JR East Profile

Corporate Profile (as of March 31, 2004)

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: 68,857
Passenger line network: Shinkansen lines: 1,052.9 km
Conventional lines: 6,473.9 km
Number of stations: 1,697
Average daily train runs: 12,527 (based on the timetable in March 2004)
Average daily number of passengers: 16.08 million
Business description: Transportation service, station space-utilizing service, shopping center and office service, and other services

Businesses in the JR East Group (as of April 2004)

- **Transportation Services**
  - “Safety first” is our top priority. We strive to provide faster, more convenient, and more comfortable transportation services.

- **Station Buildings and Shopping Centers**
  - We develop and manage station buildings and shopping centers utilizing the convenient features of assets at stations and in their vicinity.
  - JR East Urban Development Corporation, JR East Housing Development & Realty Co., Ltd.

- **Hotel Operation**
  - We provide hotel services meeting various customer needs.
  - JR East Tours Co., Ltd., JR East Urban Development Corporation

- **Retail Shops and Food Services**
  - Our shops and restaurants offer customers a convenient and pleasurable experience at stations and in their vicinity.
  - JR East Food Business Co., Ltd., JR East Food Retailing Co., Ltd.

- **Trading and Logistics**
  - We play an important role in providing material procurement, delivery, and other services to facilitate the business activities of JR East Group companies.

- **Travel Agency and Car Rental**
  - We provide travel packages, car rentals, and other services to meet travelers’ needs.
  - JTB Asia Co., Ltd., JR East Rental Co., Ltd.

- **Sports and Leisure Businesses**
  - Our leisure facilities and sports clubs support customers in leading healthy lives and in enjoying their time-offs.
  - JR East Sports Co., Ltd., JR East Urban Development Corporation

- **Real Estate Management**
  - We develop and manage detached houses, apartment complexes, and stores under the theme “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 the JR East Group companies.

- **Advertising and Publishing**
  - We provide information through in-train and station media.
  - East Japan Marketing & Communications, Inc., Tokyo Media Services Co., Ltd., The Changeaps Inc.

- **Cleaning Services**
  - We provide maintenance and cleaning services at stations and in trains to offer customers “clean travel.”
  - JR East Cleaning Service Co., Ltd., JR East Urban Development Corporation, JR East Housing Development & Realty Co., Ltd.

- **Construction Consulting and Maintenance Services**
  - We provide consulting and maintenance services concerning railway facilities, machine equipment, and personnel service facilities.
  - JR East Consulting Co., Ltd., JR East Urban Development Corporation, JR East Housing Development & Realty Co., Ltd.

- **Group Companies under Branch Offices**
  - We develop unique businesses according to the character of each region.
**Editorial Policies**

As was the case last year, this report is divided into two parts: the Highlight Section and the Comprehensive Section. It is intended to provide detailed information concerning the environmental and social activities of the JR East Group in an easily-understood manner.

Although last year’s Highlight Section was intended to provide an overview of JR East’s activities, this year, we are spotlighting several topics that are particularly significant, with a focus on the experiences and the perspectives of employees at forefront.

In the Comprehensive Section, we made reference to the GRI*1 guidelines on sustainability reporting, as we did last year, and addressed topics from environmental, social, and economic aspects. In the economic section, with a focus on our relationship with stakeholders, we disclosed information in a clear and easy-to-understand manner. In addition, we continue our active disclosures of environmental data in reference to Environmental Reporting Guidelines issued by the Ministry of Environment.

A new attempt of this year was introduction of the “First JR East Stakeholders’ Dialogue,” held on April 1, 2004 with various experts, in the section for communications.

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**Reference Guidelines**

**Reporting Period**
This report covers FY 2003 (April 1, 2003 through March 31, 2004). Data is based on the results during this period. However, initiatives begun prior to this period as well as some more recent activities are also referred to in certain sections.

**Boundaries of Reporting**
East Japan Railway Company and 98 Companies *2 of the JR East Group

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*1 GRI (Global Reporting Initiative)
An international organization that issues globally acclaimed Sustainability Reporting Guidelines - guidelines for reporting not only environmental issues but also social and economic issues. The GRI was established in cooperation with United Nations Environmental Programme (UNEP) and other organizations.

*2 East Japan Railway Company and 98 Companies of the JR East Group
As of the end of fiscal 2003, the number of group companies was reduced to 94 in April 2004 as a result of consolidation.

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Pursuing to be a Trusted Corporate Group

Companies Cannot Fulfill their Social Responsibilities without Sound Management

The term corporate social responsibility (CSR) has recently come into widespread use with regard to the social responsibilities of corporations. There are various ideas concerning CSR, and I believe that sound management enables companies to fulfill their social responsibilities. In addition to fulfilling tax obligations, providing employment opportunities, and supplying goods and services needed by society, CSR is made up of what companies give back to society through corporate vitality, which is brought from sound management.

The Japanese National Railways, former company of East Japan Railway Company, was a government-run company. People might consider that as a public organization it was fulfilling its social responsibilities, but I do not think this was necessarily the case. The company accumulated tremendous debt and imposed a burden on the public, numerous labor strikes resulted in chaos in transportation, and the quality of services declined. After East Japan Railway Company was established as a private company, what needed to be done became much clearer. The key to fulfilling social responsibilities is to achieve sustainable growth under a system of sound corporate management.

Assisting Our Customers in Lead Enriched Lives

The railway business has a very close connection to the national life. In addition to fulfilling the function as a basic social infrastructure, I also believe that it is our social responsibility to respond to the needs of all stakeholders. I feel that the JR East Group exists expressly to provide a wide array of services centered on railway services so that we can assist our customers in leading enriching lives while constantly providing them with new value.

Efforts to Enhance Safety Have Reduced Accidents by 70%

The provision of safe and stable transportation services is an essential element of CSR in the railway business. It can even be said that ensuring safety above all else is the foundation of our CSR. We put considerable effort into ensuring safety, and about 40% of our annual investment goes into capital investments designed to improve safety.

As a result of our various efforts and innovations, the number of operational railway accidents has been reduced by more than 70% since the company was established. This achievement is even greater than the statistics indicate considering the fact that the number of train runs have increased.

Contrasting with this result are the inconveniences that our passengers experienced from train stoppages during the rail rerouting work on the Chuo Line during FY 2003. This project involved replacement of our most important line and since passenger inconvenience would have increased along with an increase in the number of times construction was performed, we had hoped to complete the work with the lowest possible frequency of construction. Unfortunately, our decisions could not prevent dissatisfaction among our passengers.

In response, we have inaugurated a special committee and have adopted a range of measures. Subsequently the large-scale rail rerouting work has been proceeding smoothly. We perform rail rerouting rather frequently to increase the convenience of passengers and local residents, and we vow to use the lessons gained from this construction experience in our future projects.
Needless to say, construction is not performed by JR East alone but is rather carried out with the cooperation of numerous other companies. In order to ensure that such incidents never recur, I personally visited each of the participating companies and took the time to express our concerns. I called on them to take thorough measures to restore the trust of our passengers.

Environmental conservation initiatives enhance our competitiveness in terms of technological development and lead to greater overall corporate strength.

**Aiming for the Development of a Sustainable Society**

We seek to be a corporate group whose customers enjoy happy and plentiful lives. We are making a particular effort to provide added value to passengers while they are on board. We provide “satisfaction” to customers by responding to a variety of customer needs that include, for example, the desire to get work done or watch the news while being on the train.

We are also making a special effort to remodel the railway stations. In the past, stations were simply places for passengers to get on and off trains, but in the future we hope to develop them into exciting locations that inspire people. The creation of interesting stations as the “lightning rods for the city” also serves to make the city itself a more interesting place. Based on the idea that “station development means urban development,” we hope to contribute to the revitalization of cities through the redevelopment of stations.

I am confident that Japan’s railway technology is at the highest level in the world. It is likely that railways, particularly in Asia, will be modernized and converted to high-speed lines in the near future. I hope to promote global CSR by contributing to the development of railway technologies in these countries.

This Sustainability Report introduces our efforts toward the development of a sustainable society. It is our sincere hope that, through this report, we will be able to raise the level of dialog with all interested persons and parties. I look forward to receiving your candid opinions concerning this report.
Hiroshi Kato  
Deputy Manager,  
Rolling Stock Design Division  
Niitsu Rolling Stock Manufacturing Factory  

"The use of lighter trains brought us unintended additional benefits such as lessened frequency of rail replacement."

Substantial weight reduction for energy conservation  
The noise of welding fills the factory large enough to house an entire set of train. Sparks fly as the workers weld together the stainless steel plates of the railcars. This is the Niitsu Rolling Stock Manufacturing Factory in Niitsu City, Niigata Prefecture, which has handled all aspects of E231 manufacture since 1994, from design to production. About half of the commuter and metropolitan area trains used by JR East are built here. It is also the first factory in the JR East Group to acquire ISO9001 and ISO14001 certification.

The E231 series is a train designed as a standard commuter and suburban train. Deputy Manager Hiroshi Kato of the Rolling Stock Design Division says that the major environmentally friendly feature of the new train is its low operational energy consumption.

Operational energy consumption of the E231 series is 47% of the 103 series, which was the major metropolitan area commuter train when JR East was established. Lighter overall weight, effective use of braking energy, and greater motor efficiency are the three factors that have made such substantial energy conservation possible.

Compared to the 103 series whose weight is 40 tons, that of the E231 is mere 23 tons. Stainless steel has replaced iron in railcars, not only reducing weight but also the propensity to rust, thereby eliminating the need for painting. The number of railcars with motors per 10-car train has been cut from 6 in the 103 series to 4 in the E231 series. Lighter weight and progress in control technology have greatly contributed to bringing about this change.

Efforts to reduce weight started with the “halving railcar weight” target that initiated development of the 209 series, the predecessor of the E231 series. Energy savings achieved for the 209 series have been passed on in the development of the E231 series. An improved train information management system (TIMS) has reduced the amount of wiring per trainset by 34 %, or roughly 1.4 tons compared to the 209 series.

In addition to being light-weight, regenerative brakes are also contributing to reducing energy consumption. The regenerative brake is a mechanism which utilizes the driving electric motors to generate electricity when the brake is applied, and the generated electricity is fed back into the overhead electric line to be used efficiently.

Variable Voltage/Variable Frequency (VVVF) inverter control also contributes to energy conservation for its effective control of motor revolution through electronic control, without resorting to electrical resistance adjustments.
Superior recyclability and longer component lifespan

Superior recyclability means that about 90% of the weight of the E231 can be recycled. Almost all of the exterior material can be recycled. Resource saving artifices are also applied to the interior; the seats are now made of recyclable polyester resin and the seat covers are also designed for easy replacement when damaged.

The lifespan of parts has also been extended. For example, brake shoes, disk brakes, and other parts that press against or pinch wheels or axles during braking are exposed to wear and have to be replaced regularly, but the higher efficiency of the E231 braking system reduces wear and significantly lengthens the interval between replacements.

"Being in charge of design, I would want to expand the use of environmentally friendly materials," Kato says of his aspiration. Completed railcars undergo a variety of inspections during test runs and are delivered to the metropolitan area through JR East’s railway lines.

Pursuing improvement of energy conservation and recyclability

Since the introduction of the 209 series in 1993, we have focused on making environmentally friendly railcars. Use of common parts in commuter trains and metropolitan area trains – until then two separate product lineups – started with the arrival of the E231 and since then we have gradually reduced use of resources and lowered energy consumption. Developing environmentally friendly railcars continues to be one of the most important challenges and it is our intention to further improve the efficiency of regenerative brakes to lower energy consumption, as well as raise the level of interior material recyclability at the same time. Development of the AC Train (Advanced Commuter Train) employing a drive system different from that of today will garner still greater energy efficiency and further reduction in energy consumption.
Using Renewable Energy for Our Trains

About half of the JR East trains in the Tokyo area run on electricity generated by hydroelectric power plants, which has lower environmental impact. JR East uses the hydraulic power of the Shinano River to generate electricity in its own power plant in Niigata Prefecture.

Kenji Naito
General Manager
Shinano-gawa Power Station

“During the peak hours in the morning and at night we use a balancing reservoir to increase power generating efficiency.”

The Shinano River starts off in Kobushigake in the Oku-Chichibu mountain range and flows into the Japan Sea. The abundant water of the river provides JR East with around 1/4 of its total electricity needs. As for Tokyo metropolitan area, this electricity makes up 50% of its electricity consumption used for trains, lighting, and air conditioning of stations, etc.

JR East runs three hydraulic power plants in Kawanishi Town and Ojiya City in Niigata Prefecture. The Senju Power Plant, Ojiya Power Plant, and Shin-Ojiya Power Plants started generating electricity in 1939, 1951 and 1990, respectively. These three power plants generated a total of 1.78 billion kWh during FY 2003.

In addition, JR East owns its own electric power-cables and substations. Generated power is relayed via electric power-cables through the Tanigawadake Mountains to Musashisakai A.C. (alternative current) Substation in Tokyo, located 200 km to the south of the power station, and distributed from there to be used as a power source for trains via a number of local substations.

Kenji Naito, the general manager of the power station, says, “Accurate forecasts of water amounts at these hydraulic power plants are essential since some of the electricity is used to serve the railway’s passengers.” The output at Kawasaki Thermoelectric Power Plant, which generates about 1/3 of power needs, is adjusted depending on hydroelectric power plant output to maintain the proportion of clean energy at the highest possible level. To estimate the next day’s energy production, rainfall data along the Shinano River as well as its tributaries is added to the precipitation data to forecast the amount of available water. Such forecasts are also required to maintain the water level of Miyanaka Intake Dam. The amount of water taken from the dam is adjusted to maintain a stable water level.

