

# Environmental Report

## Environmental Management

### Basic Approach

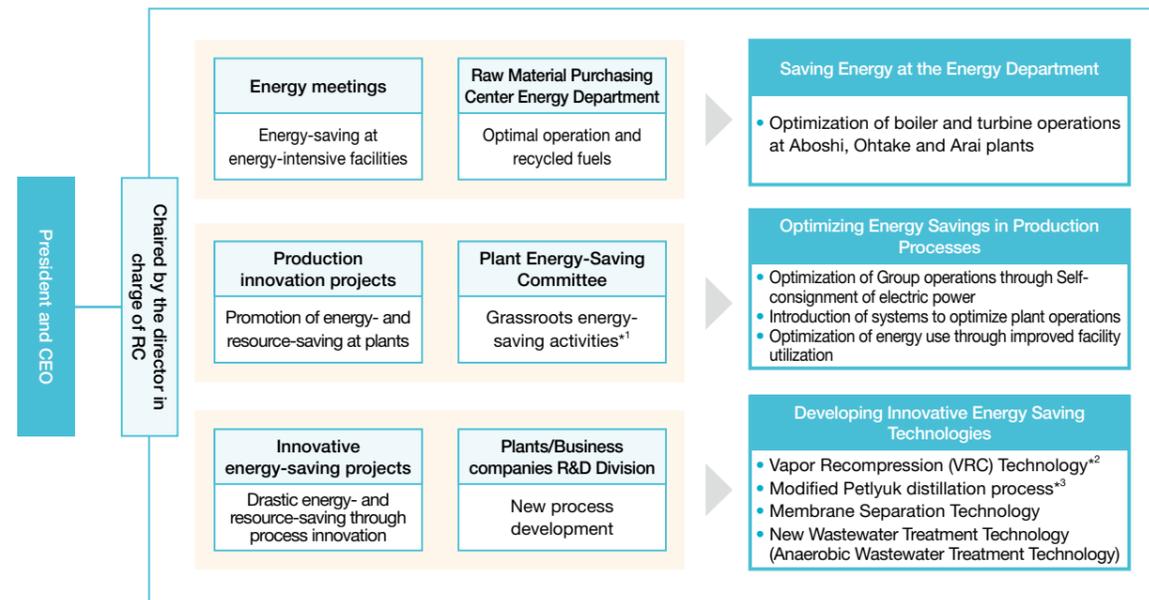
In accordance with the Daicel Group's environmental management policy, each of Daicel's business sites and Group companies execute their own Environmental Management System, including setting targets and monitoring progress. The entire Group will work together to utilize and innovate clean energy solutions effectively in order to reduce greenhouse gases and establish a recycling-based society by practicing the 3Rs and reducing environmental load. Through these efforts, the Daicel Group will contribute to building a sustainable society.

### Our Structure for Promoting Energy-Saving Initiatives

The Group's Energy Conservation Committee is chaired by the director of Responsible Care and operated directly under the president and CEO. With representatives from all relevant divisions, the committee is spearheading across-the-

board environmental management efforts such as reducing energy consumption, CO<sub>2</sub> emissions, and industrial wastes while also managing atmospheric and water pollution. The committee applies a three-dimensional strategy to manage such efforts.

### Diagram of Energy-Saving Promotion System



<sup>\*1</sup> Grassroots energy-saving activities: Activities aimed at saving energy by, for example, stepping up steam trap management, optimizing facility operations, and adjusting the temperature settings of air conditioners, with the aim of making a significant difference through the accumulation of small actions.  
<sup>\*2,3</sup> See page 37 for more information on the energy saving effects of vapor recompression (VRC) technology and the Modified Petlyuk distillation process.

### Environmental Impact of Business Activities

<https://www.daicel.com/en/sustainability/environment/index.html>

### Innovative Energy-Saving Technologies Aimed at Reducing Energy Consumption (Modified Petlyuk distillation process, VRC Technologies)

