

Environmental education & training system

For effective environmental management, it is essential that all employees have appropriate knowledge on environmental issues. We provide environmental education lectures to our employees in training in order to develop environmental personnel who can play a central role in the local organization of JR East and group companies.

| Training of those responsible for environment |
|---|
| <ul style="list-style-type: none"> ●Persons trained: those responsible for environment at local organizations, etc. ●Objective: improvement of ability in environment-related matters as trainers to field offices, etc. ●Number of participants: 22 |
| Shinkansen Environmental Measures Training |
| <ul style="list-style-type: none"> ●Persons trained: those responsible for environment at each Branch Office ●Objectives: learning of basic knowledge about relevant rules and regulations for noise and vibration ●Number of participants: 14 |
| JR East Group Environmental Management Promotion Conference |
| <ul style="list-style-type: none"> ●Persons participating: those responsible for environment at all group companies (twice a year) ●Objective: promotion of environmental management for the entire JR East Group |
| Implementation of training and lectures on environment in Branch Offices |

Environmental Communication

Development of Environmental Education by Delivering Lectures on Request

To contribute to the development of a sustainable society, JR East initiated environmental education programs in FY2010 for children to understand environmental issues and their relationship to society. JR East employees working in each area visit neighboring schools for the programs. In FY2019, the program was implemented at around 80 schools, primarily elementary schools, in the JR East area. These types of initiatives have been held by all of our branch offices across the East Japan area. As these initiatives were well-received, we received an Excellence Award at the Career Education Awards sponsored by the Ministry of Economy, Trade and Industry in FY2018.



Delivering Lectures

Internal environmental audits

At our General Rolling Stock Centers and others which obtained ISO 14001 certification, in-house auditors are trained through external training programs, and conduct routine audits at the centers in order to evaluate environmental activities.

[ISO14001-certified facilities]

| Certified facilities | Year and month of certification |
|--|---------------------------------|
| <JR East> | |
| Kawasaki Thermal Power Plant | Mar-01 |
| Tokyo General Rolling Stock Center | Mar-01 |
| Omiya General Rolling Stock Center | Feb-02 |
| Shinkansen General Rolling Stock Center | Nov-02 |
| Koriyama General Rolling Stock Center | Dec-03 |
| Nagano General Rolling Stock Center | Feb-05 |
| Akita General Rolling Stock Center | Jul-05 |
| <Group companies> | |
| East Japan Eco Access Co., Ltd. | Nov-99 |
| Nippon Restaurant Enterprise Co., Ltd. (CK headquarters) | Sep-02 |
| JR East Mechatronics Co., Ltd. | Mar-08 |
| East Japan Marketing & Communications, Inc. | Aug-08 |
| Japan Transport Engineering Company | Oct-14 |

Initiatives for: environmental activities of the Shinanogawa Power plant

In July 2016, we opened the "Citizen house: Ojiya Shinanogawa Hydroelectric Plant House" as a part of popularization activities for the Shinanogawa Hydraulic Power Plant to give the opportunity to learn about the mechanism of hydraulic power generation which is a source of clean energy. We have been popular among the people of the local community, and in December 2017, the number of visitors reached 100,000.

On top of that, we release juvenile salmon as a part of initiatives to harmonize water usage and the river environment of the Shinanogawa River with the people of the local community.



Ojiya Shinanogawa Hydroelectric Plant Citizen House

Measures for resource circulation

Waste reduction and recycling

JR East generates many kinds of waste through its railway operations, including daily general trash removed from trains and stations and industrial waste from our General Rolling Stock Centers. Restaurants and retail stores in our lifestyle businesses also produce garbage and general waste. In order to reduce all these various forms of waste, JR East actively supports the approach known as "reduce, reuse, and recycle." For recycling in particular, goals are set for each type of waste. Moreover, JR East Group will work as one to tackle the plastics issue, which is an important topic both socially and internationally.

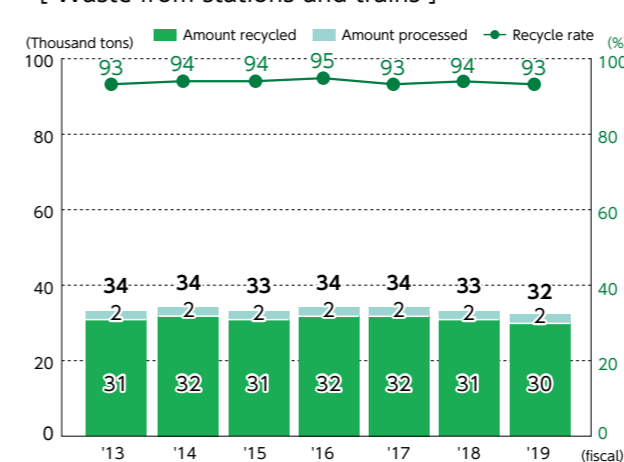
Recycling waste collected from stations and trains*

Since trash from stations and trains contains recyclable materials, we placed separation bins in stations to have customers cooperate in separating trash. In October 2010, to further improve recycling rates by implementing thorough separation of trash, we built the JR East Tokyo Materials Recycling Center (operated by East Japan Eco Access Co., Ltd.) and started its operation.