Power generation via natural means involves constant care such as to clean up floating debris and other rubbish that the river water carries into the dam. Driftwood arriving at the dam used to be discarded is now recycled as wood chips and compost.

Now that you know where the electricity for your commuter trains comes from, you will probably feel different when you ride them next time.
"All the countermeasures to the major noise sources have been taken so to further lowering Shinkansen noise will require comprehensive measures involving the entire trainset," says Takeshi Kurita, Manager at the Advanced Railway System Development Center. Some of the major sources of Shinkansen noise include the overhead pantograph, a device that conducts electricity from the overhead electric line to power a train, and the front part of the train. The vastly simplified design of the current pantograph is the result of a series of development efforts. In the future it will be necessary to develop comprehensive countermeasures including the pantograph with even better noise-reduction property.

The objective of achieving speeds of 360 km/h and making the “world’s fastest train” is to shorten travel time and enhance its competitiveness against airlines. Noise is, however, a major obstacle in the road ahead. Raising speeds of the current Shinkansen trains to 360 km/h will raise the noise level by 6 decibels, which means quadrupling of the sound energy.

As a first step, sophisticated measuring equipment has been specially developed to identify noise sources. One of these devices is the Spiral Array Microphone. Consisting of 114 microphones placed in a spiral arrangement on a 4-meter diameter circular frame, it can measure and map out on a sound source map how much noise the specific train components generate.

Measuring results have yielded a number of countermeasures, such as the use of a sound insulating board on the pantograph contact surface. Other measures include reducing the number of pantographs from two to one per trainset and covering the lower railcar sections with noise-absorbing panels to prevent noise reflected off the soundproof walls from bouncing back.

Results of the test runs conducted between March to April 2003 showed that we were able to meet the targeted noise levels. Kurita says with quiet confidence that JR East is steadily approaching its goal. By 2005, a prototype train capable of commercial operation at 360 km/h will be ready. This will be another step towards the world’s fastest, but quiet, Shinkansen train.
Norihiro Okuma
Manager, Management Administration Group,
Management Planning Department,
JR East Department Store Co., Ltd.

“The sale of compost from food waste is a recycling activity that produces tangible results and thus stimulated the environmental awareness of our employees.”

Granduo Tachikawa has 40 restaurants under its roof, more than most other station buildings. These establishments produce 440 tons of food scraps and food waste annually, accounting for roughly 1/4 of all waste by weight. Granduo recycles all food waste as compost, part of which is sold at the flower shop. “Turning food waste from restaurants into compost and returning the product to our customers is a recycling activity I have long dreamed of,” says Manager Norihiro Okuma at the Management Administration Group of the Management Planning Department in explaining the rationale behind recycling.

JR East Department Store Co., Ltd., which operates

Granduo, is doing its best to lower the environmental impact of its activities based on a policy of harmonizing business activities with environmental consciousness. From its start, a cross-functional project team was set up to handle business, general affairs, and equipment of the Department Store. The environmental impact of business activities was identified and ways to process food waste, which turned out to be the greatest issue, were determined. As a result, food waste processors were installed at businesses opening in 1999.

Food waste from restaurants is placed in a food waste processor at the Recycle Center on the first floor. The waste is then mixed with fermentation bacteria and dried at a temperature of 60 to 80°C for around 24 hours to produce compost material. This material is then sent to a fertilizer manufacturer in Gumma Prefecture where it is mixed with other materials and fermented to become compost in about 90 days.

One of the greatest challenges in recycling food waste is to ensure that other waste items do not get mixed into the food waste. Chopsticks and other items were often mixed into the food waste in the busy kitchens of restaurants. In response, training seminars were held to explain the significance of recycling to the staffs and managers of stores as well as those with poor waste sorting practices to improve their operations.

Food waste recycling is now a firmly established practice and other wastes are sorted into 19 different categories before disposal. Now that the recycle rate of wastes has been achieved 60%, the next goal is to develop environmentally friendly products. “I would like to focus on the sale of products that are friendly to the environment,” Okuma says passionately.

Recycling Food Waste from Station Building Shops for Compost

Grandeau Tachikawa, the department store located next to JR Tachikawa Station

Compost is sold at the flower shop near the first floor entrance at a price of 315 yen (including tax) per 300 g.

Food-waste processor; about 1.5 tons of food waste is processed every day.

Organic compost Recycle Power GD300

The restaurants on the 6th and 7th floors; leftover food accounts for 90% of food waste.

GRANDUO TACHIKAWA

JR East Department Store Co., Ltd.

GRANDUO TACHIKAWA

Food waste processor; about 1.5 tons of food waste is processed every day.

Organic compost Recycle Power GD300

The restaurants on the 6th and 7th floors; leftover food accounts for 90% of food waste.
Promotion of Environmentally Friendly Driving Improves Safety

To encourage its drivers to adopt environmentally friendly driving practices, JR East Japan Logistics Co., Ltd. implemented a Vehicle Operation Management System for its integrated logistics services in 2001. This has greatly lowered the environmental impact of the service while increasing safety by reducing the rate of accidents at the same time.

Eisaku Taira
Deputy Section Chief, Works Control Division
JR East Japan Logistic Co., Ltd.

“We regard engines left revving longer than 5 minutes as idling and make sure they are strictly controlled.”

Foundation for Promoting Personal Mobility and Ecological Transportation on behalf of the Ministry of Land, Infrastructure and Transport to the truck businesses whose business practices show concern for the environment. Taira says that “We are intending to promote the reduction of fuel consumption and CO₂ emissions based on the management system of the Green Management Certificate and to further introduce vehicles that run on natural gas.”

Annual idling time for all branches of JR East Japan Logistics Co., Ltd. has gone down dramatically from around 3,000 hours in FY 2002 to around 650 hours in FY 2003. The average idling rate (ratio of idling time to total driving time) is just 0.3% for all branches.

A number of factors made possible the achievement of such quick and impressive results. One of them was accurate comprehension of driving status and management of drivers’ driving data. From 2001 all vehicles were installed with Digital Travel Recorders to record data such as duration of idling times, frequency of sudden and quick accelerations, and time spent over the speed limit. Eisaku Taira, Deputy Section Chief in the Works Control Division, says, “Every month, drivers in each branch are ranked into one of the five categories – A through E – according to their driving data, and the results are announced. This led to quick improvement in driver attitudes.” To preclude the need to turn the heater on and to stop idling the engine when the vehicle is parked for the driver to rest, rechargeable heat accumulation mats were also introduced.

The promotion of environmentally friendly driving (or so-called “Eco-Drive”) practices has lowered the instances of quick acceleration and other dangerous driving maneuvers, and has improved safety by bringing down the accident rate by 38% over three years.

Recognizing this achievement, 12 branches including those of Group companies were designated as “Outstanding Safety Office,” a certification issued by The Japan Trucking Association on behalf of the Ministry of Land, Infrastructure and Transport, recognizing business entities that meet specific safety standards, in December 2003.

In June 2004, the company also received the “Green Management Certificate,” which is issued by the Foundation for Promoting Personal Mobility and Ecological Transportation on behalf of the Ministry of Land, Infrastructure and Transport to the truck businesses whose business practices show concern for the environment. Taira says that “We are intending to promote the reduction of fuel consumption and CO₂ emissions based on the management system of the Green Management Certificate and to further introduce vehicles that run on natural gas.”

Mr. Yositomo Mitsumori, the driver with the best “Eco-Drive” record at Ichikawa Branch, receives recognition for safe driving from The Japan Trucking Association.

The “Eco-Drive” seminar is held once a year. Positive results were quickly apparent in terms of lower fuel consumption figures, which improved by 23% over FY 2001, the year before the start of the seminar.

Utilizing the opportunity of vehicle replacement, the natural gas vehicles (NGVs) are proactively introduced. The company introduced 7 NGVs in FY 2003.
Challenges for Safe and Stable Transport Services

Each employee must address safety issues seriously to build more accurate railway system. We must learn from accidents, determine their causes, and make proactive efforts to prevent their recurrence.

Kenji Horioka
Manager, Planning & Disaster Prevention Group (currently: Rolling Stock Section, Transport & Rolling Stock Division at Tokyo Branch Office)
Transport Safety Department, Railway Operations Headquarters

“As a railway company, it is our greatest mission to provide safe and stable transportation.”

“Safety Plan 2008” – Returning to the Fundamentals to Reexamine Safety Issues

Kenji Horioka, Manager in the Transport Safety Department says that the company has needed to reassess “safety,” its most valuable asset, due to the stricter social standards that are being applied to the industry. “That is the major objective in initiating the ‘Safety Plan 2008,’ the latest five-year safety plan.”

During the 17-year period from its foundation up to 2003, JR East has formulated and carried out three 5-year safety plans, investing a total of 1,400 billion yen. As a result, railroad accidents have fallen by 75% from 376 in FY 1987 to 96 in FY 2003.

However, worrisome factors that may or may not directly cause accidents still exist. To eliminate such “seedlings of accident” and to fulfill the CSR as a railway company, JR East is reminding itself that the “safety” is one of its most important management assets and continuing its effort to build a railway system that delivers higher quality service.

Stable transport is crucial to ensure safety

“Safety depends on the smooth interplay of ‘people,’ ‘equipment’ and ‘regulations.’ In other words, hardware and software are both essential,” says Horioka.

In terms of “hardware,” JR East is reinforcing and expanding the maintenance of its automatic train stop (ATS) system, and is enforcing measures to prevent railroad crossing accidents. As a new addition, JR East is expanding its “System for Halting All Trains in the Event of an Earthquake” to include areas outside of the metropolitan area. This system automatically stops train operations in affected areas when an earthquake with a magnitude higher than 6 on Japan Meterological Agency (JMA) seismic intensity scale occurs. The “Image-Processing Type Fall-Detection System at Station Platforms” is another new technology currently being introduced. The system alerts oncoming trains of...
obstacles along their paths by using two cameras that allow 3D detection of the obstacles.

In terms of “software,” stopping trains in the event of an accident is a basic safety procedure but recovering to normal service as quickly as possible after the accident is also essential to maintaining safety because a system that operates erratically can lead to non-standard behavior and become a possible source of human error. Recognizing the above, JR East has set up a Committee for Improving Transport Stability to investigate the cause of accidents and devising methods for speedy recovery to enable early resumption of normal services.

**Reviewing rail-rerouting work**

A large-scale rail-rerouting project took place between Mitaka and Kokubunji Stations on the Chuo Line on September 27th, 2003 to replace the complicated multiple railroad crossings with overpasses. The completion of this work was considerably delayed. As a result, the 7-hour cancellation of services ensued great inconvenience to 180,000 passengers in the surrounding areas. Following this, the Review Committee for Large-scale Rerouting Work was set up to thoroughly investigate causes and risks involved in such projects and to come up with countermeasures.

To make sure that rail-rerouting work at Urawa in May 2004 was completed within the time limit, efforts were made to finish all construction work ahead of schedule. Later in June, all sorts of technologies were mobilized in the preparatory phase of a two-day rail-rerouting project in Ikebukuro to minimize risks. An evaluation meeting was held after the completion of work and a system was set up to utilize the ideas and opinions raised at the meeting for further improvement in the next construction project.

In FY 2004, a great number of large-scale construction projects will be carried out, starting with the rerouting of tracks at Shinjuku Station, the largest station in metropolitan Tokyo. Esao Arakawa, Manager of the Construction Department says with confidence that “lessons learned from past troubles have helped us set up a system that systematically checks construction conditions from many angles to minimize risks.”
Emiko Taguchi
Manager, New Business Development Group, Business Promotion Division, Life-style Business Development Headquarters

“It is natural that a railway company would make progress ‘from a point to a line’ and come up with the idea of developing communities in the vicinity of its railway lines that support childrearing. I hope to continue expanding nursery schools at stations to meet the needs of communities.”

JR East opened nursery schools at 10 stations between 1996 and 2003. In April 2004, we opened three new facilities near stations on the Saikyo Line in an effort to develop communities in the vicinity of our railway lines that assist childrearing. New developments are taking place in the station childcare facility business.

Development of station-based nursery schools expands childcare support from a “point” to a “line”

“Station-based nursery schools are intended to be a part of ‘station renaissance’ (i.e., an enhancement of station amenities) that responds to societal needs, including the higher demand for childcare services and declining birthrate,” says Manager Emiko Taguchi of the Life-style Business Development Headquarters in explaining why the Saikyo Line was chosen. “We are not adopting the small-scale, single-site development of the past. Rather, we hope that this project series serves as a model for future development along the ‘line.’ The vision of Saikyo Line station-based nursery schools – creating a railway line that supports community childrearing – was born when demand for childcare services of the community met JR East owning unused land on a railroad.

This project has following prehistory; when the Shinkansen was constructed, former Japan National Railways purchased strips of land about 20 meters wide on both sides of the viaduct from Arakawa to the vicinity of Omiya to serve as a buffer zone against noise and vibration caused by the trains. “In 1999, we exchanged documents with the local community that enabled JR East to use this land. This was the beginning of the development of station-based nursery schools along the Saikyo Line,” says Satoshi Tsunoda, Deputy Manager of the Omiya Branch.

He continued: “The biggest hurdle was obtaining the understanding of the local government bodies.” Apart from Musashirawa Station where there is a high demand for nursery schools, most of the local government bodies were hesitant to accept JR’s proposal. “We went to explain the significance of station-based nursery schools many times, and finally they recognized our point.” The project team was determined to obtain the understanding of the local government bodies and to receive approvals for the nursery schools because tuition can be lowered and users would place greater trust in the service. “In Saitama Prefecture, tuition must be set at a higher level if the facility is not licensed, and thus it would not ‘support’ the community’s childrearing,” explains Tsunoda. Now that three facilities have opened with the users pleased with the service, the local government bodies are requesting more be opened.

