produced wood, planted trees, and recycled board, etc. | Use rate of non-certified natural plywood: 15% or below | 11.7% |
| | Strengthen cooperation with supply chains | Dissemination and proper management of green procurement in the supply chain | Coverage of applicable companies (consent acquisition rate) 100% | 96% |
| Strengthen environmental risk management | Identify, prevent, and minimize environmental risks | Operation and continuous improvement of environment management system | Environmental accident/violation 0 | 0 |
| | | Environmental education | Industrial waste training session e-learning by year | Completion of implementation |
| | Improve our ability to satisfy regulations governing chemical substances | Establishment and operation of a system for appropriate management of chemical substances (The introduction of a management system is considered) | System operation | Introduced a management system and started operation with the new system |



TOPICS

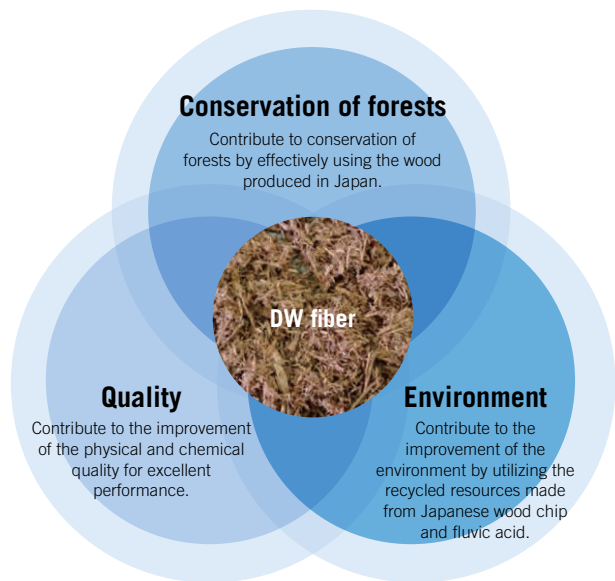
Soil improvement additive, DW fiber, using cascading domestic wood, contributes to building a low-carbon society

The Daiken Group stated three policies: becoming a sustainable society, expansion of the use of domestic wood, and the comprehensive utilization of wood. In order to achieve these policies, we have developed the soil improvement additive, DW fiber, in collaboration with JCE Co., Ltd., by utilizing our strength in material development technologies. DW fiber has been used for a variety of purposes, including the project of total cascading of wood that is carried out in Nichinan-cho, Tottori Prefecture, and is attracting attention as a new approach to environmental conservation.

A new material to create new value based on effective use of resources

DW fiber is a coarse, fibrous soil improvement additive created from domestically produced wood chips where their fibers are loosened by adding fluvic acid, which facilitates the growth of plants. By mixing soil with DW fiber, which has excellent water retention, permeability and contains fluvic acid, the growth of plants is facilitated, the soil environment is improved, salt damage is prevented, and landslides in mountainous areas are prevented by afforestation. Its capabilities can be used in various situations. In addition, the wood material can also decrease the environmental burden. The raw material of DW fiber is mainly wood offcuts and untapped resources generated while processing wood. It contributes to the cascading use of wood resources and the revitalization of forestry in Japan.

On March 20, 2018, the Daiken Group's initiatives were jointly awarded with JCE Co., Ltd., the Gold prize in the corporation category of the Japan Resilience Award (2018), which commends advanced activities for the building of a resilient society for the next generation.



Conceptual image of greening

PICK UP

Business base for total cascading of wood in Nichinan-cho, Tottori

We launched a project for the total cascading of wood by using DW fiber with Nichinan-cho in Tottori Prefecture. We purchase wood offcuts that are generated when producing LVL* from the local LVL manufacturer, Orochi Co.,Ltd., to produce the DW fiber. The DW fiber is sold to construction companies through Sansui Navico, a group company of JCE Co., Ltd., and is used to improve coastal forests and the greening of roads all over Japan to support reforestation and local forestry.

*LVL: Laminated Veneer Lumber
An engineered wood product that is laminated with multiple layers of a single board aligned with the fiber direction

Conceptual image of commercializing total cascading of wood



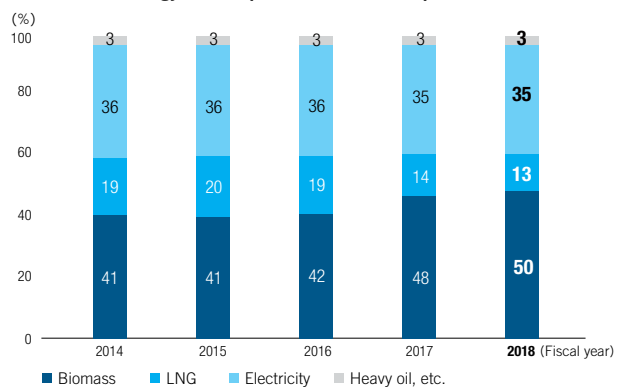
Initiatives for prevention of global warming

In the past, the Daiken Group has shifted from fossil fuels, such as heavy oil, to biomass energy fueled by wood chips derived from building scraps in order to reduce greenhouse gas emissions. We also installed our largest biomass boiler at the Okayama plant in July 2016 leading to an increase in biomass energy to 50% of the total energy used in the production sites in Japan for fiscal 2018. With these efforts, we were able to reduce greenhouse gas emissions by 20% compared with fiscal 2014.



Biomass boiler in the Okayama Plant

Trends in the energy used in production sites in Japan



Recycling of waste materials

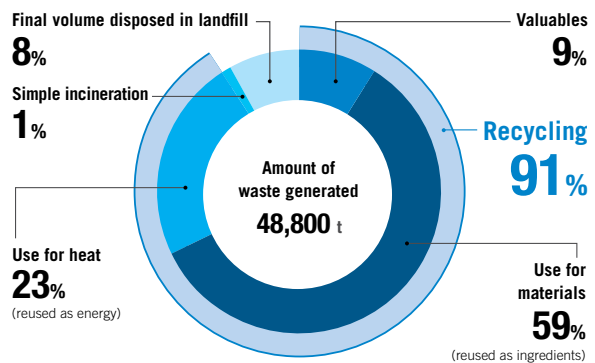
The Daiken Group is aiming to develop a recycling-oriented society and is recycling waste by reusing the wood offcuts and defective products generated during the manufacturing process for the product materials.

In fiscal 2018, the waste emissions generated during the manufacturing process were 48,800 metric tons. We promoted their use as materials or for heating, which resulted in simple incineration being reduced to 1% and the recycling rate reaching 91%.

We continue to further improve the recycling rate.

(Note) Recycling rate = Amount of recycled resources/Total amount of waste generated x 100(%)
Amount of recycled resources = Valuable + Use for materials + Use for heat

Breakdown of waste processing



Effective use of recycling/untapped resources

The Daiken Group is committed to the effective use of wood resources and untapped resources in developing and producing its products as part of our efforts to develop a sustainable society. In fiscal 2018, the utilization of recycled materials was 63%, and untapped resources were 5% of the raw materials used for manufacturing. In addition, we prioritized the use of environmentally friendly wood, such as plywood made from planted trees, thus we improved the utilization ratio of plantation resources to 12%. We continue to strive to use sustainable resources.

Current rate of using recycled resources in products

