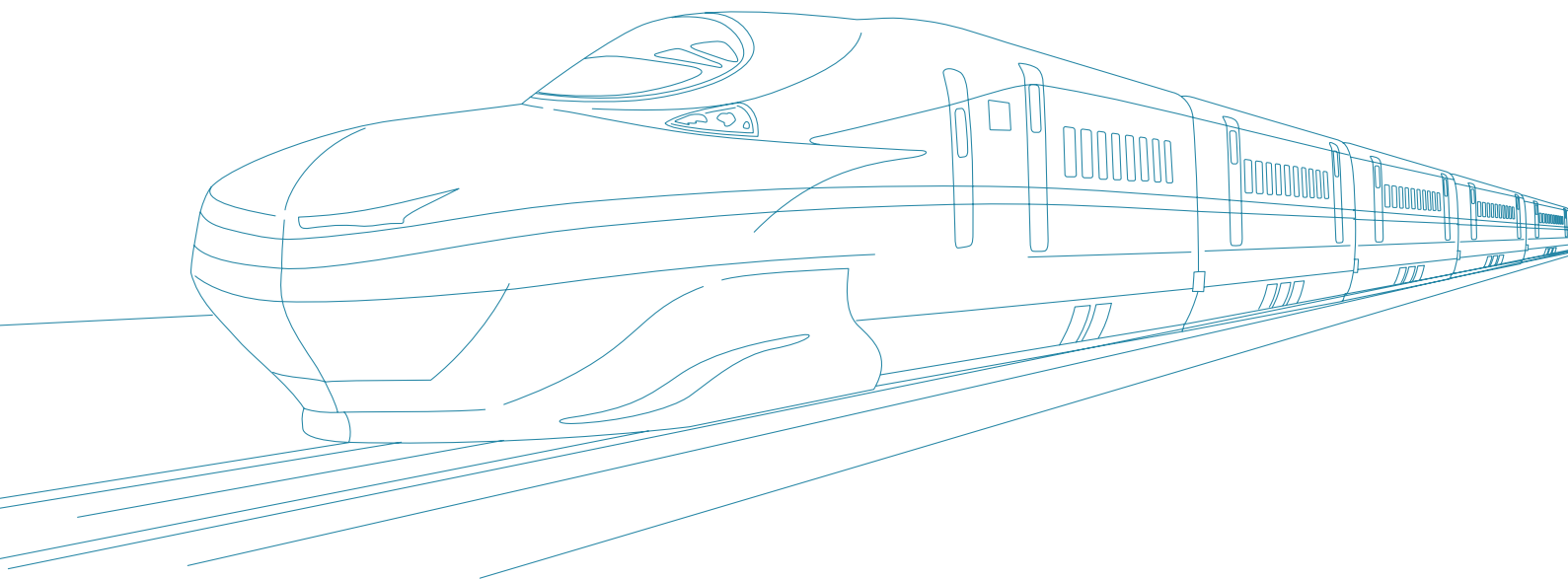


# JR East Group Sustainability Report 2006

**Aiming for a Sustainable Society**



## ■ Corporate profile (as of March 31, 2006)

**Corporate name:** East Japan Railway Company

**Address :** 2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo, Japan

**Established :** April 1, 1987

**Capital :** 200 billion yen

**Number of employees :** 63,897

**Passenger line network :** Shinkansen lines : 1,052.9 km  
Conventional lines : 6,473.9 km

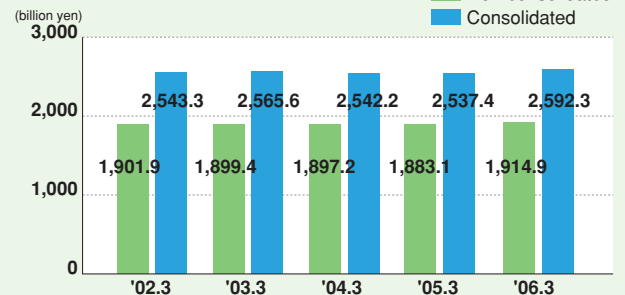
**Number of stations :** 1,699

**Total number of trains in operation per day :** 12,545  
(timetable revised in March 2006)

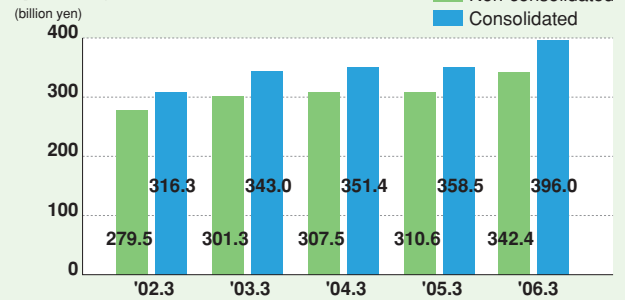
**Total number of passengers per day :** 16.19 million

**Business areas :** Transportation, station space operation,  
shopping center and office building operation,  
and other services

## ■ Operating revenue



## ■ Operating income



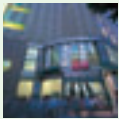
## ■ Businesses of the JR East Group (as of April 2006)



### Transportation services

Safety is our top priority, and we work constantly to enhance the speed, convenience, and comfort of transportation services.

JR Bus Kanto Co., Ltd. /JR Bus Tohoku Co., Ltd. /Tokyo Monorail Co., Ltd.



### Shopping center operations

We develop and manage shopping centers, utilizing the amenities of our assets in and near stations.

Tetsudo Kaikan Co., Ltd. /Kamata Station Building Co., Ltd. /The EKIBIRU Development Co. Tokyo /LUMINE Co., Ltd. /Ikebukuro Terminal Building Co., Ltd. /Boxhill Co., Ltd. /Kawasaki Station Building Co., Ltd. /Tsurumi Station Building Co., Ltd. /Yokohama Station Building Co., Ltd. /SHONAN STATION BUILDING Co., Ltd. /Kichijoji Lonlon Co., Ltd. /JR East Department Store Co., Ltd. /Hachioji Terminal Building Co., Ltd. /Utsunomiya Station Development Co., Ltd. /Mito Station Development Co., Ltd. /Iwaki Chuo Station Building Co., Ltd. /Kinshicho Station Building Co., Ltd. /Chiba Station Building Co., Ltd. /Hirosaki Station Building Co., Ltd. /Station Building MIDORI Co., Ltd.



### Office operations

We operate offices, utilizing the convenience of direct connections to stations. We are also preparing for the new building project near Tokyo Station.

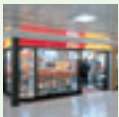
JR East Building Co., Ltd.



### Hotel operations

We operate various types of hotels to meet different customer needs.

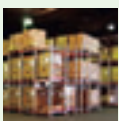
Nippon Hotel Co., Ltd. /Takasaki Terminal Building Co., Ltd. /Sendai Terminal Building Co., Ltd. /Morioka Terminal Building Co., Ltd. /Akita Station Building Co., Ltd. /Hotel Metropolitan Nagano Co., Ltd.



### Retail shop and restaurant businesses

We run shops and restaurants with the aim of offering more convenience and pleasure, both in and near stations, to our customers.

East Japan Kiosk Co., Ltd. /Nippon Restaurant Enterprise Co., Ltd. /JR East Food Business Co., Ltd. /Delicious Link Co., Ltd. /JR East Station Retailing Co., Ltd.



### Trading and logistics businesses

We play important roles in procuring and delivering materials to facilitate business activities of other Group companies.

East Japan Railway Trading Co., Ltd. /JR East Japan Logistics Co., Ltd. /JR East Logistics Platform Co., Ltd.



### Travel agent and car rental services

We offer travel packages and car rental services to meet travelers' needs.

View World Co., Ltd. /JR East Rental Co., Ltd.



### Sports and leisure businesses

We operate sports clubs and leisure facilities to support the healthy lives and leisure of our customers.

JR East Sports Co., Ltd. /Gala Yuzawa Co., Ltd.



### Real estate management

We develop and manage houses, apartment complexes, and stores under the theme of "creating people- and environmentally-friendly housing."

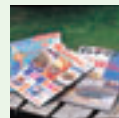
JR East Urban Development Corporation /JR East Housing Development & Realty Co., Ltd.



### Information, financial, and personnel services

We provide comprehensive information services for other Group companies.

JR East Japan Information Systems Company /JR East Netstation Company /JR East Management Service Co., Ltd. /JR East Personnel Services Co., Ltd.



### Advertising and publishing

We provide information through in-train and station media.

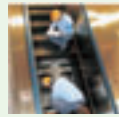
East Japan Marketing & Communications, Inc. /Tokyo Media Services Co., Ltd. /The Orangepage, Inc.



### Cleaning and linen supply services

We provide maintenance and cleaning services at stations and in trains for travelers.

Shinkansen Cleaning Service Co., Ltd. /Kanto Railway Servicing Co., Ltd. /East Japan Railway Servicing Co., Ltd. /East Japan Eco Access Co., Ltd. /Takasaki Railway Servicing Co., Ltd. /Mito Railway Servicing Co., Ltd. /Chiba Railway Servicing Co., Ltd. /JR Technoservice Sendai Co., Ltd. /East Japan Amenitec Co., Ltd. /Akita Clean Servicing Co., Ltd. /Niigata Railway Servicing Co., Ltd. /Nagano Railway Servicing Co., Ltd. /Shinnihon Linen Co., Ltd.



### Construction consulting and maintenance services

We provide consulting and maintenance services for railway facilities, equipment, and facilities in the lifestyle business.

JR East Consultants Company /JR East Design Corporation /JR East Facility Management Co., Ltd. /JR East Mechatronics Co., Ltd. /Union Construction Co., Ltd. /East Japan Transport Technology Co., Ltd. /Tohoku Kotsu Kikai Co., Ltd. /Niigata Rolling Stock Machinery Co., Ltd.



### Group companies of our branch offices

We develop unique businesses catering to each region.

JR Tokyo Planning & Development Co., Ltd. /JR Kanagawa Planning & Development Co., Ltd. /JR Kaiji Planning & Development Co., Ltd. /JR Utsunomiya Planning & Development Co., Ltd. /JR Takasaki Trading Co., Ltd. /Mito Service Development Co., Ltd. /Keiyo Planning & Development Co., Ltd. /Tohoku Sogo Service Co., Ltd. /Juster Co., Ltd. /JR Atlas Co., Ltd. /Tokky Co., Ltd. /Shinano Enterprise Co., Ltd.



## Editorial policy

The JR East Group publishes this ***Sustainability Report 2006*** to provide information on our environmental and social initiatives in an accurate and easy-to-understand manner.

The report consists of two sections: the Highlights Section and the Comprehensive Section.

The Highlights Section describes our approaches to railway safety and global environmental conservation, and the frank views of outside experts on our initiatives.

In the Comprehensive Section, we summarize social, environmental, and economic aspects of the JR East Group's activities with reference to *Sustainability Reporting Guidelines* issued by the GRI<sup>\*1</sup>. We have also increased the content relating to our social aspects, and placed it ahead of our environmental aspects. We also proactively disclose our year-by-year environmental data, with reference to the Environmental Reporting Guidelines issued by the Japan's Ministry of the Environment.

Additionally, we did our utmost to clearly describe our initiatives with significant progress in sidebar articles, such as our gender-equality initiative, and two environmental efforts closely related to our daily work: the JR East Eco Activities, and our research and development efforts for environmental conservation.

### References

*Sustainability Reporting Guidelines* (2002 edition), Global Reporting Initiative.

*Environmental Reporting Guidelines* (2003 edition), Japan Ministry of the Environment.

### Reporting period

This report basically covers our activities in fiscal 2005 (from April 1, 2005 to March 31, 2006), although some activities presented here are those before fiscal 2005 or in the period between the end of fiscal 2005 and September 2006, the time of the publication of this report.

### Scope of reporting

This report covers activities of East Japan Railway Company and 86 Group companies<sup>\*2</sup>.

#### \*1 GRI (Global Reporting Initiative)

The Global Reporting Initiative (GRI) is an international organization that issues the "*Sustainability Reporting Guidelines*," globally-recognized guidelines for reporting on the environmental, social and economic aspects of corporate activities. The United Nations Environmental Programme (UNEP) was one of the key players in the establishment of the GRI.

#### \*2 East Japan Railway Company and 86 Group companies

This figure is as of the end of fiscal 2005. The number of our Group companies was reduced to 84 in April 2006 due to corporate consolidation, etc.

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### Cover: The FASTECH 360S Prototype Shinkansen Train

We are developing this new Shinkansen train with the world's highest performance in every aspect, including speed, safety, environmental conformity, and comfort.

## We are committed to making our customers feel secure by stepping forward for a higher level of safety.

### Our goal is to make our customers feel secure about JR East

Our number-one mission is to carry the 16 million passengers using our rail services each day safely to their destinations. Additionally, we consider it our corporate social responsibility (CSR) to make our customers feel secure and comfortable. Safety is an absolute prerequisite, and we aim to take further steps forward to make our customers feel secure about JR East. It is our belief that we can fulfill our CSR as a group by pursuing a higher level of safety through not only our safe and reliable train operations, but also our sincere services in the lifestyle business, including hotel and station building operations. To this end, it is vital for each of our employees to understand the enormous social importance of their work.

In 1988, we had an accident at the Higashi Nakano Station that caused the death of one of our customers. Following this accident, we completely reviewed our safety

measures from the beginning. We have changed the human aspect of our measures, and strived to create a corporate culture that values safety through our “Challenge Safety Campaign” aimed at making each employee address safety issues independently.

The physical aspect of our measures has also been revised, and more than 40% of our annual capital investment

allocated to safety measures. Despite the fact that these efforts had succeeded in reducing the number of accidents, in December of 2005, we suffered an accident on the Uetsu Line that took the lives of five of our customers, and injured 30. Although the cause of the accident is not yet known at the time of the publication of this report, this fatal accident in effect betrayed the trust that our customers place in our rail services. This tragedy drove home to us the fact that efforts to ensure safety are never complete, and we still have much left to do. It also renewed our resolve to achieve the utmost level of safety.

Although it is essential to harness advances in science and technology to reinforce physical measures, in the end it is our employees who must ensure safety. We must strive to create a culture of safety, by providing practical training and education to our employees based on potential accident scenarios, and by carrying out activities to encourage our employees to identify safety-related problems in their day-to-day work and propose measures for safety improvements. If our reputation is described in such a phrase as “JR is just the old Japanese National Railways, after all,” then there will be no future for us. I believe that we must fulfill our responsibility with pride and self-awareness as professionals.

### Offering new lifestyle choices through friendlier railways and stations

We are making efforts to provide our potential customers with more opportunities to utilize our train services by making our existing railway networks more convenient. The Shonan-Shinjuku Line is a good example of the efforts. Making our train services more convenient for our customers should expand our customer base, which in turn will help vitalize local communities and tourist destinations. I believe that this is also part of our corporate social responsibility.

We are also promoting our “Rail & Rent-a-Car” service, which enables our customers to travel to their destinations by our trains, and then drive around there by our rental cars. If this service can further take root, it will help



improve the environment as well as alleviate traffic jams on the expressways.

In addition, we are committed to improving our stations. We are working to attract customers and vitalize the areas surrounding our stations by making them more convenient. Moreover, we are also making our stations increasingly barrier-free through the installation of elevators and escalators. We will continue to improve our facilities in step with social progress.

A station is a place that people must pass through in order to utilize railway services. In this sense, it is an extremely important point of contact with its local community. My hope is to continuously find other ways to utilize our stations through dialog. We have already established nursery schools particularly along the Saikyo Line as part of our Station Nursery Schools business. I would like to expand this business in the future.

As an example of offering lifestyle choices, we are recruiting seniors to set up clubs for various hobbies and interests. As *haiku* poetry lovers gather for workshops, their interest in traveling on a *haiku*-composers' tour might increase. Our aim is to help enrich people's lives by providing opportunities to broaden their interpersonal networks.

We have also reached a new stage in creating new value through the *Suica*, our integrated-circuit fare-card. In 2007, we plan to make the *Suica* usable at nearly all private railways, subways, buses, and other facilities in the Tokyo Metropolitan Area. This will allow passengers to travel seamlessly, without purchasing a ticket each time.

### We are committed to developing a fuel-cell hybrid railcar

Our economic activities have become truly massive, and we have now arrived at a stage where we must think seriously of our impact on the climate and wildlife. My belief is that both companies and individuals have a role to play in this respect. Companies can put their energy to reduce their use of fossil fuels, use natural energy, and minimize their waste, while individuals can do such things as bringing their own bags to the supermarket.



One of our initiatives is the development of the NE Train, a prototype train using a hybrid power system. The train is ready for practical use, and we plan to begin its commercial operation on the Koumi Line in the summer of next year.

We have also begun developing a fuel-cell hybrid railcar based on this prototype train. Although there are extremely high hurdles to overcome, we must not be daunted by the difficulty of the tasks ahead of us. If we can commercialize this railcar, we will be able to reduce our environmental impacts and the very concept of the railway could change. It means that power lines will no longer be required to carry electricity, completely changing our cityscapes. There is a possibility of achieving this within the next 10 or 20 years. In a sense, that may simply end up as a dream, but a company without a dream has no future.

We are determined to continuously take various measures to make our customers feel secure not only about our railway services, but also our Group as a whole. This is not something that we can accomplish overnight, but the entire JR East Group is united in our commitment to making our customers feel secure by taking one step forward for a higher level of safety.

**Satoshi Seino**

President  
East Japan Railway Company

*Satoshi Seino*

## Our challenge to achieving the utmost level of safety

As part of our efforts to get back to basics of safety at JR East, Masataka Ushijima, General Manager of the Transport Safety Department, spoke with Professor Yotaro Hatamura of Kogakuin University, who advocates “Failure Science”—the science of learning from failure.

### Safety is the most important task of management

**Ushijima:** Since JR East incorporated in 1987, we have made “safety” our top management priority. To date, we have formulated and implemented three five-year Safety Plans. We are currently carrying out the Safety Plan 2008, our fourth five-year plan that began in 2004.

These plans share a fundamental approach of improving safety by changing each employee’s awareness of safety from passively “maintaining” safety to proactively “attaining” it. When we were Japanese National Railways, we had mainly invested in measures to streamline our operations, but today safety is given top priority in capital investment. We have budgeted 400 billion yen over a five-year period to invest in safety, and we are implementing anti-earthquake measures based on our experiences with the Niigata-Chuetsu Earthquake in 2004, as well as ATS-P/Ps automatic train stop systems ahead of schedule.

**Hatamura:** It struck me as an excellent safety measure taken by JR East that when the Niigata-Chuetsu Earthquake occurred, although a Shinkansen train derailed, there were no major accidents or damage, such as the collapse of elevated tracks. Since JR East had wrapped the supporting columns of elevated tracks in steel plates for reinforcement, even though the surrounding ground was liquefied, the elevated tracks still did not collapse. This is worthy of praise. If one had collapsed, the consequences could have been catastrophic.

**Ushijima:** The Great Hanshin Earthquake taught us lessons

in seismic retrofitting. We are now analyzing the movements of our trains and structures in detail, in order to utilize our experiences from the Niigata-Chuetsu Earthquake in future measures. We are also verifying what would have happened without that reinforcement.

**Hatamura:** I conducted my own investigation of the accident on the Uetsu Line last year, and concluded that it may have been due to an unforeseeable natural phenomenon. Through interviews with many local residents, I found that a tornado had been passing through the area. It would have been impossible to expect it from the wind speed at the location of the anemometers.

**Ushijima:** The Aircraft and Railway Accidents Investigation Commission of the Ministry of Land, Infrastructure and Transport (MLIT) is currently investigating the causes of the accident on the Uetsu Line, but we have also set up a commission for ascertaining the cause and examining the measures of the Uetsu Line accident. The wind speeds recorded by an anemometer on a railroad bridge close to the scene did not exceed 20 meters per second at the time of the accident. We are currently conducting a series of wind-tunnel tests in order to identify how the wind was blowing at the scene of the accident. Even if it turns out that the accident was due to a natural disaster, it is vital that we figure out what we can do in the future against such eventualities, and put that into practice. Although we have some experience of researching disaster prevention measures, we have just created a new Disaster Prevention Research Laboratory to research and develop concrete measures that we can take as railway operators by incorporating the views of experts on meteorology. We have also taken your advice on studying localized weather phenomena in this respect.

**Hatamura:** Now the key will be how to obtain surface data, rather than just spot data from anemometers.

For example, since the greatest fear for a semiconductor plant is a sudden power outage, it is constantly checking for lightning strikes by obtaining surface data on wind directions and thundercloud movements. Although it will be a fairly difficult task, it should be possible to predict localized weather phenomena by making reference to this technology and combining data from weather satellites and a global simulator.

### To reduce accidents

**Ushijima:** As of fiscal 2005, we have reduced the number of rail accidents to about a third since our founding in 1987. I believe that this has been thanks to the focus of our safety plans on investment in equipment to counter accidents with a high risk of death or injury to our customers, such as collisions with big dump trucks at railroad crossings. Over the past few years, however, the number of accidents, notably those at crossings, has shown a slight upward trend.

#### Yotaro Hatamura

Professor, Kogakuin University  
 Prof. Hatamura is also a Professor Emeritus of Tokyo University. In addition to teaching international basic engineering at Kogakuin University, he has also developed Failure Science through the Association for the Study of Failure. His major publications include *Actual Design, Knowledge Management of Design*, and *Introduction to the Science of Failure*.



**Hatamura:** The other day, I had the opportunity to ride in the driver's seat of a train. I learned that the train driver pays due attention to not only the signals, but also cars approaching crossings from the sides. Seeing driver's tension first-hand, I thought that there must be something more that we can do. For example, maybe there could have been bars or something that spring out of the ground to prevent cars from entering the crossing...

**Ushijima:** We have considered that, but we then have to think about what would happen if a car were to crash into the bars.

**Hatamura:** That is a common type of argument, but as Japan's population ages, the number of accidents will inevitably increase. I think that some sort of physical barrier to entry is needed.

**Ushijima:** An ideal solution is the elimination of all crossings, but it is simply not possible to eliminate all of them. For this reason, we have installed obstacle detection systems at approximately 2,500 crossings, and used thicker barriers that are more noticeable than normal ones, which have shown some beneficial results. I think it will be difficult to reduce accidents any further without the cooperation of drivers.

**Hatamura:** No matter how much equipment you install, and no matter how much attention your drivers pay to the signals, there will be accidents as long as people continue to enter crossings. In fact, while the drivers must of course maintain safety, it is also necessary to create a culture with high levels of cooperation with the people using the crossings to prevent accidents. In order to get local residents to cooperate, it is vital for JR East to communicate to the public how serious you are about preventing accidents.

**Ushijima:** One physical measure we are taking is the replacement of our automatic train-stop (ATS) systems with the even safer ATS-P system. In the second year after we incorporated, we had a train collision at the Higashi Nakano Station that caused the death of one customer. Taking a lesson from this accident, we have accelerated the pace for installing these systems. Currently, we have installed this system at nearly all locations within a 100-km radius of Tokyo, and on some lines within a 200-km radius.

On the human side, the Higashi Nakano accident spurred us to create the Safety Research Laboratory and General Training Centers at each of our branch offices to provide regular, repeated training for our train crews. For example, our train drivers and conductors undergo two days of training every two years.

#### Individual knowledge and shared knowledge

**Ushijima:** In our driver-training program, we do not assign our employees as train drivers as soon as they obtain their



**Masataka Ushijima**

General Manager  
Transport Safety Department  
JR East

licenses. First, they must continue with their training as we judge their suitability and skills. It is only then that they are assigned to driving trains.

**Hatamura:** Rather than simply following orders, it is vital for train drivers to be able to make independent decisions and act on them as conditions change. You should include hypothetical exercises in your training, asking trainees "What would you do if such and such happened?"

**Ushijima:** The General Training Centers at each of our branch offices have simulators that are close to the real thing to conduct accident-prevention training under a wide range of scenarios. Our fundamental approach is that safety is maintained through collaboration between people, equipment, and rules. It is not enough for our employees to simply follow rules; they must use them proactively, with an understanding of why each rule is in place, and what would happen if it were not obeyed. We aim to instill this independence and autonomy in our employees through these training programs.

**Hatamura:** Educating your employees to have them realize the need to think about the big picture on their own is of crucial importance. "Passive safety"—where people simply follow orders—is not enough. You must thoroughly practice "active safety"—where people think and act for themselves to ensure safety.

**Ushijima:** All of our employees must, on their own initiatives, think about safety, as well as near misses and concerns that could be the root of an accident in their day-to-day work. They must then discuss what they have noticed or thought of with their workplace teams. Discussion could help improve our organization. In order for the culture of discussion to take root at all workplaces, we have run our company-wide Challenge Safety Campaign since 1988.

**Hatamura:** That can be summarized into one phrase: “think individually, and then share the thought with group members.” I describe this with the terms “individual knowledge” and “shared knowledge.” I recommend using these terms, since they communicate the concept very clearly.

**Ushijima:** I picture an upward spiral, where our employees think individually, and share the thought with group members, which in turn spurs each member of the group to think more deeply. It is my hope that this will then improve the capabilities of the workplace as a whole.

**Hatamura:** That is right. We have got to put high expectations on our employees at the workplace, and they must know that they are trusted. And more important, I think we must always encourage them.

**United as a single team,  
from the workplace to top management**

**Hatamura:** What you must also incorporate into your education is to teach your employees the fact that on the back of these safety systems and rules you have created, there have been many tragic accidents that received high levels of criticism from the public. When you are inside a company, you tend to lose sight of the perspective of society, as well as the victims and their families. Each employee must recognize the trust that society has placed in the railway industry, and have a clear awareness of its relationship with society.

**Ushijima:** We have established the Accident History Exhibition Hall in the JR East General Education Center, in order to teach our employees what accidents we have had in the past, what incidents our current safety equipment, mecha-

nisms, and rules are meant to prevent, and what approaches we are taking for safety. At the exhibition hall, we have also set up a Victims’ Testimony area, as a venue to learn the terrible human cost of accidents and the weight of our duties through the comments from the victims of tragic accidents and their families.

**Hatamura:** That is really important. You should make efforts to achieve the level where the victims’ families as well as society can actually recognize how serious you are about your safety commitment.

I must also add that solid organizational management is what ensures true safety. For this reason, I believe you should have a human-resources policy that does not allow your employees without safety-related job experience to take important positions in the company. I know you have a lot of bottom-up efforts, but it is also vital to have well-designed organizational initiatives. You have to establish a system that enables the views of safety-oriented employees to be reflected in your safety management.

**Ushijima:** Our goal is to achieve the utmost level of safety. Our employees working at railway sites are truly dedicated to ensuring safety from their own viewpoints. I think it is critical for us to manage our employees who are approaching to safety from various perspectives. The role of line managers is vital, but it is also important for planning departments at our Head Office and branch offices to join in and support their efforts. I also recognize that the Transport Safety Department has a huge responsibility to cross-departmentally promote safety assurance. We are committed to achieving the utmost level of safety, by uniting everyone in the company from the boardroom to the workplace.





# The accident of the limited express train *Inaho No. 14* on the Uetsu Line

## —Immediate and future measures—

On December 25, 2005, a derailment of the limited express train *Inaho No.14* on the Uetsu Line between the Sagoshi and Kita-Amarume stations caused the deaths of five passengers, and injured 30. We pray for the souls of those who lost their lives, and offer our deepest apologies to the victims of the accident and their families.