The Ohisama Nursery School places great emphasis on warmth from the heart. The childcare system is supported by 12 experienced childcare providers, nurses and nutritionists.
Tailored services offer more than just a convenient location

Taguchi notes that “Commuters can farm out and pick up their children on the way to and back from work, and can also go shopping in the area while their children are at the childcare facility.” The convenience of the station-based nursery schools is not limited to their location. Director Isao Takamura of the Ohisama Nursery School explains, “We want to help working mothers as much as possible. We hope to offer opportunities for meaningful time that parents and children can spend together by lightening the burden on mothers.”

What users like most about the facilities is their extended hours. The Ohisama Nursery School is open from seven in the morning until eight in the evening. Most nursery schools have an initial period during which children’s stays are limited to a half day so they can become accustomed to going to the facility, but Ohisama Nursery School did not adopt this system. This is because “mothers’ jobs don’t allow them a period for getting accustomed to.” Futons (padded mattresses) for naps can be leased and the facilities provide dinner to children whose parents pick them up late. The locations are certainly convenient, but the true secret to their popularity is that the facility provides services that pay close attention to the parents’ needs.

Nursery schools that are open to all community members

One of the foundations of the nursery schools is the interaction with the local community. The Ohisama Nursery School began offering childcare support programs in July of 2004. The school has a broad array of activities planned that are centered on communication with the children including toy making, cooking classes taught by a nutritionist, reading books to the children, first-aid training, inviting local senior citizens to spend time with the children, and so on. These activities are intended to involve not just the facility users, but also all local residents. The school also offers short-term childcare services for full-time housewives. “I am grateful to all of the childcare providers for their many ideas for making this a childcare facility that is truly open to the community,” says Tsunoda.

“This is a business that truly contributes to the community made possible through the collaborative efforts of local government bodies, childcare providers, and the JR East Group. There is definitely value in pursuing a business that brings happiness to all the parties involved as well as customers,” says Taguchi. Tsunoda notes that “on April 1, 2005, an authorized nursery school and senior day service center will open at the Yono-Honmachi Station. Plans also call for two schools to be opened on the New Shuttle Line. Eventually, we hope to have facilities at every station on the Saikyo Line.” Based on local needs and the cooperation of childcare providers, they will open station-based nursery schools at additional stations and continue to expand this business to further develop communities that support childrearing.
What is the JR East Group’s vision?

What is the JR East Group’s basic stance on CSR?

What is the JR East Group’s basic vision toward the environment?

What is to be accomplished in FY 2003 in relation to the 2005 goals?

How does the JR East Group promote environmental management?

How are environmental accounting and environmental management indicator utilized?

What is the total environmental impact of the Group?

What measures is the Group taking to prevent global warming?

How does the Group promote a sound cycle of resources?

What measures are taken to manage chemical substances?

What environmental conservation activities does the Group conduct in the vicinity of its railway lines?

How does the group disseminate environmental information?

How does the Group promote collaboration with society?

What measures are being taken to ensure railway safety?

How are the opinions of customers adopted in the Group’s activities?

What actions does the Group take to ensure that its employees can feel satisfied with their careers?

How is the economic performance of the JR East Group?
Corporate Social Responsibility

What Is the J R East Group’s Vision?
The J R East Group seeks to be a corporate group that takes on the challenges of creating services that support people in their day-to-day lives and hopes to become a corporate group that is trusted by its customers and all other stakeholders. In other words, the J R East Group aims to be a “trusted life-style service creating group.”

Group Policies
The J R East Group aims to function as a corporate group providing high quality and advanced services with railway businesses at its core while achieving sound management. For this purpose, every employee of the Group endeavors to support safe and punctual transportation and supply convenient and high-quality products. Every employee takes on the challenge of improving the standard of services and raising the level of technology in order to further gain the confidence and trust of customers. As a “trusted life-style service creating group,” we go forward with our customers to contribute to the achievement of better living, the cultural development of local communities, and the protection of the global environment.

The New Frontier 21
The New Frontier 21, announced in November 2000, is the J R East Group’s medium-term business plan for the period from 2001 to 2005. In pursuit of the Group’s goal to be a “trusted life-style service creating group,” the plan specifies four vital roles and five specific directions that the J R East Group is pursuing. These include achieving harmony with society and coexisting with the environment.

Action Guidelines
1. Customer Focus
We offer cordial, user-friendly services.
2. Safety and Quality
We provide safe and punctual transportation services and other high-quality services.
3. Group Development
We establish trustworthy corporate group with autonomy, collaboration, and challenging spirit.

Stakeholders\(^1\) and CSR
The J R East Group, serving approximately 16 million customers daily in its railway business alone, has various relationships with an enormous number of stakeholders including shareholders and investors, business partners, employees and their families, non-profit organizations, and local communities. There has been particular focus on corporate social responsibility (CSR) in recent years, and the Group believes that its business activities with a focus on railway services are the means for the Group to fulfill its corporate social responsibilities. Based on the Group Policies and Action Guidelines, we are working to achieve continuous growth, and through the gain of trust from all of our stakeholders, we will carry out our corporate social responsibilities.

*1 Stakeholder
Persons or parties who have a relationship with the J R East Group including customers, shareholders and investors, business partners, employees and their families, non-profit organizations, and local communities.
What is the JR East Group’s Basic Stance on CSR?
In order to firmly fulfill our corporate social responsibilities (CSR), the JR East Group is working to strengthen its management structures in four areas: corporate governance, compliance, accountability, and risk management.

Basic Philosophy on CSR

The railway business that JR East is primarily engaged with is an infrastructure that derives its history as a means to progress the society, and thus it has extremely strong ties with the general public and local communities. Therefore, awareness of the importance of contributing to society through business activities and fulfilling corporate social responsibilities is part of JR East’s corporate culture.

Our “New Frontier 21” medium-term business plan states that “fulfilling our social responsibilities and work in partnership with local communities” is one of our Vital Roles, and our Group Policies provide that “as a trusted life-style service creating group,” we will go forward with our customers to contribute to the achievement of a better living, the cultural development of local communities, and the protection of the global environment.”

In recent years, CSR has become a focus of attention, and businesses are being called upon to take affirmative and serious action in response to various issues that affect all of society from maintaining high ethical standards to practicing transparent management and addressing global environmental issues. By faithfully implementing our Vital Roles and Group Policies in our business activities, we will maintain our status as a corporate group that meets the expectations of the public and gains the trust of stakeholders.

Management Structures for Implementing CSR

Establishing corporate governance

The East Japan Railway Board of Directors is comprised of 23 directors including 2 outside directors. A resolution to reduce the number of directors from 31 to 27 was passed at the General Meeting of Shareholders in June of 2003 in order to promote more active discussion of issues at board meetings and to accelerate the decision-making process.

The number of directors was further reduced to 23 at the General Meeting of Shareholders in June 2004. In addition, an Executive Committee consisting of all managing directors was established to deliberate major management issues. A Group Strategy Committee consisting of executive directors and others was established to consider major issues affecting the entire Group.

We have been organizing the necessary structures for internal governance including the incorporation of external perspectives in the system.

In order to maintain transparency in management and to strengthen audit functions, we have appointed outside directors and auditors who have extensive experience and knowledge. The Board of Corporate Auditors is comprised of 2 full-time and 3 part-time auditors, of which 4 are outside auditors. Each auditor conducts job performance audits of the directors in compliance with policies set by the Board of Corporate Auditors. Furthermore, regular liaison meetings with group company auditors are held to exchange information and to encourage CSR practices.

JR East has a relationship with KPMG AZSA & Co., an accounting firm, which con-

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Diagram:

- **Board of Directors**: 23 directors (of whom two are outside directors)
  - Decides and oversees major business activities
- **Executive Committee**: Consists of managing directors
  - Deliberates on resolutions to be submitted to the Board of Directors and major management issues
- **Group Strategy Committee**: Consists of managing directors and others
  - Deliberates on major issues affecting the entire group
- **Head Office Departments, Branches, and Operational Bodies**: Collaboration and cooperation to ensure the efficient performance of business activities
- **Board of Corporate Auditors**: Consists of two full-time and three part-time corporate auditors (of whom four are outside auditors)
  - Audits the activities of the board of directors, company operations and assets
- **Independent Auditor**: KPMG AZSA & Co.
  - Performs independent audits at the end of each fiscal half year and fiscal year
- **Internal Inquiry & Audit Department**: Performed oversight functions to ensure that business activities are conducted in compliance with applicable laws and regulations
ducts independent audits at the end of each fiscal half year and fiscal year.

We maintain Inquiry & Audit Department at the head office and Inquiry & Audit Divisions at all branches as internal auditing bodies. The Corporate Audit Department also performs audits of group companies.

**Ensuring compliance**

Recognizing that corporate management based on compliance and high ethical standards are prerequisites for continuous corporate existence, we built a framework to respond rapidly to legal issues and legal risks affecting group companies. The framework is centered around the Legal Department, formally a part of the Administration Department, established in June 2002. We strive to maintain compliance with applicable laws and regulations in all our business activities reflecting the advice received from our legal counsel and other professionals.

In addition, periodic training is provided at branches and group companies to enhance compliance and ethical standards. In FY 2003, we conducted compliance training for branch personnel, and management seminars and basic legal training for group company employees.

**Disclosing more information to maintain accountability**

We engage in public relations and investor relations activities to actively disclose information concerning the JR East Group in order to deepen the understanding and trust of stakeholders. We also use web sites to provide accurate key corporate information in a timely manner.

**Strengthening risk management system**

The Crisis Management Headquarters was established in January 2001 to gather and manage information and to implement initial responses in the event of a major crisis affecting JR East’s business operations. By involving senior management in the initial stages, disclosing appropriate information, and maintaining compliance, we minimize any potential damage or loss.

Furthermore, in order to maintain a corporate culture that encourages the communication of risk information, we are reinforcing risk and information management structures by conducting seminars and other training for group companies.

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<thead>
<tr>
<th>Number of times conducted</th>
<th>Participants</th>
<th>Contents and Objectives</th>
<th>Number of participants</th>
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<tbody>
<tr>
<td>Management Seminar (Compliance Course)</td>
<td>2 Group company administration managers</td>
<td>Compliance, risk management, fair hiring practices, and human rights education</td>
<td>60</td>
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<tr>
<td>Legal Skills Seminar</td>
<td>1 Branch legal affairs managers</td>
<td>Deepening legal knowledge, legal reasoning, and decision-making abilities based on real issues</td>
<td>14</td>
</tr>
<tr>
<td>Basic Legal Training</td>
<td>2 Group company legal affairs personnel</td>
<td>Acquisition of basic legal knowledge</td>
<td>55</td>
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</table>
Global environmental capacity is limited as are global resources. It is now obvious to anyone that human activity must take place within these confines.

In the restructuring of the JR East Group in 1992, we seriously started to address environmental issues. As for our core business – the railway business, we are promoting various approaches, such as the use of railcars with half the energy consumption and of renewable energy, as well as the reduction and recycling of wastes in large variety and quantity, to offer transportation with lower environmental impact.

As for group companies, we are also assessing the impacts on the environment to grasp their extent, and to promote countermeasures. To this end, we will provide our employees with environmental education to maintain and reinforce the reduction of the environmental impact of the Group as a whole.

What Is the JR East Group’s Basic Vision Toward the Environment?
Since 1992, the JR East Group has adopted the basic philosophy of balancing environmental protection with the pursuit of our business activities. We have established activity guidelines and numerical goals to more specifically measure environmental conservation activities.

Two Approaches to the Promotion of Ecological Activities

Creating a railway with low environmental impact
On a voluntary basis, we are promoting efforts including adopting energy-saving railcars and recycling wastes to reduce the environmental burden of our business activities.

Creating a convenient railway system
To maximize the characteristics of the railways that its environmental impact per unit of transportation volume is lower than other transportation means, we are promoting the intermodal transportation, an integration of railways and cars, to reduce the overall impact of all means of transportation.

![Electric consumption by series](chart)

103 series = 100%

![CO₂ emission levels by transportation type](chart)

(Unit: g-CO₂/pasenger-km)

Source: “Transportation and Environment” issued by the Foundation for Promoting Personal Mobility and Ecological Transportation
### Environmental

#### Basic Philosophy (established in May 1992)

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

#### Basic Policies (established in 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 (established in March 1996)

1. We work to prevent the waste of precious energy resources and to reduce CO₂ 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.

#### Goals to be met by FY 2005

(Based on figures for FY 1990) (established in March 1996; revised in November 2000 and partially revised in September 2002)

- A 20% reduction of CO₂ emissions in general business activities
- Realization of an energy-saving railcar ratio of 80%
- A 30% reduction of CO₂ emissions in proportion to unit electric power generation at dedicated thermal power plant
- A 15% reduction in energy consumption for train operations in proportion to unit transportation volume
- An 85% reduction in the number of large-size refrigerating machines using specific chlorofluorocarbons (CFCs)
- Realization of a 40% recycling rate for waste generated at stations and on trains
- Realization of a 75% recycling rate for waste generated in rolling stock workshops
- Realization of an 85% recycling rate for waste generated in construction projects
- Realization of a 100% rate for usage of recycled paper as office stock
- Reduction of noise to less than 75dB in designated residential areas along the Tohoku and Joetsu Shinkansen Lines
- A 60% reduction of NOx emissions at company-run thermal power plant
- Implementation of specific environmental conservation activities on an annual basis

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*1 Rolling stock workshops

The rolling stock workshops were renamed General Rolling Stock Centers in April 2004. However in this report, the term “rolling stock workshop” refers collectively to both General Rolling Stock Centers and the Niitsu Rolling Stock Manufacturing Factory.

* Goal achieved in FY 2002
What is to be Accomplished in FY 2003 in Relation to the 2005 Goals?

