

## ► Environmental Accounting

Daicel has introduced an environmental accounting system with the goal of implementing efficient environmental preservation activities and increasing the transparency of the status of those activities.

In fiscal 2015, we invested ¥3.7 billion in measures to prevent global warming, such as for the introduction of vapor recompression (VRC) technology<sup>1)</sup> and a circulating fluidized bed boiler. Our total investment in the environment was 17% of total investment. We will continue appropriate assessments of our environmental accounting and promote environmental preservation.

The quantitative results (environmental preservation effects) are presented under “Environmental Preservation” and “Chemical and Product Safety” in the “Detailed information on the Responsible Care Initiative” of CSR Report 2016 (<http://www.daicel.com/en/csr/library.html>), as well as under “Environmental Preservation” on pages 30-31 of the report.

**Time period for reported totals:** April 2015 to March 2016

**Calculation method for reported totals:** Calculated according to the Environmental Accounting Guidelines, Year 2005 Edition, published by the Ministry of the Environment of Japan and the Environmental Accounting Guidelines for the Chemical Industry, published by the Japan Chemical Industry Association (JCIA).

**Amounts invested:** Actual sums for capital investment in environmental preservation in fiscal 2015.

**Cost amounts:** The totals for actual expenses of equipment depreciation, maintenance, management and labor related to environmental preservation.

**Economic effects resulting from environmental preservation activities:** Indicated as monetary benefits only and do not include risk avoidance effects or de facto effects. Economic effects attributable to reductions in energy costs are presented as the effects of energy cost reductions over a 12-month period realized through energy-saving initiatives.

### Environmental Preservation Costs

Classification		Major Initiatives	Amounts Invested (¥ million)	Cost (¥ million)
Environmental preservation costs of controlling the environmental impact of our production and service operations that occur within business areas (business area costs)			3,537	4,635
Breakdown	Pollution prevention costs	Prevention of air and water pollution, control of harmful substances, levies for pollution-related health damages	137	2,021
	Global environmental preservation costs	Started construction on a circulating fluidized bed boiler for in-house power generation, installed prototype equipment for vapor recompression (VRC) technology, pinch analysis costs	3,384	1,165
	Resource recycling costs	Appropriate treatment and disposal of industrial waste	16	1,449
Costs of controlling the environmental impact of production and service operations occurring upstream or downstream (upstream and downstream costs)		Costs of recycling containers and packing materials and green purchasing	0	286
Environmental preservation costs in management activities		Labor costs of environmental management, expenses for EMS operations and maintenance, costs of environmental education, costs of environmental impact alleviation	0	554
Environmental preservation costs in R&D activities (R&D costs)		R&D work for reducing the environmental impact of products and technologies	199	169
Environmental preservation costs in community activities (community activities costs)		Costs of environmental promotion activities and participation in community events	3	31
Costs of environmental damage (environmental damage costs)		Environmental remediation costs, compensation for damages related to environmental preservation, and insurance premiums and transfers to reserves for environmental damage	0	3
Total			3,739	5,678

Item	Amount (¥ million)	Environmental Rate (%)
Capital expenditures in the applicable period	22,257	16.8%
R&D expenditures in the applicable period	10,900	1.6%

### Economic Effects (Monetary Benefits) Resulting from Environmental Preservation Activities

Item	Amount (¥ million)
Cost reduction through energy conservation	298
Cost reduction through resource conservation	355
Benefits obtained by recycling	414
Reduction of expenses for waste treatment or disposal	23
Total	1,090

#### What is...?

1) Vapor recompression (VRC) technology: This is used to recover heat from low-temperature steam by compressing the waste heat to create high-temperature steam. This technology is expected to be widely used to recover low-temperature waste heat.