



Global environment



JR-West Group's approach to protection of the global environment

As a corporate group that supports social infrastructure, the JR-West Group has a long-term vision under which it strives to help achieve safe, worry-free transportation that is kind to people and the planet, and a sustainable society. We continue to work towards sustainability through environmental conservation and other ways.

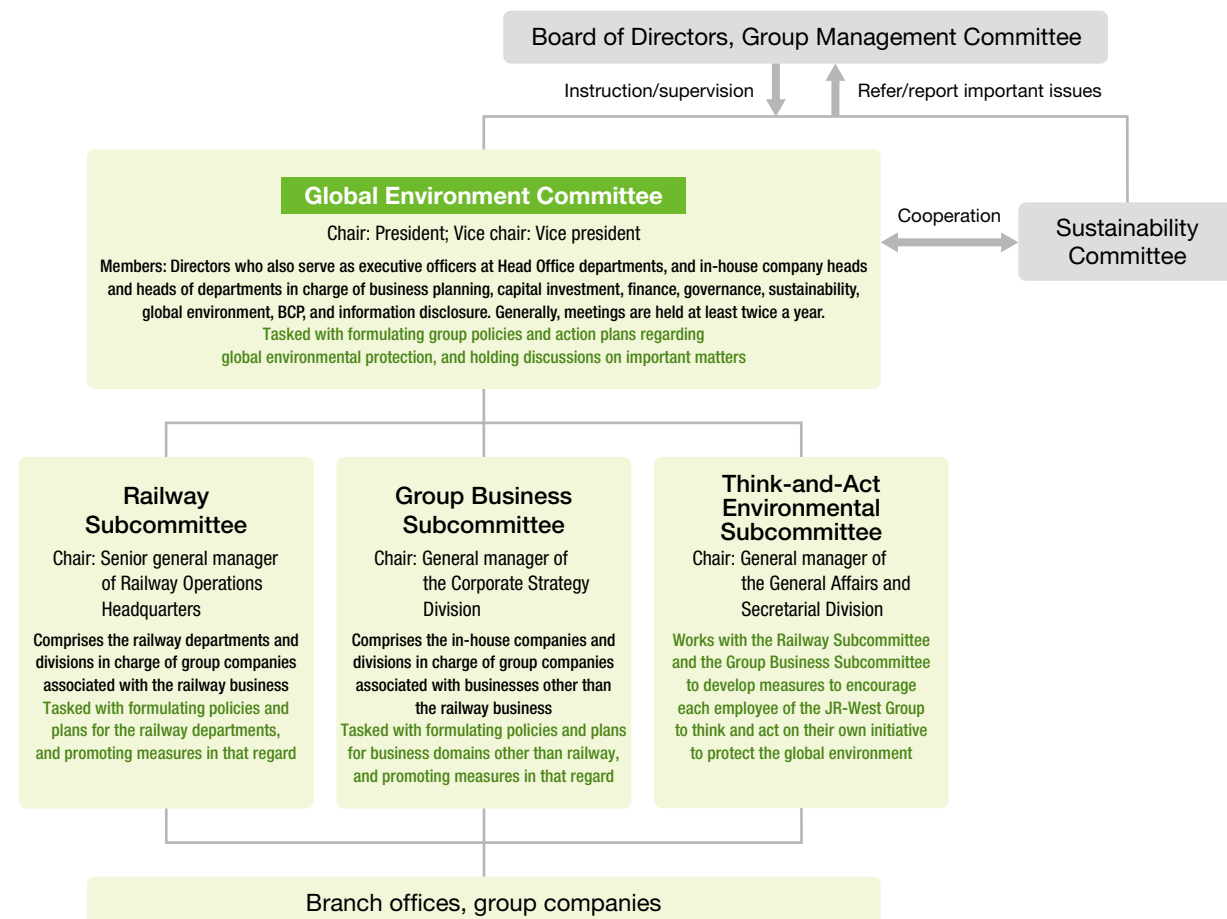
Speaking of the environment, the world has accelerated efforts to move to a decarbonized society in the face of global warming and climate change, and the pace at which it works to protect natural capital such as

water and ecosystems. We consider combatting climate change a crucial management task in order to continue doing business. We will therefore avert climate-related risks, improve the railway's strength as an environmentally friendly mode of transport, and spread the word about how green railways are among customers and communities. These efforts will affect change towards a decarbonized society and create opportunities that we will take full advantage of by focusing our Group's business on contributing to a sustainable society.

Systems for environmental protection

We consider protection of the global environment to be one of our key business challenges and have therefore established a Global Environment Committee. The committee is chaired by the president and comprises executive directors in charge of Head Office departments and general managers of the principal divisions. It deliberates and facilitates action on important matters, such as the Group's basic policy for global

environmental protection and the setting of medium and long-term targets and plans. Important items deliberated by the Global Environment Committee are also reported to and discussed with the Sustainability Committee, Group Management Committee, and Board of Directors in order to share this information among senior management.