JR East has established environmental goals to be met by FY 2005. Each year we review performance on a qualitative and quantitative basis, looking for ways to achieve goals. As for tasks that remain, we develop strategies to make improvements in the following fiscal year.

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<tbody>
<tr>
<td>Environmental conservation along railway lines</td>
<td>- Continue noise reduction measures along Shinkansen and conventional lines (constructing soundproof walls, installing continuous welded rails, etc.)</td>
<td>- Reduction of noise to 75 dB or less in designated residential areas along the Shinkansen and Shuto (Shinkansen/Lines NOx emissions at Kawasaki Thermal Plant)</td>
<td>994t</td>
<td>100% (goal to be met by FY 2002)</td>
<td>60% reduction (452 tons)</td>
<td>100%</td>
<td>66% reduction (394 tons)</td>
<td>37-39</td>
</tr>
<tr>
<td>Global environmental conservation</td>
<td>- Introduce energy-saving railcars</td>
<td>- Total CO2 emissions from general business activities</td>
<td>2.76 million tons-CO2</td>
<td>20% reduction (2.2 million tons-CO2)</td>
<td>16% reduction (2.26 million tons-CO2)</td>
<td>20% reduction (2.2 million tons-CO2)</td>
<td>30% reduction (314 thousand tons-CO2)</td>
<td>30-33, 37</td>
</tr>
<tr>
<td>Resource conservation</td>
<td>- Increase energy conservation at stations and office buildings (introduce co-generation)</td>
<td>- CO2 emissions in proportion to unit electric power generation at Kawasaki thermal plant</td>
<td>726g-CO2/kWh</td>
<td>30% reduction (505g-CO2/kWh)</td>
<td>29% reduction (503g-CO2/kWh)</td>
<td>31% reduction (504g-CO2/kWh)</td>
<td>60% reduction (402 tons)</td>
<td>34-36</td>
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<tr>
<td>Environmental management</td>
<td>- Promote intermodal transportation (Park &amp; Ride, Rail &amp; Plant-a-Car, etc.)</td>
<td>- Ratio of energy-saving railcars</td>
<td>1.246</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>30-33, 37</td>
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<tr>
<td>- Reduce and recycle waste generated at stations and on trains, (categorized collection of waste, maintenance of recycling centers, etc.)</td>
<td>- Energy consumption for train operations in proportion to unit transportation volume</td>
<td>20.6 MJ/car-km</td>
<td>15% reduction (17.5 MJ/car-km)</td>
<td>10% reduction (17.0 MJ/car-km)</td>
<td>11% reduction (18.6 MJ/car-km)</td>
<td>83% reduction (13.6 MJ/car-km)</td>
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<tr>
<td>- Recycle train tickets</td>
<td>- Number of large freezer units using specific chlorofluorocarbons (CFCs)</td>
<td>- Recycling rate of waste generated at stations/trains</td>
<td>-</td>
<td>40%</td>
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<tr>
<td>- Recycle waste generated at rolling stock workshops and construction projects</td>
<td>- Recycling rate of waste from construction projects</td>
<td>-</td>
<td>75%</td>
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<td>- Recycle newspaper collected at stations, and introduce recycled office paper, etc.</td>
<td>- Rate of recycled paper used for office work</td>
<td>-</td>
<td>85%</td>
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<tr>
<td>Environmental management led by the Committee on Ecology at JR East Head Office and branch offices.</td>
<td>- Specific annual environmental protection activities</td>
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<tr>
<td>- Acquire ISO14001 certification at the Koriyama General Rolling Stock Center</td>
<td>- 13 locations</td>
<td>10,000 trees planted</td>
<td>3,500 participants</td>
<td>15 locations</td>
<td>12,000 trees planted</td>
<td>2,400 participants</td>
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<tr>
<td>- Conduct forestation along railway lines</td>
<td>- 100%</td>
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<td>100%</td>
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<tr>
<td>- Publish the Sustainability Report, conduct environmental publicity, etc.</td>
<td>- Rate of recycled paper used for office work</td>
<td>-</td>
<td>100%</td>
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<tr>
<td>Research and development of environment-related technologies</td>
<td>- Environmental management led by the Committee on Ecology at JR East Head Office and branch offices.</td>
<td>- Environmental conservation and other activities in cooperation with local governments and other organizations</td>
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<td>- Introduce energy-saving railcars</td>
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<td>- Increase energy conservation at stations and office buildings (introduce co-generation)</td>
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<tr>
<td>- Promote intermodal transportation (Park &amp; Ride, Rail &amp; Plant-a-Car, etc.)</td>
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<td>- Recycle newspaper collected at stations, and introduce recycled office paper, etc.</td>
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</tbody>
</table>

**Progress toward FY 2005 goals**

- **excellent**
- **satisfactory**
- **behind schedule**
Environmental

How Does the JR East Group Promote Environmental Management?

The entire JR East Group strives to strengthen its environmental management system for promotion of environmental conservation. At the same time, we provide environmental education to raise the environmental awareness of each employee.

ISO14001 Certification

We are promoting the acquisition of ISO14001 Certification, the international standard for environmental management systems, particularly for sectors of our business that have a comparatively high environmental impact. Beginning with the Nitsu Rolling Stock Manufacturing Factory in FY 1998, several other sites have acquired the certification, and in FY 2003 the Koriyama General Rolling Stock Center has added its name on the list.

As for our group companies, East Japan Eco Access Co., Ltd., LUMINE Co., Ltd. and the Production Operation Division for box lunches and other products in Nippon Restaurant Enterprise Co., Ltd. have obtained certification as well.

Implementation of Environmental Management

In-house Committee on Ecology

We established the Committee on Ecology to responsively exercise the establishment of the environmental goals as well as the implementation of the environmental impact assessment for all operations and of environmental activities. The Committee also confirms the achievement of the goals and the executive oversight. This cross-departmental committee – having its secretarial office in the Management Administration Department – consists of general managers from every department and is chaired by the Chairman of JR East.

In FY 2003, the “JR East Group Environmental Management Advancement Conference” was established to strengthen the overall initiatives carried out by the group.

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Internal environmental audit
JR East performs environmental activities based on a concept of Plan-Do-Check-Action (PDCA) cycle under the supervision of the Committee on Ecology.

At the rolling stock workshops, for example, we conduct regular audits carried out by internal auditors, who had been sent to take external trainings, to evaluate our own environmental activities. In an internal environmental audit, it was indicated that some activities, such as the reevaluation of environmental impact assessment and the records following education and training, have not been fully and correctly executed. These activities have since been improved to meet set standards.

Environmental risk management
Strict management of chemical substances has been implemented to prevent environmental disasters.

We have compiled emergency response manuals for the handling of chemical and other hazardous substances at the thermoelectric power plant and rolling stock factories. Personnel involved in handling such materials participate in study groups and/or in treatment trainings, share information and knowledge and are given on-site training exercises in their safe use.

Environment-related accidents
In FY 2003 we had no accidents that adversely affected the environment and were subject to no fines.

Environmental education
Environmental management makes it essential that all employees are properly aware of environmental issues. We therefore provide environmental education to all new recruits and new management staffs, and provide lectures in environmental subject through seminars or online; a total of 2,800 employees received environmental education during FY 2003.

We also provide information on environmental issues through digest version of our sustainability report, which was distributed to all employees, as well as monthly in-house magazine JR Higashi, newsletters published by each branch, intra-branch office LAN, and posters.

Evaluation of environmental performance
JR East evaluates and encourages employee efforts toward environmental conservation. For example, at the 17th Presentation Meeting of Small Group Activities held in December 2003, the group “Norarikurari” of Takasaki Mechanical Technology Center received an Award for Outstanding Activities.

The group had noticed that wastewater from the railcar cleaning facility could be reused. Upon completion of water quality survey, they decided to use it in the pollutant processing facility. This led to a substantial reduction in the use of water resources and has reduced water and sewage costs as well.

<table>
<thead>
<tr>
<th>Seminars and lectures</th>
<th>Number of sessions</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training for new on-site supervisors</td>
<td>8</td>
<td>160</td>
</tr>
<tr>
<td>Training for implementation managers</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Training for new recruits</td>
<td>1</td>
<td>1,330</td>
</tr>
<tr>
<td>Training for new management staff</td>
<td>5</td>
<td>70</td>
</tr>
<tr>
<td>Environmental seminars</td>
<td>20</td>
<td>790</td>
</tr>
<tr>
<td>Online training</td>
<td>–</td>
<td>250</td>
</tr>
</tbody>
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### How are Environmental Accounting and Environmental Management Indicator Used?

JR East utilizes environmental accounting to understand the cost effectiveness of our expenditures and investments for environmental conservation. The results, together with our own environmental management indicator, are used to assist management decision-making.

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<thead>
<tr>
<th>Categorization of environmental conservation activities</th>
<th>Environmental conservation costs (billion yen)</th>
<th>Effects of environmental conservation attained through environmental goals</th>
<th>FY 2002</th>
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</tr>
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<tr>
<td>Environmental conservation along railway lines (Anti-pollution activities)</td>
<td>6.62 6.68</td>
<td>Reduction of noise to 75dB or less in designated residential areas along the Tohoku and Joetsu Shinkansen Lines NOx emissions at the Kawasaki Thermal Plant</td>
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<td>– 4.86</td>
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<td>Environmental management</td>
<td>0.03 0.45</td>
<td>Forestation along railway lines</td>
<td>13 locations 10,000 trees planted 3,500 participants</td>
<td>15 locations 12,000 trees planted 2,400 participants</td>
</tr>
<tr>
<td>Research and development of environment-related technologies</td>
<td>– 1.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social activities</td>
<td>– 0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.33 13.33</td>
<td></td>
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### Notes:

1. Total R&D costs

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日本語

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Environmental Accounting and Environmental Management Indicator

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Economic benefits accompanying environmental conservation activities

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2004 Financial Year Review

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JR East Group SF2004
Summarized results for FY 2003

In FY 2003, the cost of environmental conservation activities in the form of investment reached 66.3 billion yen while that of expenditures were 13.3 billion yen.

Global conservation activities, which account for a major part of the investments, were 59.6 billion yen, 14.4 billion yen less than the previous fiscal year when implementation of energy-saving railcars was accelerated in response to the extension of the Tohoku Shinkansen to Hachinohe. The introduction of energy-saving railcars and other facilities have reduced CO₂ emissions by 430,000 tons-CO₂.

Investment in environmental conservation along railway lines increased by 1.6 billion yen, raising the total expenditures to 6.6 billion yen, mainly due to the increase in investment for measures to reduce Shinkansen noise.

Verification through an environmental management indicator

JR East established an environmental management indicator used to determine the relationship between our business activities and environmental impact. The indicator is referred to as “Added Economic Value” based on operating profits with having CO₂ emissions, one of our top priorities, as our environmental impact factor. We utilize this indicator to guide our business planning and decision-making for management.

In this equation, a smaller value indicates that the business is earning added economic value with fewer burdens on the environment. Due to our efforts over the last decade, the value of 94.5 (t-CO₂/billion yen) recorded in FY 1990 improved to 71.5 (t-CO₂/billion yen) in FY 2003.

Environmental management indicator

\[
\text{Added economic value} = \frac{\text{Environmental impact}}{\text{CO}_2 \text{ emissions (t-CO}_2)} - \frac{\text{Operating profit (billion yen)}}{100}
\]

Environmental conservation costs

- Data refers to East Japan Railway Company only (on a non-consolidated basis).
- “Environmental conservation costs” cover only those that are identifiable by the current management system.
- Among the multipurpose expenditures, the total cost is reported for those with significant environmental benefits; (The cost for pollution prevention includes all expenses incurred in installing continuous welded rails, etc., as this is considered to contribute to enhanced functionality. The cost for global environmental conservation includes the total amount invested in energy-saving railcars.)
- Expenses do not include depreciation
- Expenses for processing refuse generated at stations and on trains (under resource-recycling costs) are calculated as follows: A model is set up for cleaning stations and trains. Then the percentage taken up by waste recycling and processing is calculated (in proportion to the entire model). By multiplying the overall cleaning expenses for stations and trains by this percentage, the amount of expenditure is obtained.
- Of the resource-recycling costs, the cost of processing waste from construction projects and rolling stock workshops is calculated for each facility by multiplying the waste volume in FY 2003 by a standard per unit cost.

Benefits of environmental conservation

- The benefit of environmental conservation is calculated based on figures that represent environmental targets.

Economic benefits of environmental conservation activities

- As for global conservation, the economic benefit is calculated by determining the annual reduction of electricity and maintenance costs generated by the introduction of energy-saving railcars, cogeneration, etc. (including partial estimates), then multiplying this amount by the legally accepted depreciation lifespan.
- Cost of processing waste generated by construction work and rolling stock workshops incorporates revenue generated from the resale of reusable resources.
What is the Total Environmental Impact of the Group?

The JR East Group uses a large amount of resources in the course of its business operations and discharges a variety of substances into the environment. For this reason, we have come up with numerical values to gauge our impact on the environment.

**INPUT**

**Energy**
- Electricity 6.21 billion kWh (56% from company-run power plant)
- City gas 10.4 million m³
- Other fuels 82,000 kg (crude oil equivalent)

**Water**
- 11.7 million tons

**Office paper**
- 1,606 tons (99% of which is recycled paper)

**OUTPUT**

**CO₂ emissions**
- 2.2 million t-CO₂

**General waste**
- Offices 2,749 tons
- Stations and trains 49,007 tons
- Rolling stock workshops 1,771 tons
- Tickets 760 tons

**Industrial waste**
- Construction projects 651,701 tons
- Rolling stock workshops 22,151 tons
- Medical waste 102 tons

**General waste**
- 2,749 tons
- 49,007 tons
- 1,771 tons
- 760 tons
- 651,701 tons
- 22,151 tons
- 102 tons

**General waste (54,287 tons)**

**Industrial waste (673,954 tons)**

**General waste (74,130 tons)**

**General waste (58,399 tons)**

**41% (22,460t)**

**48% (27,969t)**

**31% (22,753t)**

**92% (616,669t)**

**41% (22,460t)**

**48% (27,969t)**

**31% (22,753t)**

**92% (616,669t)**
Energy supply and consumption of JR East

The JR East power supply consists of electricity and other power sources. Our electricity comes from company-run power plants along with electricity purchased from power companies. We use this energy to power our trains as well as to light and air condition stations and offices. Other forms of energy such as diesel oil and kerosene are used to operate diesel vehicles and air-conditioning systems at stations and offices.

