

## Environmental accounting and management indicators

### ■ Using Environmental Management Indicators in business activities<sup>☆</sup>

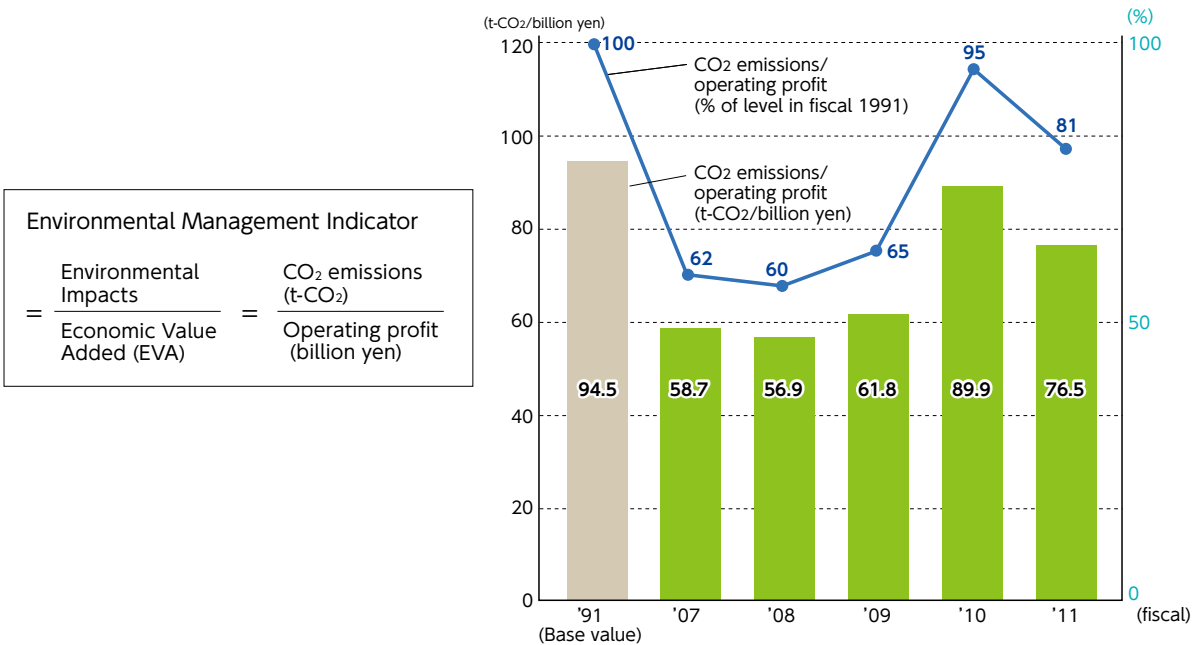
In the fiscal year ended March 2011, our environmental conservation costs amounted to approximately 47.5 billion yen in investments and 22.4 billion yen in expenses. Of these investments, costs for global environmental conservation, which accounted for a large portion, were at the same level as the previous year because we continued acquiring new railcars.

By introducing these new cars, we estimate we will reduce CO<sub>2</sub> emissions by 0.23 million 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 CO<sub>2</sub> emissions, which are a major factor in our environmental impacts, by operating profits, which represent our economic value added.

The smaller the value of the indicator is, the smaller impacts we exert on the environment to create a same economic value added. For the fiscal year ended March 2011 the value of the indicator was 76.5 t-CO<sub>2</sub>/billion yen, compared with 94.5 t-CO<sub>2</sub>/billion yen for the fiscal year ending March 1991.

■ JR East's Environmental Management Indicator



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

■ Environmental accounting for fiscal year ended March 2011<sup>☆</sup>

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 2009	Fiscal 2010	
Environmental conservation (pollution prevention) activities along railway lines	9.53	15.27	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 plants	100% 534 tons	100% 469 tons	—
Global environmental conservation activities	36.73	—	CO <sub>2</sub> emissions through business activities CO <sub>2</sub> emissions per unit of electricity generated at JR East's thermal power plants Energy-efficient train utilization rate Train energy consumption per unit of transportation volume	2.54 million t-CO <sub>2</sub> — 88% —	2.15 million t-CO <sub>2</sub> — 88% —	24.6
Resource circulation activities	1.26	4.94	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	86% 93% 95% — 92%	92% 97% 96% — 90%	2.07
Environmental management	—	0.37	Taking part in specific environmental protection activities every year (Forest development along railway lines Shinanogawa River Hometown Forestation Program)	49 thousand trees planted at 19 locations	28 thousand trees planted at 15 locations	—
Environmental research & development	—	1.75				—
Social activities	—	0.06				—
Total	47.52	22.39				26.67

Notes

Capital investment for the period: 354.4 billion yen  
Total R&D costs for the period: 16.4 billion yen\*  
■ Targets for the JR East Group

\* Total R&D costs :

Total R&D costs include 0.57 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.