The Aircraft and Railway Accidents Investigation Commission of the Ministry of Land, Infrastructure and Transport (MLIT) continues to investigate the causes of the accident, and we have also set up a commission for ascertaining the cause and examining the measures of the Uetsu Line accident, which is currently carrying out this mandate. At the time of the publication of this report, the cause of the accident remains unknown.

We resumed operations on this section of the Uetsu Line on January 19, 2006. Wind has been identified as one of the possible causes of the accident. Accordingly, when we resumed operations, we implemented the following preliminary measures at the site of the accident, and other locations where there are operating restrictions due to wind.

### Measures at site of the accident

#### (1) Increased number of anemometers (wind meters)

In order to observe wind speeds in more detail, we have installed additional anemometers at three locations near the No.2 Mogamigawa Bridge, where the accident occurred.

#### (2) Slow zone

In consideration of possible rapid changes in weather conditions, we have reduced the speed of the 1.9-km section near the accident to 45 km/h.

#### (3) Revised restriction thresholds

We have revised the wind speeds at which operating restrictions are to be implemented, as shown in the table below.

Restriction type	Wind speed (meters/sec.)	
	Until now (general restrictions)	Revised (early restrictions)
Speed restriction (max. 25 km/h)	25~30	20~25
Operation halted	30~	25~

#### (4) Installation of special warning signals

We have installed special warning signals that flash red light to inform the train driver that the wind speed has reached the threshold to stop operation.

#### (5) Use of meteorological information

We remain alert to weather conditions and respond to them quickly. We will also examine their application to railway operations.

#### (6) Construction of windbreak fences

We will construct an approximately 2.3km windbreak fence on the No.2 Mogamigawa Bridge and both of its approach embankments. As the results of past experiments, it is believed that a windbreak fence could reduce the wind pressure exerted on trains by strong winds by about 50%. We plan to complete the fence construction by the end of November 2006, before the arrival of winter. Note that once the windbreak fence is completed, we will lift the speed restriction of 45 km/h.

### Measures at other locations

#### (1) Increased number of anemometers (wind meters)

We installed a total of 324 new anemometers on conventional and Shinkansen lines where there are operating restrictions due to wind, in order to enhance our observation capabilities.

#### (2) Provisional revisions to restriction thresholds

We have implemented the same revisions to restriction thresholds as the site of the accident at all locations on conventional lines where there are operating restrictions due to wind.

Note that the ordinary regulations may be reinstated in the following circumstances:

- 1) A conclusion is reached by our commission for ascertaining the cause and examining the measures of the Uetsu Line accident;
- 2) Windbreak fence installations or other physical measures are put into place;
- 3) The meteorological information utilization system is improved.

On February 1, 2006, we set up the Disaster Prevention Research Laboratory at the JR East Research & Development Center, and are also determined to improve railway safety by researching meteorological and meteorological and natural phenomena in general jointly with outside experts and research institutes.

We remain committed to identifying the cause of this accident, and taking steps to improve railway safety based on the results of a wide range of research efforts.

(as of end of September 2006)

## Highlights

# JR East's responsibility to the global environment

JR East recognizes the magnitude of the impact of our business activities on the global environment, and is committed to environmental conservation. Here, we outline the direction that we plan to take, and comments by Professor Fumihiko Nakamura of Yokohama National University, an expert on urban transportation planning.

### Evaluating railways in an age when global environmental issues have come to light

In 2004 and 2005, we held dialogues with our stakeholders on the theme of "Railways and A Sustainable Society," in order to learn the views of outside experts.

Most of those participating in the dialogues told us that, "in the future, railways will come to play an even greater role in society, and that is why we have high expectations of JR East."

Against a background of such a view, there is the issue of global warming. It is predicted that the excessive accumulation of CO<sub>2</sub> and other greenhouse gases in the Earth's atmosphere could cause the overall global temperature to rise by 2.0°C by 2028. A great number of scientists have presented a general view that a rise in the Earth's average temperature by 2.0°C would make it impossible to sustain our current economic activities, due to the collapse of the balance of the ecosystems on which humankind depends for its existence, as well as famines and other calamities on a global scale.

Travel is a very natural human activity, both for economic and recreational purposes. We realize, however, that as the issue of global warming becomes dire and prominent, people's choices among various modes of transportation have become an important matter. Specifically, we believe that many of the participants in our dialogues predicted that railways would play a greater role in the future, because they have recognized the need to choose railways as a means of transportation with lower CO<sub>2</sub> emissions.



Toru Owada  
Director and General Manager  
Management Planning Department

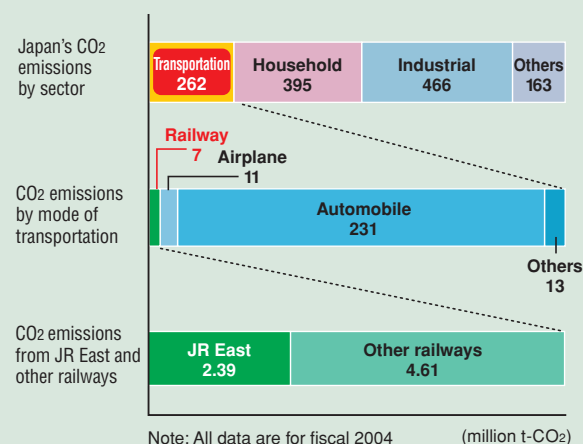
### The environmental impact of JR East is not insignificant

JR East operates in the Kanto and Tohoku regions of Japan, as well as some parts of the Chubu and Hokuriku regions. Every day, we carry a total of 16 million passengers.

We account for about 30% of the CO<sub>2</sub> emissions of Japan's railway industry. Our annual consumption of electricity—used mostly to operate trains—amounted to 5.66 billion kWh in fiscal 2005. This is equivalent to the electricity consumed by 1,510,000 ordinary households. The amount of waste collected at our stations and on trains is equivalent to the household waste produced by 110,000 people.

In light of these facts, we recognize that our business activities have a significant impact on the global environment, and have been committed to environmental conservation.

### CO<sub>2</sub> emissions in Japan and from JR East



### Two approaches for promotion of ecological activities

We have two fundamental approaches to environmental conservation, which we list below.

**(1) Creating a railway system with low environmental impacts**

**(2) Creating a user-friendly railway system**

We call these our "two approaches for the promotion of ecological activities."

Our first approach, "creating a railway with low environmental impacts," refers to minimizing the environmental impact of our business activities. We act with the recognition that environmental conservation is a vital and unquestioned part of our social responsibility.

We continue to build and enhance our environmental management system by acquiring ISO 14001 certification at all six of our General Rolling Stock Centers, facilities that have particularly large environmental impact, by 2005.

Our greatest priority in our efforts to prevent global warming is the reduction of our train energy consumption, which accounts for 70% of all the energy we consume. As part of these efforts, we have been actively introducing new energy-efficient railcars that use about half the energy of conventional railcars. As of March 2006, more than 81% of our trains are energy-efficient ones, and we have succeeded in reducing our total train energy consumption, even though our transportation volume has increased.

We are also taking advantage of the power plants we own. We have been striving to utilize our hydroelectric plant effectively, and operate our thermal power plant more efficiently. As a result of these efforts, as of March 2006, CO<sub>2</sub> emissions per unit of electricity generated at our thermal power plant were 26% lower than fiscal 1990 levels.

Furthermore, we are promoting to recycle waste collected from our stations and trains by establishing our own recycling centers. In particular, newspapers and magazines

are recycled into office-use copy paper and paper used to produce a magazine for Shinkansen passengers.

Although we will never finish our efforts to reduce environmental impacts, our approach is to prioritize our actions, and achieve each of them in turn.

### Approach to total optimization of transportation



Our second approach is “creating a user-friendly railway system.” Based on this, we strive to reduce the environmental impact of transportation as a whole by encouraging more people to use railways.

The data show that railways produce fewer CO<sub>2</sub> emissions per unit of transportation volume than other forms of transportation. For example, it has been found that the CO<sub>2</sub> emissions of a railway per person transported are one tenth those of an automobile. In order to maintain and improve the environmental advantage of railways, however, we must encourage more people to use railways. In order to do this, it is vital that we make railways more convenient.

In modern society, the mobility of an automobile makes it an essential form of transportation, but railways are said to be best suited for medium- and long-distance travel between fixed points, such as between cities.

We thus promote intermodal transportation using the optimum combination of transportation.

Our initiatives to improve the convenience at connection points between transportation facilities include our park-and-ride schemes, which provide parking spaces near train stations, and our sale of a product named “Rail & Rent-a-Car,” which offers smooth and inexpensive access to rental cars from train stations.

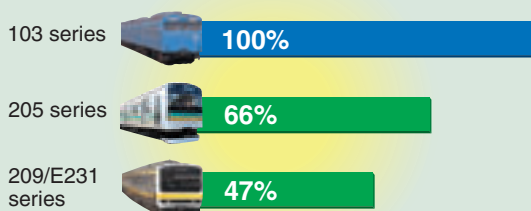
We are also committed to making railways themselves more convenient. Examples include the opening of the Shonan-Shinjuku Line, which connects the northern and southern Kanto region, and our transfer programs with other private railway lines.

We consider the maintenance and development of such railway networks to be a vital way to improve the convenience of rail transport as a whole—including other railway operators—and facilitate a modal shift by an optimum mix of forms of transportation.

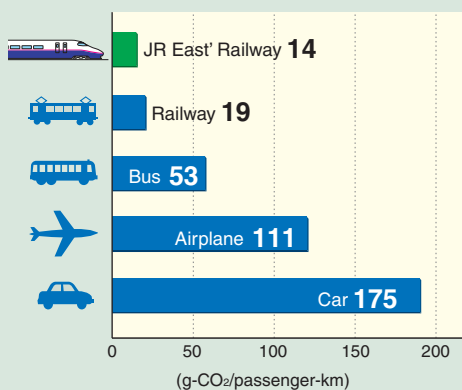
Our IC *Suica* fare-card has provided our customers with the convenience of enabling them to use our trains without purchasing tickets beforehand. In March 2007, for the purpose of achieving seamless travelling by various modes of transportation, we plan to allow passengers to interchangeably use our *Suica* and *PASMO*, a new IC fare-card issued by railway and bus companies in the Tokyo Metropolitan Area. We are committed to making our services more convenient.

#### Electricity consumption by train series

103 series train = 100%



#### CO<sub>2</sub> emissions by mode of transportation



Source: “Transportation and Environment,” Foundation for Promoting Personal Mobility and Ecological Transportation

**Future directions**



In order to further develop and promote these environmental-conservation initiatives, it is vital that we raise the environmental awareness among the employees of the JR East Group. We have just begun our JR East Eco Activities, with the aim of promoting grassroots activities in the workplace, so that every employee at every workplace will be able to think about environmental conservation, and come up with new ideas from their daily work. At the same time, we hope this initiative will spread to our Group companies, and lead to the development of new activities that feature independent efforts by each of them.

It is also essential for us to research and develop environmental technologies. We are currently developing a hybrid railcar that uses fuel cells, which is drawing attention as an energy-efficient technology. Although challenges lie ahead of us to enable its practical use, including fuel-cell performance and a way to supply hydrogen, we have taken the lead in developing this prototype railcar, in order for us to respond to future breakthroughs in fuel-cell technology.

**The importance of expanding collaboration**



One thing we have learned from our environmental initiatives is that broader collaboration with national and local governments, communities, and other companies is vital in order to tackle global environmental issues in a real way. For example, there are limits to how much we can do as a railway operator when it comes to building parking lots at stations, places that serve as hubs for transferring to other forms of transportation. For such a reason, the cooperation with local governments and others is essential for making the entire transportation system easier to use, including ensuring that other modes of transportation are available after train passengers leave stations. We thus believe that everyone involved must collaborate and share their knowledge in order to overcome environmental issues.

We are currently discussing measures to promote the use of public transportation as a whole in collaboration with the Management Council for the Promotion of Public Transportation established by the national government. We are committed to sharing our thoughts with a large number of our stakeholders and helping to create an environmentally-friendly, sustainable transportation system, through these discussions with the council, and by actively offering our own environmental information.



**Views of professor Nakamura**

**1. Creating a railway with low environmental impacts**

I would like to see your efforts to further promote sorting of waste collected from stations and trains include more categories, and recycle it more. I feel you should also seek to sell products at your station buildings that do not produce so much waste.

While I find your initiatives to prevent global warming including the active introduction of energy-efficient railcars to be commendable, I think that greater disclosure of information on environmental measures you are pursuing—even if you are only at the preliminary stages of examination— would make your commitments more visible.

**2. Creating a user-friendly railway system**

You state that railways' CO<sub>2</sub> emissions are one tenth those of automobiles, but there must be a difference between urban and rural areas. I hope you will study the ways to promote the use of railways in rural areas from an environmental perspective. For example, when the distance from a station to the next station is too long, and the nearest station is too far from home, community residents don't feel like using railways. I think you should consider building new stations between the existing ones, and increasing the number of available stations. I also think that efforts to attract people to

the stations themselves will be effective, for example by co-locating more stations with libraries and other public facilities.

If you are going to promote intermodal transportation, you may need to find ways to encourage people to stop using their family cars by making it more convenient for them to transfer between various modes of public-transportation in collaboration with other type of operators. An example of this would be actively posting route maps and guides in stations that include other railway and bus line networks.

I expect that encouraging the use of railways for tourism and other non-everyday travel will also facilitate a modal shift, such as by increasing the numbers of trains to tourist destinations with serious traffic congestion, and combining trains with tour buses.

**Fumihiko Nakamura**  
 Professor, Department of Civil Engineering  
 Yokohama National University

Prof. Nakamura is an expert on urban transportation planning. In addition to a wide range of public activities, including serving on the Planning Subcommittee of the Transportation Policy Advisory Council of the Ministry of Land, Infrastructure and Transport, he is also a member of the International Commission of the City Planning Institute of Japan. He participated in two past JR East Stakeholders' Dialogues.

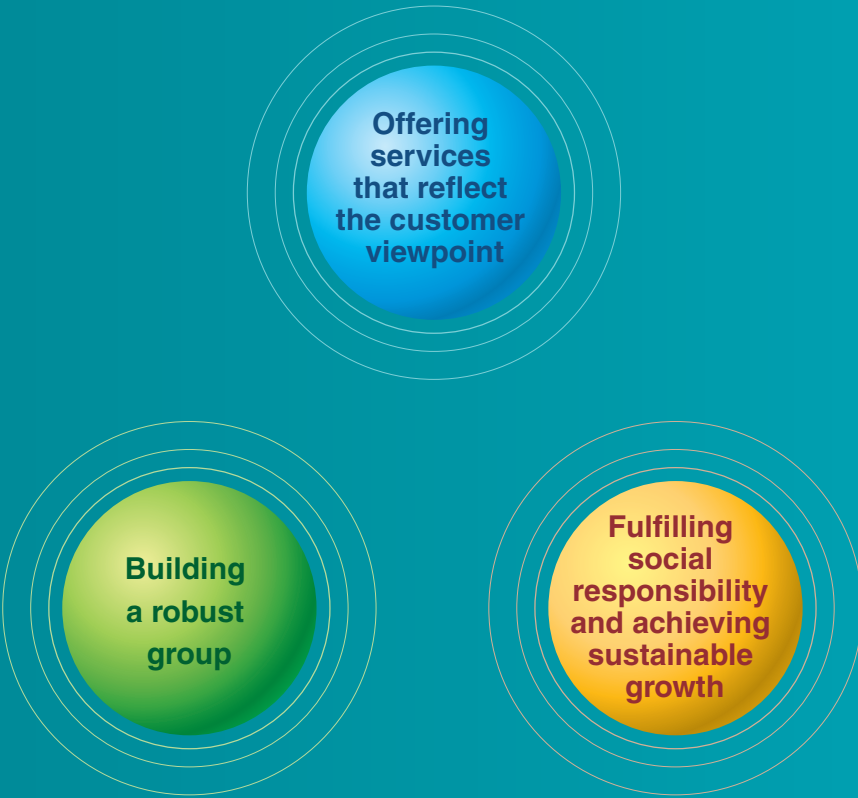


# Management

## マネジメント

We will continue to contribute to the creation of a sustainable society in order to meet our goal of becoming a *trusted Life-style Service Creating Group*. In January 2005, we announced our *New Frontier 2008* medium-term management plan, aimed at creating new customer value and achieving large long-term growth by offering higher-quality products and services.

Our basic management policy is to: (1) offer services that reflect the customer viewpoint; (2) build a robust group; and (3) fulfill social responsibility and achieve sustainable growth.



**Offering  
services  
that reflect  
the customer  
viewpoint**

**Building  
a robust  
group**

**Fulfilling  
social  
responsibility  
and achieving  
sustainable  
growth**

# How does the JR East Group carry out CSR management?

The JR East Group carries out CSR management in a swift and transparent manner by giving priority to dialog with our stakeholders in order to fulfill our social missions as stated in our Group Policies

## Basic concept on CSR

The railways that form the core of the JR East Group's business were originally constructed for social development. In this sense, the railway business is intimately related with society and local communities. For this reason, the JR East Group has been engaged in our business with a corporate culture that encourages our employee to recognize the importance of contributing to society, and fulfilling our social responsibility.

Then, how can the JR East Group play a part and make contributions in society? Regarding our social missions, our Group Philosophy states that, "As a *trusted Life-style Service Creating Group*, JR East will aim to sustain the development of its business operations while emphasizing its responsibilities to stakeholders and society at large along with its responsibility to generate profits for shareholders."

By carrying out our business activities in accordance with our Group Philosophy and Action Policies, we are determined to re-

main to be a corporate group that can meet the social expectations and the trust of stakeholders.

## Group philosophy

The JR East Group will aim to function as a corporate group capable of providing high quality and advanced services, with railway businesses at its core, while achieving sound management. For this purpose, every individual employee of the Group will endeavor to consider the customer perspective while supporting safe and punctual transportation and supplying convenient and high-quality products and services. Every employee will continuously take on the challenges of improving the standard of services and raising the level of technology to further gain the confidence and trust of customers. As a *trusted Life-style Service Creating Group*, JR East will aim to sustain the development of its business operations while emphasizing its responsibilities to stakeholders and society at large along with its responsibility to generate profits for shareholders.

## Action policies

### 1. Putting customers first

We will put our hearts into providing good service and living up to our customers' expectations.

### 2. Ensuring safety and quality

We will take thorough measures to provide transportation services that are safe and punctual and products and services that are of high quality.

### 3. Developing the Group

Each of us will promote Group development based on our autonomous and cooperative efforts and our positive approach to new challenges.

## JR East Group Medium-Term Management Plan: *New Frontier 2008* —New Creation and Evolution (2005–2008)—

### Basic management policy (three reforms)



### Creating new customer values (six challenges)

- Continue relentless efforts to provide safe and reliable transportation**
- Reinvent stations**
- Further enhance the convenience and comfort of railway operations**
- Grow non-transportation operations further**
- Enhance lifestyles through the Suica brand**
- Focus on research and development**

## Transparent and responsive management

### Enhancing corporate governance

We have recognized the enhancement of corporate governance as one of our most important management tasks in order to continue to be a trusted corporate group.

Specifically, our Board of Directors meets once per month as a rule, to make decisions on legal and other key executive matters, and supervises management of corporate affairs. Additionally, the Executive Committee consisting of all managing directors has been formed through a decision by the Board of Directors. The Executive Committee generally meets once per week to review decisions by the Board of Directors and other important management issues.

Moreover, we have invited two outside directors to the board in order to enhance management supervision, while four of our five corporate auditors have been selected outside the company to enhance our auditing functions.

Internal audits are performed by a total of about 100 full-time staff in the Audit Department at our Head Office and the Audit Offices at our branches. These audit bodies form a monitoring regime to ensure legally compliant and efficient administrative execution.

Our corporate auditors also have approximately 10 full-time staff to assist them. In accordance with policies set by the Board of Corporate Auditors, full-time and other auditors attend meetings of the Board of Directors, Executive Committee, and other important company meetings,

and audit the directors' executive actions through investigations of finances and other factors.

Accounting audits are conducted by independent auditor KPMG AZSA & Co., with which we have an audit agreement, during and at the end of each fiscal year.

In light of the characteristics of the railway business, we emphasize a long-term perspective in our decision-making, and we remain committed to enhancing our corporate governance under our current audit system.

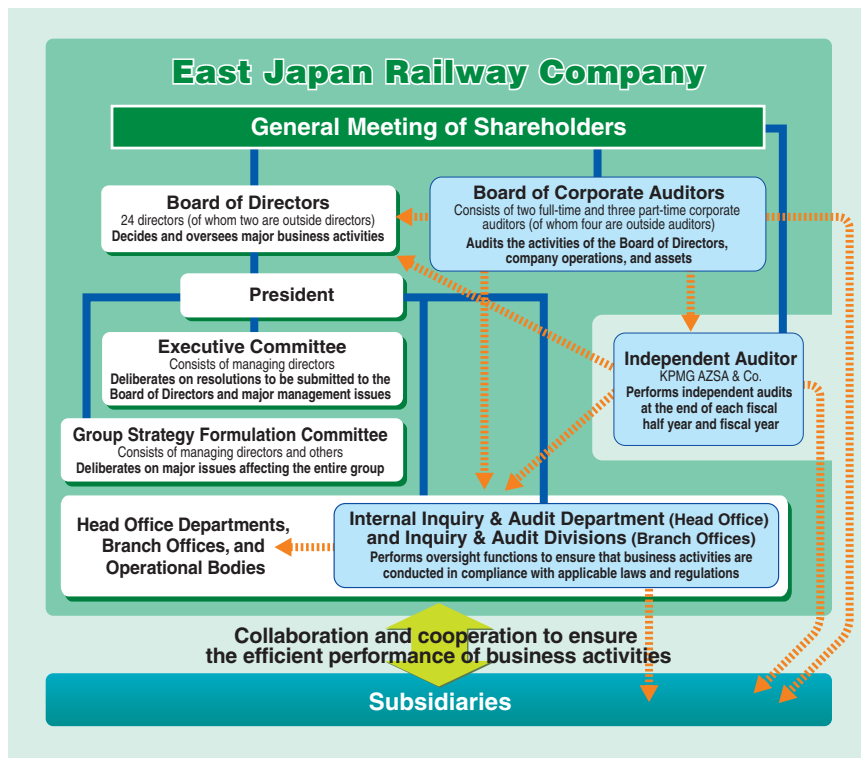
Note that in May 2006, we established a "regime for ensuring the appropriateness of administration" in accordance with the Company Law.

### Communication with society

We have relations with a large number of stakeholders, including the approximately 16 million customers using our railway services each day, as well as our shareholders and investors, business partners, employees and their families, NPOs, and local communities.

In order to gain greater understanding from these stakeholders, we actively communicate information about our group initiatives through public and investor-relations activities. We strive to disclose key corporate information on our website in a swift and appropriate manner. We also proactively create opportunities to learn our stakeholders' views and requests. We are determined to remain a credible and trustworthy company through continued dialog with society.

### ► Corporate governance system



## Foundations that support management

### Compliance

Recognizing that corporate management must be conducted based on compliance and high ethical standards if a company is to survive and prosper, we have built a structure to ensure a rapid response to legal risks and internal legal issues under the initiative of the Legal Department and the Crisis Management Office at the Administration Department. We strive to ensure compliance with applicable laws and regulations in all our business activities, while receiving advice from legal counsel and other professionals. The *New Frontier 2008* declares that greater efforts must be made for corporate management by complying with laws and regulations. To achieve this goal, we adopted the Policy on Legal and Regulatory Compliance and Corporate Ethics in June 2005, and distributed a booklet called Compliance Action Plan to all employees of our Group companies to give a straightforward explanation and raise their awareness of compliance. Accordingly, we established internal reporting sections both inside and outside the company.

In addition, prior to the Whistleblower Protection Act coming into force in April 2006, we established rules in March 2006 to handle information in the public interest with the objective of protecting whistleblowers.

As a corporate group that manages a large amount of personal information in the course of doing business, we established the Regulations for the Management of Personal Information in March 2005, and appointed Chief Privacy Officers, with the aim of strictly protecting personal information. We are also working to enhance information security of our entire Group companies by ascertaining the holding status of personal information.

We also regularly provide trainings for employees of our branch offices and Group companies, in order to enhance compliance and ethical standards. In fiscal 2005, we continued offering a variety of training, such as Management Seminar, Legal Skills Seminar, Basic Legal Training, and Regular Legal Seminar for employees of JR East and our Group companies.

Additionally, we actively promote activities to raise awareness of compliance-related issues by holding compliance seminars (17 times with a total of about 2,100 attendees), where our top management explained the importance of compliance to

our employees, and providing opportunities to exchange opinions between executives at our Head Office and field workers (37 times with a total of about 300 attendees).

### Risk management systems

The Crisis Management Headquarters was established in January 2001 to centrally collect and manage information, and to take initial responsive actions in the event of a major crisis affecting the JR East Group's business operations. We have also established the Crisis Management Office, with the aim of controlling risks before crises occur, and to identify potential risks at an early stage. We strive to minimize damage and losses caused by a crisis by taking various measures, such as accelerating our top management's decision-making by facilitating its early involvement to avoid delays in response, disclosing information in an appropriate manner, and conducting compliance-based management.

Furthermore, we are enhancing our risk- and information-management structures, by conducting training for our Group companies, for the purpose of creating an open corporate culture that can distribute risk-related information in a timely manner.

### ► Compliance training

Title	Number of meetings	Participants	Contents and objectives	Number of participants
Management Seminar (Compliance Course)	2	Administrative managers of Group companies	Compliance and risk management	40
Legal Skills Training	1	Legal affairs managers of branch offices	Enhancement of practical legal knowledge, legal reasoning, and decision-making/problem-solving skills	12
Basic Legal Training	1	Legal affairs personnel of Group companies	Acquisition of basic legal knowledge	70
Regular Legal Seminar	4	Employees of JR East and Group companies	Explanation of new and revised laws, and awareness-raising about compliance	About 200 for each seminar



# Social

## 社 会

A corporation is part of society, and depends upon society for its existence. It therefore cannot be engaged in business activities without the trust of society.

As a corporate group with railways as its core business, our most important responsibility to society is providing safe and reliable transportation. Since our establishment, the JR East Group has actively conducted R&D and capital investment for the sake of safety.

We have also been committed to achieving customer satisfaction. We greatly value feedback from our railway customers as well as all customers of our Group companies in order to raise the quality of the services we offer as a group.

At the same time, we are making continuous efforts to make the communities around our stations great places to live, in partnership with local residents we serve.

In order to adequately fulfill these roles, it is vital that we create workplaces where all employees of the JR East Group can work with pride.

The JR East Group remains committed to taking on various challenges to maintain the social trust.



## What is the JR East Group's concept and system to ensure railway safety?

JR East has made safety the top management priority since our establishment, and has taken various measures for that purpose. We are making group-wide efforts to build a safety management system, with the aim of becoming the world's safest railway operator.

### Our concept of safety

#### Four aspects of safety

As a railway operator, safety is our absolute top priority.

Operating trains safely is our responsibility to society. JR East believes that safety is ensured through our management that synergistically links safety equipment, employees, and rules. We therefore are constantly reviewing and improving our management programs in order to ensure that these are properly linked.

#### Safety initiatives in medium-term management plan

In the JR East *New Frontier 2008* medium-term management plan, the top manage-

ment challenge is to "continue relentless efforts to provide safe and reliable transportation." The *New Frontier 2008* then sets targets to achieve our safety plan within four years.

#### Safety Plan 2008

Since our establishment, JR East has continually created and implemented safety plans with ever-higher safety goals. By installing safety equipment according to our plans and raising safety awareness of each of our employees, we have succeeded in reducing the number of railway accidents to about one third the prior level.