More efficient use of energy has reduced the amount of CO₂ emissions in FY 2003 by 20% from FY 1990 figures.

Energy consumption and rate of change

In FY 2003, energy consumption for JR East was 55.6 billion mega joule (MJ) while the resulting CO₂ emissions stood at 2.2 million tons-CO₂, a substantial reduction compared to the previous fiscal year.

This achievement was the result of a variety of efforts, but was also due to external factors such as an increase in the amount of river water available for power generation at our hydraulic power plants. Thus we must not be satisfied about our achievements and should keep striving to reduce energy used for train operations, which currently accounts for 73% of energy consumption, through continuous introduction of energy-saving railcars.

What Measures is the Group Taking to Prevent Global Warming?

JR East Group takes a two-pronged approach to lower its CO₂ emission levels. First, we use energy efficiently and utilize natural energy. Second, we promote intermodal transportation, that is, an effective integration of various means of transportation.

Environmental

<table>
<thead>
<tr>
<th>Energy for stations and office buildings</th>
<th>Energy for operation of S/C lines</th>
<th>Energy for operation of conventional lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company-run thermal power plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other fuels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy consumption by JR East</td>
<td></td>
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</tr>
</tbody>
</table>

*Calculation of CO₂ emission factors from fuel and purchased electricity was based on the coefficient set forth in the Voluntary Action Plan established by the Japan Business Federation and the Federation of Electric Power Companies Japan.

1 1.14 million tons CO₂
To maintain simple comparability with historical figures, FY 1990 CO₂ emission coefficient of the Federation of Electric Power Companies Japan was used to derive the figure; substitution with the FY 2002 coefficient would result in a figure of 1.11 million tons CO₂.

2 6.21 billion kWh
Equivalent to the annual electric power consumption of 1.68 million households.
Reducing energy consumption in train operations

As of FY 2003, 8,813, or 72% of all JR East railcars, were of the energy-saving type. We are gradually replacing old conventional railcars with energy-saving railcars equipped with the “regenerative brakes” and “VVVF inverter*1 controls.” For Shinkansen lines, we are introducing lighter, more energy-saving railcars with lower air resistance with smoothed design.

These energy saving measures reduced energy consumption in proportion to unit transportation by 11% in FY 2003 when compared to figures for FY 1990.

Developing the NE Train

We have developed a prototype NE Train, the first hybrid railcar system*2 to make train operation even more energy efficient. Test runs have been conducted since May 2003. This new train is expected to reduce energy consumption by about 20%. Fuel cell powered NE Trains are part of our future development plans.

Brakes generate electricity when applied

Used in energy-saving railcars, when the brakes are applied, this system turns the motor into a generator that returns generated electricity to the overhead lines. (In conventional trains the energy generated during braking is dissipated as heat.)

Motor wire supplies trains with electricity to power the motor

Motor turns into a generator

Motor operates as a generator that turns kinetic energy into electricity; this electricity can be used for acceleration by other railcars through the overhead wire.

VVVF inverter

VVVF stands for variable voltage variable frequency. It enables efficient control of motor revolution without the use of electrical resistance.

Hybrid railcar system

The motor is powered by electricity generated by an engine. The power generated during regenerative braking is stored in the battery and used during acceleration.
Saving energy in motor vehicle operation

In addition to trains, JR East uses many types of vehicles, including those to maintain facilities, to transport equipment and materials, and to provide transportation services. We are now introducing low-emission vehicles such as hybrid cars, natural gas vehicles, and fuel-efficient vehicles with idling-stop functions. At the end of FY 2003, 18% of our fleet of 3,191 vehicles was replaced with low-emission vehicles.

Improving energy efficiency in stations and office buildings

We are working to reduce energy consumption at the JR East stations and station buildings. One major undertaking has been to install cogeneration systems, which utilize the electricity produced as well as heat generated as a by-product. In FY 2003, we installed the system at the Niigata Shinkansen Rolling Stock Center and added 17 gas heat pump air conditioners to provide more efficient air conditioning.

Improving Energy Efficiency with Integrated Transport Systems

Intermodal transportation

Although railways use energy in a highly efficient manner and the impact on the environment is low, this alone is insufficient to satisfy all customer transportation needs. To lower the environmental impact of the overall transportation infrastructure, JR East is encouraging intermodal transportation, the integration of trains with other modes of transportation.

As of March 2004, car parking lots at 527 stations have been expanded to accommodate 60,000 vehicles, promoting our Park & Ride program that links cars and trains. We also provide “Rail & Rent-a-car,” a service that integrates trains with rental cars, as well as “Air Rail,” a discount service that combines train and air travel. Tours that combine trains and buses are also available to customers.

*Foldable bicycles fitted in carrying bags can be brought on board a train with no extra charge.

Source: “Transportation and Environment” issued by the Foundation for Promoting Personal Mobility and Ecological Transportation

A Park & Ride at Kurikoma Kogen Station on the Tohoku Shinkansen

 irresponsible
Environmental

**Load-dispatch center improves supply efficiency**

JR East’s demand for electric power fluctuates throughout the day, reaching a peak during rush hours. To supply electricity efficiently in the face of such varying conditions, we combine and balance the amount of electricity generated at our power sources, which are company-run thermal and hydraulic power plants and purchased electricity. Our “load-dispatch center” plays a vital role through monitoring and controlling energy supply in real time to optimize our use of energy.

**Improving thermoelectric power generation**

The company-run thermoelectric power plant with a total output of 655,000kW is located in Kawasaki, Kanagawa Prefecture. The plant has reduced its CO2 emissions by 31% per unit electric power generation in FY 2003 from that in FY 1990 through replacement of its four power generating units sequentially to a “combined-cycle power-generating unit” and optimization of their operations.

**Improving hydroelectric power generation**

Hydroelectric power is a cleaner energy source that does not emit greenhouse gases. JR East has a hydroelectric power plant on the Shinano River with total output of 450,000 kW, generating 1.4 to 1.8 billion kWh per year.

Since FY 2001 we have been working with the Shinano River Construction Office of the Ministry of Land, Infrastructure and Transport to improve the aquatic environment in the middle stretch of the river. We have begun increasing the dam discharge volume in summer when water temperature rises, and also during the fall, when salmon run. As a result, an increase in the number of fresh-run salmon has been confirmed.

**Using renewable energy sources**

We also promote the use of renewable energy sources such as solar and wind power. Photovoltaic (PV) generators have been installed at Tokyo Station, Takasaki Station, the General Education Center, and the Research & Developing Center. In FY 2003, we doubled the amount of PV panels at Takasaki Station.

The Group companies have followed; in FY 2003 “Kokubunji L” Terminal Building in Kokubunji, Tokyo installed wind power and PV generator systems to produce electricity for lighting.

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*1 JR East electricity sources
Company-run thermoelectric power plant: 31%
Company-run hydroelectric power plants: 25%
Purchased electricity: 44%

*2 Combined-cycle power-generating unit
A power-generating unit combining “gas turbines” propelled by gas combustion with “steam turbines” propelled by steam from exhaust heat.
How Does the Group Promote a Sound Cycle of Resources?

We are striving to build a sound material-cycle society by methods such as reducing our use of resources as well as reusing and recycling used products to reduce overall generation of waste.

Waste Recycling

The railway business generates various types of waste from the discarded refuse at stations and on trains to industrial waste generated in rolling stock workshops.

In FY 2003, JR East generated 730,000 tons of waste, 88% of which was reused or recycled. Since construction projects, the greatest waste generator among our activities, differ from year to year, it is impossible to make valid comparisons. We have, however, set recycling targets for each category of waste that are to be met by 2005, and are implementing various measures to achieve these targets.

Recycling waste from stations and trains

Approximately 16 million passengers use JR East daily. In FY 2003, these passengers generated 49,000 tons of waste at stations and on trains – equivalent to the annual amount of household waste produced by 120,000 people. Since the waste includes newspapers, magazines, cans and other recyclable resources, it must be properly sorted to enable recycling. We place several refuse bins labeled with each of waste categories and request our passengers to discard waste accordingly. Collected waste is then sent to our recycling centers where it is again sorted for recycling. The target is to achieve a 40% recycling rate by FY 2005 while we have managed to achieve a recycling rate of 39% by fiscal 2003.

Recycling used train tickets and commuter passes

Tickets with a magnetic backing can now be recycled thanks to the new technology that enables separation of iron powder from paper fiber. In FY 2003, 99.9% of the 760 tons of used tickets were recycled by paper manufacturers to produce toilet paper, corrugated fiberboard, and business card paper. Some used commuter passes with a magnetic backing were reused as a reducing agent for steel plant blast furnaces until August of 2003, but now they are being reused as solid fuel. We are also promoting the introduction of the “Suica” IC card, which reduces overall waste by replacing tickets and commuter passes. The number of Suica users exceeded 9 million as of June 2004.
Recycling at rolling stock workshops
JR East manufactures commuter and suburban trains at the Niitsu Rolling Stock Manufacturing Factory and repairs and maintains railcars at seven other General Rolling Stock Centers. To reduce the generation of waste and promote recycling, railcar design now takes the entire life cycle of a product into account by striving, for example, to use materials that are easily recycled. At the General Rolling Stock Centers, we sort waste in 20 to 30 categories and recycle them; some of which is sent to collection traders while scrap metal is melted for brake parts and old wheels are processed to manufacture connecting bases for disk brakes.

Reducing construction waste
In FY 2003, 650,000 tons of construction waste – 90,000 tons of which was from contract work – was generated through construction projects at stations and other facilities. The Waste Disposal and Public Cleansing Law requires that subcontractors dispose of the waste they generate. However, being the promoter, JR East is striving to reduce the generation of waste through application of standard civil engineering specifications that ensures the appropriate disposal of construction byproducts, and determines design and construction methods that inhibit waste.

Efforts by retailers and restaurants
East Japan Kiosk Co., Ltd., Nippon Restaurant Enterprises Co., Ltd. (NRE) and other group companies, managing retailers and restaurants at stations, have started the effort to reduce the amount of packaging materials used, such as shopping bags. Boxed lunches are now being sold with minimal packaging such as eco-containers introduced by NRE in 2002.

Recycling food waste has also been promoted; Granduo in Tachikawa and Ron-Ron in Kichijoji recycle food waste by installing compost facilities. Using a similar process, NRE recycled 191 tons of food waste in FY 2003 as compost, which was used at its own organic recycling farms as well as at contracted farms. The organic vegetables produced on these farms are then used at restaurants, establishing the closed-loop food recycling system.

*1 Contract work
Construction of non-company facilities consigned to JR East by local governments to ensure safe operations of trains.

*2 Eco-container
A container that can be reused after removing a peel-off film.
Efforts at offices
We are shifting to a paperless office environment and striving to recycle waste generated. With thorough sorting, in FY 2003, 1,661 tons out of a total of 2,749 tons of waste was recycled.

Efficient use of water resources
Using 11.7 million tons of water annually, JR East is actively utilizing wastewater*1 such as rainwater or hand-wash water to flush toilets. In the head office building, 20,000 tons out of the 42,000 tons of water used in FY 2003 were recycled in this manner.

Proper treatment of medical waste
JR Tokyo General Hospital and JR Sendai Hospital offer medical services to our employees as well as to members of the local community. JR East Health Promotion Center and the railway medical examination centers in each branch office also conduct medical checkups of our employees. In FY 2003, these medical institutions generated a total of 102 tons of medical waste, which was stored and disposed of as specially controlled industrial waste in compliance with applicable laws and regulations.

Green procurement
In compliance with its “Green Procurement Guidelines” of 1999, JR East encourages itself as well as its business partners to select materials with low environmental impact and reuse materials to reduce waste. In FY 2000, polyester fiber from recycled PET (Polyethylene Terephthalate) bottles was used to fabricate staff uniforms, and in FY 2003 this material was also used in new summer uniforms and summer shirts. Now 43% of office supplies are green procurement items and 99% of copy paper used is recycled paper.

From FY 2004 JR East started to grasp the status of environmental and CSR efforts of its business partners.

“Suica” – A reusable commuter’s pass
A Suica (acronym for Super Urban Intelligent Card) is a reusable commuter pass that can be renewed repeatedly by making additional payments. Therefore, it can be said that as the number of Suica users increases, the amount of resources used declines.

Until Suica was introduced in FY 2000, approximately 26.6 million commuter passes with magnetic strips were issued annually. Setting above as a reference value, the total number of commuter passes with magnetic strips issued during the period between November 2001 and March 2003, after Suica was introduced, decreased by about 27.4 million.

This considerably exceeds the 4 million Suica passes issued and proves that this new reusable card has had the intended effect of reducing waste.

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*1 Wastewater
This refers to water that is somewhere between potable water and sewage. The recycled water may be used for limited purposes.
What Measures are Taken to Manage Chemical Substances?

In the use of chemical substances, we must consider the potential effect such substances have on the human body and the ecological system. Aside from complying with all applicable laws and regulations, JR East has set its own voluntary targets to reduce the use and discharge of hazardous substances, and to substitute chemicals with low profile alternatives.