JR East Tokyo Materials Recycling Center

[Waste from stations and trains]



Recycling trash generated at stations within the company

Magazines, newspapers and similar paper items collected from our segregated trash boxes at stations and trains are being recycled into coated paper and stationery and used in our offices.



Newspapers and other papers collected in stations and elsewhere are recycled into office paper used by our company.

Reducing and recycling tickets

Collected used tickets are sent to a paper mill, which removes iron powder from the ticket backs then recycles all the paper as toilet paper, corrugated cardboard, etc. (recycling rate of 100%)

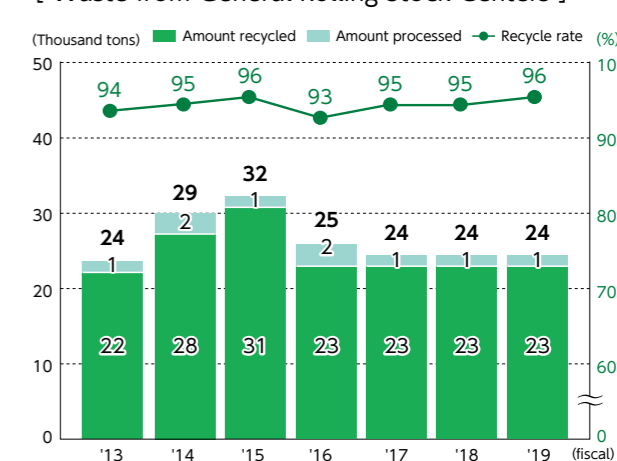


Used tickets collected at stations are recycled into toilet paper.

Recycling at General Rolling Stock Centers*

JR East Group is recycling waste generated during the manufacture and maintenance of rolling stock. At our regional General Rolling Stock Centers, waste is sorted into 20 to 30 categories to reduce waste generation and promote recycling. Starting in FY2006, we have been collecting data on the volume of retired railcars that are sold as scrap to be recycled so as to monitor the progress.

[Waste from General Rolling Stock Centers]

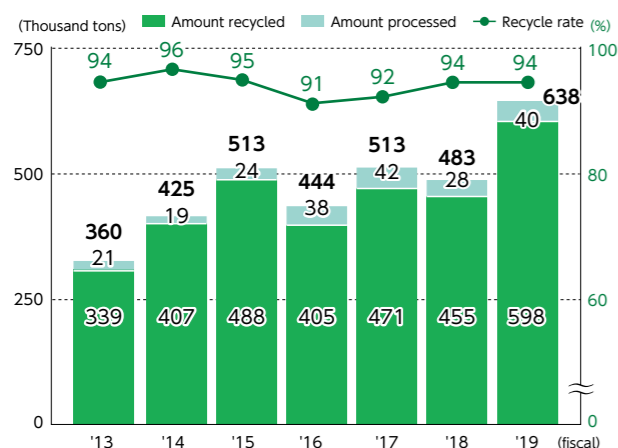


Reducing construction waste*

JR East endeavors to reduce waste from construction by standardizing design and construction methods that help to properly dispose of construction byproducts and to minimize waste. JR East reduced waste from construction and maintenance works at stations and other structures, including approximately 55 thousand tons of waste from work entrusted to JR East*.

*Work entrusted to JR East
Construction work contracted to JR East by local governments etc., to be done at non-JR East facilities, for such purposes as to ensure safe train operations.

[Waste from construction projects]



Reducing waste at offices*

In departments at the Head Office and Branch Offices, we strive to reduce waste by promoting elimination of paper and by recycling, including the use of creative, employee designed trash cans. In FY2019, we recycled 1,977 tons out of a total of 2,336 tons of waste (85%).

Efficient use of water resources*

As a consumer of 11.30 million m³ of water annually, JR East actively promotes the use of recycled waste water*, using, for example, rainwater and water already used for washing hands to flush toilets. At the Head Office building, 25 thousand m³ out of 38 thousand m³ of water was reused in FY2019.

*Recycled waste water
Defined as water of a quality level between clean water and sewage water. It is used for limited purposes as a recycled resource.

Food Recycling/Biogas Power Generation Project

The JR East Japan Group has undertaken a food recycling and biogas power generation project through J Bio Food Recycle Co., Ltd., established as a joint venture with the JFE Group. JR East Environment Access Co., Ltd. handles collection and transportation of food waste generated by station buildings, Ekinaka station shopping complexes, bento box production facilities, etc.