The *Safety Plan 2008* is our fourth five-year safety plan, which began in fiscal 2004. It sets the target of reducing acci-

dents causing injuries and fatalities to our customers and employees (including those of our Group companies) to zero. In order to accomplish this, we are revising and rebuilding our safety programs from the ground up.

#### Trends in railway accidents

In fiscal 2005, we had 137 railway accidents, up 16 from the previous fiscal year. Of these, four were train collisions, including the accident on the Uetsu Line (see page 9); two caused damage to railway facilities; 74 were at railway crossings; and 57 resulted in fatalities or injuries. In particular, the number of railway-crossing accidents rose by 17.

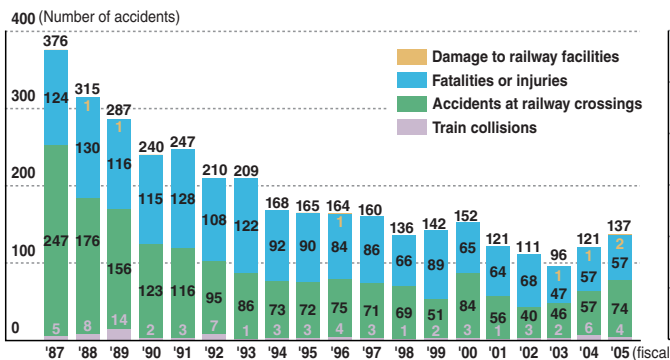
#### Four aspects of safety



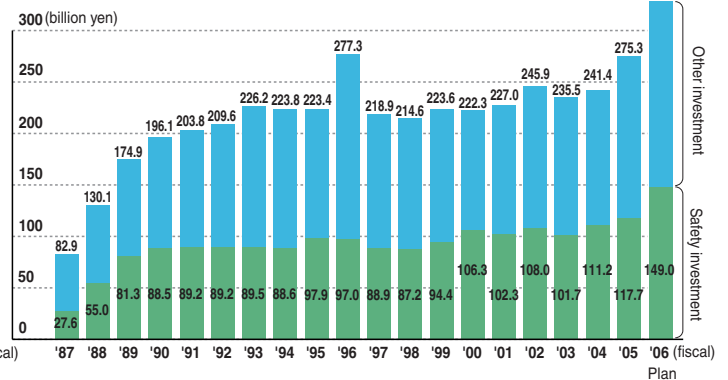
#### Safety Plan 2008



#### Trends in railway accidents



#### Trends in safety investment



## Safety management

### Basic concept

In order to improve safety, it is necessary to accurately determine the causes of accidents by correctly ascertaining the root cause of the accidents, and implement preventive measures. JR East is in the process of building a management structure to put this initiative into practice.

### Railway Safety Promotion Committee

JR East has established the Railway Safety Promotion Committee at our Head Office, chaired by the Executive Vice President. The committee reviews basic policies to respond to and prevent accidents, and promotes safety measures in the railway business.

There are also Regional Safety Promotion Committees at each branch office and the Shinkansen Transport Dept., chaired by

general managers of branch offices and the department. These committees implement specific measures in collaboration with the Railway Safety Promotion Committee, and determine the causes of accidents, implement concrete measures to prevent accidents, and promote safety activities in their respective service areas.

### Committee for Improving Transport Reliability

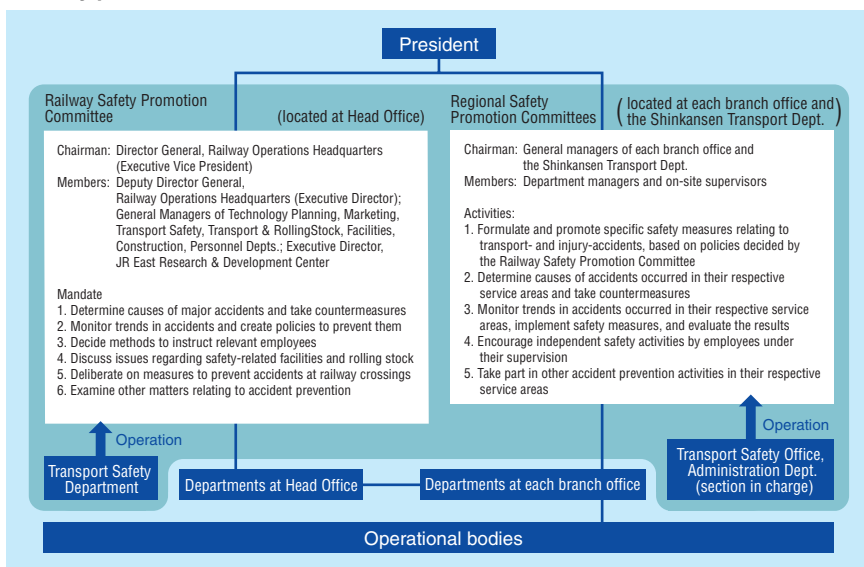
JR East has created the Committee for Improving Transport Reliability with the mission of building a higher-quality railway system. Based on the approach that improved transport reliability helps to raise the level of safety, the committee strives to resume operations as quickly as possible after ensuring safety.

### JES-Net25

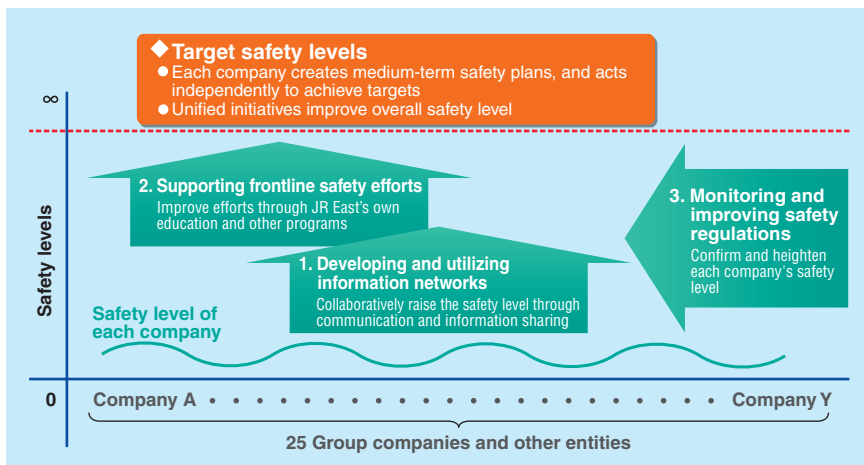
As the operations of JR East and our Group companies grow increasingly integrated, we are faced with the necessity to ensure safe railway operations with a common set of safety values. In order to accomplish this, in fiscal 2004 we established the JR East Safety Network 25 (JES-Net25), a network of 25 Group companies and other entities engaged in train operation-related works or construction projects for promoting safety.

JES-Net25 promotes activities based on three core principles: developing and utilizing information networks; supporting frontline safety efforts; and monitoring and improving safety regulations and each company's safety level. We are committed to heightening the safety level of the JR East Group through the united efforts made by each company in JES-Net25.

### Safety promotion network



### JES-Net25



**Preparedness for major earthquakes**

Learning the lessons from the Great Hanshin-Awaji Earthquake in 1995, we have reviewed our earthquake measures, creating the Major Earthquake Response Manual that envisions an earthquake in the Tokai region or a subterranean earthquake in the Tokyo Metropolitan Area, and we continually revise and update this manual. The manual lays out our core response actions to take. These include independent emergency relief activities by each employee in accordance with the manual in case of an earthquake with a seismic intensity of lower 6 or above on the Japanese scale in our service areas, and central coordination of response efforts by setting our the response headquarters in the Tokyo and Takasaki branch-office buildings. We carry out practical disaster-preparedness drills every year in line with the manual on September 1, Japan's National Disaster Prevention Day.



A total of 15,000 JR East employees and others attended our disaster-preparedness drills in fiscal 2005.

**Safety research regime**

We are researching and developing a wide range of safety technologies and systems, with the aim of even greater safety.

The activities of the JR East Research & Development Center include research into human factors in accidents through an understanding of the characteristics of

human behavior; unveiling of the mechanisms of Shinkansen and other train derailments, and searching of measures to prevent them; and development of seismic-resistance techniques for bridges and other construction methods.

Additionally, following the Uetsu Line accident, we set up a Disaster Prevention Research Laboratory at the center. The laboratory is conducting research on natural phenomena such as strong winds, earthquakes, and on countermeasures against them in order to prevent railway accidents due to natural disasters.

**Response to the revised Railway Enterprise Law**

In response to a mounting number of transportation accidents and other problems, the Japanese Diet passed the revised Railway Operation Law in March 2006, which came into effect in July. We are preparing the

▶ **Safety training programs**

<b>JR East General Training Center: subtotal 4,100 participants</b>
<b>Crew training programs: 1,800 participants</b>
Train driver training Train driving instructor training Conductor training Transportation control training etc.
<b>Facility training programs: 1,900 participants</b>
Maintenance vehicle chief training Accident prevention training Field-specific technology training etc.
<b>Safety culture and safety instructor training programs: 400 participants</b>
Challenge Safety Campaign promoter training Safety standards expert training Safety instructor training Transport accident data analysis training etc.
<b>General Training Centers at each branch office: subtotal 11,900 participants</b>
<b>Total: 16,000 participants</b>

required systems in accordance with the relevant laws and ordinances.

**Safety education**

**Safety education system**

JR East regularly holds seminars and training courses regarding our safety systems and rules at the JR East General Education Center in Shirakawa City, Fukushima Prefecture, and the General Training Centers at each branch office.

About 16,000 employees took part in such seminars and training courses in fiscal 2005.

**Learning from accidents**

Most rules and equipment for ensuring railway safety are prepared based on lessons learned from tragic accidents in the past. We have established the Accident History Exhibition Hall at the JR East General Education Center that displays overviews of past accidents, measures taken, and the like. The objectives of the hall are to ensure that past accidents are never forgotten and instill a culture of learning from accidents at the workplace, preserving the valuable lessons learned from past sacrifices. The hall is also used as a venue for employee training.



The Accident History Exhibition Hall has been established to help our employees preserve and learn from experiences of past accidents.

## Creating a culture of safety

### Creation of a culture of safety

Railway safety is maintained by linking trains, railway lines, electric generators, railway signals and other equipment with the people who operate them in a systematic and rational manner. In other words, safety is preserved only when all employees correctly understand our safety systems, and practice their fundamental operations without fail each day. In order to further raise our safety level, it is vital to uncover the roots of potential accidents hidden in near misses, and take preventive measures.

JR East has a number of safety programs in order to instill a culture of safety at the workplace, including our Challenge Safety Campaign and Head Office Safety Campaign.

### The Challenge Safety Campaign

In 1988, we started the Challenge Safety Campaign aimed at encouraging our employees to proactively take on the challenge of further improving our safety level, rather than just passively maintaining safety. Through this new safety campaign, we strive to foster professional judgment and knowledge at the workplace, and create a corporate culture in which each employee can remain constantly aware of safety and



Discussions were held on safety at the workplace through the Challenge Safety Campaign. safety Campaign.

act on this awareness. We are carrying out the campaign by taking three phases into consideration. First, each employee identifies safety challenges from his or her day-to-day work. Next, the employees discuss these challenges and set action targets for improvement. Finally, they work toward attaining targets each day.

### Head Office Safety Campaign

We run the Head Office Safety Campaign once a year. Where executive officers from the Head Office and front-line employees hold direct discussions, and use the results to implement concrete measures to further improve safety. The results of these discussions have helped set up many project teams and implement a large number of measures. In fiscal 2005, we worked to improve worksite management capabilities, with the theme "What are the safety weaknesses at your workplace?" through the campaign.

Each of our branch office also independently holds discussion sessions between managers and front-line employees.

### Railway Safety Symposium

Since 1990, we have held the Railway Safety Symposium for the purpose of improving each employee's awareness of safety, and vitalizing various efforts to improve safety, including the Challenge Safety Campaign. In fiscal 2005, the symposium was attended by about 700 people, including employees of JR East and our Group companies.

We have also invited outside experts to the symposiums for panel discussions and the case study presentation on other companies' initiatives.

### Cooperation from stakeholders for safety

The cooperation from our customers and community residents is essential to ensure safety at our stations, platforms and railway crossings. Thus in 1999, we began a yearly Platform Safety Campaign aimed at ensuring safety at our stations and platforms by using posters urging passengers to stay behind the yellow line. In the summer of fiscal 2005, we ran this campaign for one month within a 100-km radius of Tokyo.

We have also carried out the Railway Crossing Accident Prevention Campaign, in which we have asked drivers and pedestrians transiting through railroad crossings for cooperation.



We have asked our stakeholders for cooperation in making railway crossings safe.

### Formulating our next safety plan

Every five years, JR East reviews our safety plan to identify priority issues and implement safety measures in a planned way. Putting our *Safety Plan 2008* into practice, we have started to identify issues for the preparation of our next safety plan.

## How does the JR East Group promote our safety initiatives?

The JR East Group has made many improvements to our equipment each year in order to ensure the safety of places frequented by large numbers of people—station platforms and railroad crossings—as well as the safety and reliability of our train operations themselves.

### Enhancing safety equipment

#### Priority improvement plan for safety equipment

The *Safety Plan 2008* earmarks a total of 400 billion yen over a five-year period for the prevention of major accidents. We are investing these funds into safety measures, including the implementation of earthquake-resistant measures based on our experiences with the Niigata Chuetsu Earthquake, and the installation of ATS-P/Ps automatic train stop systems ahead of schedule.

In fiscal 2006, we plan to spend approximately 149 billion yen for investment in safety measures, including enhanced measures against large-scale earthquakes,

strong winds, rockslides, and other natural disasters. This is approximately 31 billion yen more than we budgeted in the previous fiscal year.

#### Installing safety equipment

In order to prevent train collisions, we have installed ATS (automatic train stop) and ATC (automatic train control) systems on all the conventional railway lines, and ATC systems on all the Shinkansen lines. The ATS systems have continuous speed monitoring functions, and we are in the process of establishing ATS-P/Ps systems that are instrumental in enhancing safety on curves and at other locations. We are also increasing the number of lines with ATS-P/Ps systems according to plan, and on lines with the new systems, we are instal-

ling them at more curves, turnouts, and line terminals. Following the accident on the JR West's Fukuchiyama line, the Japanese Ministry of Land, Infrastructure and Transport required JR East to take measures to prevent excessive speeds on 63 curved line sections. These measures have already been completed by the end of fiscal 2005.

#### Station platform safety

We have put a wide range of equipment into place at our platforms to ensure the safety of our customers, including mats that detect fallen persons and objects; emergency train-stopping systems; image-processing device to detect fallen persons; and barriers to prevent people and objects from falling between railway cars.

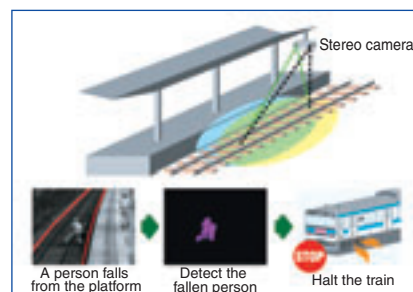
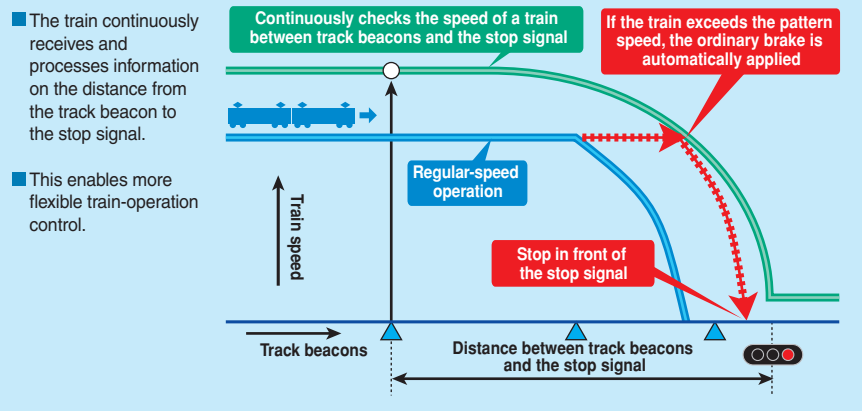
#### Rail lines and locations with ATC, ATS-P, ATS-Ps systems

(As of the end of March 2006)

- : Lines with ATC, ATS-P
- : Lines planned to be equipped with ATS-P
- : Lines with ATS-Ps
- : Locations planned to be equipped with ATS-Ps



#### Outline of the ATS-P system



JR East has developed an image-processing device to detect fallen persons, which is now in use at Shinjuku Station.



Train drivers are notified of any danger through emergency stop buttons placed on platform columns.

### Preventing crossing accidents

JR East is installing crossing-obstruction detectors, larger barriers, and other equipment in order to prevent accidents at railway crossings. Thanks to these efforts, we have succeeded in reducing crossing accidents to roughly a third of the levels of 20 years ago. Over the past several years, however, the numbers of these kinds of accidents have been increasing. In fiscal 2005, there were a total of 74 railway-crossing accidents, including head-on and side collisions with automobiles and motorcycles.

In addition to the measures we have been introducing to date, we are making additional efforts, such as making railway-crossings more visible, in accordance with the characteristics of each crossing.

### Initiatives to prevent accidents during maintenance work

JR East is committed to preventing accidents during maintenance by systematizing maintenance work, and researching, developing, and introducing new safety equipment.

We are enhancing our maintenance-safety regime by installing TC-type wireless alarm systems that notify our employees working on railway tracks of an approaching train, and track short circuit detectors that force signal lights to turn red.

We have also developed a viable system for preventing trains from approaching by such means as having workers turn signals red when performing work via a handheld device, utilizing the Advanced Transport Operating Control System (ATOS), a train-control system that uses the latest computer technology and information. The system has already been introduced on all major lines in the Tokyo Metropolitan Area. This system is designed to improve our maintenance workers' safety by preventing human error.

### Disaster preparedness

JR East has installed rain gauges, water-level meters, seismographs, anemometers, and other weather observation systems for disaster prevention along the railway lines, in order to rapidly collect necessary information for safe train operations. The data obtained through the weather observation systems are monitored automatically at all times by our command and technical centers and other facilities via an online system using telecommunication lines. If a value of these observation systems exceeds a regulation or alert threshold, the location in question is automatically displayed, and an alarm sounds to ensure that transport restrictions and inspections are carried out quickly and without fail.

We are also reinforcing seismic-resistance capabilities of elevated tracks and other structures as a measure against earthquakes. The measure is proceeding according to plan: we completed seismic retrofitting in the southern Kanto and Sendai regions as well as areas near active faulting in fiscal 2000, and are currently performing seismic retrofitting in areas other than the above-mentioned regions and active fault zones.



We are reinforcing seismic-resistance capabilities of elevated Shinkansen-track support columns ahead of schedule.

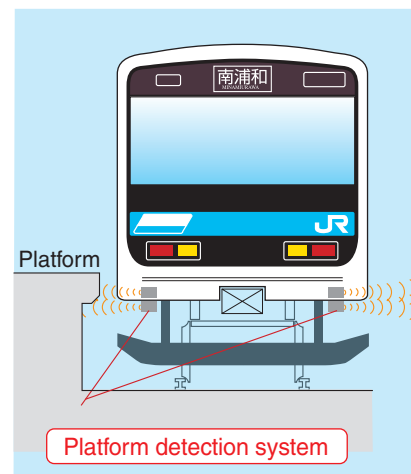
### Our responses to Niigata Chuetsu Earthquake

The earthquake that struck the Chuetsu region in Niigata Prefecture on October 23,

2004 caused the Joetsu Shinkansen train *Toki 325* to derail, and damaged our tunnels, elevated tracks, and other structures greatly. In response to this earthquake, we moved ahead of our schedule for seismic retrofitting of elevated tracks and other structures, a work that we have been performing as a measure following the Great Hanshin-Awaji Earthquake. Additionally, we are improving our earthquake detection and other systems, and examining ways to prevent Shinkansen derailments and to keep trains near the track if they do derail, in order to minimize damage in case of derailments.

### Developing safety technologies

JR East is committed to improving safety through research and development. We have already created viable solutions for preventing accidents at railway crossings through the development of large-sized obstruction detectors among other measures. We have also developed a backup system that prevents crews from opening train doors where there is no platform (platform detection system), which was put in place on the Keihin Tohoku Line in fiscal 2006.



Ultrasonic sensors are installed on the front and back ends of the train. Unless one of the sensors detects a platform, the doors will not open.

## How does the JR East Group utilize customer feedback?

The basic stance of our management is to “challenge ourselves to meet customer expectations,” as stated in our medium-term management plan, *New Frontier 2008*. Based on this, we are taking on the challenge of identifying customer needs and providing a higher quality of services.

### Meeting customer expectations

#### Our views on customer feedback

JR East aims to offer a higher quality of services by positioning our goal of meeting customer expectations as our basic management stance in our medium-term management plan. We believe that customer feedback received by our front-line employees, at our customer help desks, and via our Internet website could serve as a springboard for addressing issues from the customer viewpoint, and must be utilized for service improvement.

#### Cross-organizational service promotion system

JR East is working to make continuous improvements for the purpose of meeting the expectations of our customers and local people, alleviating their grievances, and offering services that satisfy future needs.

To these ends, there are various areas for improvement: customer services; basic train transportation functions including operations, sales systems and train scheduling; provision of train operation information service; and service infrastructure such as barrier-free facilities and comfortable and clean toilet facilities. For this reason, our initiatives for improvement require cross-organizational cooperation among all of our stations, branch offices, Head Office, and departments.

We established Customer Service Committees in October 2000 as a venue for discussing issues in a cross-organizational manner, as well as the Customer Service Department in July 2005 to strategically and swiftly enhance the quality of our services. We are making improvements in a wide range of fields by building systems that allow all of our departments to actively cooperate with each other.

### Customer feedback

In fiscal 2005, we received 250,438 comments from our customers, an increase of 40% from the previous fiscal year. Of these, 204,597 comments (about 80%) were received by front-line employees, 25,754 comments were obtained via our Internet website, and 20,087 came through our customer help desks.

We have also conducted a customer satisfaction survey each year to obtain a comprehensive evaluation on our services that cannot be adequately determined from customer feedback, and quantitatively measure the level of customer satisfaction. And we make full use of results from the survey to improve the quality of our services.

### Providing safe and comfortable transportation services

#### Measures to reduce congestion in trains

We are striving to reduce congestion in trains on major lines in the Tokyo Metropolitan Area. The in-train congestion rate during morning commuting hours has

declined by 52 percentage points to 186% since JR East's establishment as a result of our various efforts, such as the introduction of cars with wider bodies, the opening of the Shonan-Shinjuku and other new lines, and an increase in the number of trains in operation.

#### “Women-only” railcars

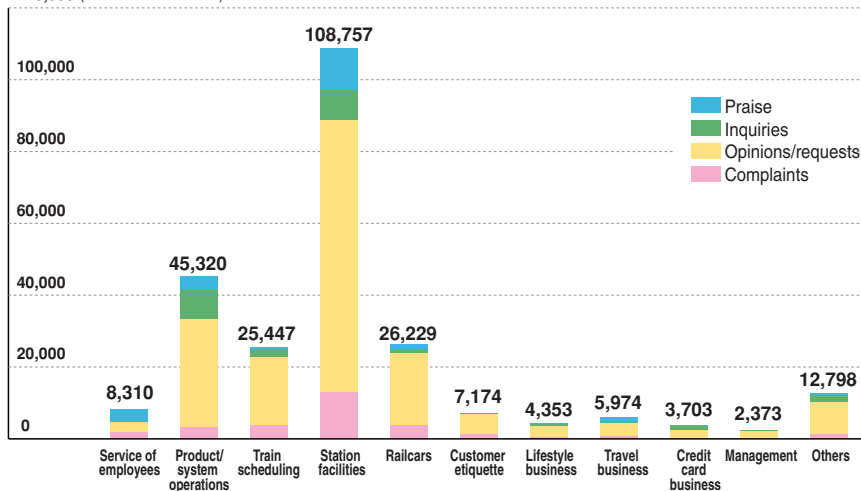
We are increasing the number of “women-only” cars to make our customers feel safer on our trains. We first introduced such cars on the Saikyo Line during night hours in July 2001, and on the Saikyo and Rinkai Lines during morning hours in April 2005.

In September 2005, one car on each rapid train on the Chuo, Ome and Hachiko lines was designated as a “women-only” car, and in May 2006, the first car of all rush-hour inbound local trains on the Joban Line, which is connected to the Chiyoda Line run by Tokyo Metro Co., Ltd., also became a “women-only” car. Service hours and areas of “women-only” cars vary from line to line.

We have advertised this service through posters and announcements at stations, as well as stickers on “women-only” cars and their boarding locations on platforms.

#### Customer feedback

120,000 (Number of comments)





## Seamless traveling

We also assigned personnel at platforms for a certain period after the introduction of “women-only” cars to make sure that only female customers board the car.

### Smoking and non-smoking zones

In response to various requests from our customers and a rapid rise of non-smoking-oriented society, JR East has set up smoking and non-smoking zones at our stations and on trains.

We have asked our customers to refrain from smoking in the Nagano Shinkansen, which travels a relatively short distance, and limited express trains on conventional lines since December 2005.



Air-purifier-equipped smoking rooms were installed on some Shinkansen platforms.

March 1997	Smoking zones established at all stations Smoking banned in <i>Green Cars</i> (first class) that do not have separate compartments Smoking banned on all local trains
December 2000	No-smoking signs clearly posted on car end-platforms that have no ashtrays
December 2001	Smoking banned in all <i>Green Cars</i>
May 2003	Non-smoking hours set at six stations on the Yamanote Line
March 2004	Smoking zones on platforms integrated Non-smoking hours set in the Tokyo Metropolitan Area Smoking permitted only in one non-reserved-seat and one reserved-seat car of the Shinkansen trains and limited express trains on conventional lines Smoking rooms installed on some Shinkansen platforms (Tokyo, Omiya, Sendai and Niigata Stations)
December 2005	Smoking banned in all cars of the Nagano Shinkansen <i>Asama</i> , <i>Narita Express</i> , and <i>Boso Express</i> The number of smoking rooms on Shinkansen platforms increased. (Kumagaya, Takasaki, Morioka, and Nagano Stations)

We also plan to make all cars non-smoking on Shinkansen and limited express trains in the spring of 2007. In addition, we are installing more smoking rooms on these trains' platforms.

### Service Assistance

Since fiscal 2005, we have encouraged our employees to obtain the Service Assistance certification, with the aim of having them acquire skills to assist elderly and disabled customers at our stations, and instilling them



with the spirit of hospitality as service providers. In fiscal 2005, approximately 640 employees obtained the certification (level 2).

In fiscal 2005, about 640 employees obtained the Service Assistance certification (level 2).

### Lost-and-found system

In order to respond quickly and accurately to inquiries about items lost at stations and on trains, JR East has been introducing what is called “Green Information System,” a centralized database on registered items lost or found. Starting from April 2006, the system covers all the JR East service areas, which enables a computerized search for all items registered in the system.

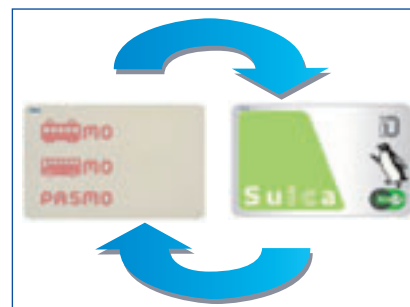
### JR East telephone centers

JR East has had 44 telephone numbers in our service areas to answer inquiries from our customers on train scheduling, fares, lost items and other matters, and now we have installed a new system in April 2005 to allow them to automatically connect to our inquiry-specific telephone centers by just dialing one telephone number, in order to make it easier to use the service. We also have expanded service hours of our telephone centers since then.

