

Utilizing environmental accounting and the environmental management indicators in our management

JR East utilizes environmental accounting to ascertain benefits relative to the environmental conservation investments and expenses. The results are used, along with our own environmental management indicators, in decision-making by the management

Environmental accounting

Summary of fiscal ended March 2008

In fiscal ended March 2008, our environmental conservation costs amounted to approximately 70.6 billion yen in investments and 12.6 billion yen in expenses. The cost of global environmental conservation activities, which accounted for a major part of our environmental investments, was increased by 7 billion yen due primarily to the introduction of energy-efficient trains on the Chuo, Keihin-Tohoku, and other conventional lines.

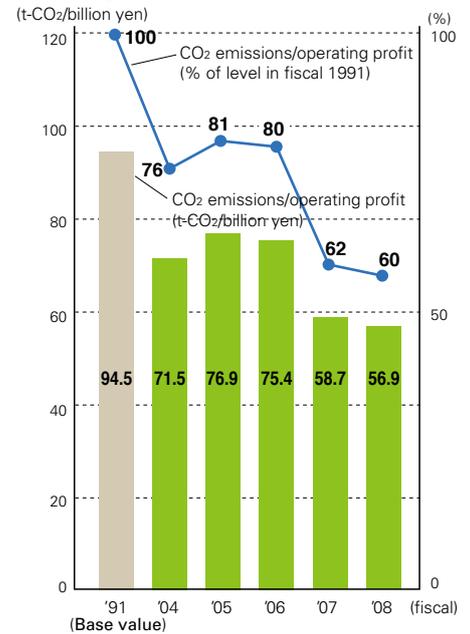
It is estimated that the introduction of energy-efficient trains will reduce CO₂ emissions by 0.37 million tons over their total service life.

JR East has its own Environmental Management Indicators to assess the relation between our business activities and environmental impacts. These are calculated by dividing CO₂ emissions, which are a major factor in environmental impacts, by operating profits, which represent our Economic Value Added (EVA).

This means that the smaller the number calculated by this formula is, the more Economic Value Added we have created by giving smaller impacts on the environment. For fiscal ended March 2008 the value of the indicator was 56.9 t-CO₂/billion yen, compared with 94.5 t-CO₂/billion yen for fiscal ended March 1991.

$$\text{Environmental Management Indicator} = \frac{\text{Environmental Impacts}}{\text{Economic Value Added (EVA)}} = \frac{\text{CO}_2\text{emissions (t-CO}_2\text{)}}{\text{Operating profit (billion yen)}}$$

JR East's Environmental Management Indicator



Environmental accounting for fiscal ended March 2008

| Category | Environmental conservation costs (billion yen) | | Environmental conservation benefits in relation to environmental targets | Economic benefit of environmental conservation activities (billion yen) | | |
|--|--|--------------|--|---|---|--------------|
| | Investments | Expenses | | Fiscal 2007 | Fiscal 2008 | |
| Environmental conservation (pollution prevention) activities along railway lines | 5.51 | 5.31 | Implementation of noise reduction measures along Shinkansen and conventional lines (soundproof walls, continuous welded rail, and other measures) NOx emissions from JR East's thermal power plant | 25% 289 tons | 63% 330 tons | — |
| Global environmental conservation activities | 65.09 | — | CO ₂ emissions through business activities CO ₂ emissions per unit of electricity generated at JR East's thermal power plant Energy-efficient train utilization rate Train energy consumption per unit of transportation volume Number of large refrigerators using specified chlorofluorocarbons (CFCs) | 2.13 million t-CO ₂ 453g-CO ₂ /kWh 83% 18.0 MJ/car-km 7 units | 2.12 million t-CO ₂ 456g-CO ₂ /kWh 85% 17.8 MJ/car-km 0 units | 26.50 |
| Resource circulation activities | — | 5.21 | Recycling rate for waste generated at stations and trains Recycling rate for waste generated at General Rolling Stock Centers, etc. Recycling rate for waste generated through construction projects Recycling rate for general waste Recycled paper utilization rate | 50% 90% 90% 43% 92% | 64% 93% 92% 48% 92% | 3.90 |
| Environmental management | 0.02 | 0.57 | Taking part in specific environmental protection activities every year (Railway Line Forestation Programs and Tree Planting under the Adataro Hometown Forestation Program) | 35thousand trees planted at 17 locations by 4,400 participants | 37thousand trees planted at 15 locations by 3,500 participants | — |
| Environmental research & development | — | 1.42 | | | | — |
| Societal activities | — | 0.06 | | | | — |
| Total | 70.62 | 12.57 | | | | 30.40 |

Notes

Capital investment for the period: 321.1 billion yen
Total R&D costs for the period: 15.5 billion yen (*1)
Targets for the JR East Group

***1 Total R&D costs**

Total R&D costs include 5.8 billion yen for basic research and development commissioned to the Railway Technical Research Institute under research agreement.

Activities in above Table relate to those in the Table for targets and results (see page 34-35, Sustainability Report 2009) as follows:

- "Environmental conservation activities along railway lines"="Environmental activities along railway lines" and "Chemical substance management"
 - "Global environmental conservation activities"="Measures to prevent global warming" and "Chemical substance management"
 - "Resource recycling activities"="Measures for resource recycling"
 - "Environmental management"="Environmental management" and "Environmental communication"
 - "Environmental research & development"="Research & development"
 - "Social activities"="Environmental communication"
- Some items are on the website.

(Notes on calculation of environmental conservation costs and benefits)

Environmental conservation costs

- Data are for East Japan Railway Company only (i.e., non-consolidated data).
- Environmental conservation costs are calculated based mainly on data available in the current management system.
- The full amount of the costs having multiple objectives and large environmental benefits is allocated as environmental costs.
- (e.g., Global environmental conservation costs include the total amount invested in energy-efficient trains).
- Expenses do not include depreciation charges.
- Of the costs for resource recycling activities, the expenses for treating waste generated at stations and trains are calculated by multiplying the expenses for cleaning stations and train cars by the rates of recycling and waste disposal accounting for in the expense, on a specified model for cleaning stations and trains.
- Of the costs for resource recycling activities, the expenses for disposing waste generated in the construction projects are calculated by multiplying waste volume for fiscal ended March 2008 by the standard unit disposal charge by waste type and by region.

Environmental conservation benefit

- Environmental conservation benefits are calculated based on the figures set as our environmental targets.
- Economic benefit of environmental conservation activities**
- For the global environmental conservation activities, economic benefit over the entire service life is calculated by multiplying annual savings (estimates are used in some cases) in electricity and repair costs resulting from the introduction of energy-efficient trains by the expected service life.
- Income from the sales of waste generated at General Rolling Stock Centers and in construction projects is included in the economic benefit of resource recycling activities.