The Yokohama Factory completed in August 2018 receives up to 80 t of food waste a day from the JR East Japan Group and various food companies and generates power using biogas produced by means of methane fermentation treatment. It will generate power that may be used as renewable energy by a maximum of approximately 3,000 typical households, and in addition, a part of the waste heat will be effectively utilized inside the factory.

Since much of the food waste generated at station buildings and the like contains high amounts of fat and salt and often has packaging mixed in with it, it was difficult to recycle this waste by converting it into livestock feed, fertilizer and such. However, since the Yokohama Factory processes it using methane treatment, it is able to accept this kind of food waste. Furthermore, it makes food recycling by means of simple separation possible by mechanically crushing the received waste, then removing inappropriate material such as containers and packaging from organic matter suitable for fermentation.

The Food Recycling Business aims to improve the food recycling rate of the JR East Group and generate environmentally friendly renewable energy, contributing to the prevention of global warming.

Improving the Efficiency of the JR East Group's Food Recycling

Thanks to the start of operations at the J Bio Food Recycle Yokohama Factory, which enables recycling while reducing the burden on customers to separate their waste, it has been possible to improve recycling efficiency for food waste generated by the lifestyle services business, including station buildings and Ekinaka shopping complexes in the Tokyo metropolitan area, of which approximately 40% was recycled previously. Through the collection and transportation of food waste and operation of the factory, we have become involved in the developing sector of creating renewable energy from useful raw materials like food waste. In keeping with the "Environment" in our company's name, we will continue devoting our efforts to further improving recycling efficiency, with the aim of achieving zero emissions.

Resource Recycling Division, JR East Environment Access Co., Ltd.



Topics

Food Waste Reduction Initiatives at Hotels

To address the issue of food being thrown out even though it could have been eaten, it is essential to reduce the incidence of food waste. Despite one in nine people worldwide (approximately 800 million people) suffering from chronic nutritional deficiency, Japan discards the equivalent of one rice bowl of food per citizen each day.

In 2018, Nippon Hotel Co., Ltd. launched a food waste reduction project. It held seminars at four hotels in the Tokyo area, including the Hotel Metropolitan, to explain issues relating to food waste and is engaged in identifying the points where food waste occurs in various processes and developing solutions. For example, the Mottainai Menu was developed with an aim to reduce food waste, which effectively utilizes food items that are often wasted even though they can be utilized, and various menu items were invented for the menu, including a confit that uses entire bananas including peels.

JR-East Hotels is also implementing the 3010 Movement, which encourages guests to eat all the food at banquets during the first 30 minutes and the last 10 minutes of the event. In the future, the JR East Group is planning to implement the 3010 Movement as well. In keeping with one of the SDGs, "responsible consumption and production," we will continue to preserve the environment in a sustainable manner.



A wasteful food item (banana confit using peel)

CSR Procurement

We have published the Code of Conduct Regarding Material Procurement of JR East on our website, which indicates a procurement policy that focuses on the fulfillment of our corporate social responsibilities, taking into consideration factors such as legal compliance and environmental preservation. In addition, we also request that all our suppliers comply with the relevant laws and regulations and seek to reduce their environmental footprint.

Furthermore, we seek to understand the current status of all material-related suppliers by conducting a survey of their CSR initiatives once a year, which indicates whether they implement initiatives relating to environmental footprint reduction, initiatives that consider employees' human rights, and other compliance initiatives that have an impact on society. The results of these surveys are used as one of our decision-making criteria when selecting suppliers.

Revision of Green Procurement Guidelines

Green procurement refers to an initiative that aims to consider the environment through procurement, considering even the supplier providing products. Since 1999, JR East has based the procurement activities on the company's Green Procurement Guidelines, which were revised in August 2019 to reflect changes in policy and to win greater confidence from our customers as well as the

communities we serve. We are implementing ESG (Environmental, Social, Governance) Management as pursued by the JR East Group's Management Vision "Move Up 2027," rising up to smarter procurement as our duty to the environment. We have posted our requests to our suppliers in our Code of Conduct Regarding Material Procurement of JR East on our website. As for the material procurement of JR East, we will select suppliers upon considering the situation of their environmental management system and product assessment, in line with the JR East Green Procurement Guidelines.

Promoting green procurement

Green procurement is an initiative that seeks to realize a sustainable society by prioritizing the procurement of products with as low an environmental impact as possible. At JR East, we primarily promote the procurement of environmentally friendly office supplies, and have prepared a structure where relevant products can be purchased through our in-house goods procurement system.

Reference: Code of Conduct Regarding Material Procurement of JR East
http://www.jreast.co.jp/e/data/procurement/code_of_conduct.html