### Seamless traveling

In our efforts to improve the convenience of our customers, JR East is expanding the network of agreements with other transportation companies to make IC fare-cards interchangeably usable at each other's stations.

We have enabled the interchangeable use of the *Suica* card with *Suica* cards issued by Tokyo Monorail and Tokyo Waterfront Area Rapid Transit and with the *ICOCA* card issued by West Japan Railway Company. We also plan to allow passengers to interchangeably use our *Suica* and *PASMO*, a new IC-equipped card issued by train and bus companies in the Tokyo Metropolitan Area, in March 2007, in order to facilitate seamless traveling by various modes of transportation.



In March 2007, a new service to allow passengers to interchangeably use our *Suica* and a new IC-equipped card *PASMO* is to start, in order to make their travel within the Tokyo Metropolitan Area easier.

### Placement of Automated External Defibrillators (AEDs)

AED is a medical device that treats ventricular fibrillation caused with cardiac arrest by electroshocking the heart. The device has been widely used in the United States and Europe since around 2000. Since fiscal 2005, JR East has been working toward the goal of placing AEDs near ticket gates at all 32 stations used by more than 100,000 passengers per day. The devices are available for not only our employees, but also the general public in a case of emergency.

## Making our facilities barrier free

### Initiatives at stations

JR East has been working together with local governments and other entities to install elevators and wheelchair-accessible escalators at stations used by at least 5,000 passengers, in accordance with the Barrier-Free Transportation Law. As of the end of fiscal 2005, we have eliminated the need to climb steps in approximately 60% of the target stations. We plan to complete the step-elimination work at all the target stations by fiscal 2010. We are also installing escalators at approximately 300 stations used by 10,000 or more



We are eliminating the need to climb steps at our stations by installing elevators and other facilities.

passengers and having a difference of elevation of five meters or above.

In order to enable our customers to utilize our facilities effectively, we have improved and expanded the information displays inside our stations, including pictograms, multilingual guidance, and large text. Additionally, at major stations we distribute pamphlets describing the barrier-free facilities of our stations.

We have also provided information on the main barrier-free facilities of our stations and trains for persons with physical handicaps on our Website<sup>\*1</sup>.



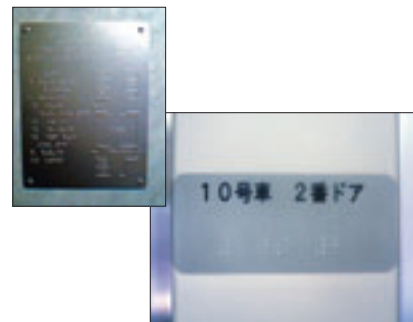
Our Website introduces the main barrier-free facilities of our stations and trains.

### Initiatives on trains

In order to improve accessibility for persons with vision impairments, in fiscal 2005 we installed Braille maps and stickers on all our Shinkansen trains indicating the current location and the locations of various facilities.

We are also placing Braille stickers identifying the car number and door location on conventional-line trains. In fiscal 2005, we installed the stickers on the Saikyo and three other lines.

We plan to introduce a new E233-series train having a lower floor that reduces the height difference between the platform and railcar around December 2006 on the Chuo Rapid, Oume, and Itsukaichi Lines.



Braille maps on Shinkansen trains and Braille stickers on conventional-line trains.

## Use of asbestos in stations and railcars

Recently, the dangers posed by asbestos have been regaining attention. JR East uses materials containing asbestos in some of our stations and railcars.

There are no locations in our stations where sprayed-on asbestos is exposed. Although sprayed-on materials containing asbestos had been exposed in areas used by customers at seven stations, they were completely removed in fiscal 2005.

We had 133 railway cars that used asbestos as an insulating material, but we plan to retire them by the end of fiscal 2006.

Note that in these cases, the asbestos was completely sealed and measures were in place to prevent its dispersal. There is no possibility of asbestos dust becoming airborne.

<sup>\*1</sup> Web information service for persons with physical handicaps:  
<http://www.jreast.co.jp/equipment/index.html> (Japanese only)

○ Enhancing guidance at station entrances

- Open counters at ticket gates making it easier for our customers to request information



○ Offering information on transportation accidents

- Emergency information displays



○ Improving facilities for worry-free station use

- Barrier-free facilities
  - Elevators
  - Escalators
  - Textured paving blocks
  - Voice guidance
  - Multifunctional restrooms



● Enhancing waiting rooms and benches

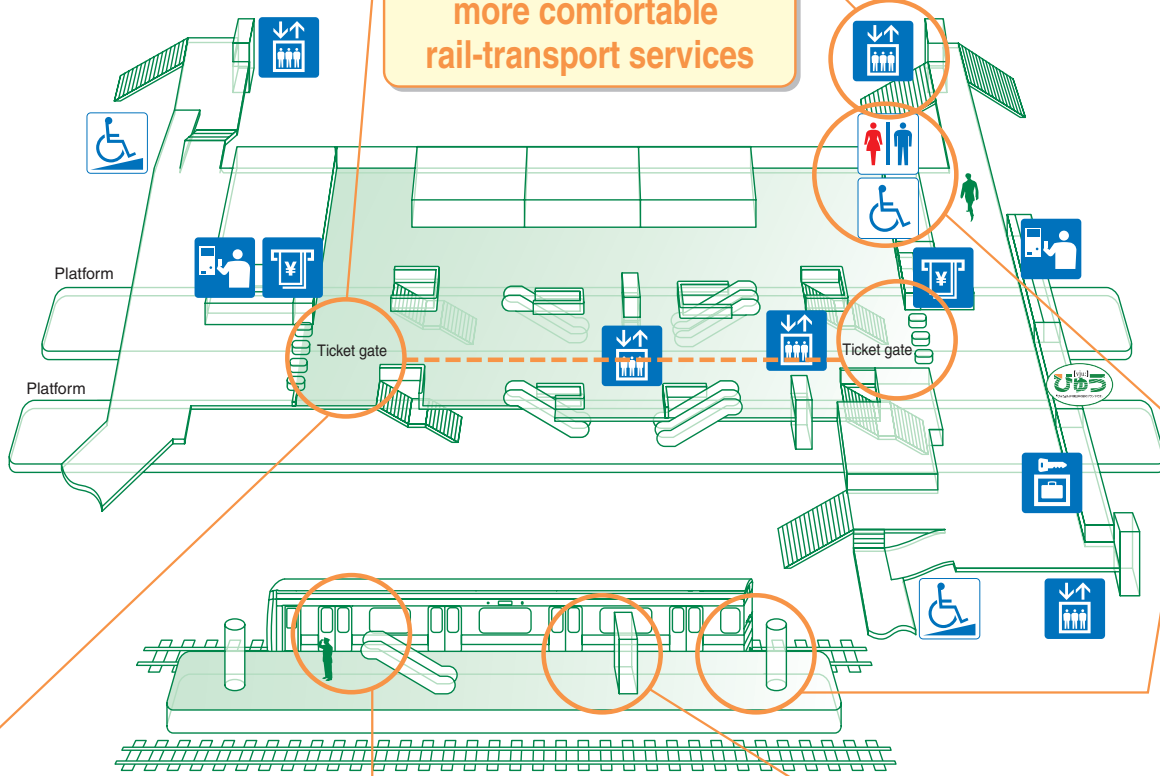


○ Reinforcing station sign systems

- Larger text
- Information displayed in English, Chinese, and Korean



Installing facilities for more comfortable rail-transport services



○ Easier-to-understand train information

- Full-color LED informational displays



● LED information displays at train entrances



○ Making comfortable and hygienic stations

- Installing smoking rooms

- Major Shinkansen and limited express train platforms are equipped with smoking rooms



● Improving restroom facilities

- Multifunctional restrooms
- More attractive restrooms



○ Cross-organizational efforts

- Improving the image of each line
  - Installing LEDs at ticket gates
  - Installing more restrooms and benches

## How does the JR East Group promote partnerships with communities?

As a responsible member of society, the JR East Group is promoting collaboration with local and international communities. In order to better fulfill our role as a good corporate citizen, we are engaged in social contribution activities through welfare, cultural, and international cooperation programs, including a community development program focusing on areas around our train stations.

### Enriching local communities

#### Station nursery schools and nursing care services

In response to the changing needs of Japanese society, with its declining birth-rate and aging population, the JR East Group is cooperating with local governments and others to promote “station nursery schools” and “nursing care” services that can provide convenient, safe and reliable services near our stations.

As of April 2006, there were 18 station nursery schools and 3 nursing care facilities. Among those nursery schools, eight have been established along the Saikyo Line and the Saitama New Urban Transit Company's New Shuttle. In this regard, our goal is to create a rail line that is conducive to child-rearing, by building these nursery schools along our rail lines, rather than in a scattered manner.



In response to requests from local residents, Musashiurawa Kuwa-no-Mi Nursery School is opened, the second of its kind in Musashiurawa City, Saitama Prefecture.

#### Community revitalization through stations

JR East sees stations not as facilities simply for getting on and off trains. Rather, we believe that stations can contribute to the revitalization of local communities as an information and cultural base. For this reason, we are making various efforts to revitalize stations. More specifically, we have built public facilities on the premises of our stations, and renovated the exterior of our stations to harmonize with

surrounding areas, as part of our initiatives to help develop local communities. In fiscal 2005, we remodeled 4 stations, including Yamanashi-shi Station, where the color of its exterior was changed to warm ones to match with the European-style buildings nearby.



The exterior of Yamanashi-shi Station on the Chuo Main Line was renovated in line with the local community development plan.

#### Tourism development

In recent years, there has been a growing demand for well-balanced tourism development that gives due consideration to various aspects, including the conservation of natural landscapes, and the maintenance and improvement of the social and life infrastructure in local communities. In the belief that “tourism development” could lead to “local community development,” JR East has been working on long-term initiatives for the creation of tourist destinations that are closely linked with local needs, ranging from drawing a concept with local people to sending information to the Tokyo Metropolitan Area. In addition, we operate our “Joyful Trains” on the Gono, Ominato and other lines to provide local communities with key transportation services as well as help tourists enjoy their travels.



Resort Shirakami train enables passengers to enjoy the beautiful scenery along the Gono Line.

### For the next generation

#### Support for the Children's Railway Association

The Children's Railway Association is run by the Traffic Manners Association, with the aim of raising children's awareness of proper manners on public transportation. In our service areas, clean-up activities at train stations and field trips to railway facilities are among the activities of approximately 500 members belonging to 12 branches of the association. JR East is supporting the association's initiatives by establishing its offices at our branch offices, and giving the members special opportunities such as operating our train simulators.



Station clean-up activity by the members of the Children's Railway Association.

#### Events at railway facilities

JR East regularly holds tours and events at our facilities, including our Rolling Stock Manufacturing Factory and General Rolling Stock Centers, to give people the chance to pursue their interest in trains and railways. One example is an event at the Omiya General Rolling Stock Center to introduce our environmental initiatives. The event drew a total of about 30,000 visitors.



Visitors can enjoy the railcar exhibitions and mini-steam locomotive rides in the events at our facilities. They are very popular with local residents.

## International contributions

### Cooperation with people in the railway industry overseas

JR East has drawn attentions of people in the railway industry overseas in various areas, including our smooth transition from a national entity to a private company, such cutting-edge technologies as the Shinkansen trains and the *Suica* IC fare-card, our initiatives to conserve the global environment, and the highly-regarded lifestyle business that we are engaged in. In fiscal 2005, 643 people from 38 countries visited our facilities, where lectures and tours were given to them. We are making efforts to help them to capitalize on our know-how in their respective countries.

In addition, we are actively involved in international cooperation activities by dispatching our railway experts to Asian and other neighboring countries to provide on-site advice, when requested by the Japan International Cooperation Agency (JICA).

#### ▶ International cooperation activities in fiscal 2005

Dispatched	Long-term dispatch (1 year or more)	1 expert to 1 country
	Short-term dispatch (up to 1 year)	5 experts to 2 countries
Accepted	JICA trainees' acceptance	45 trainees from 26 countries

### Exchanges with foreign railway companies

JR East has concluded cooperative agreements with German, Italian, and French national railway companies to exchange information on R&D and management, and



A friendship agreement was concluded between the Tokyo Station and the Central Station in Amsterdam, the Netherlands, in April 2006.

dispatch and accept each other's personnel, in the long-term interest of promoting mutual communication. We have also exchanged information on railway-related technologies, management, and others with our counterparts in China, South Korea, and other Asian countries. We are making efforts to help contribute to the development of the railway industry around the world through such exchanges with foreign railway companies.

## Activities through East Japan Railway Culture Foundation

### Activities and the objectives

JR East established the East Japan Railway Culture Foundation\*1 in 1992 in order to continuously and steadily get involved in social contribution activities. The foundation has promoted local culture, study and research on railways, and international and cultural exchanges through our railway business.

### Construction and operation of the Railway Museum

The new Railway Museum is currently under construction in Saitama City, Saitama Prefecture, and scheduled to open in October 2007. The museum is planned to exhibit and store cultural heritage exhibits that are to be taken over from the now-closed Transportation Museum, a 35-car train under preservation, and a great number of documents about railways, which are also to be used for study and research. The museum is expected to be one of the world's top class museums on the railway, in terms of scale and quality, with two



The new Railway Museum is scheduled to open in October 2007.

unique zones: the History Zone, which is to show the evolution of the railway system from the viewpoint of the industry's history, and the Education Zone, where visitors will be able to experience and study the fundamentals, mechanisms, and up-to-date railway technologies.

### Study and research on the railway and international exchanges

The foundation has sponsored studies and research on "Railway Culture and the Future Transportation Society" as a basic theme, and made the research findings as well as its activities available on its website. It has also provided other theme-specific information as CD-ROMs and DVDs.

The foundation has published the *Japan Railway & Transport Review* (JRTR) to provide an international discussion forum among specialists, and other railway-related English publications, as well.

In addition, the foundation has invited young managers in Asian railway companies for railway management and technology training. In fiscal 2005, a total of 49 managers were invited from China, Indonesia, Malaysia and other 6 Asian countries.

### Promotion of local culture

Regrettably, the foundation now has had to close the Tokyo Station Gallery for the time being, as the restoration of the Tokyo Station building is under way. As an alternative, it has held exhibitions at the Old Shinbashi Station and other venues.

The foundation has also sponsored activities at various locations in East Japan to preserve and pass on precious cultural heritage and traditional arts, as part of its initiatives to promote local culture. In fiscal 2005, the foundation offered a total of about 57 million yen in grant to 14 projects, including those to preserve and hand down *Kanuma Imamiya-tuke Festival* held in Tochigi Prefecture and to conserve and maintain *Gassan Kyu-Rokujurigoe-Kaido* in Yamagata Prefecture.

\*1 East Japan Railway Culture Foundation

[http://www.ejrco.or.jp/en\\_zh/index\\_en.html](http://www.ejrco.or.jp/en_zh/index_en.html)

Telephone: +81-3-5334-0623

## What actions does the JR East Group take to create a favorable work environment?

The JR East Group is taking many steps to create a favorable work environment where, as a driving force of our development, all of our employees can take on the challenge of achieving a higher level of standards with pride, and feel highly satisfied with their work.

### Human resources management

#### Basic concept for personal affairs and employment

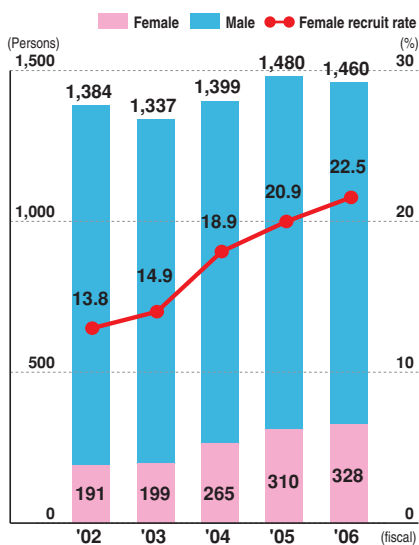
Based on the *New Frontier 2008* medium-term management plan, JR East has set the policy of hiring and developing an employee “who can take on the challenge of achieving a higher level of standards without being daunted by any change,” and “who can think and act in his or her own initiative.”

In the railway operation that is at the center of JR East’s business, we basically ensure a long-term employment, in the belief that work experience will eventually lead to improved skills and stable business operation.

#### Status of recruitment

In order to ensure a stable railway operation into the future, JR East has hired about 1,400 new recruits every year so as to avoid any imbalances in the age composition of our employees. We have also

▶ Number of new recruits and female recruit rate



selected and hired new employees in a fair and equal manner in respect for basic human rights.

#### Employing persons with disabilities

As part of our social responsibility initiatives, JR East has actively employed persons with disabilities, and as of June 2006, they accounted for 2.07% of our workforce. Although government safety regulations and others put some restrictions on the types of work available for those with disabilities in the railway business, we have secured positions for them in our company, based on our commitment to treating them exactly the same as others.

### Human rights education

#### Raising employees’ awareness of human rights

JR East is striving to raise awareness of human rights among all of our employees by establishing the Human Rights Committees at our Head Office and branch offices, and our own *Basic Policy on Human Rights*. We have also held work-specific training and issued newsletters for our employees and their families, with the aim of further raising awareness of this issue.

#### ▶ Work environment data

Rate of disabled employees	2.07%
Total annual working hours	1,847 hours
Overtime working hours	127 hours
Rate of annual paid-vacation taken	91%

\* The rate of disabled employees is as of June 2006.

### Creation of a favorable work environment

#### F Program

JR East has increased the number of female recruits and their positions since the amendment to the Labor Standards Law and the Equal Employment Opportunity Law in 1999. We have also implemented various measures under the “F Program,” to expand female recruits and their work opportunities to play an active role; to enhance systems for supporting a balance between work and childcare; and to improve their work environment and our corporate culture.

The number of female recruits has steadily increased, and in fiscal 2006, we hired 328 women, which accounted for 22.5% of all new recruits. We aim to achieve the goal of reaching a female employment rate at 20% or higher.

The number of women in management positions also steadily increased by 0.1 percentage point year-on-year to 1.0%. As of April 2006, there were about 40 female train drivers, about 220 female conductors, and a growing number of female employees at ticket gates, showing that their range of positions at JR East has been expanding.

#### Reducing working hours

JR East is making efforts to reduce working hours in order to boost job satisfaction and increase productivity of our employees, by introducing new systems and automating our operations. The average annual working hours in fiscal 2005 was 1,847 hours, which was about 340 hours less than when JR East was established in 1987.

### Acquisition of Occupational Health and Safety Management System Certification

In March 2002, JR East's Tokyo General Rolling Stock Center became the first facility in Japanese railway industry to acquire OHSAS 18001 certification. Since then, the number of certified centers and offices of JR East has been on the rise.

#### ► OHSAS certified centers

Center	Date of acquisition	Certification
Tokyo General Rolling Stock Center	February 2002	OHSAS 18001
Omiya General Rolling Stock Center	May 2003	OSHMS
Shinkansen General Rolling Stock Center	March 2005	OSHMS
Koriyama General Rolling Stock Center	March 2005	OHSAS 18001

### Prevention of occupational accidents and diseases

The entire JR East Group is working together to prevent occupational accidents with the aim of achieving "zero customer and employee fatalities and injuries" under our Safety Plan 2008 (see page 18). Despite our efforts, unfortunately, four employees of our Group companies lost their lives in fiscal 2005, due to electric shock, traffic accidents, and other causes. We have renewed our resolve to make continuous efforts to identify potential risks and improve safety at work.

## Human resources development

### Basic policies on human resources development

JR East Group is striving to develop an independent employee who can not only perform his or her assigned duties, but also take on a challenge on his or her initiative. We are actively developing human resources, based on our principles of "improving technological and management capabilities at work," "providing better services from customer perspectives," "developing the next generation of employees," and "facilitating the growth of JR East Group as a whole."

### Small group and proposal activities

Our employees form small groups voluntarily to identify and resolve the issues related to their day-to-day work. In fiscal 2005, approximately 36,400 employees who belonged to about 5,300 small groups participated in such activities.

In proposal activities, our employees make valuable proposals on matters regarding their work. In fiscal 2005, about 680,000 proposals, or 12.7 proposals per employee, were made.



Presentation meeting for small group activities held at our Head Office.

### Various training programs

JR East has established a variety of training programs to help employees develop their own skills.

Besides offering a wide range of group training programs relating to safety, service, and management at the JR East General Education Center and our branch offices' training facilities, we have also provided external correspondence courses to acquire general knowledge and specific skills, as well as internal correspondence programs on the railway business, as part of our efforts to develop our personnel. To help our employees broaden their perspectives and creativity, we also encourage employees to take part in external programs, including public seminars, ship-board and overseas training, and courses at domestic colleges or universities.

#### ► Training programs

##### Training participants

##### Training for Human Resource Development 31,200 participants

<Major programs>  
Seminars for new directors and auditors of Group companies  
Marketing seminars  
Training for new supervisors (on-site supervisors and assistant supervisors)  
Training for new recruits and junior staff  
Training for employees who passed promotion examinations  
Training for employees who support small group activities  
Training for instructors at the Small Group Activities Support Office

##### Training to Enhance Knowledge and Technical Skills 56,200 participants

<Major programs>  
Training for train drivers and conductors  
Training at training centers and business training centers  
Training to enhance business knowledge and technical skills

##### External Training 3,300 participants

<Major programs>  
Management training and cross-industrial exchanges  
Training to acquire various certifications  
Overseas and ship-board training

Total 90,700 participants

## Gender equality initiatives

### Gender-equality program

In response to the revision to the Japan's Labor Standards Law and for many other reasons, the JR East Group has been hiring more women. The revision has heightened our recognition that supporting our employees in their balance between work and childcare is one of our corporate social responsibilities we must fulfill. Despite our efforts, however, we cannot deny that there are still confusion and lack of understanding in some workplaces.

Thus, in April 2004 we launched the "F Program," with the aim of improving the working environment for female employees. Through this program, we have begun our initiatives to heighten the levels of job satisfaction of our male and female employees, as well as the well-being of their families.

The program consists of two main initiatives. One is targeting on female employees; and the other to improve the culture of the workplace as a whole. These initiatives are carried out based on five key pillars. Here we present two examples, a female employee working in key positions, as an example of expanding the number of female recruits and their work opportunities to play an active role; and a child-raising employee taking advantage of our re-employment support program, based on enhancing systems for supporting a balance between work and childcare.

### Working in key positions

After working at View Plaza for the first 12 years since she started working for JR East, Tomoe Sako became Assistant Stationmaster of Shinagawa Station in April 2005. The Assistant Stationmaster is the third-highest position at the station, after stationmaster and deputy stationmaster.

"I am in charge of sales operations, including "Midori no Madoguchi" ticket sales counters and ticket gates. Since I had worked at View Plaza for my whole time at JR East, every day of work at the station is a learning experience. I am very motivated to do this job, because I wanted to learn about the company from a broader perspective."

There are 23 female employees at Shinagawa Station "Midori no Madoguchi," and Sako was encouraged by their comments. They told her they were happy to have a female boss, and to learn that it was possible for women to become managers. "This is a workplace dominated by men, so as a female manager I feel a lot of pressure, but I won't let it get to me too much."



"More work opportunities are going to open up for women, so I hope that other female employees will also set goals and work to achieve them."

Tomoe Sako  
Assistant Stationmaster  
Shinagawa Station

### Taking advantage of re-employment support program

Under our re-employment support program, when employees leave our company, they register for the opportunity to receive information on full-time, temporary, and other job openings in the JR East Group. "Given the chance, I wanted to work at JR East again," says Katsura Kuramochi, who took advantage of this program to find a job at View World after resigning from her prior job. Kuramochi, who had experience in working at Station Travel Center and View Plaza, left JR East when her child entered elementary school. The introduction of the F Program, however, made it possible for her to get back to the workplace where she can utilize her work experience as one of the former employees.

"Thanks to the support and cooperation of my workplace and the people around me," says Kuramochi, "I have been able to balance my work with raising my children. I am overwhelmed with gratitude." Meanwhile, her boss, Urano (Director and General Manager of Planning Department at View World) says he is grateful to have found a match for the position he needed.



"When my children see me working, it plants the seeds in their heads that they have got to be more responsible too."

Katsura Kuramochi  
View World

### Future initiatives

Here, we have introduced two women who are active at JR East. We also recognize, however, that improving workplace culture and atmosphere is another critically vital pillar. Our top management is determined to lead by example, as we continue with our efforts, including distributing guidebooks to all of our male and female employees, starting in fiscal 2005.

#### Five pillars of the F Program

- 1 Expand the number of female recruits and their work opportunities to play an active role
- 2 Enhance systems for supporting a balance between work and childcare
- 3 Increase the number of women in management positions
- 4 Improve workplace culture and atmosphere
- 5 Improve the self-esteem of female employees



# Environmental 環境

The buffer capacity of the Earth's environment is limited, and so are the resources we consume in our daily life.

JR East Group began a full-scale commitment to resolving environmental issues in 1992 by creating an internal environmental regime.

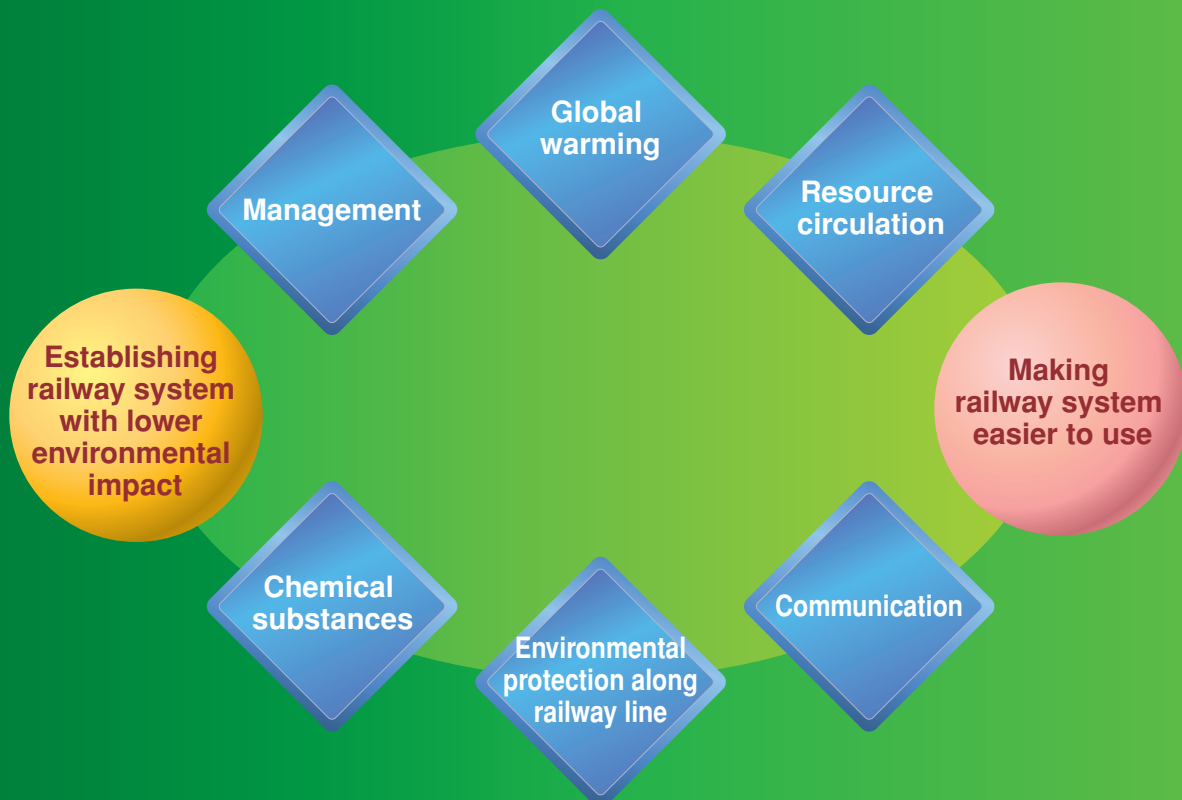
In our core business, railway operations, we strive to establish a transportation system with lower environmental impact.