Reducing Emissions of Chemical Substances

Reducing substances that deplete the ozone layer

Air conditioning systems using specific chlorofluorocarbons (CFCs) that deplete the ozone layer are now being gradually replaced with new systems that use alternative refrigerants. At the end of FY 2003, the number of specific CFC-based air conditioning systems for buildings had been reduced to 14 units (compared to 82 at end of 1990). CFC-substitute air conditioning is now the rule on most trains except some diesel cars and passenger cars; using 95 tons of CFC substitute as of the end of FY 2003 while specific CFCs used was 2 tons. We periodically check for gas leaks and recover CFCs when scrapping railcars as mandated by law.

At the end of FY 2003, 71 tons of halon gas was being used as a fire-extinguishing agent. Powder or CO2 fire-extinguishing agents are now being introduced in new facilities and replacing CFC equipment when old facilities are renovated.

Status of chemical substance management

JR East uses chemical substances primarily when painting and repairing railcars. Use and management of these chemicals are strictly regulated to prevent leaks and other hazards. Since FY 2001, as an enterprise handling more than a certain amount of specified chemical substances, 19 of our business locations now report volumes of emissions and transfers to the appropriate prefectural authorities in compliance with PRTR*1.

We are also introducing more railcars with stainless steel bodies that require no painting. At the end of FY 2003, 58% of 10,478 railcars of conventional lines were stainless bodies that require no painting. At the end of FY 2003, 58% of 10,478 railcars of conventional lines were stainless steel bodies that require no painting. Use of halon gas for fire extinguishing was reduced to 14 units (compared to 82 at end of 1990).

Efforts at thermoelectric power plant

Fuels with a relatively low environmental impact such as city gas, kerosene, and low-sulfur heavy oil are used at the company-run Kawasaki Power Plant. However, these fuels emit nitrogen oxide (NOx), sulfur oxide(SOx), and smoke dust, and therefore we use denitration equipment and dust separators to reduce their emissions. The NOx emission level in FY 2003 was 341 tons, which continuously met our goal of 60% reduction over FY 1990 level for FY 2005 since FY 2001.

Management of polychlorinated biphenyls (PCB)

JR East is replacing PCB used as insulation oil in equipment for railcars, substations, etc. with non-PCB substitutes. The removed PCB (about 2,200 tons of equipment weight) is under strict management in storage and has been reported to the authorities as stipulated by law. We are examining the processes of detoxifying the stored PCB.

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*1 PRTR (Pollutant Release and Transfer Register)

The Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in their Management; The objective of the law is to promote the assessment and control of emissions of hazardous chemical substances into the environment and prevent the negative impact on the environment from such substances.
Environmental Noise reduction measures

Among all the noise caused by railways, Shinkansen noise levels are the most strictly regulated by the "Environmental Quality Standards for Shinkansen Super-express Railway Noise" established by the national government. Building soundproof walls, using sound-absorbent materials, and smoothing rails as well as noise reduction of the railcars themselves are some of the measures JR East takes to reduce the noise. By FY 2002 we had succeeded in reducing noise levels in "residential areas" to below 75 dB. We will continue implementing noise-reduction measures to improve the quality of life along railway lines and fulfill environmental standards.

Although no specific government-mandated environmental standards apply to conventional lines, we are carrying out measures such as laying continuous welded rails and performing wheel truing to reduce noise. For new construction projects or large-scale remodeling, we observe the “Policy on Noise Measures for Construction of New Conventional Railways or Large-scale Remodeling” enacted by the national government.

Measures to reduce maintenance work noise

In addition to train operation noise, noise is also a problem during maintenance work, particularly since it has to be carried out late at night when trains are not operated. Local residents are notified in advance of maintenance work, the type of work to be done and its duration, and we make every effort to minimize the noise caused by construction equipment. On double-track lines, we carry out what we refer to as “refresh installation work” that involves performing work during the daytime on one track while the other track is used for train traffic. To reduce the overall need for routine maintenance, we are currently replacing conventional ballast roadbeds with TC-type low-maintenance roadbeds.

We are developing a rail track vehicle for overhead line work with a platform that can be lowered, raised and rotated using a battery powered motor, rather than an engine, to reduce noise during operation. Tests conducted on a prototype vehicle in FY 2003 were successful.

Noises from railway maintenance work need to be considered in the planning stage. JR East will continue to work to reduce the noise from maintenance work.

Rail alignment vehicle trims and flattens rails between Iidabashi and Ichikawa Stations on the Chuo/Sobu Line.

A low-noise rail track vehicle for overhead wire work operates using batteries with a high degree of quietness.

Preventing electromagnetic interference

Television interference is sometimes caused along Shinkansen lines by the high frequency electromagnetic waves generated when pantographs momentarily bounce away from overhead wires. We support the installation of communal television reception systems and other solutions for affected households.

Reducing herbicide use

JR East uses herbicides to eliminate weeds in the areas around tracks but we strictly limit the amount used and the areas applied. Only herbicides with the lowest zoonotic and aquatic toxicity are sprayed. In FY 2003, 255 tons of herbicides were used.

What Environmental Conservation Activities Does the Group Conduct in the Vicinity of its Railway Lines?

As a railway company we take a keen interest in improving and maintaining the environment along our railway lines. JR East is doing its utmost to reduce noise, protect the natural beauty of the landscape along railway lines, and ensuring that we do not negatively impact the life of local residents.

*1 Smoothing rails
Train wheels constantly rolling over the rails force rails out of alignment. We can reduce excess noise from passing trains by realigning uneven rail segments.

*2 Continuous welded rails
Extra-long 200-meter rails require fewer welded joints to connect rail segments. Trains pass over fewer joints thereby generating less noise.

*3 Wheel truing
Trimming and smoothing worn edges on train wheels for increased performance.

*4 Rail track vehicle
A vehicle that uses tires on roads and flanged wheels on railway tracks.
Considerations for aesthetic impact

Bridges, stations, and station buildings are often large and tend to impact the aesthetics of the landscape. JR East sets up a design committee within construction departments and other organizations undertaking the planning and designing to ensure that low-impact architectural concepts are applied to any construction work undertaken, so the resulting structure harmonizes with the landscape. In addition to revising projects whenever there are concerns for a negative impact on the landscape, awards are given to designs that harmonize with the landscape in order to encourage taking the landscape into consideration at the design phase.

Protecting railway trees

JR East owns about six million trees on a total of 4,300 hectares of land along its railways. These trees fulfill vital environmental roles such as preventing soil erosion, serving as windbreaks near tracks, and absorbing 17,000 tons of CO2 emitted by JR East (equivalent of 0.8% of its annual emissions). The rich greenery of these trees is a source of delight to local residents. JR East sees it as its mission to contribute to local communities through protecting the trees along our railways.

Utilizing spring water from tunnels

With cooperation from local governments, we have been promoting a program to improve the water quality of nearby rivers by pumping the water that wells up in tunnels. In Tokyo, we pumped water into the Nogawa River in FY 2001, and into the Tachigawawa River in FY 2002. In FY 2003, we started pumping water from tunnels around Ueno Station into Shinobazu Pond.

Water pumped up in the Echigo-Yuzawa area along the Joetsu Shinkansen Line has been used since the line was brought into service to melt snow on the tracks.

Building Annaka-Haruna - Environmental consciousness in housing-land development

In the fall of 2003, JR East opened “View Verger Annaka-Haruna” as a residential area based on the concept of a “21st century suburb that integrates nature and culture” near Annaka-Haruna Station on the Nagano Shinkansen Line. As a part of promoting forestation and community building by hands of citizens, we have held events, such as planting trees indigenous to the area and nurturing those planted trees. About 25% of Annaka-Haruna is a green area with seven parks. They are linked by a network of greenways paved with porous pumice stone to let rainwater permeate, and walls of natural stone to harmonize with the surrounding environment.
How Does the Group Disseminate Environmental Information?

The JR East Group disseminates environmental information to the public through a variety of media, including the Internet and the Sustainability Reports. We are striving to promote further environmental undertakings through our interactive communications with our stakeholders.

Disclosure of Environmental Information

Provision of information through various media

JR East had been publishing an annual environmental report since 1996. In 2002, aspects concerning corporate social responsibility were added to the report and the title was changed to a Sustainability Report. In 2003, we began issuing an environmental digest version of the report to promote its wider distribution. In addition, we have produced illustrated booklets for children entitled “Mr. Polar Bear Returns by Train” and “Thinking More about the Environment,” and distributed them at events such as the “Eco-Products Exposition.” We also actively disclosed environmental information through a variety of media, including the Internet, newspapers, magazines, and posters on trains. In FY 2003, we conducted an advertising campaign using posters on trains regarding the energy-saving railcars.

Disclosure of information at events

In December 2003, we exhibited at the “JR East Environmental Actions” booth at the “Eco-Products Exposition 2003.” We introduced our activities to the 114,060 visitors to the exposition by displaying information about our recycling activities and initiatives for intermodal transport as well as by presenting a model of the energy-efficient 209 series railcar and the mechanisms of the NE train.

About 1,500 persons took part in an environmental quiz held at the JR East booth.

Collaboration with local government and other companies

Every year, JR East holds events with a wide range of different organizations to disseminate environmental information. The Sendai Branch held the “JR East Ecology Campaign” in cooperation with the Sendai City Environmental Bureau in January 2004 to explain our activities concerning recycling and regenerative brakes. In March of 2004, we held the “Gas and Railways – Tokyo Gas and JR East’s Environmental Initiatives” at Tokyo Station with the cooperation of Tokyo Gas Co., Ltd. Information on the environmental activities of both companies was provided while an orchestra made up of employees from the two companies gave a performance. The combination of the issue of the environment and the pleasing music was a hit with the guests.

Time Table of Environmental Action Events in FY 2003

<table>
<thead>
<tr>
<th>Branch</th>
<th>Event</th>
<th>Date</th>
<th>Main Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akita Branch</td>
<td>Akita Environment and Recycling Festival 2003</td>
<td>03/12/27, 28</td>
<td>Akita Prefecture</td>
</tr>
<tr>
<td>Mito Branch</td>
<td>Global Environment Partnership Fair</td>
<td>03/10/18, 19</td>
<td>Ibaraki Prefecture</td>
</tr>
<tr>
<td>Takasaki Branch</td>
<td>Takasaki Global Citizens’ Environmental Exhibition</td>
<td>03/10/26</td>
<td>Takasaki City</td>
</tr>
<tr>
<td>Head Office</td>
<td>Eco-Products Exhibition 2003</td>
<td>03/12/11–13</td>
<td>Japan Environmental Management Association for Industry, etc.</td>
</tr>
<tr>
<td>Sendai Branch</td>
<td>JR East Ecology Campaign &amp; NE Train Test Rides</td>
<td>04/1/31–2/1</td>
<td>JR East, Sendai City Environmental Bureau</td>
</tr>
<tr>
<td>Head Office</td>
<td>Gas &amp; Railway</td>
<td>04/3/11–13</td>
<td>JR East, Tokyo Gas Co., Ltd.</td>
</tr>
<tr>
<td>Sendai Branch</td>
<td>Children’s Eco Club National Festival in Sendai</td>
<td>04/3/27–28</td>
<td>Children’s Eco Club</td>
</tr>
</tbody>
</table>

We received 30 replies to the questionnaire on the children’s booklet Thinking More about the Environment.

“3 Minute Eco-Seminar until Next Station” provide information in the form of quizzes.

PCs linked via a wireless LAN were used at an event held in cooperation with the Sendai City Environmental Bureau to offer quizzes and questionnaires concerning waste sorting.

The “Gas and Railways” event exhibited the potential to develop a sustainable society of energy-efficient railways and natural gas, both of which have a relatively low impact on the environment.

*1 JR East website
Ecology page
http://www.jreast.co.jp/eco/
Environmental

Sharing Experiences in Nature

Railway Lines Forestation Programs

Since 1992, employees from all branches have been volunteering to plant trees with the help of local residents. As of FY 2003, a total of about 29,000 people have participated and 230,000 trees have been planted. In 2002, tie-ups with local governmental bodies began; in 2003, for example, the Yokohama Branch held a “Sagami Line hiking” event in cooperation with local governments along the railway line, during which 650 participants planted 1,000 trees.

Native Forest Regeneration Project in Fukushima

Based on a sense of gratitude toward the natural environment and a desire to contribute to the future of the planet, JR East plants trees indigenous to each region and promotes reforestation. As one aspect of these activities, the JR East Group employees and members of the public planted 45,000 trees of 22 different species in May 2004, as the first step of the 3-year Native Forest Regeneration Project in Fukushima. Participants planted trees and went on nature walks that allowed them to experience the natural environment and observe the diverse ecological systems that trees support.

Promoting eco-tourism

JR East offers a variety of eco-tours designed to allow people to experience the wonders of nature. In May 2003, the “First Shirakami Mountains Beech School, Tokyo Branch” was held, which introduced participants to the wonders of the Shirakami Mountains, the first place in Japan to be designated as an UNESCO World Heritage site. In addition, as in FY 2002 the “Shirakami Mountains Beech School” tour was held, with 150 people participating. The “Hiking from Stations” program, in which visitors take nature walks from stations, was continued. In FY 2003, total of 200,000 people have attended to 350 the event courses, which requires reservations in advance.

A total of 29,000 people had participated in Railway Lines Forestation Programs by FY2003.

During the Onuma Hometown Forestation Program, a forestation event in Hokkaido, participants planted 25,000 seedlings in pots and planted 2,400 Japanese oak trees.

600 volunteers including company employees and members of the public participated in the Native Forest Regeneration Project in Fukushima to plant trees.

A pamphlet from the “Beech School” tour; a guided tour that allows participants to experience the wonders of nature.

The “Hiking from Stations Program” is comprised of an event course available only by advance reservation and a recommended course that requires no reservation.
How does the Group Promote Collaboration with Society?