JR-West Group Basic Environmental Policy

The JR-West Group Basic Environmental Policy was created so that we could be a corporate group supporting social infrastructure that contributes to the realization of safe, worry-free transportation that is kind to people and the planet, and a sustainable society. As pillars of the policy, the JR-West

Group and the respective JR-West in-house companies have set environmental goals in three areas—global warming prevention and climate change action; contributing to the creation of a circular economy; and living in harmony with nature—which they are all working together to achieve.

JR-West Group Basic Environmental Policy

Basic policy

As a corporate group supporting social infrastructure, carry out initiatives to protect the Earth's natural environment in order to help make society more sustainable, which is the foundation of our business activities.

Pillars of initiatives

Global warming prevention, climate change action

Contributing to the creation of a circular economy

Living in harmony with nature (biodiversity conservation, water resource protection)

Foundation

All group members think and act for the environment, carry out steady environmental management

Long-Term Vision 2032 and Medium-Term Management Plan 2025 KPIs

Note: Bold numbers indicate the FY2026 target has been achieved ahead of schedule.

Category	Indicator	FY2024 (result)	Target
Group wide	CO ₂ emissions (consolidated; Scope 1+2; vs. FY2014)	1.78 million t-CO ₂ (-17%)	FY2026: 1.39 million t-CO₂ (vs. FY2014: -35%) FY2031: 1.07 million t-CO₂ (vs. FY2014: -50%)
	Amount of used plastic bottles provided	— Note: To start in FY2025.	FY2026: 50 t/year
	Water used (per unit of consolidated net sales)	5.4 m³/million yen	FY2026: 6.5 m³/million yen
Railway company	Energy-saving railcars as a percentage of total rolling stock	93.1%	FY2026: 93% FY2028: 95%
	Energy intensity reduction rate (vs. FY2014)	-4.4%	FY2026: -5.5% FY2028: -6.5%
	Electricity from renewable energy as percentage of all power to operate trains*1	Shinkansen (bullet trains) 1.6% Osaka Loop Line and JR Yumesaki Line 100%	FY2026: Shinkansen 6%; Osaka Loop Line and JR Yumesaki Line total 60% FY2028: Shinkansen 10%; Osaka Loop Line and JR Yumesaki Line total 100%
	Practical use of renewable diesel in trains	Conducted driving tests	FY2026: Implementation in diesel trains
	Station and onboard garbage recycling rate	99.5%	FY2026: 99%
	Facility construction material recycling rate	97.0%	FY2026: 97%
	Rolling stock material recycling rate	98.7%	FY2026: 95%
Goods sales and food services company	Electricity consumed in convenience store and gift shop business (annual electricity consumed per unit of store floor space)	551 kWh/m²	FY2026: 553 kWh/m²
Hotel company	Reducing plastic product usage	• Plastic toiletries and other items*2 made of 100% environmentally friendly materials • Drinking water provided in guest rooms switched to paper cartons Amount of plastic products used: Approx. 30t/year	FY2026: Plastic toiletries and other items*2 made of 100% environmentally friendly materials Use less than 10 t/year of single-use plastic items (vs. FY2020: ~70%) Completely eliminate plastic bottles as guest room water containers
Shopping center company	CO ₂ emissions (annual emissions per total sales floor space)	0.0323 t-CO ₂ /annual sales hours x 1,000 m ²	FY2026: 0.0321 t-CO₂/annual sales hours x 1,000 m²
Real estate company	CO ₂ emissions from rental properties (vs. FY2014)	39,000 t-CO₂	FY2026: 44,000 t-CO₂ (vs. FY2014: -24%)

*1 For Shinkansen, renewable energy as a percentage of total electricity for operating JR-West's portion of the Sanyo Shinkansen and Hokuriku Shinkansen.

*2 Covers 10 plastic items (used in the hotel business) identified in Japan's Plastic Resource Circulation Act: cutlery such as spoons and forks, and toiletries such as hair brushes.