To accomplish this goal, we have introduced energy-efficient railcars that can run on about half the energy required to operate conventional railcars, and promoted the recycling of our rolling stock from the design stage.

We have many other environmental initiatives as well, including the promotion of the use of natural energy, and the reduction and recycling of various waste collected and generated at our stations and other facilities.

We are also working to make the railway system easier to use in order to promote a modal shift away from automobiles and other forms of transportation to trains, which will make use of the advantages of railways as a form of transportation with comparatively low environmental impact.

We will continue to strengthen and advance our overall commitment to reducing environmental impact group-wide by executing our environmental strategies, and raising employee awareness through environmental education.



## What is the JR East Group's basic concept of environmental protection?

In 1992, the JR East Group adopted the Basic Philosophy of balancing the environmental protection with our business activities. Based on this philosophy, we are taking specific environmental protection measures by setting up the Activity Guidelines and numerical targets.

### ► Basic philosophy and basic policies for promoting ecological activities

#### Basic philosophy (established May 1992)

The entire JR East Group, working together, will diligently strive to balance environmental protection with our business activities.

#### Basic policies (established May 1992)

- To contribute to customers' lives and local communities by providing a comfortable environment
- To develop and provide the technology needed to protect the global environment
- To maintain an awareness of environmental protection and raise the environmental awareness of our employees

### ► Activity guidelines and targets for the promotion of ecological activities

#### Activity guidelines (established March 1996)

- 1** We work to prevent the waste of precious energy resources and to reduce CO<sub>2</sub> emissions—a known source of global warming—by enhancing our energy efficiency and introducing cleaner forms of energy.
- 2** We ensure the proper management and processing of environmental pollutants and ozone-depleting substances, in compliance with laws and regulations. Moreover, we do our best to reduce the usage and generation of such substances, and to adopt environmentally responsible substitutes when they are available.
- 3** We ensure the appropriate processing of various types of waste generated at our offices, establishments, stations, trains, etc. We strive to recycle waste and reduce the generation thereof, and to use more recycled and resource-saving products to minimize our burden placed upon the environment.
- 4** We respect the natural environment as a nurturer and source of life, and therefore we endeavor to reduce noise and vibration caused by train operations, thus achieving a harmonious relationship with the communities we serve.
- 5** We work to make railways a more attractive and environmentally friendly form of transportation.

### Targets to be met by fiscal 2008<sup>\*1</sup>

(established March 1996; revised November 2000; partially revised September 2002; revised January 2005)

#### East Japan Railway Company

#### Target for fiscal 2008

CO <sub>2</sub> emissions through business activities	22% reduction
CO <sub>2</sub> emissions per unit of electricity generated at JR East's thermal power plant	40% reduction
Energy-efficient train utilization rate	82%
Train energy consumption per unit of transport volume	19% reduction
Number of large refrigerators using specified chlorofluorocarbons (CFCs)	100% reduction
Recycling rate for waste generated at stations and on trains	45%
Recycling rate for waste generated at General Rolling Stock Centers, etc.	85% (average for 4 years of plan)
Recycling rate for waste generated through construction projects	92% (average for 4 years of plan)
Reduction of noise to less than 75dB in designated residential areas along the Tohoku and Joetsu Shinkansen lines	100% completion (target to be met by fiscal 2009)
NO <sub>x</sub> emissions from JR East's thermal power plant	63% reduction

#### JR East Group

#### Target for fiscal 2008

Recycling rate for general waste	43%
Recycled paper utilization rate	100%
Annual environmental protection activities	Participation in tree planting activities, etc.

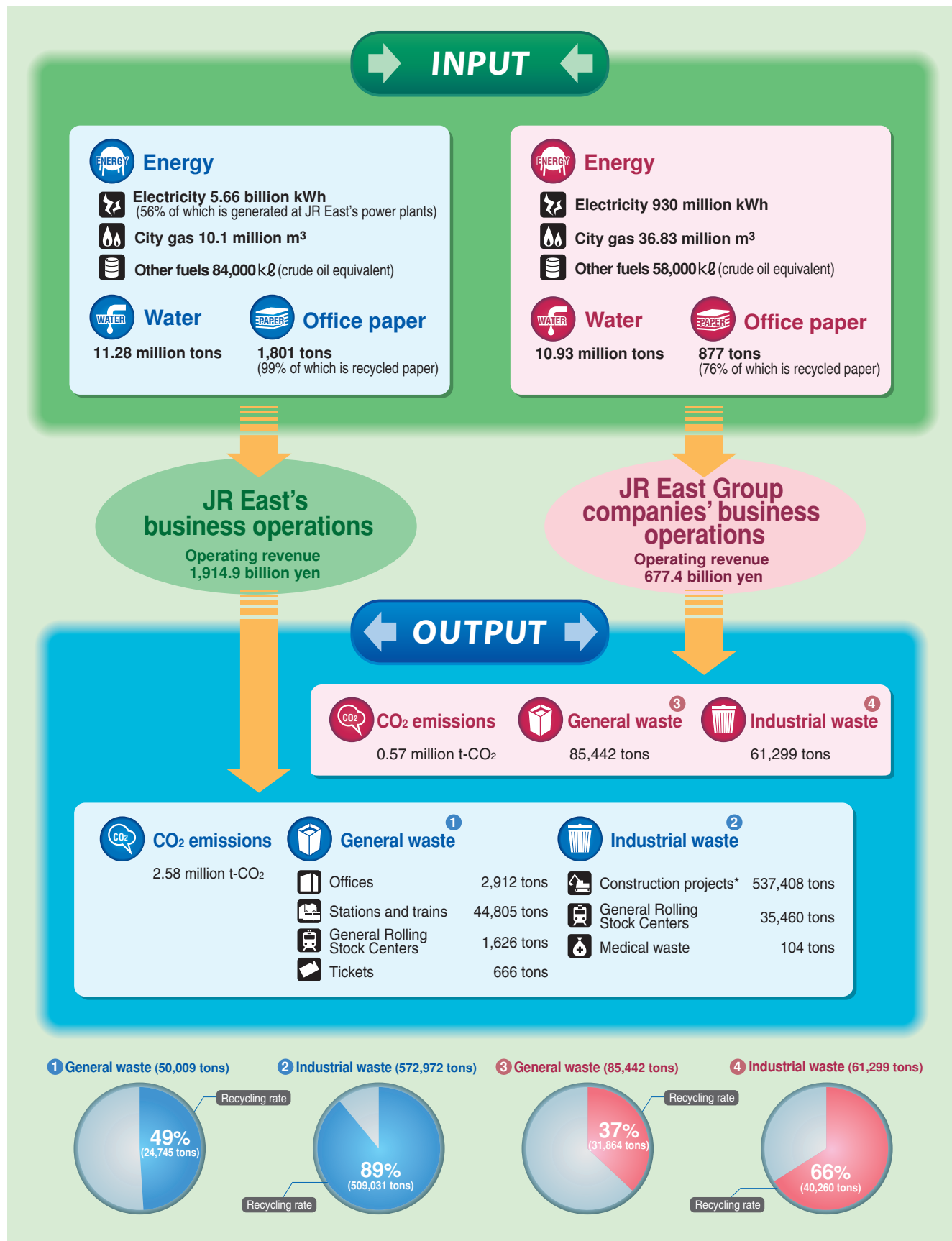
Note: Base year for reduction targets is fiscal 1990.

#### \*1 Targets to be met by fiscal 2008:

In January 2005, targets to be met by fiscal 2008 were partially modified in line with progress of the original targets for fiscal 2005. Accordingly, targets were newly set for the entire JR East Group.

## How much impact does the JR East Group impose on the environment?

The JR East Group consumes a large amount of resources through our operations and discharges a variety of substances into the environment. We keep track of the quantities of the inputs and outputs (i.e., the balance of resources, energy and others) in an effort to reduce our impact on the environment.



\* Industrial waste includes waste generated by contractors through our construction projects.


















## What was accomplished in fiscal 2005 in relation to targets to be met by fiscal 2008?

JR East has set environmental targets to be met by fiscal 2008. Every fiscal year, we review our performance qualitatively and quantitatively to identify the causes of issues, which are later used for improvement in the next fiscal year.

Category of environmental conservation activities	Main activities	Target to be met by fiscal 2008	Base value (base year: fiscal 1990)
Environmental management	<ul style="list-style-type: none"> <li>● Environmental management led by the Committees on Ecology at JR East Head Office and branch offices</li> <li>● Acquisition of ISO14001 certification at the Akita General Rolling Stock Center</li> <li>● Commencement of JR East Eco Activities</li> </ul>		
Measures to prevent global warming	<ul style="list-style-type: none"> <li>● Introduction of energy-efficient railcars</li> <li>● Promotion of intermodal transportation (Park-and-ride scheme, Rail &amp; Rent-a-Car service, etc.)</li> <li>● Reduction of CO<sub>2</sub> emissions through power generation and supply</li> </ul>	CO <sub>2</sub> emissions through business activities	2.76 million t-CO <sub>2</sub>
		CO <sub>2</sub> emissions per unit of electricity generated at JR East's thermal power plant	726g-CO <sub>2</sub> /kWh
		Energy-efficient train utilization rate	—
		Train energy consumption per unit of transportation volume	20.6 MJ/car-km
		Number of large refrigerators using specified chlorofluorocarbons (CFCs)	82 units
Measures for resource circulation	<ul style="list-style-type: none"> <li>● Reduction and recycling of waste collected from stations and trains (sorted waste collection, more recycling centers)</li> <li>● Recycling of train tickets</li> <li>● Recycling of waste generated at General Rolling Stock Centers and through construction projects</li> <li>● Utilization of office paper made from recycled newspapers collected at stations</li> </ul>	Recycling rate for waste collected from stations and on trains	—
		Recycling rate for waste generated at General Rolling Stock Centers	—
		Recycling rate for waste generated through construction projects	—
		Recycling rate for general waste	—
		Recycled paper utilization rate	—
Chemical substance management	<ul style="list-style-type: none"> <li>● Reduction of environmental pollutants generated at the Kawasaki Thermal Power Plant</li> <li>● Appropriate management and treatment of waste with PCBs</li> </ul>	NO <sub>x</sub> emissions from JR East's thermal power plant	994 tons
Environmental activities along railway lines	<ul style="list-style-type: none"> <li>● Implementation of noise reduction measures along Shinkansen and conventional lines (Installation of soundproof walls, continuous welded rails)</li> <li>● Utilization of springwater in tunnels</li> </ul>	Reduction of noise to 75dB or less in designated residential areas <sup>*1</sup> along the Tohoku and Joetsu Shinkansen lines	—
Environmental communication	<ul style="list-style-type: none"> <li>● Communicating environmental information through railcar advertisements and at stations</li> <li>● Tree planting along railway lines</li> <li>● Tree planting under the Adataro Hometown Forestation Program</li> <li>● Publication of the <i>Sustainability Report</i>, and launching of environmental campaigns</li> </ul>	Taking part in specific environmental protection activities every year	—
Research & development	<ul style="list-style-type: none"> <li>● Development of hybrid NE Train</li> <li>● Development of noise reduction technology</li> </ul>		

Targets for the JR East Group

<sup>\*</sup>"average for 4 years of plan" is the fiscal 2005–2008 average.

Target value	Results for fiscal 2004 *Actual value in parentheses	Results for fiscal 2005 *Actual value in parentheses	Evaluation	Reference pages
				38–39, 42
22% reduction (2.15 million t-CO <sub>2</sub> )	13% reduction (2.39 million t-CO <sub>2</sub> )	7% reduction (2.58 million t-CO <sub>2</sub> )	– *2	44–47, 51
40% reduction (436 g-CO <sub>2</sub> /kWh)	30% reduction (510 g-CO <sub>2</sub> /kWh)	26% reduction (534 g-CO <sub>2</sub> /kWh)	– *2	
82%	76%	81%	 	48–50
19% reduction (16.7 MJ/car-km)	13% reduction (17.9 MJ/car-km)	15% reduction (17.6 MJ/car-km)	 	
100% reduction (0 units)	84% reduction (13 units)	88% reduction (10 units)	 	
45%	43%	47%	  	51
85% (average for 4 years of plan*)	82%	90%	 	
92% (average for 4 years of plan*)	91%	89%	 	
43%	38%	42%	 	
100%	86%	92%	 	52–53
63% reduction (368 tons)	58% reduction (417 tons)	54% reduction (462 tons)	– *2	
100% (target to be met by fiscal 2009)	(Target was met in residential areas)	(Target was met in residential areas)	–	54–55
–	25,000 trees planted at 17 locations by 3,200 participants	31,000 trees planted at 18 locations by 3,600 participants		
				43








Tetsujiro Tani  
JR East Executive Vice President  
Vice Chairman of the Committee on Ecology

Fiscal 2005 was the first fiscal year of our initiatives to achieve our revised fiscal 2008 targets. In our efforts to prevent global warming, we have made good progress in reducing energy used for train operation by further introducing energy-efficient railcars. However, our hydroelectric plant was damaged due to the Niigata-Chuetsu Earthquake, and the plant's output for fiscal 2005 was roughly halved as a result. Because this loss was covered with electricity generated at our thermal power plant, our CO<sub>2</sub> emissions through business activities, CO<sub>2</sub> emissions per unit of electricity generated at JR East's thermal power plant, and NO<sub>x</sub> emissions from JR East's thermal power plant all increased by a large amount. As we have already completed repairs of our hydroelectric plant and brought it back fully online in March 2006, the impact of the earthquake will thus be eliminated in our next report.

Although fiscal 2005 was the first year of our Group's revised targets, we have already produced results and made a good start toward achieving them. We remain committed to further promoting our environmental conservation activities, in line with the characteristics of each business of our Group companies.

**Progress toward fiscal 2008 targets**

-    ..... Achieved
-   ..... Satisfactory
-  ..... Behind schedule

**\*1 Measures to reduce noise along the Tohoku and Joetsu Shinkansen lines**  
As we have expanded the coverage of noise reduction measures along Shinkansen lines since fiscal 2006, we plan to announce the results from the next fiscal year.

**\*2 Progress evaluation**  
Due to the Niigata-Chuetsu Earthquake, we made no evaluation for CO<sub>2</sub> emissions through business activities, CO<sub>2</sub> emissions per unit of electricity generated at JR East's thermal power plant, and NO<sub>x</sub> emissions from JR East's thermal power plant.

# How does the JR East Group promote environmental management?

The JR East Group is working to enhance our environmental management system in order to promote our efforts to protect the environment. We also provide each of our employees with continuing environmental education programs to raise their awareness of the environment

## Promotion of environmental management

### Internal promotion structure

JR East has established the Committee on Ecology in order to study the impacts of our business activities on the environment; set environmental targets; implement environmental conservation activities; evaluate the levels of achievement regarding the targets; and ensure supervision by the top management. The committee has its office at the Management Planning Department, and functions as a cross-departmental body, with its chair served by the Chairman of JR East and its members consisting of General Managers of departments listed in the figure below.

In fiscal 2005, we held the JR East Group Environmental Management Promotion Conference as in the previous year, with participation of representatives from entire JR East Group companies. They discussed ways to

strengthen group-wide environmental efforts and carried out environmental activities.

### ISO14001 certification

JR East is making our efforts to acquire ISO14001 certification, an international standard for environmental management systems, mainly at our facilities with greater environmental impacts. Since the Niitsu Rolling Stock Manufacturing Factory became our first facility with the certification in fiscal 1998, the number of our ISO14001-certified sites has been steadily increasing. Since the Akita General Rolling Stock Center acquired the certification in fiscal 2005, all of our General Rolling Stock Centers, which are responsible for train maintenance, are certified under ISO14001.

ISO14001-certified companies in the JR East Group include East Japan Eco Access Co., Ltd., LUMINE Co., Ltd., and the Product Manufacturing Division of Nippon Restaurant Enterprise Co., Ltd.



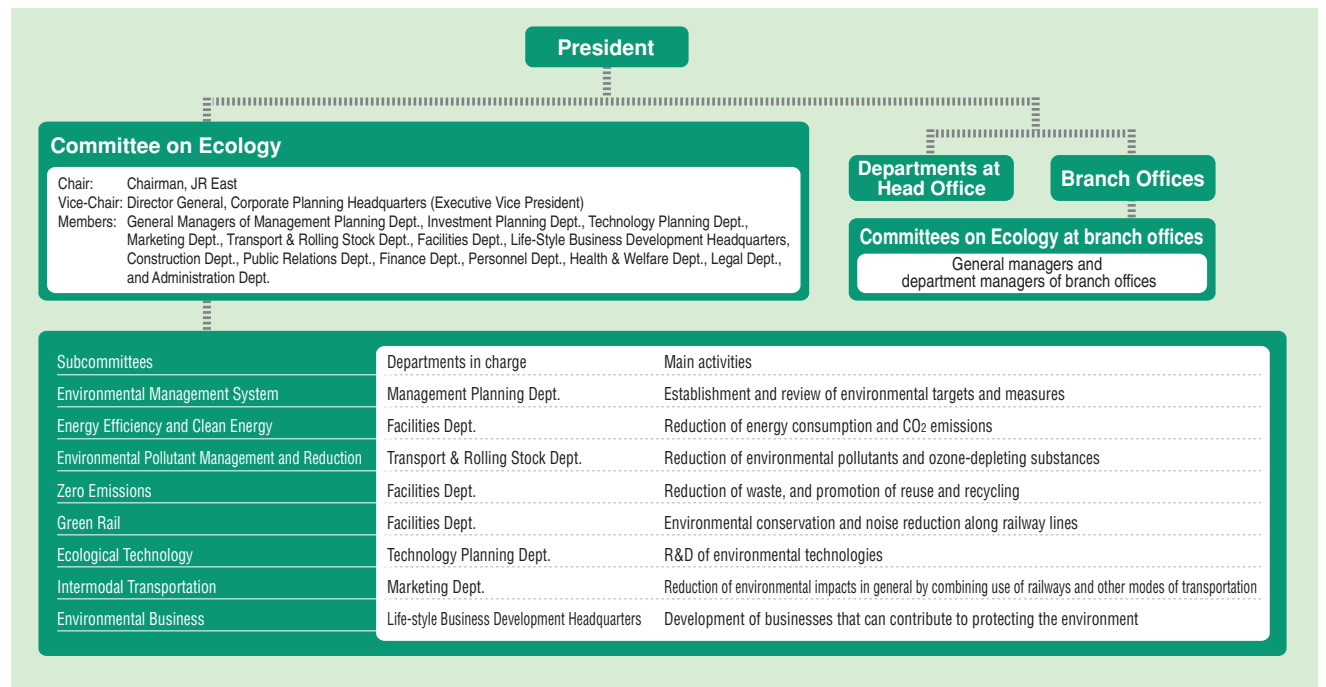
When the Akita General Rolling Stock Center acquired ISO14001 certification, all of our General Rolling Stock Centers became certified



### ISO14001-certified facilities as of fiscal 2005

Certified facilities	Year and month of acquisition
Niitsu Rolling Stock Manufacturing Factory	February 1999
Kawasaki Thermal Power Plant	March 2001
Tokyo General Rolling Stock Center	March 2001
Niigata Mechanical Technology Center	March 2001
Omiya General Rolling Stock Center	March 2002
Shinkansen General Rolling Stock Center	November 2002
Koriyama General Rolling Stock Center	December 2003
Nagano General Rolling Stock Center	February 2005
Akita General Rolling Stock Center	July 2005

### Organizational structure to promote environmental management (as of March 31, 2006)



### Internal environmental audits

Under the initiative of the Committee on Ecology, JR East promotes environmental activities based on the Plan-Do-Check-Action (PDCA) cycle.

At our General Rolling Stock Centers, for example, in-house auditors are trained through external training programs, and conduct routine audits at the centers in order to evaluate our environmental activities. Our internal environmental auditors pointed out that evaluation items for some environmental aspects need to be more specific, and action was later taken to rectify this situation.

### Environmental risk management

JR East is working to establish a system to prevent environmental accidents by more rigidly managing chemical substances.

We have compiled emergency response manuals for on-site divisions such as our thermal power plants and General Rolling Stock Centers that handle chemical and hazardous substances. We are also making preparation to properly respond to any contingencies by holding workshops and training sessions on how to handle such substances, and ensuring that related information reaches all the personnel in charge.

### Environment-related accidents

In fiscal 2005, there was neither environment-related accident nor violation of environmental laws and regulations in the JR East Group.

### Environmental education

In order to promote environmental management, it is essential that all employees have appropriate knowledge about environmental issues. We therefore provide our employees with environmental education upon hiring and promotion, and lectures and correspondence training courses on the environment. In fiscal 2005, a total of 2,455 employees received such environmental education. We again hold training seminars in fiscal 2006 for personnel of all operational bodies who are responsible for environmental matters. In addition, we distribute a summary version of the *JR East Group Sustainability Report* to all employees.



Summary version of the *JR East Group Sustainability Report* is given to all the employees. In-house magazine "JR Higashi" also carries environmental information.

### Recognition and award for employees' environmental initiatives

Although we have a long history of recognizing our employees for their outstanding environmental conservation and other efforts in voluntary small group activities and proposal activities, we started to annually present an award to an operational body that had made environmental contributions, for the purpose of further promoting environmental conservation initiatives. In fiscal 2005, we honored the JR Hachioji Branch Office for its leading effort to implement the JR East Eco Activities, hoping that the network of this activity will expand company-wide.



We started to present an award to an operational body for its environmental contribution effort. The first award went to the JR Hachioji Branch Office.

#### ► Environmental education in fiscal 2005

Training and lectures	Number of training sessions and lectures held	Number of participants
Training for personnel responsible for environmental matters	1	29
Training for personnel responsible for environmental measures	1	21
Training for new on-site supervisors	8	145
Training for work-implementation managers	1	198
Training for new recruits	1	1,488
Training held at each branch office	3	100
Environmental lectures, etc.	4	310
Correspondence training courses	—	164

## How does the JR East Group utilize environmental accounting and our own environmental management indicator?

JR East utilizes environmental accounting to ascertain our environmental conservation costs and investments, as well as environmental conservation benefit. The results and our own environmental management indicator are used as part of the bases for management decision-making.

### ► Environmental accounting for fiscal 2005

Category	Environmental conservation costs (billion yen)		Environmental conservation benefits in relation to environmental targets	Economic benefit of environmental conservation activities (billion yen)		
	Investments	Expenditures		Fiscal 2004	Fiscal 2005	
Environmental conservation (pollution prevention) activities along railway lines	4.74	4.66	Implementation of noise reduction measures along Shinkansen and conventional lines (Installation of sound proof walls, continuous welded rails, and other measures) NOx emissions from JR East's thermal power plant	– 417 tons	– 462 tons	–
Global environmental conservation activities	59.22	–	CO <sub>2</sub> emissions through business activities CO <sub>2</sub> 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)	2.39 million t-CO <sub>2</sub> 510g-CO <sub>2</sub> /kWh 76% 17.9 MJ/car-km 13 units	2.58 million t-CO <sub>2</sub> 534g-CO <sub>2</sub> /kWh 81% 17.6 MJ/car-km 10 units	26.58
Resource circulation activities	–	5.29	Recycling rate for waste collected from 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	43% 82% 91% 38% 86%	47% 90% 89% 42% 92%	1.40
Environmental management	–	0.40	Taking part in specific environmental protection activities every year ( Railway Line Forestation Programs and Tree Planting under the Adatara ) Hometown Forestation Program	25,000 trees planted at 17 locations by 3,200 participants	31,000 trees planted at 18 locations by 3,600 participants	–
Environmental research & development	0.02	5.13				–
Social activities	–	0.04				–
<b>Total</b>	<b>63.98</b>	<b>15.53</b>				<b>27.98</b>

#### Notes

Capital investment for the period: 275.3 billion yen

Total R&D costs for the period: 16.7 billion yen\*1

■ Targets for the JR East Group

#### The above table's relations with the table for Targets and Results on pages 36–37 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 recycling"

"Environmental management" = "Environmental management" and "Environmental communication"

"Environmental research & development" = "Research & development"

"Social activities" = "Environmental communication"

#### \*1 Total R&D costs

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



## Environmental accounting

### Summary of fiscal 2005

In fiscal 2005, our investments and expenditures as part of environmental conservation costs amounted to about 64 billion yen and 15.5 billion yen respectively.

“Global environmental conservation activities,” which account for a major part of the investments, were mainly the introduction of energy-efficient railcars on the Tokaido, Joban, and other conventional lines. However, investments in global environmental conservation activities declined by 3.4 billion yen year-on-year to approximately 59.2 billion yen, due to the near-completion of introduction of energy-efficient railcars on the Yamanote line.

The introduction of energy-efficient railcars could reduce CO<sub>2</sub> emissions by 560,000 tons over their total service life.

As part of our environmental conservation activities along railway lines, we implemented various measures, such as the installation of sound absorbers on soundproof walls to reduce noise along Shinkansen lines. Our investments in these

activities totaled approximately 4.7 billion yen, about the same level as fiscal 2004.

### JR East's Environmental Management Indicator

JR East has our own Environmental Management Indicator as a management decision-making tool to assess the relation between our business activities and environmental impacts. It is calculated by dividing CO<sub>2</sub> emissions as one of the major factors imposing environmental impacts, by operating profits as Economic Value Added (EVA).

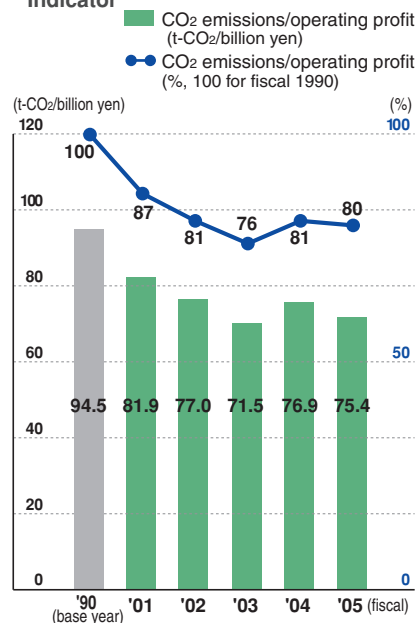
This means that the smaller the number calculated by this formula is, the more Economic Value Added we created with smaller impacts on the environment. The value of the indicator was 75.4 t-CO<sub>2</sub>/billion yen for fiscal 2005, compared with 94.5 t-CO<sub>2</sub>/billion yen for fiscal 1990.

The increase in this indicator in fiscal 2004 is because the Niigata-Chuetsu Earthquake forced us to suspend the operation of JR East's hydroelectric plant, resulting in an increase in CO<sub>2</sub> emissions from alternative electricity sources.