As a responsible corporate member of society, the JR East Group is strengthening its ties with local and international communities. JR East participates in community development, philanthropic, cultural, and international cooperation programs to better fulfill its roles as a good corporate citizen.

Community Development Centered on Stations

Station nursery schools and nursing care business

The JR East Group is cooperating with local government and childcare agencies to provide “station nursery schools” at locations close to stations. A total of 13 facilities were opened during the period from 1996 to April 2004. The convenient locations are hugely popular among working parents. JR East entered the nursing care business in FY 2000, and Nippon Restaurant Enterprise Co., Ltd. opened the NRE Omori Yayoi Heights fee-charging nursing home for the aged in Ota-ku, Tokyo in April 2004.

Efforts for community revitalization

To JR East, a station is more than a “point of departure and return” – it is a place where a great number of people gather and information and culture is diffused. It is believed, therefore, that stations serve a significant role in community revitalization.

To this end, we are cooperating with the establishment of joint public facilities, such as community centers and libraries, which are located adjacent to stations. We also work closely with local governments to revitalize communities through the elimination of railway crossings by installing overpasses and underpasses.

Social Contribution Activities

Supporting the Activities of the Children’s Railway Association

The Children’s Railway Association is an organization intended to raise awareness about proper railway etiquette among children, which is run by the Traffic Manners Association. Approximately 450 members at 15 branches conduct station beautification activities and fieldtrips to various railway facilities. JR East actively supports the Children’s Railway Association by establishing offices at its branches and providing space for railroad operation simulators.

The JR East Group will ceaselessly continue its efforts to be a trusted corporate group.
Gift of travel

JR East supports the “Gift of Travel,” a program that invites people with handicap who have few opportunities to go on trips to travel to Hokkaido. Approximately 7,000 people have participated in this program since its launch in 1994.

International contributions and cooperation

As one aspect of its activities intended to contribute to international community, JR East dispatches its employees to foreign countries and accepts foreign trainees in response to requests from the Japan International Cooperation Agency (JICA). We conduct training and inspection tours for trainees, primarily from Asia, Eastern Europe, and Africa.

JR East has also concluded cooperative agreements with German Rail, Italian National Railways, and French National Railways concerning sharing information on technological developments and management as well as station and rolling stock designs and maintenance, customer service, and employee training.

Activities through East Japan Railway Culture Foundation

JR East established the East Japan Railway Culture Foundation*1 in 1992 to contribute a rich, people-oriented railway and transportation culture.

Promoting regional culture

The Tokyo Station Gallery has been holding exhibitions since 1988 under the motto “a small yet authentic art museum.”

The Foundation has also been supporting the revival of traditional regional culture throughout eastern Japan since FY 1993. In FY 2003, the Foundation provided 54.6 million yen to 12 projects.

Promoting and supporting surveys and research

The Foundation held a symposium, the theme of which was “Railway Culture and the Future Transportation Society,” where researchers announced the results of creative scientific surveys and research concerning railways including railway operations, railway technology, and the future of railways.

Promoting international understanding and exchanges

The Foundation invites young managers from railway companies throughout Asia to study railway operations and technology under the “JR East Fellowship Program” and the “JR East International Course.” The Foundation also publishes the Japan Railway & Transport Review (JRTR) in English to serve as a forum for international discussion where transportation specialists from around the world can exchange ideas.

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>JR East Fellowship</th>
<th>JR East International Course</th>
<th>Ministry of Railways of China Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>7 trainees from 4 countries</td>
<td>–</td>
<td>34 trainees</td>
</tr>
<tr>
<td>1999</td>
<td>8 trainees from 4 countries</td>
<td>–</td>
<td>13 trainees</td>
</tr>
<tr>
<td>2000</td>
<td>8 trainees from 4 countries</td>
<td>–</td>
<td>35 trainees</td>
</tr>
<tr>
<td>2001</td>
<td>10 trainees from 5 countries</td>
<td>*10 trainees from 5 countries</td>
<td>22 trainees</td>
</tr>
<tr>
<td>2002</td>
<td>8 trainees from 5 countries</td>
<td>*10 trainees from 5 countries</td>
<td>21 trainees</td>
</tr>
<tr>
<td>2003</td>
<td>9 trainees from 5 countries</td>
<td>16 trainees from 9 countries</td>
<td>10 trainees</td>
</tr>
</tbody>
</table>

*Former Training for Middle Management Executives

\*1 East Japan Railway Culture Foundation

URL: http://www.ejrcf.or.jp/
Telephone: +81-3-5334-0623

The “Kemanai Bon Festival Dance” in Akita Prefecture, which was supported financially in 2003.

\* Former Training for Middle Management Executives
What Measures are Being Taken to Ensure Railway Safety?

Safety has been the highest priority for JR East since its establishment, and we have been continuously promoting safety since. JR East is committed to becoming the world’s safest railway company under the new “Safety Plan 2008” adopted in FY 2004.

Pursuit of Railway Safety

Safety Plan 2008
Since its foundation, JR East has adopted and implemented three 5-year safety plans. The plan that covers the 5-year period beginning in FY 2004 has as its goals “zero passenger injuries and zero employee fatalities” (including employees of group companies). The slogan of the “Safety Plan 2008” is “Returning to the Fundamentals and Taking up the Challenge of Safety Again.” Under the plan, we will invest approximately 400 billion yen during those 5 years in safety measures to make JR East an even safer railway company.

Measures at crossings and stations
In FY 2003, there were a total of 96 accidents, the lowest figure since the company’s establishment. Of these, 46 were accidents at railroad crossings. We are taking aggressive action under the “Railroad Crossing Accident Prevention Campaign,” including the installation of crossing obstruction detectors and large crossing gates.

Railway accidents resulting in injury numbered 47, also the lowest figure since the company’s foundation. To protect passengers while they are on platforms, we are installing sensors to detect when someone is caught in the doors, mats that detect when a person has fallen upon the tracks, and guide blocks for the visually impaired. We are confident that the low number of accidents is at least in part attributable to such measures and the “Platform Safety Campaign” that has been conducted since FY 1999.

Safe railcar operations
JR East is introducing a range of cutting-edge technologies to ensure safe railcar operations. For example, we are digitalizing our automated train control (ATC) systems and installing digital ATC systems for smoother deceleration. We are also installing ATS-P and ATS-Ps systems (automated train stop systems) to bring trains to a halt in response to stop signals.

We are installing a variety of safety systems on station platforms, including mats that detect when a person has fallen upon the tracks (left) and emergency stop switches (right).

Number of Accidents

Accidents resulting in damage to railway facilities
Accidents resulting in injury
Railway crossing accidents
Railcar accidents
Number of accidents per million km of railcar operations

*1 Safety Plan 2008
Information is available at:
http://www.jreast.co.jp/safe/index.html

*2 Railway accidents resulting in injury
Accidents involving the operation of trains or railcars that result in death or injury
Systemizing maintenance works
In 2002, JR East introduced the Shinkansen Electricity and Tracks General Inspection Car, also called East-i, as a part of its activities to maintain facilities. The East-i improved the safety, efficiency, and accuracy of inspection during high-speed operations on Shinkansen and conventional lines.

We have also introduced an Autonomous Decentralized Transport Operation Control System (ATOS) on major track segments in the Tokyo area. With this system, maintenance workers can designate work areas and prevent trains from approaching using handheld terminals, ensuring safety during their maintenance work.

Safety education
We use a variety of training equipment at the JR East General Education Center and the General Training Centers of branches as tools for employee education on safety systems and ensuring safety. In November 2002, we established the “Accident History Exhibition Hall,” emphasizing our social responsibility of learning from past accidents and placing the highest priority on safety.

Ensuring safety during earthquakes
JR East has decided to expand the installation of systems to stop all trains in the case of a major earthquake in the Tokyo metropolitan area, to include train lines that exist outside the Tokyo area by FY 2004.

If the system detects vibrations in excess of a certain level at two locations along railway line it automatically sends wireless emergency stop signals to all railcars in the vicinity, causing them to stop immediately. This will minimize damage if a major earthquake occurs.

Safety-related technological development
Since 1999 JR East has been developing a large obstruction detection system that uses image-processing technology as a means of preventing crossing accidents. With the development of inexpensive image-processing technology, it is possible to install such systems at a greater number of locations.

The system has performed well during on-site testing (including tests under fog, heavy rain, and accumulated snow conditions). Testing is being carried out to verify that the system can operate stably under actual conditions and to determine the effects of lightning and high temperatures.

Disaster response training
We are developing systems in preparation for major disasters. Disaster response training is held regularly, and 12,000 persons participated in comprehensive disaster response training held on September 1, 2003. We have prepared a manual on ensuring passenger safety and regularly conduct safety training for employees.

Practical safety education is conducted at general training centers of branches.

Disaster response training conducted in September 2003

On August 18, 2003, a JR Bus Kanto Co., Ltd. employee operated a bus while under the influence of alcohol. As a public carrier, this is the sort of incident that we can never allow and which can result in a loss of customer trust. We sincerely apologize to all concerned.

Following this incident, JR Bus Kanto and JR Bus Tohoku implemented full alcohol testing at the time of departure and arrival, and instituted other measures including tighter management controls. We continue to implement bus safety measures under our new 5-year safety plan which includes measures for the complete eradication of the operation of vehicles under the influence of alcohol.
Basic policy on customer comments
JR East’s basic policy on improving services is “to determine the existence of problems in areas of customer contact from the customer’s perspective, and to make continuous improvements in order to achieve total customer satisfaction.” We receive information on customer opinions through front-line employees, Customer Help Desks, and the Internet and use it in improving services.

Receiving and understanding customer opinions
In FY 2003, we received 135,000 customer comments, an increase of 16% from the previous year. Of these, 97,000 or about 70% were received by front-line employees. About 20,000 comments were obtained via the Internet, and another 18,000 came from Customer Help Desks. In addition, JR East conducts a customer satisfaction survey each year to measure customer satisfaction and needs, and to aid in the improvement of services.

Systems for improving services
JR East engages in repeated discussions concerning customer opinions so that those opinions can lead to improved services. Through discussions in service conferences held at work sites and service improvement conferences held at the head office and branches, we are working to improve services based on the customer comments that we receive.

No-Smoking and Smoking Areas
In order to provide a comfortable experience for both smoking and non-smoking passengers, taking into consideration the opinions of our customers and developments in society, JR East is designating stations and trains smoke-free with designated smoking areas.

Cases of Customer Opinions Reflected in Our Services
JR East is taking a variety of actions to improve services based on the opinions we receive from customers.

In order to promote prohibitions on smoking, completely-enclosed rooms with exhaust facilities have been installed as smoking areas on some Shinkansen platforms.
Lost & Found System

JR East introduced a lost item database and installed a centralized lost item management information system to enable speedy and accurate responses to inquiries concerning items lost in stations and on trains. The Lost & Found System was initially installed at 29 stations on the Yamanote Line, but it has subsequently been expanded to include all stations in the Tokyo metropolitan area (487 stations). Inquiries can also be made at 28 telephone centers. The system now covers about 87% of all items lost on JR East territories.

Measures taken at stations

We have improved signs at Akihabara Station, which has a complex platform structure, and increased foreign-language signs at stations on the Nikko Line, which is used by large numbers of international passengers. As a part of major renovations to the Fukushima Station, based on comments received from our customers, we made the labels on ticket machines easier to understand.

Improving manners on trains

In FY 2003, we received approximately 5,000 comments from our customers concerning passenger manners. The most frequent comments concerned the use of cell phones on trains. JR East encourages customers to practice good manners through announcements and posters on trains.

Promotion of barrier-free transportation

In compliance with the Barrier-Free Transportation Law, JR East is cooperating with local governments to install mechanical lifting devices in stations. Specifically, considering elevators to be a fundamental facility for promoting mobility, we have set a goal of installing elevators in all subject stations by 2010. We are also committed to installing more escalators.

<table>
<thead>
<tr>
<th>Behavior in trains</th>
<th>Complaints about students making excessive noise, sitting on the floor and obstructing passageways, etc.</th>
<th>Requests for control of improper behavior, enforcement of foot traffic flow directions on stairs, and other miscellaneous topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell phones</td>
<td>Smoking in designated smoking areas</td>
<td></td>
</tr>
<tr>
<td>Smoking outside designated smoking areas</td>
<td>Eating and drinking on trains; putting feet on seats</td>
<td></td>
</tr>
<tr>
<td>Waiting in line</td>
<td>Middle and high school students making excessive noise, sitting on the floor and obstructing passageways, etc.</td>
<td></td>
</tr>
<tr>
<td>Failure to yield priority seats</td>
<td>Passengers failing to yield priority seats</td>
<td></td>
</tr>
<tr>
<td>Some passengers want the use of cell phones prohibited</td>
<td>Remaining on return trains to claim seats</td>
<td></td>
</tr>
<tr>
<td>Others want it permitted</td>
<td>Groping of passengers and pick-pockets</td>
<td></td>
</tr>
</tbody>
</table>

Large signs at the Electric City Entrance giving directions at Akihabara Station. This has resulted in a decrease in the number of inquiries concerning which platform to use.

Signs above ticket vending machines at Fukushima Station are now color coded to make them understandable at a glance even when viewed from a distance.

We are installing elevators to eliminate barriers to mobility.

*1 JR East Telephone Center
  Telephone: +81-3-3212-4441
  Open from 6:00 a.m. to 12:00 a.m.

*2 Stations slated for elevator installation
  Approximately 390 stations serving at least 5,000 passengers a day with a vertical difference greater than five meters between levels

*3 Stations slated for escalator installation
  Approximately 300 stations serving at least 10,000 passengers a day with a vertical difference greater than five meters between levels
What Actions Does the Group Take to Ensure that its Employees Can Feel Satisfied with their Careers?