<https://www.daicel.com/en/sustainability/environment/global-warming.html>

### Status of Environmental Management System Certification

<https://www.daicel.com/en/sustainability/other/declaration.html>

## Global Warming Prevention

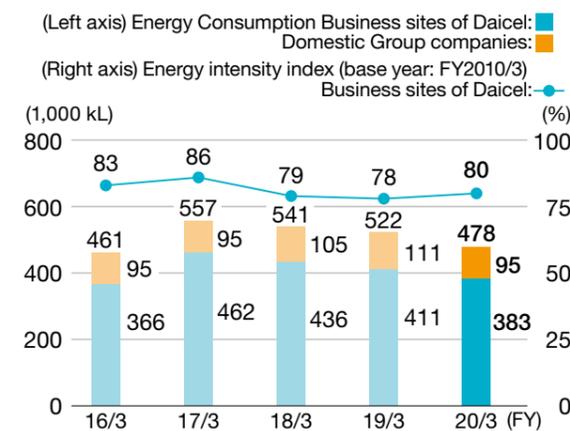
The Daicel Group is making a concerted effort to reduce CO<sub>2</sub> emissions by comprehensively reviewing production processes, introducing new technologies, and engaging in initiatives for optimizing Group-wide energy consumption to save energy. In FY2020/3, we reduced domestic energy consumption by 44 thousand kL (8% of the previous fiscal year in crude-oil equivalent) year-on-year to 478 thousand kL. In terms of average change in energy intensity based on the calculation method defined by the Energy Saving Act, we achieved a 1.1% improvement at Daicel's business sites compared to our target of a year-on-year improvement of at least 1%. The energy intensity index\* based on FY2010/3 declined by 2 percentage points from the previous fiscal

year to 80%. The Daicel Group's domestic CO<sub>2</sub> emissions in FY2020/3 fell 147 thousand tonnes CO<sub>2</sub> (10% year-on-year) to 1,261 thousand tonnes CO<sub>2</sub>. Meanwhile, CO<sub>2</sub> emissions by Daicel's business sites decreased by 1,081 thousand tonnes CO<sub>2</sub> (10% year-on-year), thereby achieving the target of CO<sub>2</sub> emissions (BAU) for FY2021/3 of 1,580 thousand tonnes CO<sub>2</sub> or less, under the Commitment to a Low Carbon Society plan laid out by the Keidanren (Japan Business Federation).

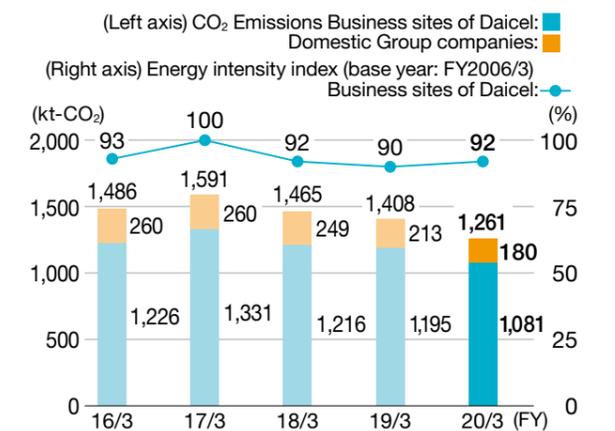
Since reducing CO<sub>2</sub> emissions across the supply chain is essential for further reducing global warming, we expanded the scope of our Scope 3 calculations based on the GHG Protocol, a global standard, starting FY2020/3.

\*Energy intensity index: Energy intensity is measured by the quantity of energy required per unit output or activity. In an index of energy intensity, the energy intensity is the quantity of energy required per unit output and the energy intensity of a reference year is treated as 100.

### Energy Consumption and Intensity Index (Domestic)



### CO<sub>2</sub> Emissions Attributable to Energy Consumption and the Intensity Index (Domestic)



## Reduction and Recycling of Industrial Waste

Daicel participates in the KEIDANREN Voluntary Action Plan on the Environment for a Recycling-Oriented Society. The Group is working on initiatives in line with this plan to reduce consumption of resources and also to promote the reduction and recycling of industrial waste.

In FY2020/3, the amount of industrial waste generated by domestic Group companies increased by 24 thousand tonnes compared to the previous fiscal year to 169 thousand tonnes. This was the result of such factors as an increase

in metal waste generated by removal work at the Arai Plant. The final disposal volume for domestic Group companies in FY2020/3 increased by 1.6 thousand tonnes year-on-year to 3.1 thousand tonnes, and the landfill index was 20%, compared to the reference year of FY2001/3. This was due to the disposal of a large volume of products at the Aboshi Plant caused by Typhoon No. 19. Meanwhile, all of Daicel's domestic Group companies have achieved zero emission status.

### Data for Amount of Industrial Waste Generated, Amount of Disposal by Landfill

<https://www.daicel.com/en/sustainability/environment/industrial-waste.html>