### 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



### 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).
- Figures are calculated with reference to the “Environmental Accounting Guidelines (2005 edition)” issued by the Japan’s Ministry of the Environment.
- 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., Pollution prevention costs include the total amount spent for enhancing performance, such as the cost to install continuous welded rails, and global environmental conservation costs include the total amount invested in energy-efficient railcars).
- Expenditures do not include depreciation charges.
- In the costs for resource circulation activities, costs for treating waste collected from stations and trains are calculated by multiplying the allocations by the costs for cleaning stations and train cars, based on a model for cleaning stations and trains.
- In the costs for resource circulation activities, the costs for treating waste generated through construction projects and at rolling stock factories are calculated by multiplying waste volume for fiscal 2005 by standard unit prices by the type of waste for 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 included in some cases) in electricity and repair costs resulting from the introduction of energy-efficient railcars and cogeneration by the expected useful life, to determine useful-life economic benefit.
- Gains from the sales of waste generated at rolling stock factories and through construction projects are included in economic benefit of resource circulation activities.

## JR East Eco Activities

### Bottom-up environmental efforts

We have carried out a wide range of initiatives aimed at reducing our impact on the environment. With the recognition that in order to further strengthen our commitment to environmental conservation, we must improve each of our approximately 60,000 employees' awareness of the environment, and remain committed to environmental conservation, we have looked for ways to accomplish this. As one step in this process, in February 2005 seven organizations of the JR Hachioji Branch Office launched JR East Eco Activities on a trial basis.



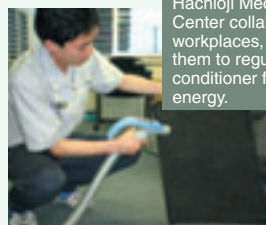
Soliciting ideas regarding environmental conservation efforts through "Eco Boxes."

### Main initiatives of seven model organizations piloting JR East Eco Activities

Model organization	No. of employees	Main initiatives
Tachikawa Station	86	<ul style="list-style-type: none"> <li>● Writing and circulating a daily ecology report</li> <li>● Creating Tachikawa Station Eco Logo</li> </ul>
Hino Station	12	<ul style="list-style-type: none"> <li>● Displaying "Before and After" for progress on ecological activities</li> <li>● Using personal (non-disposable) chopsticks at meals and eco bags for shopping</li> </ul>
Tachikawa Conductors' Depot	195	<ul style="list-style-type: none"> <li>● Placing electricity conservation awareness stickers on light switches</li> <li>● Holding meetings to exchange views with employees of East Japan Eco Access Co., Ltd.</li> </ul>
Mitaka Electric Car & Drivers Depot	222	<ul style="list-style-type: none"> <li>● Replacing a railcar cleaning equipment with one that does not use cleaning agents</li> <li>● Launching eco newspaper and eco bulletin board</li> </ul>
Hachioji Track Maintenance Technology Center	65	<ul style="list-style-type: none"> <li>● Weeding by hand instead of using herbicides</li> <li>● Prolonging lifetime and encouraging reuse of construction materials</li> </ul>
Hachioji Mechanical Technology Center	13	<ul style="list-style-type: none"> <li>● Distributing LCD thermometer stickers</li> <li>● Encouraging periodic cleaning of air conditioner filters</li> </ul>
Hachioji Electric Power Technology Center	93	<ul style="list-style-type: none"> <li>● Creating colorized diagram of which lights to turn off for electricity conservation</li> <li>● Encouraging eco activities to take root by regularly changing the eco leader</li> </ul>

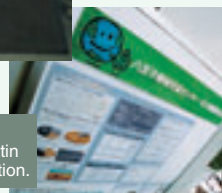
### Harmonizing work, working environment, and environmental conservation

Of course we have had activities to raise environmental awareness, such as environmental education, but the JR East Eco Activities feature a Plan-Do-Check-Action (PDCA) cycle carried out at the workplace level, where we set action targets, take necessary measures, review them each year, and further vitalize our activities. The goal of the JR East Eco Activities is to incorporate our concept of environmental conservation into our work and working environments in concrete ways. Each workplace determines what activities to do through brainstorming sessions among all employees under the initiative of its eco leader.



Hachioji Mechanical Technology Center collaborates with other workplaces, in order to encourage them to regularly clean their air conditioner filters to help conserve energy.

Most of the model organizations have bulletin boards to share information.



Company car with a "Say No to Idling" bumper sticker.

### Initiatives of model organizations

Although the pilot JR East Eco Activities at the JR Hachioji Branch Office lasted only for five months, employees of the branch office have become actively involved in environmental initiatives at their respective workplaces, ranging from 15 to 200 people in size.

There was a wide range of initiatives. Some were aimed at promoting small changes in behavior and lifestyle, such as stickers encouraging employees to save electricity and water, stickers with LCD thermometers, and campaign for bringing their own chopsticks to work and using their own shopping bags. Others were related to core operations, including ecology daily report circulation, bulletin board placement, information sharing through workshops and seminars, efforts to increase the lifetimes of railcar consumables, and hands-on weeding.

### Future initiatives

We have internally distributed a booklet titled "JR East Eco Activities: Environmental Conservation Efforts on the Front Lines." We plan to expand the activities as company-wide initiatives by fiscal 2008.



## Research and development contributing to environmental conservation

### JR East's R&D initiatives for environmental conservation

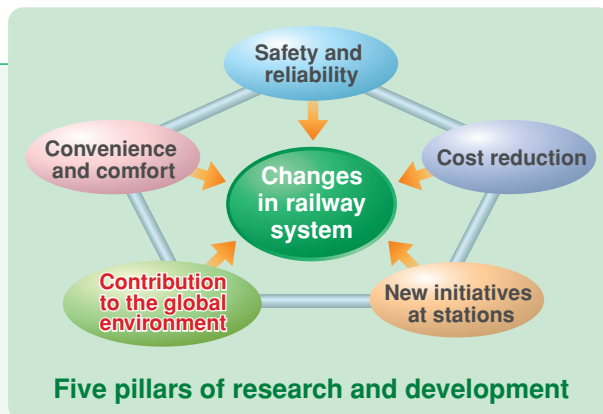
JR East is committed to contributing to environmental conservation through research and development by placing "contribution to the global environment" as one of the five pillars of our R&D initiatives. Specifically, our main R&D initiatives related to environmental conservation are: the creation of new energy-efficient systems; the promotion of resource circulation efforts to reduce waste generation and to use and make materials that are designed to facilitate recycling; and the conservation of the environment along railway lines by reducing noise and environmental pollution.

Here, we present two examples of new energy-efficient systems that have made significant advances.

### Introducing the world's first hybrid railcar

We developed the New Energy (NE) Train, a prototype hybrid-system diesel railcar with the key concept of reducing environmental impact. We began test run of this new train in May 2003, in order to examine its running performance and energy-conservation efficacy.

Around the summer of 2007, we plan to commercially introduce the hybrid train, the world's first. Three Kiha E200 hybrid electric railcars will run on the Koumi line (between Kobuchizawa and Komoro). Like the NE Train, the hybrid railcar makes efficient use of an accumulator battery charged by a diesel engine and regenerative brakes. We will also examine the possibility of mass-producing these railcars, based on the operational data gathered over the next two years.



### Beginning development of railcars using fuel cells

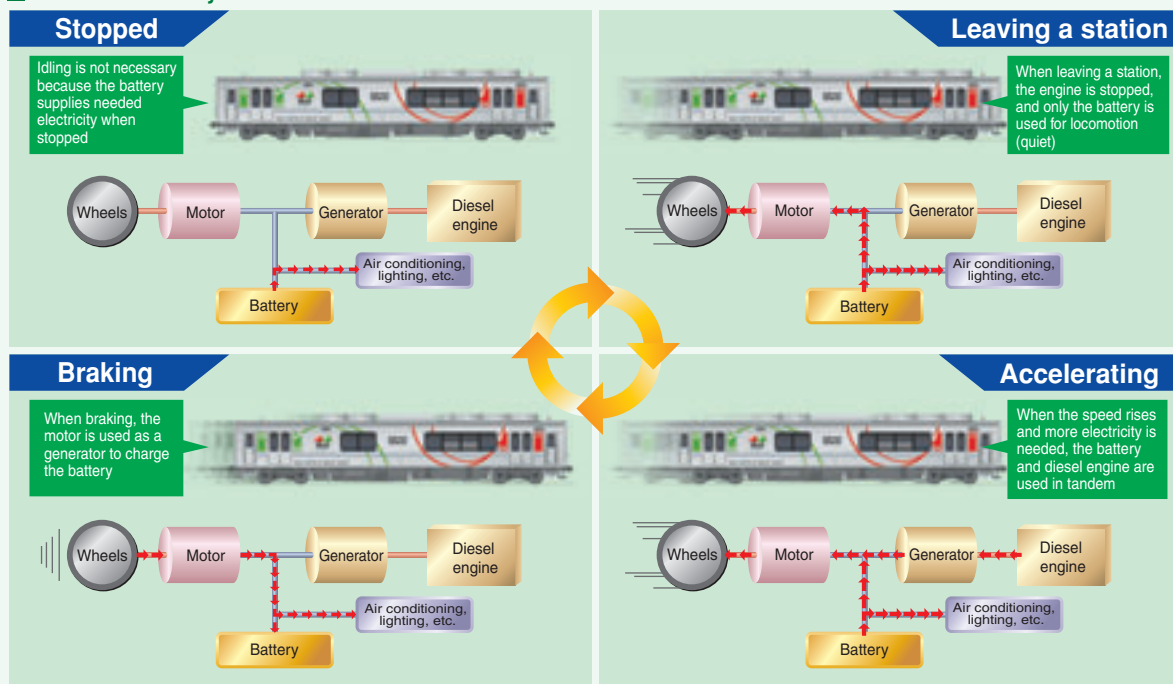
Hopes are rising for fuel cells as electricity-generation technology with low environmental impact. Fuel cells feature high electricity-generation efficiency, and the only by-product generated through their reactions is water. JR East has begun the research and development of railway systems using fuel cells.

In July 2006, we began test run of the world's first fuel-cell hybrid railcar as a modified version of the NE train. We continue to develop control, safety, and other technologies, and ascertain remaining challenges. There are still many challenges to overcome in the fuel cell technology for itself, and it will take more time for its commercially viable application, but we are committed to the development of this technology with an eye to the future.



A fuel-cell hybrid railcar will also help beautify the environment along railway lines by eliminating utility poles and overhead wires.

### Overview of the hybrid railcar



\* The fuel-cell hybrid railcar is based on this diesel hybrid system, replacing the diesel engine and generator with a fuel cell.

# What is the JR East Group doing to prevent global warming?

In our efforts to reduce our CO<sub>2</sub> emissions, the JR East Group pursues the efficient use of energy and the effective use of natural energy. We also promote intermodal transportation with the aim of reducing CO<sub>2</sub> emissions from all forms of transportation.

## Measures to prevent global warming

### Energy supply and consumption

The electricity consumed by JR East for train operations as well as lighting and air conditioning at stations and in offices is supplied from two sources: JR East's own power plants and electric power companies. Besides electricity, we also use diesel fuel and kerosene for diesel train operation and air conditioning at stations and in offices.

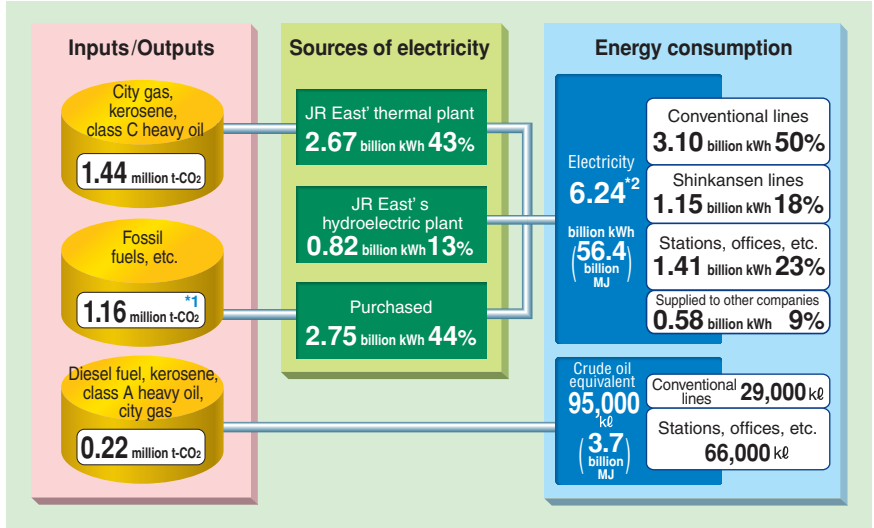
Thanks to our efforts to use energy efficiently, our energy consumption has been on a decline.

### CO<sub>2</sub> emissions and reduction measures

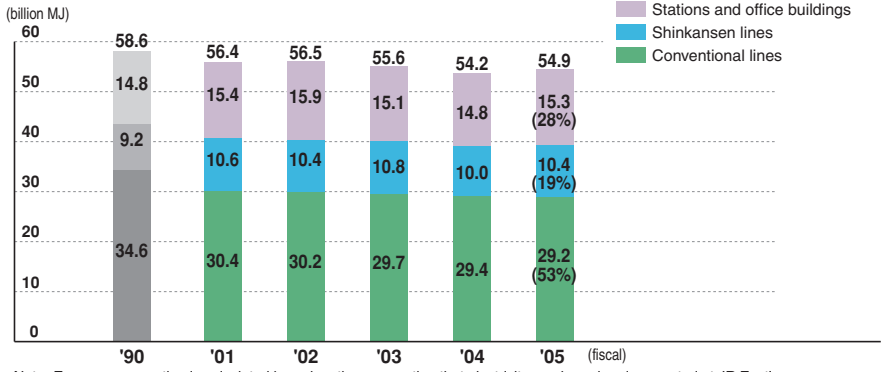
Although our CO<sub>2</sub> emissions had steadily declined, JR East emitted 2.58 million tons of CO<sub>2</sub> in fiscal 2005, up 0.38 million tons compared with the lowest level in fiscal 2003. Unfortunately, this is near-equivalent to our CO<sub>2</sub> emissions in fiscal 1997. It is mainly because the Niigata-Chuetsu Earthquake caused great damage to our hydroelectric plant, a power station that supplies electricity to the Tokyo Metropolitan Area, and forced us to suspend its operation. Despite the partial resumption of the plant's operation in February 2005, the negative aspects of this suspension still remained throughout fiscal 2005.

As a result of our efforts to reconstruct the damaged facility, our hydroelectric plant started full-scale operation in March 2006. We are determined to continuously implement a wide range of CO<sub>2</sub> reduction measures, while putting priority on the reduction in energy for train operation, which accounts for 72% of the total energy we consume.

### Energy flows of JR East

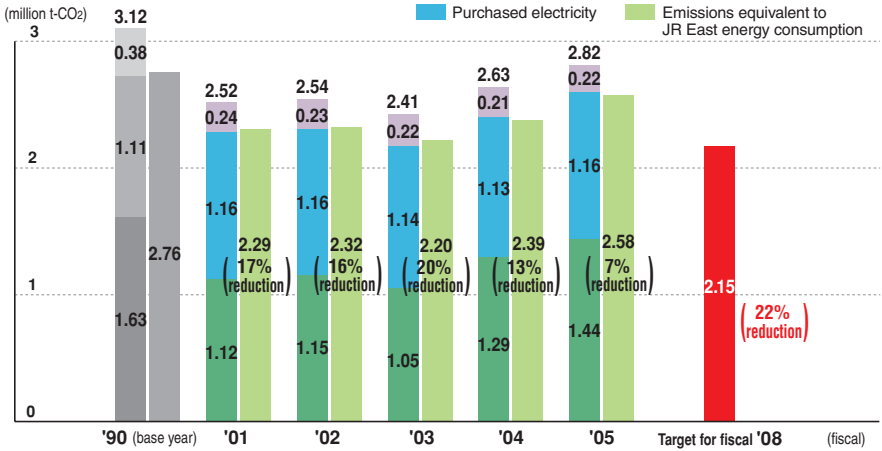


### Trends in energy consumption



Note: Energy consumption is calculated based on the assumption that electricity purchased and generated at JR East's hydroelectric plant is constantly consumed at a rate of 9.42 MJ/kWh. Energy consumption by JR East's thermal power plants and other fuels' consumption is calculated based on actual fuel consumption.

### Trends in total CO<sub>2</sub> emissions



Note: The CO<sub>2</sub> emission factors for fuels and purchased electricity used here are from the Japan Business Federation's "Voluntary Action Plan on the Environment," and the Federation of Electric Power Companies of Japan.

**\*1 1.16 million t-CO<sub>2</sub>**  
In order to enable a yearly comparison, the CO<sub>2</sub> emission factor for fiscal 1990 set by the Federation of Electric Power Companies of Japan is used here. If the CO<sub>2</sub> emission factor for fiscal 2005 is used, the figure becomes 1.17 million t-CO<sub>2</sub>.

**\*2 6.24 billion kWh**  
Electricity consumed by JR East (exclusive of those supplied to other companies) is 5.66 billion kWh, which is equivalent to the annual electricity consumed by 1.51 million households.

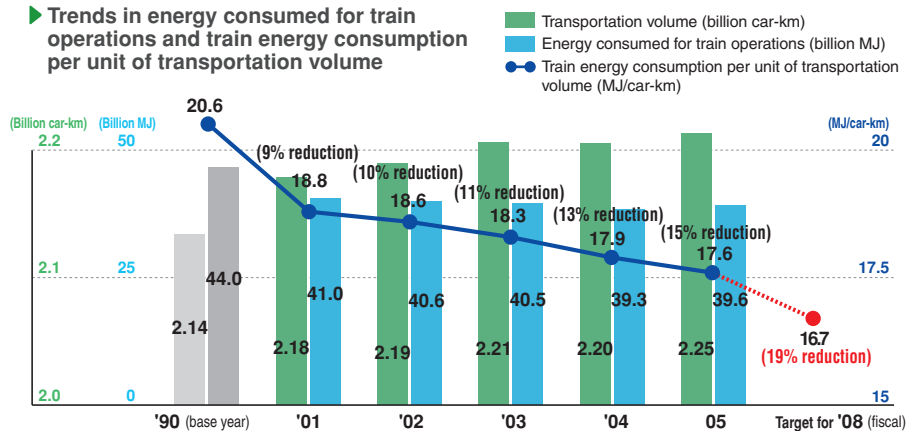
### Reducing energy consumed for train operations

As of the end of fiscal 2005, JR East had 9,944 energy-saving railcars in operation. This accounts for 81% of all trains we own.

We further introduced advanced energy-efficient railcars, such as trains with regenerative brakes, which can convert movement energy during deceleration into electric energy, and trains with Variable Voltage Variable Frequency (VVVF) inverters, which can control a motor without wasting electricity.

These energy-saving measures regarding train operation in fiscal 2005 made it possible for us to reduce energy consumption per unit of transportation volume by 15% compared with fiscal 1990.

### Trends in energy consumed for train operations and train energy consumption per unit of transportation volume



**E231 series:** VVVF railcars that are mainly used as commuter or suburban trains.

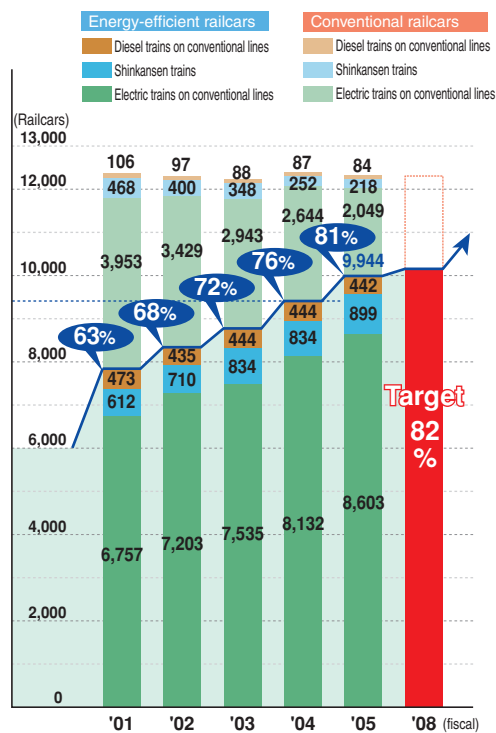


**E2 series:** VVVF railcars used for *Asama* or *Hayate* Shinkansen trains.



**E233 series:** New railcars scheduled to be in operation on the Chuo Line in December 26.

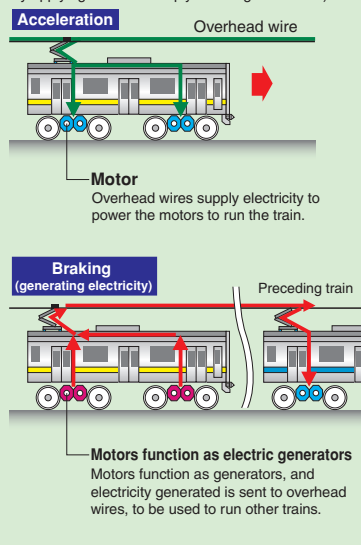
### Trends in energy-efficient railcars



### Mechanism of regenerative brake

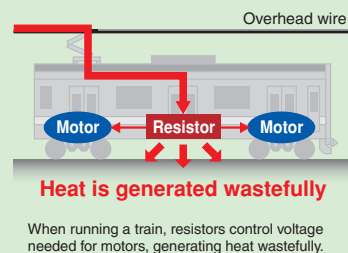
#### A regenerative brake can generate electricity during braking

Motors of an energy-efficient railcar function as electric generators when brakes are applied, and electricity generated in this process is later sent to the overhead wires, making it possible to use energy efficiently. (In the case of conventional trains, energy generated by applying brakes is simply discharged as heat.)

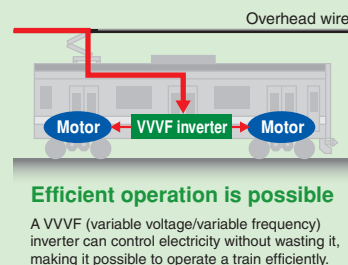


### Mechanism of VVVF inverter train

#### Conventional train



#### VVVF inverter train



## Reducing CO<sub>2</sub> emissions through intermodal transportation

### Intermodal transportation

A railway is a highly energy-efficient mode of transportation with low environmental impacts, but railways alone cannot completely satisfy the transportation needs of the people. Thus, JR East is working to reduce CO<sub>2</sub> emissions of the entire transportation system by promoting intermodal transportation<sup>\*1</sup>—combining railways with other modes of transportation.

#### Park-and-ride schemes

We are currently promoting the park-and-ride scheme, under which we provide parking spaces near railway stations so that our customers can drive their cars from home to nearby stations and use our trains from there. By the end of March 2006, 122 JR East stations had a total of 12,000 parking spaces<sup>\*2</sup>.

With this scheme, we are making efforts to encourage more people to use trains for some parts of their travel, instead of using their car for the complete trip.



A parking lot owned by Kofu Station Building Co., Ltd. near Kofu Station is now utilized under the park-and-ride scheme.

#### Rail and car rental

Since 1995, JR East has offered a car rental service called “Train-ta-kun,” with about a half of normal car rental charges. This service allows our customers to use rental cars as a means of transportation from the station of arrival to the final destination. We are also selling a service called “Rail & Rent-a-Car,” which offers discounts on both train fares and car rental fees. Furthermore, we strive to provide services that facilitate a shift from car-only travel to car-and-train travel, by

renting compact and other types of cars, offering attractive rates, and installing car navigation systems as standard equipment in rental cars.

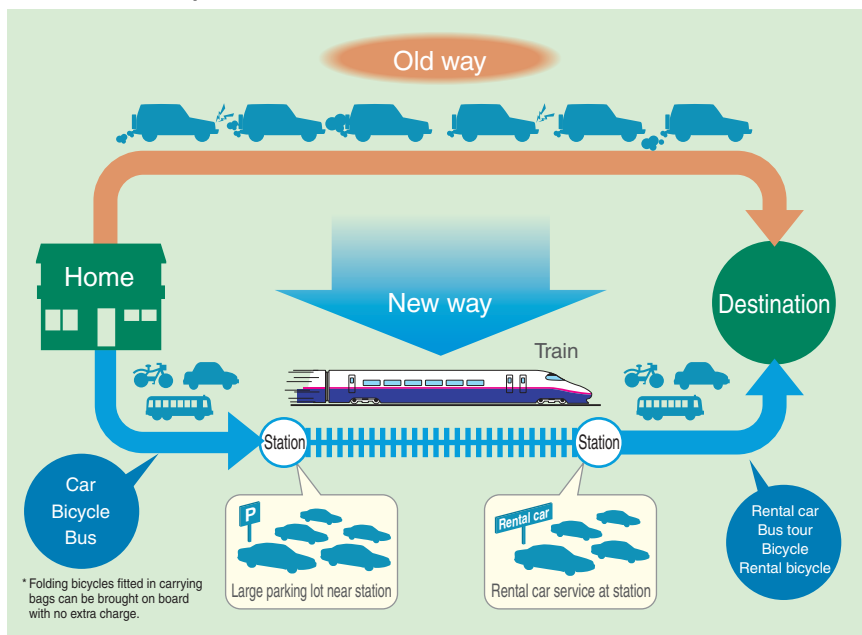
#### Optimal combination of transportation for travel tours

In collaboration with travel agencies, we started to offer new types of bus tours leaving the Tokyo Metropolitan Area, which enable tourists to travel some part of their tour routes by Shinkansen trains, in an effort to avoid traffic congestion as well as to reduce environmental impacts.

#### Travel packages and railways

JR East is putting our energy to offer travel packages that use trains as a means of transportation with lower environmental impacts, while capitalizing on rich natural and tourist resources in various regions. We propose a wide range of travel options that do not solely depend on automobiles. Examples include car rental plans that allow travelers to enjoy a train journey while benefiting from the mobility of rental cars, and sightseeing plans by taxi in cooperation with local businesses.

### Intermodal transportation



#### Collaboration with various parties

In order to effectively make a shift from automobiles to other modes of transportation with low CO<sub>2</sub> emissions by encouraging the use of public transportation, it is vital for both users and public transportation operators to make collaborative efforts. For this reason, the national government launched the Management Council for the Promotion of Public Transportation in July 2005, which was joined by JR East and other public transportation operators, as well as companies and government ministries and agencies. The council met three times in fiscal 2005 in order to discuss how the public transportation system should meet the commutation needs of company employees in local regions.

#### \*1 Intermodal transportation

Transportation systems that allow a person to get from a given point to a final destination by connecting different modes of transportation. This differs from the term “multi-modal transportation,” which simply indicates that there are multiple options for transportation.

#### \*2 12,000 parking spaces near 122 stations

The figure represents the total number of parking spaces near our stations, including those owned by JR East, operated by our Group companies, and run in collaboration with local municipalities.

## Reducing CO<sub>2</sub> emissions in supplying electricity

### Load dispatch command function

JR East's demand for electricity fluctuates throughout the day, peaking during rush hours. To efficiently obtain electricity supply under such conditions, we control the supply of electricity by effectively combining various sources of energy\*1—electricity generated at our thermal and hydroelectric plants and electricity purchased from outside sources—in accordance with fluctuating electricity demand. Our load dispatch command function plays a vital role in monitoring and controlling the supply of electricity in real time to optimize our use of energy.

### Our thermal power generation

JR East operates a thermal power plant in Kawasaki City, Kanagawa Prefecture, with a total output of 655,000 kW. We have reduced CO<sub>2</sub> emissions per unit of electricity generated at the plant by 26% since fiscal 1990, by gradually replacing its current four generation units with more efficient combined-cycle power generation units\*2, and by optimizing plant operations.

