

Environmental accounting and management indicators

Using Environmental Management Indicators in business activities[☆]

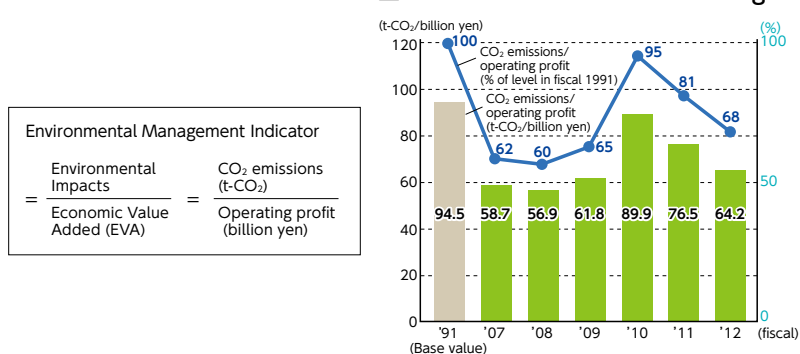
In the year ended March 2012, our environmental conservation costs amounted to approximately 57.7 billion yen in investments and 22.4 billion yen in expenses. Of these investments, costs for global environmental conservation, which accounted for a large portion, were at the same level as the previous year because we continued acquiring new railcars.

By introducing these new cars, we estimate we will reduce CO₂ emissions by 235 thousand tons during their service lives.

JR East has its own Environmental Management Indicator to assess the relation between our business activities and environmental impacts. These are calculated by dividing CO₂ emissions, which are a major factor in our environmental impacts, by operating profits, which represent our economic value added.

A smaller value of the indicator means that we are making a smaller impact on the environment to create the same economic value added. For the year ended March 2012 the value of the indicator was 64.2 t-CO₂/billion yen, compared with 94.5 t-CO₂/billion yen for the year ending March 1991.

■ JR East's Environmental Management Indicator



Environmental Management Indicator	
Environmental Impacts	CO ₂ emissions (t-CO ₂)
=	=
Economic Value Added (EVA)	Operating profit (billion yen)

■ Environmental accounting for the fiscal year that ended March 2012[☆]

Category	Environmental conservation costs (billion yen)		Environmental conservation benefits in relation to environmental targets	Economic benefit of environmental conservation activities (billion yen)
	Investments	Expenses		
Environmental conservation (pollution prevention) activities along railway lines	6.55	16.23	Measures for noise reduction (Noise barrier, installing long rails etc.) etc. Being implemented	-
Global environmental conservation activities	51.14	-	Energy consumption from railway business activities CO ₂ emissions per unit of electricity generated at JR East's own power plants Electricity used for railway operations per unit of transport volume Energy consumption per unit of floor area at branch offices, etc. 51.7billion MJ 0.337kg-CO ₂ /kWh 1.76kWh/car-km 0.0409kl-crude oil equivalent/m ³	17.7
Resource circulation activities	-	4.6	Recycling rate for waste generated at stations and on trains Recycling rate for waste generated at General Rolling Stock Centers, etc. Recycling rate for waste generated in construction projects 93% 95% 95%	2.32
Environmental management	0.03	0.37	-	-
Environmental research & development	-	1.17	-	-
Social activities	-	0.02	-	-
Total	57.72	22.38		20.02

Notes
Capital investment for the period: 307.4 billion yen
Total R&D costs for the period: 15.6 billion yen^{*}

^{*} Total R&D costs :
Total R&D costs include 0.59 billion yen of costs for basic research and development commissioned to the Railway Technical Research Institute under a research agreement.

The above table's relations with the table for Targets and Results are 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 circulation activities" = "Measures for resource circulation"
"Environmental management" = "Environmental management" and "Environmental communication"
"Environmental research & development" = "Research & development"
"Social activities" = "Environmental communication"

(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 mainly based on data available in the current management system.
○The total costs are treated here as environmental costs where the costs have multiple objectives and result in large environmental benefits.
(e.g., global environmental conservation costs include the total amount invested in energy-efficient trains)
○Expenses do not include depreciation charges.
○In the costs for resource circulation activities, expenses for treating waste generated at stations and trains are calculated by multiplying the allocations by the expenses for cleaning stations and train cars, based on a model for cleaning stations and trains.
○In the costs for resource circulation activities, the expenses for treating waste generated through construction projects are calculated by multiplying waste volume for fiscal 2008 by standard unit prices for the type of waste in that region.
Environmental conservation benefit
○Environmental conservation benefits are calculated based on figures set as our environmental targets.
Economic benefit of environmental conservation activities
○Economic benefit of global environmental conservation activities 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 useful life, to determine useful-life economic benefit.
○Income from the sales of waste generated at General Rolling Stock Centers and through construction projects is included in economic benefit of resource circulation activities.