In order to promote the well-being of its employees and their families, the JR East Group fosters a corporate culture of open and honest debate and supports personal development, promoting the development of workplaces where employees can engage in meaningful work with a sense of purpose.

**Employing individuals with disabilities**

JR East is aware of its social responsibility to employ individuals with disabilities. As of June 2004, the handicapped accounted for 1.89% of our work force. Government regulations concerning passenger safety, however, make many jobs in the railway industry unsuitable for the disabled. Nonetheless, in an effort to integrate the disabled into society, we take into consideration the type and degree of handicap and provide appropriate employment whenever possible.

**Developing Motivating Work Environments**

Creating work environments favorable to women

In the past, JR East had few female employees because of restrictions in the Labor Standards Law on work by women during the late-night hours. When revisions to the Labor Standards Law and the Equal Opportunity Law went into effect in 1999, we expanded both the number of women employed and the types of jobs in which they work. When East Japan Railway was established, it had 680 female employees; by April 2004, this number had increased to 2,330 which account for 3.3% of all employees. In order to promote the development of work environments that foster women, in April 2004 we launched the “F Program of positive actions”, improved our systems to support working mothers, and we are currently taking measures to reform the workplace culture.

**Human Rights Education**

Raising employee awareness of human rights

JR East has established human rights committees at its corporate head office and all branches. These committees, as stipulated in our Basic Policy on Human Rights, are designed to protect and enhance the human rights of all employees. We conduct human rights seminars for different occupations and publish a newsletter for employees and their families. JR East has also joined the Corporate Conference on the Advancement of Human Rights, an inter-company human rights organization devoted to information sharing and mutual advancement.

**Efforts for Human Resources**

Basic policies on personnel and employment

JR East strives for group management that fosters a corporate culture of affirmative development by each employee, seeks to enhance individual value through personal development, and provides each employee with a sense of accomplishment and fulfillment. To this end, we are reconstructing our personnel systems and developing personnel training programs premised on a system of long-term employment.

Employment situations

JR East seeks to maintain stable employment and engage in fair and impartial hiring practices that observe basic human rights.

**Women also take an active part of train conductors and drivers**
Reducing working hours
JR East is systematizing and automating operations to reduce working hours for improved job satisfaction and increased productivity. The average total working time in FY 2003 was 1,831 hours, approximately 360 hours less than when the company was founded in 1987.

Acquiring certification for Occupational Health and Safety Management System
In March 2002, JR East’s Tokyo General Rolling Stock Center acquired OHSAS (Occupational Health and Safety Management System) 18001 certification, as the first railway company, in compliance with international standards for its occupational health and safety management system. In May 2003, the Omiya General Rolling Stock Center also obtained JISHA (Japan Industrial Safety and Health Association)-type OSHMS (Occupational Health and Safety Assessment Series) Certification. We plan to continue improving our health and safety system over time and to raise standards to even higher levels.

Preventing occupational accidents
Unfortunately, two employees of JR East contractor were victims of fatal accidents in FY 2003. Under the “Safety Plan 2008,” the entire JR East Group is working together toward preventing on-the-job accidents to achieve zero customer and employee fatalities and injuries.

Basic policies on training
The JR East Group encourages employees not only to perform their assigned duties, but also to engage in voluntary training on topics that they can decide themselves. We promote personnel development based on our fundamental guiding principle that “personnel are the most important resource of the company” and that “the company develops through the enhancement of capabilities and personal growth of each employee.”

A range of training programs
JR East has established a variety of training programs to help employees develop their skills. Numerous seminars on safety, services, and management are given at the JR East General Education Center and at branches. We also promote self development by encouraging employees to take correspondence courses on general topics or to obtain specific qualifications, and we conduct internal correspondence courses on topics relating to the railway business. To help employees broaden their perspectives and develop their abilities, JR East strongly encourages employees to pursue outside training including enrolling in business management school, attending public seminars and training on the ocean, training overseas, or taking courses at domestic colleges or universities.

<table>
<thead>
<tr>
<th>Training Categories</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training for Human Resource Development</td>
<td>32,800</td>
</tr>
<tr>
<td>Training for Enhancing Knowledge and Technology Skills</td>
<td>99,800</td>
</tr>
<tr>
<td>External Training</td>
<td>1,210</td>
</tr>
</tbody>
</table>

Total: 95,980 participants

*The percentage of disabled employees is as of June 2004.
How is the Economic Performance of the JR East Group?

In FY 2003, unconsolidated and consolidated operating income and net income hit historical highs. We have moved up our targets in the “New Frontier 21” medium-term business plan and will maintain our efforts to achieve continuous growth and strive to contribute even further to society.

**Financial Results for FY 2003**

Transportation centered on the railways is the core business of the JR East Group and accounted for about 70% of our consolidated operating income in FY 2003. The remaining 30% was earned primarily from lifestyle-related businesses such as shopping centers, hotels, and retail sales located in station buildings. Although consolidated operating income declined from the prior year, net income was up 22.3% to 119.8 billion yen, a historical high. The increase in net income resulted from higher revenues in the shopping centers and office buildings as well as lower interest payments achieved through a reduction in interest-bearing debt and lower personnel expenses resulting from natural attrition in employment.

**Economic Relationship with Stakeholders**

The business activities of the JR East Group give rise to economic relationships with a variety of stakeholders. With the intention of explaining the economic relationships between our business activities and stakeholders, a breakdown of expenses by stakeholder is shown here. To maintain the objectivity of the figures when performing the calculations, figures from our consolidated financial statements are used. The stakeholders included here are shareholders, business partners, employees, creditors, and the public sector (government). Our economic relationships with stakeholders also include the relationships with customers and others, thus we admit that the indication of expenses by stakeholders shown here is not exhaustive. In the future, we will work to improve the quality and clarity of this and other economical information disclosures.
Consolidated Statement of Income

| Operating revenues | 25,422 |
| Transportation, other sales and cost of sales | 16,950 |
| Selling, general, administrative expenses | 4,958 |
| Personnel expenses | 2,798 |
| Taxes | 132 |
| Other expenses | 2,027 |
| Total | 3,514 |

Operating income

| Other income (Expenses) | 1,609 |
| Interest expense | 323 |
| Total | 1,285 |

Income before income taxes

| Income taxes-Current | 1,429 |
| Income taxes-Differed | -429 |
| Minority interests in Net income of Consolidated Subsidiaries | 30 |
| Total | 2,228 |

Net income

| 1,198 |

Breakdown of expenses and others by stakeholder

| Business partners | 14,373 |
| Employees | 7,402 |
| Creditors | 1,609 |
| Shareholders | 1,229 |
| Public sector | 1,132 |

Method of Calculating Expenses and Others by Stakeholder

When calculating personnel expenses, the consolidated statement of income and loss includes "transportation, other services and cost of sales," and accordingly, "transport operating expenses: personnel expenses" from the nonconsolidated statement of income and loss were calculated to provide data that is closer to actual conditions.

Interest expense

The amount determined by subtracting "personnel expenses" within transportation operating expenses in the nonconsolidated statement of income and loss from "transportation, other services and cost of sales" and adding to that "other expenses" from selling, general, and administrative expenses.

Other income

The amount determined by adding "personnel expenses" within selling, general, and administrative expenses and "personnel expenses" within transportation operating expenses in the nonconsolidated statement of income and loss.

Minority interests in net income of consolidated subsidiaries

The total of "net income" and "minority interests in net income of consolidated subsidiaries."
J R East Has Tremendous Potential to Contribute to the Development of a Sustainable Society

Mr. Kiuchi: Japan is currently in a very difficult situation, and there are even questions as to whether it can continue as a nation. When discussing this topic in international circles, however, one of the things mentioned to show that Japan is not in danger is the reliability of its trains, particularly the Shinkansens.

Mr. Maeda: Railway companies have tremendous responsibilities to society, the first of which is safety. Other responsibilities include environmental conservation and community revitalizations around stations.

Developing Intermodal Strategies
Dr. Nakamura: I am extremely pleased when I hear that JR East is developing “intermodal” strategies that efficiently combine various means of transportation. Added value is created by linking different types of transportation. In the case of “park & ride” as well, which involves driving to a train station in one’s car and then taking a train. This is not the notion of building a parking lot because there happens to be some open space, but rather is a project that prevents cars from amassing in the center of cities.

Mr. Tsuzuku: In urban areas I think, it is more appropriate to have “bike & ride” using bicycles rather than “park & ride”, it would be nice if this could be implemented as well.

Increased use of environmentally-friendly railcars
Mr. Tsuzuku: JR East is already using hydroelectric power from the Shinano River to operate its trains, and I would like to see the further introduction of the use of renewable energy sources, such as trains that run on wind-generated power.JR East has high levels of internal consumption and can enjoy economies of scale, so it is in a favorable position to implement such measures. This would have a significant impact on the introduction of natural energy in Japan, and I look forward to JR East taking up the challenge. I would like to know specific figures on what percentage of the energy used for train operations comes from natural energy and how much this will increase in the future.

Ms. Tatsumi: In Sweden, trains that operate on environmentally-friendly energy sources have environmental labels on their doors. JR East indicates that the toilet paper used in stations is made from recycled tickets; I would like to see more innovative measures.
Communication

like this to convey to passengers information about the company’s activities. In Germany, advertising space is used for environmental communications that are both effective and very attractive. JR East should also use such spaces for environmental communication. The educational effect on passengers would be significant. I would also like to see educational programs instituted for frontline personnel so they can respond immediately to inquiries from customers concerning environmental matters.

Mr. Maeda: JR East is already taking a variety of measures with respect to safety and disaster responses, and I would like the company to provide more information about these activities through its Sustainability Report and other methods.

High expectations concerning urban development

Mr. Maeda: Stations are an important point of contact for the public and local communities. There are needs for stations to be made easier to use and more accessible.

Mr. Kiuchi: In that regard, many signs currently in use are not as helpful as they should be. There is plenty of room for improvement so that even people who don’t use the trains very often will not get lost.

Dr. Nakamura: To broaden the topic of discussion here somewhat, there is also the issue of urban development that facilitates the use of railways. The idea that local residents, rather than tourists, can perform certain tasks by going to stations should be adopted. For example, libraries could be located in stations, or taking care of certain governmental procedures at station without going to city halls. I would like to see the promotion of the “compact cities” concept that centers on train stations – in other words, sustainable urban development that is rooted in the local community so that people who live in the vicinity of a station have no need for a car. In a city where the transportation systems function efficiently, it is most likely that bus drivers and station employees perform their jobs with pride. This type of urban development certainly requires the cooperation of local government, but JR East can use its comprehensive abilities to promote this.

Ms. Tatsumi: The Company is already setting up nursery schools in the vicinity of stations. This is something that is truly helpful to working women and I would like to see even more sites introduced.

Mr. Kiuchi: The expectations towards JR East are certainly high. As a leading means of transportation, JR East must adopt a long-term view of 20 to 50 years regarding station-centered urban development in order to present a vision of a promising future. I am sure that the public will support such efforts.
Following the last year style, this Sustainability Report 2004 is divided into two sections – highlights and comprehensive sections. In the highlights section, the interview with President Otsuka clearly describes the company’s basic policies. Attending the interview, I strongly felt JR East (group)’s commitments for “sound management” as a corporation, for “safety” as a railway operator, and for “environmental and social contribution” as JR East as its “corporate social responsibility,” taking the term much more than just a trendy one.

Based on the belief that ensuring safety is one of its primary responsibilities, negative information concerning construction difficulties is also reported in the highlights section, including an analysis of the causes and a description of the countermeasures implemented. As a result of its various activities, the environmental goals for FY 2005, which were set in 1996, have been revised (i.e., made more stringent) twice according to the degree of attainment. Even with the more stringent targets, JR East is still on its way to achieving them on time.

In this manner, we expect that JR East will further implement a PDCA cycle by conducting “activities” based on “principles,” disclosing the results, taking the opinions of stakeholders into account, and reflecting them in future actions.
History of Environmental and Social Activities

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>JR East Group’s Environmental and Social Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>May</td>
<td>Tree planting conducted to mark the 5th anniversary of JR East’s foundation begins.</td>
</tr>
<tr>
<td>1993</td>
<td>March</td>
<td>East Japan Railway Culture Foundation established.</td>
</tr>
<tr>
<td>1994</td>
<td>February</td>
<td>Recycling of used train tickets starts in the Tokyo metropolitan area.</td>
</tr>
<tr>
<td>1995</td>
<td>April</td>
<td>Ecology education for all new recruits initiated.</td>
</tr>
<tr>
<td>1996</td>
<td>March</td>
<td>JR East website set up. Quantitative environmental targets such as CO2 emissions set.</td>
</tr>
<tr>
<td>1997</td>
<td>March</td>
<td>Recycling facility at Minami-Akiha Operations Center starts operation.</td>
</tr>
<tr>
<td>1998</td>
<td>November</td>
<td>Shinkiba Recycling Center starts operation (collection and sorting of used newspapers and magazines).</td>
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</tbody>
</table>

Editor’s Note

What roles is JR East expected to carry out? In order to address this question, not only through internal debate but also by taking into consideration the frank opinions of stakeholders from various spheres, we recently held our first Stakeholders’ Dialogue. The comments were too numerous to include in their entirety, but we strongly felt the tremendous expectations towards JR East in the development of a sustainable society. At the same time, we were encouraged to address many issues concerning the future that we are confronting.

Sustainability Report 2004

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Playing train has long been common pastime for children and remains so today. The question is what we must do today so that children in the future can enjoy playing train and to ensure that a safe environment remains for them to play in.

The JR East Group is striving for active fulfillment of its responsibilities towards the development of a sustainable society in which people of today and tomorrow can lead meaningful and happy lives.