In June 2006, we replaced kerosene with natural gas as fuel for the No.3 generation unit, in our efforts to further reduce its CO<sub>2</sub> emissions.

### Hydroelectric power generation

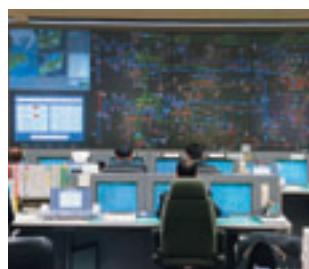
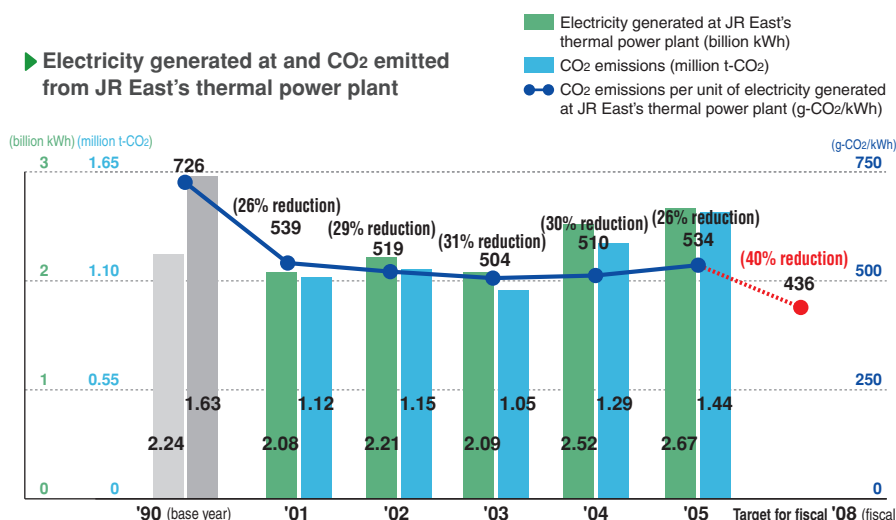
Hydroelectric power is recognized as a clean energy source that does not emit greenhouse gases. JR East has a hydroelectric plant on the Shinano River (Ojiya City/Tokamachi City, Niigata Prefecture), with a total output of 450,000 kW. The plant generates 1.4 to 1.8 billion kWh yearly.

Although the damage caused by the Niigata-Chuetsu Earthquake lowered the plant's power generation capability to as low as half the normal level in fiscal 2005, our reconstruction efforts enabled it to restart full-scale operation in March 2006.

### Utilization of natural energy

JR East also utilizes natural energy such as solar and wind power. Photovoltaic (PV) panels have been installed at Tokyo Station, Takasaki Station, the JR East General Education Center, and the JR East Research and Development Center. In March 2004, we doubled the number of PV panels at Takasaki Station. Our Group companies have also installed PV panels at some facilities and station buildings. The Kokubunji L Terminal Building in Kokubunji City, Tokyo, for example, also has a windpower generator and PV system to produce electricity for lighting.

### Electricity generated at and CO<sub>2</sub> emitted from JR East's thermal power plant



Our load dispatch command function monitors and controls the supply of electricity in real time.



Fuel for No. 3 generation unit at the Kawasaki Thermal Power Plant was completely switched from kerosene to natural gas in June 2006.



The Shinanogawa Hydroelectric Power Station restarted full-scale operation after earthquake damage was repaired.



PV panels installed on the roof of the Shinkansen platforms at Takasaki Station.

#### \*1 JR East's sources of electricity supply in fiscal 2005

JR East's thermal power plant: 43% (31%)  
JR East's hydroelectric plant: 13% (25%)  
Purchased electricity: 44% (44%)

Figures in parentheses represent actual percentages for fiscal 2003 when there was no earthquake damage.

#### \*2 Combined-cycle power generation unit

A power generation unit that combines gas turbines propelled by combustion gas with steam turbines driven by steam from exhaust heat.

# How is the JR East Group working to create a sound material cycle?

JR East is making efforts to help build a sound material cycle society by taking such upstream approaches as *reducing* the amount of resources that we consume, *reusing* resources as long as possible to prevent them from becoming waste, and *recycling* waste.

## Measures to create a sound material cycle

### Waste recycling

JR East generates various types of waste, such as general waste from trains and stations and industrial waste from our General Rolling Stock Centers, through our railway operations. In addition, restaurants and retail stores in our lifestyle business also produce garbage, general waste, and other waste.

In fiscal 2005, the JR East Group generated 770,000 tons of waste, and 79% of the waste was reused or recycled. Regarding industrial waste produced through construction projects, the largest source of waste at the JR East Group, we are taking various measures by setting recycling targets for each waste category, because the amount of waste varies from year to year in accordance with changes in the scale of projects. As for general waste, the JR East Group is aiming at achieving a recycling rate of 43% by fiscal 2008, and has already reached the rate of 42% in fiscal 2005.

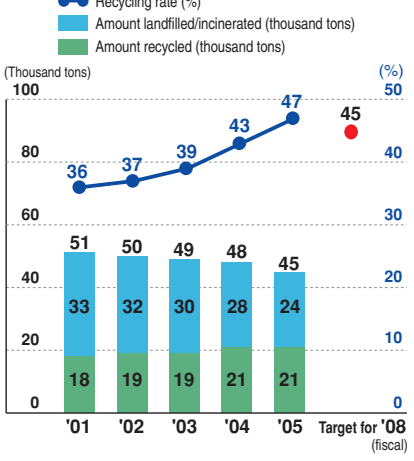
### Recycling waste collected from stations and trains

Approximately 16 million passengers use JR East's trains daily. In fiscal 2005, waste collected from our stations and trains amounted to 45,000 tons, which is equivalent to the amount of household waste generated by 110,000 people per year in Japan. Since waste collected from our stations and trains includes recyclable materials such as newspapers, magazines and cans, it must be properly sorted and recycled. JR East has installed separate refuse bins for different types of waste at stations, and established our own recycling centers to ensure sorting of waste after it has been collected. Although we had set the recycling target at 45% to be met by fiscal 2008, we have already achieved the target and were at 47% in fiscal 2005.

### Operation of recycling centers

JR East has set up our own recycling centers in the Tokyo Metropolitan Area, where the amount of waste collected from our stations and trains is extremely large. East Japan Eco Access Co., Ltd. operates recycling centers in three locations (Ueno Station, Omiya and Shin-kiba). In fiscal 2005, the recycling centers at Ueno Station and in Omiya collected 4,257 tons of cans, glass bottles and PET (polyethylene terephthalate) bottles from our stations in the Tokyo Metropolitan Area and Saitama Prefecture, which were then sorted, compressed, and sent to recycling contractors. Meanwhile, 4,937 tons of newspapers and magazines collected at the recycling center in Shinkiba were sent to paper factories and recycled into copy paper in fiscal 2005.

### Waste from stations and trains

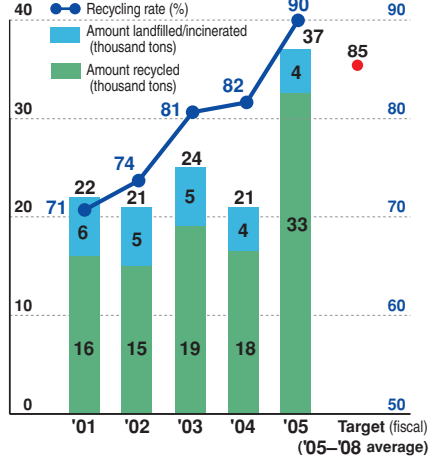


The recycling center in Shinkiba handles newspapers and magazines

### Recycling initiatives at General Rolling Stock Centers, etc.

JR East manufactures commuter and suburban trains at the Niitsu Rolling Stock Manufacturing Factory, and overhauls and repairs railcars at our General Rolling Stock Centers. To further promote waste reduction and recycling, we are fully taking into account the railcars' entire life cycle from their designing to disposal. Our General Rolling Stock Centers are also making efforts to improve their recycling rates by sorting waste into 20 to 30 categories, and sending each to specialized waste disposal contractors. Starting from fiscal 2005, we have included our retired railcars that were sold to outside parties and later scrapped into the amount recycled by the JR East Group when calculating our recycle rates.

### Waste from General Rolling Stock Centers



The Niitsu Rolling Stock Manufacturing Factory obtained ISO14001 certification in 1999, the first time for an on-site division in Japan's railway industry.



### Reducing construction waste

In fiscal 2005, JR East generated 537,000 tons of waste through construction projects at our stations and other structures, including 120,000 tons of waste through entrusted work<sup>\*1</sup>. Although Japan's Waste Disposal and Public Cleansing Law deems waste through subcontracted work to be generated by subcontractors, as an ordering party of these works, we also strive to reduce the amount of waste generated by them by preparing civil engineering specifications that require them to properly dispose construction

byproducts, and use designs and construction methods to minimize waste.

### Initiatives in the lifestyle business

The JR East Group is endeavoring to reduce or recycle waste generated at stations and station buildings.

Lunch-box maker and vendor Nippon Restaurant Enterprise Co., Ltd., for example, has established a system to recycle food waste. Under this system, food waste generated at its lunch-box factories is recycled into compost, which is later used in its own organic recycling farm and contracted farms. Then, vegetables grown in these

farms without using pesticides and chemical fertilizers are used as food ingredients in restaurants.

Meanwhile, Kichijoji Lonlon Co., Ltd. has built a compost facility in its station building, and the Granduo Tachikawa sells own-made compost in its station building.

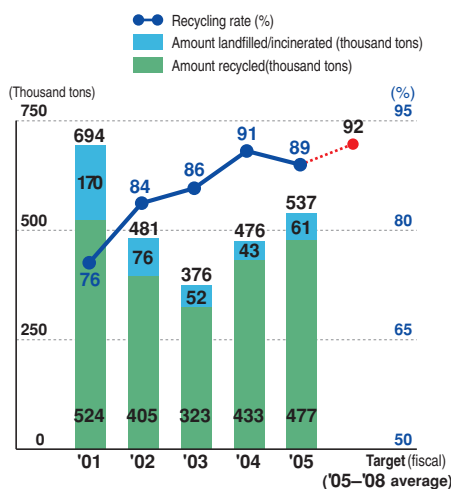
### Initiatives at offices

JR East is taking various steps to make our offices "paperless" and recycle waste that our offices generate. In fiscal 2005, our efforts to sort waste into various categories made it possible for us to recycle 1,847 tons of waste, which accounts for 63% of a total waste of 2,912 tons generated at our offices.

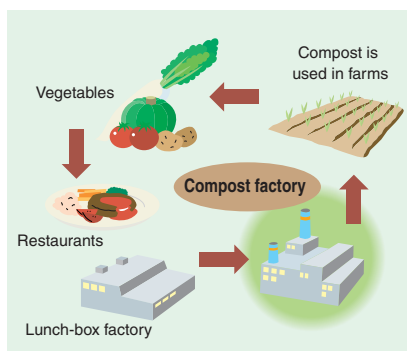
### Efficient use of water resources

As JR East uses 11.28 million tons of water annually, we actively use recycled wastewater<sup>\*2</sup>, such as rainwater and hand-washing water, to flush toilets. Out of 42,000 tons of water used in our Head Office building, 20,000 tons were reused in fiscal 2005.

#### Waste generated through construction projects



#### Mechanism of food waste recycling



### Recycling at the JR East General Education Center

With the aim of coexisting with local communities, the JR East General Education Center has recycled food waste generated at its cafeteria into compost, which is later provided to local farmers.

Nippon Restaurant Enterprise Co., Ltd., which caters meals to the center, is also taking various measures when deciding menus and procuring food ingredients in order to reduce food waste. Meanwhile, the JR East Facility Management Co., Ltd., which maintains and manages garbage treatment equipment, has been

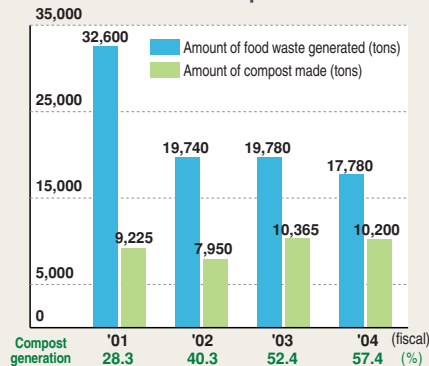
successfully raising compost generation rates year after year at its Shin-Shirakawa Center, by lowering equipment failure rates and improving equipment management methods.

Compost recycled from food waste through these efforts is well received by local farmers for its high quality.



Compost recycled from food waste.

#### Amount of food waste generated and amount of compost made



#### \*1 Entrusted work

Construction work at non-JR East facilities that local governments have entrusted to JR East in order to ensure safe train operations.

#### \*2 Recycled wastewater

Rainwater or used water that is not suitable for drinking but still reusable for some purposes.

### Reducing train ticket waste

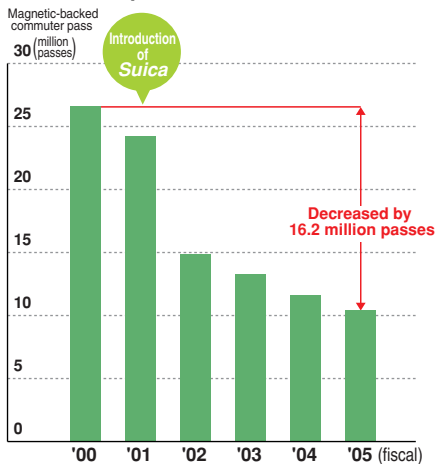
For the purpose of reducing train ticket waste, JR East is endeavoring to recycle train tickets and magnetic-backed commuter passes while promoting the popularization of our IC *Suica* fare-card that can be reused many times.

Train tickets collected are sent to paper factories for separating iron powder on their back from paper. In fiscal 2005, 666 tons of all train tickets sent to the factories were recycled into toilet paper, cardboard, and business cards. In addition, all magnetic-backed commuter passes used and collected are utilized as solid fuel.

Meanwhile, more widespread use of reusable *Suica* could eventually save resources. In order to prevent our customers from throwing the card away after use, they are required to pay a deposit at the time of purchase.

An increase in *Suica* users helps reduce the number of magnetic-backed commuter passes issued. The annual issuance of magnetic-backed commuter passes in fiscal 2005 was about 16.2 million passes fewer than that in fiscal 2000, which was before the introduction of *Suica*.

### The number of magnetic-backed commuter pass issued



### Green procurement

In line with our Green Procurement Guidelines established in 1999, JR East strives to procure materials with low environmental impacts and encourages our suppliers to use recycled materials and reduce waste.

Since fiscal 2000, we have used uniforms made of polyester fiber that is recycled from PET bottles. Additionally, 44% of items used at our offices are covered under the Law on Promoting Green Purchasing, and recycled paper accounts for 99% of all copy paper used in our company.

We have also gathered information about environmental and CSR efforts taken by suppliers, which is then used as an indicator for selecting desirable suppliers.

### Cyclical use of waste collected from stations

JR East is making efforts to expand the cyclical use of waste collected from stations, not only by recycling it, but also by reusing it in our company. Paper recycled from train tickets is utilized as toilet paper at major stations in the Tokyo Metropolitan Area, and as business cards for our employees. Newspapers collected from separate refuse bins at our stations are recycled into copy paper to be used at our offices. In addition, we recycle used magazines into coated paper, which is then used to produce *Tranvert*, a magazine for Shinkansen passengers.



Newspapers collected from our stations are recycled into paper at paper factories.



JR East purchases and uses recycled paper as copy paper.



Toilet paper recycled from used train tickets is utilized at major stations in the Tokyo Metropolitan Area.



Tiles recycled from glass bottles are used at the poolside of Jexer in Ueno, a sports club run by our Group company.

## How does the JR East Group manage chemical substances?

When using chemical substances, it is important to give due consideration to their impacts on the human body and ecosystems. In addition to complying with all applicable laws and regulations, the JR East Group has set our own voluntary targets to reduce the use and release of chemical substances. We are also making an effort to use lower-impact alternative substances.

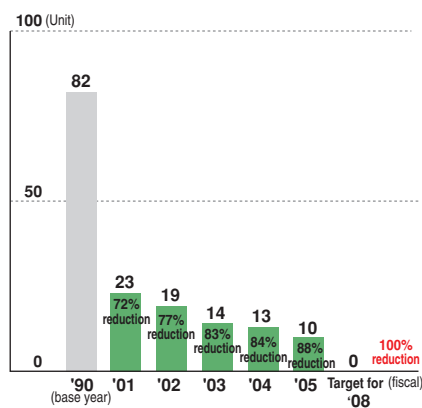
### Reducing the use and releases of chemical substances

#### Initiatives for ozone-depleting substances

While JR East has been using air-conditioning units (heat exchangers) in station buildings that use ozone-depleting chlorofluorocarbons (CFCs) as a refrigerant, we are gradually replacing them with non-CFC equipment. By the end of fiscal 2005, we had reduced the number of air conditioning units using CFCs to 10, down from 82 in fiscal 1990.

Except for some diesel railcars and locomotive-hauled passenger cars, all of our cars use CFC-substitutes. As of the end of fiscal 2005, we were using 92 tons of CFC substitutes and only two tons of CFCs. We routinely check for gas leaks, and recover the refrigerants when scrapping retired railcars in accordance with applicable laws and regulations. Although 60 tons of halon gas was still in use as a fire-extinguishing agent as of the end of fiscal 2005, we are replacing it with non-halon agents (such as powder agents and CO<sub>2</sub>) when building new facilities or renovating existing ones.

#### Number of large building air-conditioning units using CFCs



#### Chemical substance management

As JR East uses chemical substances primarily for painting and repairing our railcars, we take rigorous steps for their use and management in order to prevent their leakage. As a company that handles a certain amount of specified chemical substances, 20 JR East facilities have submitted release and transfer data for these substances to relevant authorities since fiscal 2001, pursuant to the PRTR Law<sup>\*1</sup>.

We are also promoting the introduction of stainless steel railcars that do not require painting. As of the end of fiscal 2005, 66% of the 10,652 cars operated on our conventional lines are stainless steel railcars.

Beside our initiatives for railcars, we used 450 tons of organic solvents for painting railway facilities and stabilizing track beds in fiscal 2005.

#### Amount released and transferred from 20 reporting-required facilities

Chemical substance	Released into the air (kg)	Released into sewerage system (kg)	Transferred outside the facilities (kg)
Ethylbenzene (kg)	5,698	0	720
Styrene (kg)	2,392	0	0
4,4'-methylenedianiline (kg)	0	0	208
Ethylene glycol (kg)	0	0	18,097
Toluene (kg)	31,533	7	14,146
Xylene (kg)	45,800	7	1,535
2-Aminoethanol (kg)	0	1,600	200
HCFC-141b (kg)	2,043	0	0
Bisphenol A-type epoxy resin (kg)	0	0	1,678
m-tolylene diisocyanate (kg)	1,083	0	200
Linear alkylbenzenesulfonate (kg)	0	1,400	0
Chromium and chromium (III) compounds (kg)	0	0	109
Dichloromethane (kg)	6,048	0	1,400
Poly (oxyethylene) alkyl ether (kg)	0	1,400	0
o-toluidine (kg)	0	0	95
Manganese (kg)	0	0	32

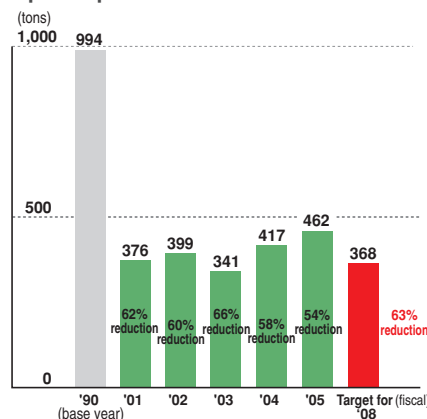
#### Notes

There was no release to soil and public water as well as no disposal to landfills. Among the substances for which reporting is required, those that were actually released or transferred are posted here.

#### Initiatives at JR East's thermal power plant

Our Kawasaki Thermal Power Plant uses city gas, kerosene, and low-sulfur heavy oil as fuels with lower environmental impact. Since the plant emits nitrogen oxides (NOx), sulfur oxides (SOx), and soot, we are making efforts to reduce the emission of these pollutants by using NOx-removal equipment, dust separators, and other devices. When the Niigata-Chuetsu Earthquake in fiscal 2004 forced our hydroelectric plant to shut down, operating hours at our thermal power plant increased, resulting in an upsurge of NOx emissions to 462 tons.

#### NOx emissions from JR East's thermal power plant



#### Control of PCBs

Although JR East has long used polychlorinated biphenyls (PCBs) as insulating oil for our railcars, transformers, and other devices, we actively replace equipment using PCBs with non-PCB ones. We now store the retired PCBs-equipment at 82 locations under stringent supervision, and report its status as stipulated by applicable laws and regulations.

We are currently studying the ways to render PCBs harmless, taking into account the status of PCB-contained waste treatment facilities and the government policies.

#### \*1 PRTR Law

PRTR stands for "pollutant release and transfer registers." The formal name of this law is the Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in their Management. The law promotes the assessment and control of toxic chemical substances emitted into the environment, and encourages measures to prevent negative impacts on the environment.

## How does the JR East Group conserve the environment along railway lines?

As a railway operator, it is of crucial importance for the JR East Group to conserve the environment along our railway lines. We give due consideration to the surrounding living environment by undertaking a wide range of actions to reduce noise and protect the landscape.

### Reducing impacts on the environment along railway lines

#### Measures to reduce noise from Shinkansen

Noise caused by Shinkansen trains is strictly regulated by the Japanese government's Environmental Quality Standards for Shinkansen Railway Noise. JR East takes a variety of steps to reduce their noise, such as the installation of sound-proof walls and sound-absorbent materials, rail grinding<sup>\*1</sup>, and the modification of our railcars to operate more quietly.

Although we have already completed the implementation of measures to reduce noise levels to 75 dB or lower in densely-populated residential areas along our railway lines, we plan to take further steps by expanding the scope of areas where noise levels need to be reduced to less than 75 dB. We are determined to continue to work to prevent or minimize noise, with the aim of

improving the living environment along our railway lines, and achieving our environmental targets.

As part of our research and development efforts, we have conducted test runs of a prototype high-speed Shinkansen FASTECH 360. We are striving to establish a high-speed, eco-friendly Shinkansen technology that could enable Shinkansen trains to run at a maximum speed of 360 km/h with lower noise and less sonic boom<sup>\*2</sup>.



Sound absorbent plates are installed on the bottom and lower side of prototype high-speed Shinkansen FASTECH 360 to reduce noise.

#### Measures to reduce noise along conventional lines

Although there is no government-mandated environmental standards for conventional lines, we have implemented voluntary measures to minimize noise by installing continuous welded rails<sup>\*3</sup> and performing wheel truing<sup>\*4</sup>. We also comply with the Japanese government's Policy on Noise Measures for Construction of New Conventional Railways or Large-Scale Remodeling when we carry out such construction or modification of our conventional lines.

#### Measures to reduce noise during maintenance works

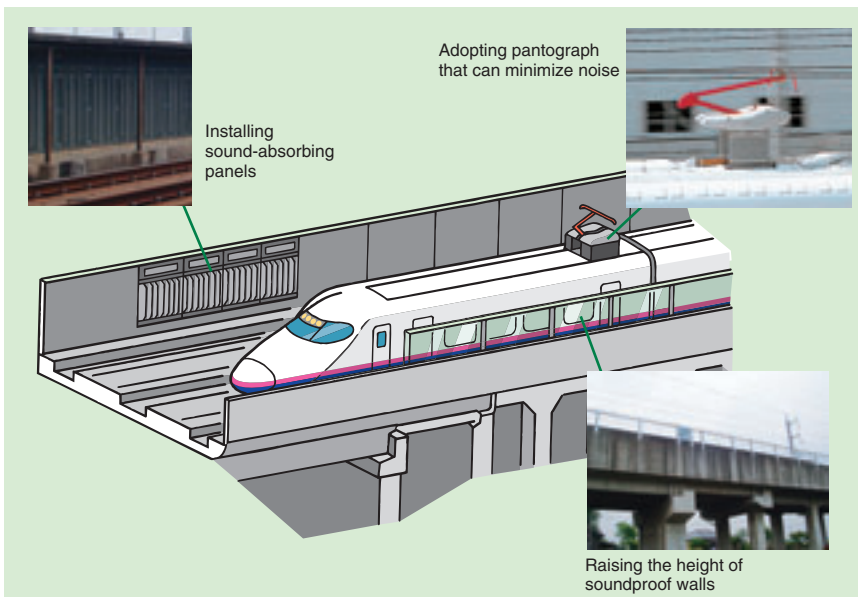
Besides noise from trains in operation, noise can be generated during track and other maintenance works. As maintenance work is usually done at night when trains are not running, we give advance notice about the schedule and details of this work to residents in surrounding areas. We also make utmost efforts to minimize noise by using modified equipment making lower noise.

On multiple-track lines, we carry out maintenance work on one of the tracks during daytime while keeping our trains in operation on other tracks. We also endeavor to lessen the need for maintenance itself by increasing the number of buckling-resistant rails.

#### Measures for dioxins from incinerators

Waste incinerators could generate dioxins under certain internal conditions. Although JR East has been combusting some of our waste in our own incinerators, in fiscal 2002 we stopped using all of our incinerators except for a large-scale one, which was retired in fiscal 2004. We are now dismantling and removing them.

#### Major strategies to reduce Shinkansen noise



#### \*1 Rail grinding

A measure to smooth out the unevenness of rails caused by wheels rolling on them. The measure allows trains to run more quietly, because wheels are in better contact with rails.

#### \*2 Sonic boom

An explosive sound caused by compressed air being forced out of a tunnel when a Shinkansen train enters it at a high-speed. The sound is produced at the end of the tunnel.

#### \*3 Continuous welded rails

Rails that are more than 200 meters long by welding rail joints. Such rails can reduce the noise produced at rail joints as train wheels pass over them.

#### \*4 Wheel truing

A measure to grind the unevenness of wheels caused by wearing, to restore their circular shape.

### Visual impacts

Large structures such as bridges, stations, and station buildings could affect the landscape and cityscape of surrounding areas. In order to harmonize structures with the surrounding landscape and cityscape, JR East has set up Design Committees in our construction offices responsible for planning and designing of these structures. We also encourage our employees to pay more attention to the surrounding areas at a designing stage by giving awards to those who designed scenically attractive structures.



Hakonegasaki Station on the Hachiko Line, an open-plan structure with a dome-shaped roof and many glass panels.

### Utilizing springwater in tunnels

In cooperation with local governments, we have made joint efforts to improve the quality of river water by supplying springwater welling up from our underground tunnels to rivers nearby. In the Tokyo Metropolitan

Area, we started supplying such springwater to the No River and the Tachiai River in fiscal 2001 and fiscal 2002 respectively, and began pumping springwater welling up from the ground near Ueno Station into the Shinobazu Pond in fiscal 2003.

We also have been using springwater to melt snow on Joetsu Shinkansen tracks in the Echigo-Yuzawa area ever since this line opened.

### Reducing the usage of herbicides

We periodically trim weeds and use herbicides to prevent the weeds from overgrowing on our railway tracks. We minimize the amount and area of herbicide usage, and use herbicides with the lowest toxicity in three levels (ordinary substances) for humans and animals and with the lowest toxicity in five levels (A-type substances) for fish. We have also established rules to lessen the herbicide effects on surrounding areas, such as the suspension of herbicide spraying when conditions are not suitable. In fiscal 2005, our usage of herbicides amounted to 283 tons.

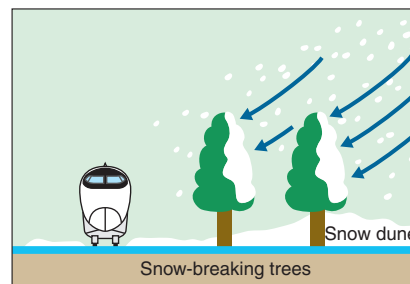
### Protecting railway trees

Railway trees are planted to protect railway tracks from being blocked or damaged by snow drifting, land slides, fallen rocks, and avalanches. The planting of railway trees

began during the Meiji Period (1868–1912) in Japan, and at that time it was also profitable as a forestry business.

Besides playing their original role in preventing natural disasters, these trees now help protect the natural environment along our rail lines.

JR East owns approximately six million railway trees on a total of about 4,200 hectares of land—about 1,000 times as large as the area of the National Stadium—along our railways. These trees help prevent global warming by absorbing 17,000 tons of CO<sub>2</sub> per year, an amount that accounts for 0.7% of the annual CO<sub>2</sub> emissions by JR East. We are determined to preserve the trees along our rail lines as a means to contribute to the natural environment and local communities.



Fallen snow on the ground could be blown by strong wind and bury train tracks in snow drifting. Railway trees act as a windbreak to keep train tracks clear of snow.



Snow-breaking trees along the Tohoku Line.

### Research on weed reduction

We eradicate weeds by using herbicides, because overgrown weeds on railway tracks become obstacles to safe train operations. In our efforts to reduce the use of herbicides, we are currently researching the ways to control the growth of weeds at the JR East Research & Development Center.

We now monitor the growth and development of weeds sprayed with a mixture of such natural substances as baking powder on a trial basis, since the substances could control the growth of weeds.

## How does the JR East Group provide environmental information?

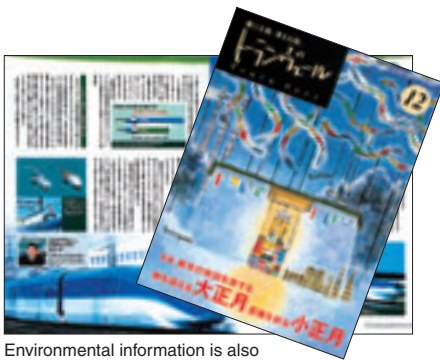
The JR East Group communicates environmental information to the public through a variety of means, including our website, *Sustainability Reports*, events, and the like. We are accelerating our environmental efforts through two-way communication with our stakeholders.

### Communicating environmental information

#### Providing information through a wide range of means

We have published an environmental report each year since 1996 (in 2002, the name of the report was changed to *JR EAST Group Sustainability Report*). Additionally, our Group company JR East Department Store Co., Ltd. has issued an environmental report annually since 2004.

In order to make our environmental information available to more people, we have published and widely distributed a children's illustrated booklet "*Thinking more about the Environment*," and a digest version of *JR EAST Group Sustainability Report*. In fiscal 2005, we featured abstracts of our *Sustain-*



Environmental information is also provided in *Tranvert*, a magazine for Shinkansen passengers.



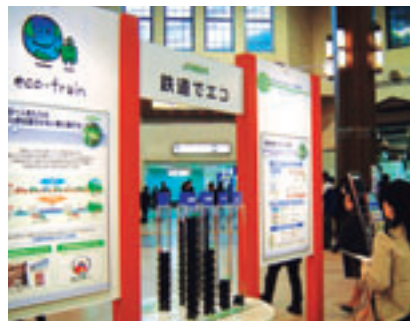
Our environmental activities website had 540,000 hits in fiscal 2005.

*ability Report* in *Tranvert*, a magazine for Shinkansen passengers. We have received a great deal of reader feedback for these publications. We have also provided environmental information via the Internet, train posters, and other means. We remain committed to disclosing information in an easy-to-understand format, and actively promoting environmental communication with a wide variety of people.

#### Providing information at events

In 2005, we again participated in the Eco-Products Exhibition held at Tokyo Big Sight, to present the environmental-conservation activities of the JR East Group. About 2,000 people took part in a quiz about the exhibit.

In addition, every year we co-organize events with local governments, business, and others, with the goal of communicating information on the environment. In March 2006, we jointly organized the "Gas & Railways—the Third Exhibition of Environmental Initiatives by Tokyo Gas and JR East" with Tokyo Gas Co., Ltd. at Tokyo Station. At the exhibition, we introduced environmentally friendly lifestyles as a corporate member of the nation-wide Team Minus 6% campaign. We also ran an exhibition to deepen people's understanding of global warming in cooperation with the Ministry of the Environment's Japan Center for Climate Change Actions.



The Gas & Railways exhibition at Tokyo Station was co-organized with Tokyo Gas Co., Ltd.

#### Promoting eco tourism

JR East has offered a wide range of tours enabling people to experience nature, under the theme of interaction with the wonderful nature to be found throughout Japan. In fiscal 2005, about 8,000 people joined eco tours.

One of our popular offerings is the Shirakami Mountains Trekking tour. This tour enables people to experience the attraction of the Shirakami Mountains, which was the first location in Japan to be designated as a UNESCO World Natural Heritage site. In fiscal 2005, about 1,000 people participated in this tour. In April 2006, we established a members club called the Shirakami Mountains Beech School with the aim of expanding participants of the Shirakami Mountain Trekking tour. We have held classes for members in the Tokyo Metropolitan Area and elsewhere, and communicated information through a member newsletter and other means.

We also continue to offer our "Hiking from Stations" program, in which participants can easily enjoy nature around our stations located in various regions. In fiscal 2005, we held 367 tours, with about 240,000 participants.



Our members club, the Shirakami Mountains Beech School, provides information about the Shirakami Mountains, aimed at achieving compatibility between tourism and nature conservation.



The ability to easily enjoy nature is one of the reasons behind the popularity of the "Hiking from Stations" program.

## Forest development in partnership with communities

### Railway Line Forestation Program

Since 1992, each of our branch offices has planted trees with the participation of local community members, as part of the JR East Group's efforts to contribute to society. As of fiscal 2005, we have planted 250,000 trees, with the total participation of about 34,000 people.

Each of our branch offices has used innovative approaches to attract broad participation, including tie-ups with local governments and others, and combining hiking events with tree planting. For example, the JR East Sendai Branch Office held the ceremony to commemorate the completion of renovations to Nishi-Wakamatsu Station together with a tree-planting event, and planted 300 trees, working with a large number of local residents.



As of fiscal 2005, 34,000 people have participated in the Railway Line Forestation Program organized by each branch office.

### Adatara Hometown Forestation Program

We have conducted a forestation program on national land in Otama Village (Adachi-gun, Fukushima Prefecture) since 2004.

We have selected 22 varieties of native trees, and over a three-year period planted 45,000 saplings closely together in a state close to nature. The aim of the program is to develop a "hometown forest" through a process of natural selection.

In 2006, the third year of the program, the event was well attended despite the rain. A total of 800 people, including JR East Group employees and local residents, participated, topping the previous year's participation by 100 people. We feature images of the tree planting and the growth of the trees on our website.



With the cooperation of local residents of Otama Village in Fukushima Prefecture, we have planted 45,000 trees over a three-year period.

### Akita Shimohama Coast Forestation Program

JR East owns railway trees along the Uetsu Line on the Shimohama Coast in Akita City, mainly consisting of Japanese black pine. Over the past few years, however, damage from pine weevils has caused blight.

In May 2006, the JR East Akita Branch Office co-organized the Akita Shimohama Coast Forestation Program with the AEON Environmental Foundation. With the participation of 950 volunteers recruited from major stations and AEON Group stores throughout Akita Prefecture, we planted 10,000 saplings consisting of 29 different varieties of trees (mainly broad leaf trees). We plan to organize this event again in 2007, as part of our efforts to conserve the natural environment along railway lines through the restoration of railway trees.



A total of 10,000 trees were planted by 950 people engaged in the Akita Shimohama Coast Forestation Program in coordination with the AEON Environmental Foundation.

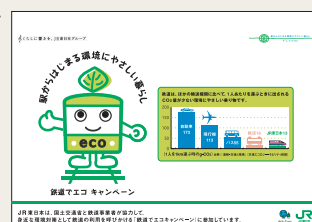
## "Eco-conscious on Railway" campaign

JR East takes part in the "Eco-conscious on Railway" campaign run through cooperation between the Ministry of Land, Infrastructure and Transport and railway operators. The campaign urges people to use trains as an environmental measure that they can implement on a daily basis. Trains emit less CO<sub>2</sub> per person than family cars and other forms of transportation. The goal of the campaign is to broaden people's awareness of the fact that using trains can help solve global warming and other environmental issues, and to encourage people to use trains, rather than other modes of transportation, for the sake of the environment.

Since the campaign started in October 2005, JR East has hung posters in trains on all lines in the Tokyo Metropolitan Area, informing passengers of the campaign and the fact that trains have lower environmental impacts. We have also provided information at environmental events held various locations, informing large numbers of people about such trains' characteristics. We remain committed to making our railway systems more accessible and deepening people's understanding of the outstanding environmental features of trains, for the purpose of reducing the environmental impact imposed by human transportation.

Events at the JR East Mito, Sendai, Akita, and Takasaki Branch Offices.

### Hanging poster



# Economic

## 経済

A company cannot exist in a sustainable manner unless society values its products and services offered through its business activities.

It must therefore build good relationships with many stakeholders involved with its products and services, while continually making various efforts on its own initiative. Stations and railways are the core of the JR East Group's business activities, with the railway business, lifestyle business, and *Suica* business forming the three pillars.

Our business activities have a broad and profound impact on society. Because we have relations with a wide range of stakeholders, we are committed to tracking our economic relations with all stakeholders involved in our business activities. Unlike our annual financial reports, our *Sustainability Report* communicates information on the economic aspects of the JR East Group from the viewpoint of our economic relations with various stakeholders.

## How is the economic performance of the JR East Group?

The JR East Group aims for sustainable growth as a corporate group by continuously creating and developing businesses that can meet the needs and expectations of our customers and other stakeholders, while actively contributing to society.

### Financial results for fiscal 2005

Transportation, including railway operations, is the core business of the JR East Group, which accounted for about 70% of our consolidated operating revenue for fiscal 2005. The remaining 30% was earned primarily from our lifestyle business such as the operation of shopping centers in station buildings, hotels, and retail shops.

Both of our consolidated operating revenue and net income for fiscal 2005 increased, with a rise in the latter by 45.9 billion yen year-on-year to 157.5 billion yen. It was due to the sharp rebound from the revenue loss that followed the Niigata-Chuetsu Earthquake, increased revenues from local train services, and the increased profit in all of our segments.

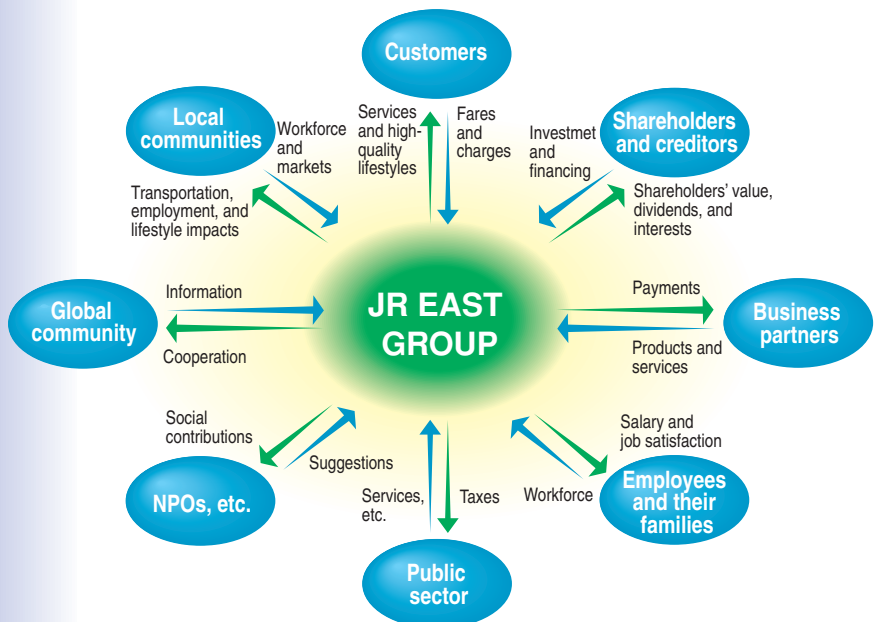
### Economic relations with stakeholders

The business activities of the JR East Group create economic relations with a variety of stakeholders. This section presents our expenses by stakeholder and other data, in order to show the economic relations between our business activities and our stakeholders in an easy-to-understand manner.

To maintain objectivity, we use our consolidated financial statements as a source of calculation.

Our stakeholders covered here include shareholders, business partners, employees, creditors, and the public sector (governments).

#### ► Relations with stakeholders





► Consolidated financial statements and breakdown of expenses and others by stakeholder

Consolidated statement of income and loss		(Billion yen)	
Operating revenues		2,592.3	
Transportation, other services, and cost of sales		1,701.6	(1)
Selling, general, and administrative expenses	Personnel expenses	258.0	(2)
	Taxes	18.6	(3)
	Other	218.0	(4)
	Subtotal	494.6	
<b>Operating income</b>		<b>396.0</b>	
Other income		103.0	
Other expenses	Interest expense	136.5	(5)
	Other expenses	93.0	
	Subtotal	229.5	
<b>Income before income taxes</b>		<b>269.6</b>	
Income taxes-current		125.3	(6)
Income taxes-deferred		(15.6)	(7)
Minority interests in net income of consolidated subsidiaries		2.4	(8)
<b>Net income</b>		<b>157.5</b>	(9)

Breakdown of expenses and others by stakeholder	(Billion yen)	
Business partners	1,482.7	(1) - ★ + (4)
Employees	694.9	(2) + ★
Creditors	136.5	(5)
Shareholders	159.9	(8) + (9)
Public sector	128.2	(3) + (6) + (7)

★... Personnel expenses recorded in transportation operating expenses in the non-consolidated statement of income and loss: 436.9

**Method of calculating "breakdown of expenses and others by stakeholder"**

**Note:** Since personnel expenses in the transportation business are recorded in "transportation, other services and cost of sales" in the consolidated statement of income and loss, personnel expenses are calculated by adding "personnel expenses in the transportation operating expenses" in the non-consolidated statement of income and loss to obtain a more accurate figure.

**Business partners:** The figure is the sum of (A) "transportation, other services and cost of sales" minus "personnel expenses" in the transportation operating expenses in the non-consolidated statement of income and loss, and (B) "selling, general, and administrative expenses" minus "personnel expenses" and "taxes".

**Employees:** The figure is the sum of (A) "personnel expenses" in selling, general, and administrative expenses, and (B) "personnel expenses" in the transportation operating expenses in the non-consolidated statement of income and loss.

**Creditors:** The figure is "interest expense" in non-operating expenses.

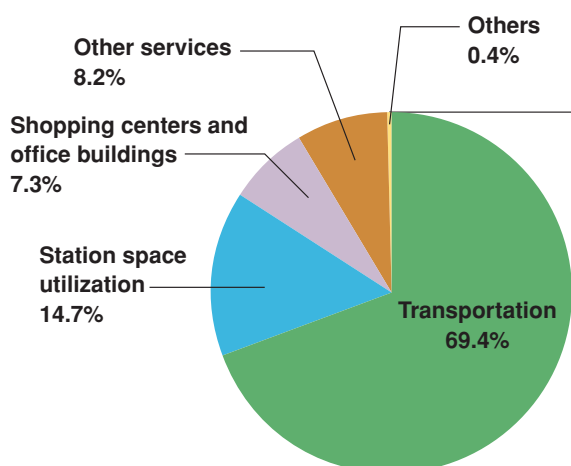
**Shareholders:** The figure is the total of (A) "net income," and (B) "minority interests in net income of consolidated subsidiaries."

**Public sector:** The figure is the sum of (A) "taxes" in selling, general, and administrative expenses, (B) "income taxes-current," and (C) "income taxes-deferred."

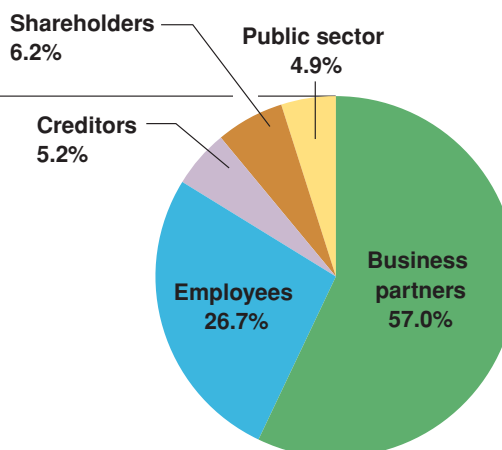
\*Figures may not add up to totals due to rounding.

\*For figures that require modifications, rounded figures in the Financial Statement are used.

► Breakdown of JR East Group's revenues

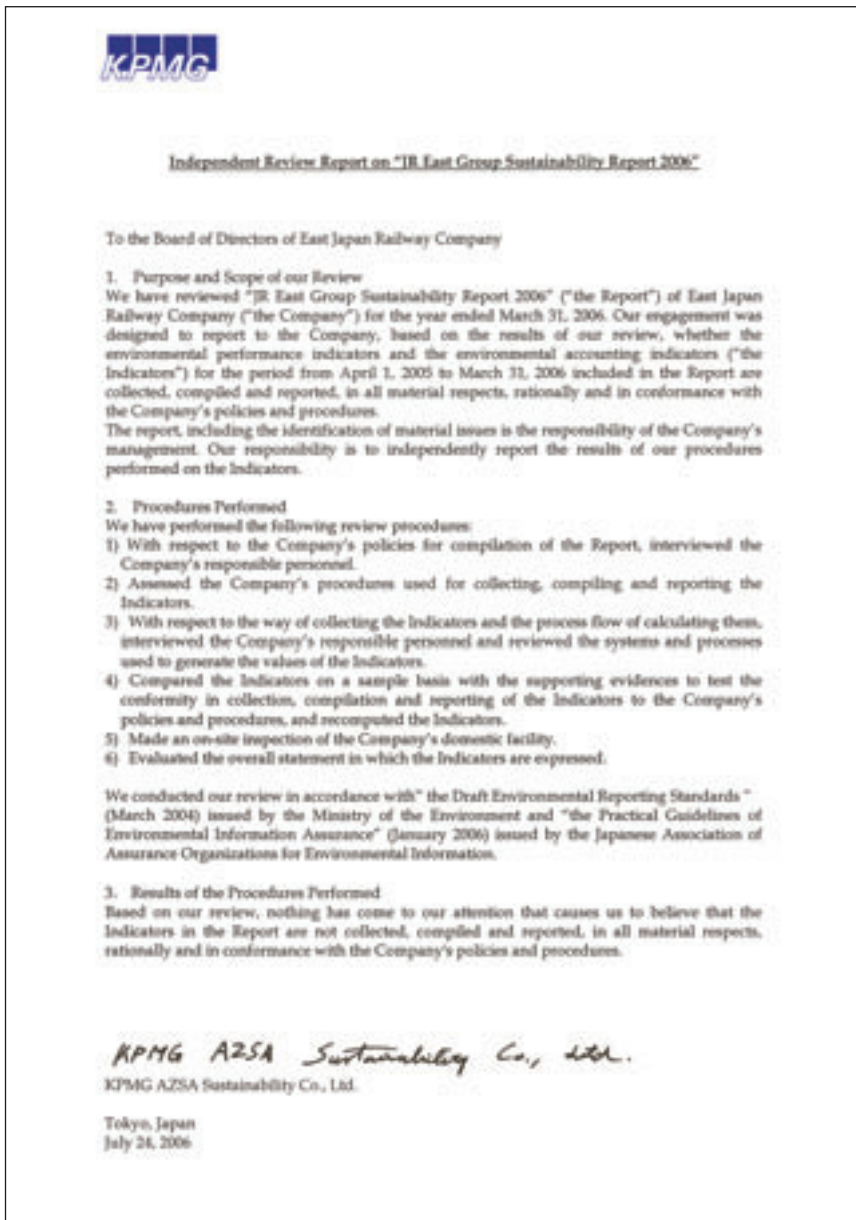


► Breakdown of expenses, etc., by segment



\* "Others" in the breakdown of JR East Group's revenues is calculated by subtracting (A) non-operating expenses and extraordinary losses excluding interest expenses from (B) non-operating income and extraordinary income.

## Independent review report, and future prospects



Maho Yano  
Chief of Assurance Division  
AZSA Sustainability Co., Ltd.  
(Group company of )  
(KPMG AZSA & Co.)

The JR East Group has announced its policies on safety as the top commitment in its previous *Sustainability Report*, but in this edition it has changed the layout of the report to start with management, followed by social, environmental, and economic aspects in this order. The Group still considers safety as a priority management task, and many pages of the first half of the report are devoted to conveying information on it, both qualitatively and quantitatively. The section on social aspects does not simply disclose comprehensive social-performance indicators, but demonstrates its social initiatives in full recognition of the importance of its businesses in society. Although there are still some parts in the report that lack sufficient information due to the limited amount of space provided, it can be expected that JR East Group will continue to elaborate on its priorities and disclose information in a timely manner.

Additionally, given a wide range of business categories and types in the JR East Group, it is necessary for the Group to create working groups for each business category, and advance environmental conservation activities by setting quantitative targets suited to each of them. Also, the fine-tuning of its statistical tabulation format and the creation of an information-gathering system can be instrumental in promoting environmental conservation as well as in improving the accuracy of environmental statistics.

### Future prospects

With the launch of the nation-wide Team Minus 6% project, I believe that fiscal 2005 was a year that spurred many people to think about and act to solve global environmental issues. We also started the JR East Eco Activities, which are bottom-up environmental initiatives carried out at the workplace level, starting with the Hachioji Branch Office. We plan to expand these activities company-wide, with the aim of making them take root in our workplace and operations.

We are also determined to promote and extend our group-wide initiatives in order to encourage independent activities of our Group companies by taking advantage of the characteristics of their business categories.



Tadami Tsuchiya  
General Manager of  
Environmental Management  
Management Planning Department

# History of JR East Group's environmental and social activities

Year	Month	Environmental and social activities	Year	Month	Environmental and social activities
1987	April	Japanese National Railways divided, and East Japan Railway Company established. First Railway Safety Promotion Committee meeting held.	1999	February	<i>Safety Plan 21</i> announced. Niitsu Rolling Stock Manufacturing Factory acquired ISO14001 certification.
	June	Green Campaign began. Green Counter (now renamed customer help desks) opened for receiving customer feedback.		March	Omiya Recycling Center started operation (for automatically separating used cans from bottles).
1988	September	Company-wide "Challenge Safety Campaign" launched.		April	Service managers deployed at some stations.
1989	April	Safety Research Laboratory and General Training Center established.		May	Started utilizing copier paper recycled from newspapers collected at stations.
	May	ATS-P, a more safety train-control system, installed between Ueno and Ogu Stations on the Tohoku Line.		September	Information service on train operations made available by cellphone.
1990	September	"First Railway Safety Symposium" held.	2000	April	JR East General Education Center established. Uniforms made from recycled PET bottles introduced.
	October	"Future 21," a management plan for the twenty-first century, announced. "Ladies' Car," a train car exclusively reserved for female passengers, introduced in limited express trains with sleeping berths.		September	Environmental accounting included in annual <i>Environmental Report</i> .
1992	March	East Japan Railway Culture Foundation established.	2001	November	Environmental targets revised with the announcement of <i>New Frontier 21</i> , the Group's medium-term management plan.
	April	Committee on Ecology established.		March	Oi Workshop, Kawasaki Thermal Power Plant, and Niigata Mechanical Technology Center acquired ISO14001 certification.
	May	Trees planted to commemorate the 5th anniversary of JR East's founding (later an annual event called "Railway Lines Forestation Program" launched).		July	"Women-Only" cars for female passengers introduced on the Saikyo Line on a trial basis.
	August	Waste collection sorted into three categories began on a trial basis at Sugamo Station on the Yamanote Line.		December	JR East Research & Development Center established.
1993	March	All-day smoking ban extended to major stations in the Tokyo suburban areas.	2002	February	Test runs of the AC Train, a next-generation commuter train, began.
1994	February	Ueno Station Recycling Center started operation (for automatically separating used cans from bottles). Waste collection sorted into three categories started at 36 stations on the Yamanote and other lines.		March	Omiya Workshop acquired ISO14001 certification.
	March	"Basic Safety Plan" announced.		September	<i>Sustainability Report</i> including social and economic aspects published.
1995	February	Recycling of used train tickets began in the Tokyo Metropolitan Area.	November	Sendai General Rolling Stock Workshop acquired ISO14001 certification.	
	March	First measure to reduce Shinkansen noise completed.	2003	March	Pamphlet " <i>Guide to Barrier-Free Station Facilities</i> " distributed.
	April	Ecology education for all new recruits initiated. "Train-ta-kun," a discount car rental service for train passengers, launched.		May	Test runs of the NE Train, world's first hybrid railcar, began.
1996	March	JR East website set up. Quantitative environmental targets for CO <sub>2</sub> emissions and others set. First annual <i>Environmental Report</i> published.		September	First JR East Group Environmental Management Promotion Conference held.
	December	Autonomous Decentralized Transport Operation Control System (ATOS) became operational.	December	Koriyama Workshop acquired ISO14001 certification.	
1997	March	Recycling facility at Minami-Akita Operations Center started operation. Separate smoking zones established at all stations. Smoking banned on all local trains.	2004	March	<i>Safety Plan 2008</i> announced.
		October		Recycling facilities at Nagano Shinkansen Rolling Stock Center and Tokyo Station started operation.	April
	December	Participated in COP3 with the UIC (International Union of Railways).	May	Adataro Hometown Forestation Program held.	
1998	March	Second set of measures to reduce Shinkansen noise completed.	2005	January	<i>Sustainability Report 2004</i> received the Environment Minister's Award in environmental report category at the Eighth Environmental Communication Awards. Environmental targets revised with the announcement of <i>New Frontier 2008</i> , the Group's medium-term management plan.
	November	Shinkiba Recycling Center started operation (for separating used newspapers from magazines). Ranked at 27th on the list of world's most respected enterprises by <i>Financial Times</i> .		February	Nagano General Rolling Stock Center acquired ISO14001 certification.
2006	February	Disaster Prevention Research Laboratory established.		July	Akita General Rolling Stock Center acquired ISO14001 certification. Customer Service Department established.
			December	Office-wide JR East Eco Activities started at JR Hachioji Branch Office.	

\* Former names are used for some facilities.

## Editorial Note

In editing this report, one of our greatest challenges was how to communicate our approaches and initiatives regarding safety, our most important management issue.

Specifically, we strove to improve readers' understanding of our commitment to safety, by devoting six pages to our safety efforts (three pages were allocated to describe them in the *JR EAST Group Sustainability Report 2005*), and shifting the report's focus from our performance to details of our approach and management, such as our safety promotion regime and initiatives to create a culture of safety.

Although we felt keenly the difficulty of conveying our prime commitment to safety in the limited amount of space available, we are determined to enhance the content of our *Sustainability Report* with the help of feedback from our readers.

## Sustainability Report 2006

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