Global environment

Global warming prevention and climate change action

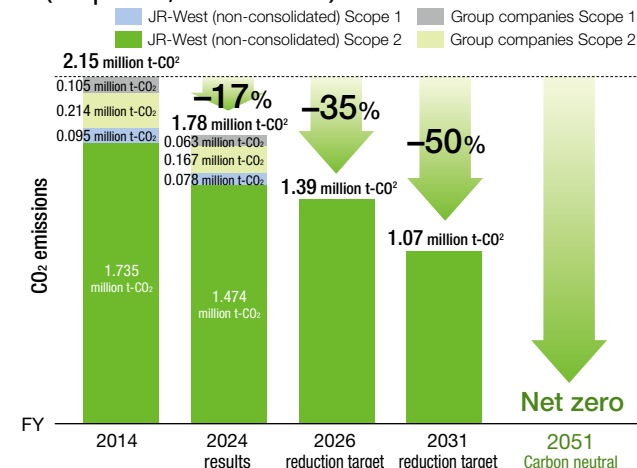
JR-West Group Zero Carbon 2050 long-term environmental goals

Understanding that our businesses emit a large amount of CO₂ and responding to climate change—such as intensifying natural disasters, caused by global warming—are important management issues that must be addressed for the JR-West Group to continue doing business. In recognition of the need for the JR-West Group to be more active in addressing climate change, we have formulated the JR-West Group Zero Carbon 2050 long-term environmental goals. The goal for overall group CO₂ emissions (scope 1 and 2, consolidated) has been set at

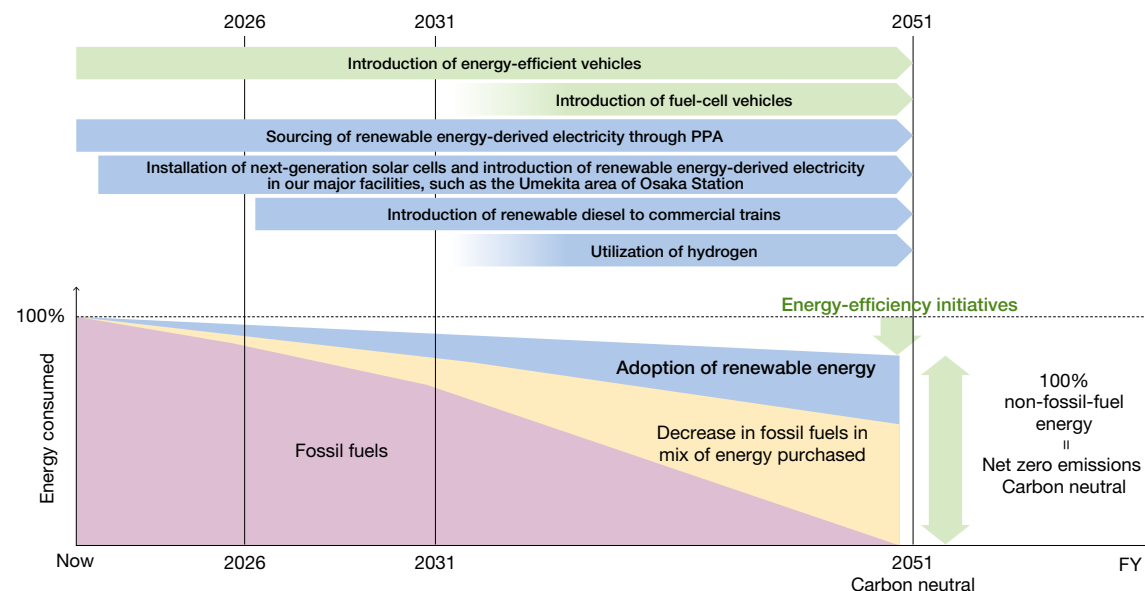
net zero by 2050. As an intermediate goal, we have set an emissions reduction of 35% by fiscal 2026 and 50% by fiscal 2031 (against fiscal 2014).

To achieve these goals and move towards a decarbonized society, besides decreasing fossil fuels in the mix of energy that we purchase, we are working to replace the energy we use with renewable energy and reduce our total energy consumption through energy conservation.

JR-West Group CO₂ emissions reduction targets (Scope 1+2, consolidated)



Road map to carbon neutrality



Note: This graph is for illustration purposes only. It does not represent concrete percentages.

Scope 3 CO₂ emissions

	FY2023	FY2024
Non-consolidated	1.799 million t-CO ₂	1.918 million t-CO ₂
Group companies*	1.345 million t-CO ₂	160.0 million t-CO ₂
Total	3.144 million t-CO ₂	3.518 million t-CO ₂

- Scope 1** Total CO₂ directly emitted by the JR-West Group from combustion of fuels, such as diesel oil for diesel train operation, and kerosene and heavy oil for operational purposes (includes the CO₂ equivalent mass for leaked fluorocarbons)
- Scope 2** Total CO₂ emitted indirectly by the JR-West Group from the use of power and heat purchased from power companies and others
- Scope 3** Total CO₂ emitted from other companies in relation to the JR-West Group's business activities (indirect emissions other than Scope 1 and Scope 2)

*The scope of calculation for group companies encompasses all consolidated subsidiaries and Osaka Energy Service Co., Ltd., a group company with particularly large energy consumption.

Utilizing renewable energy

Using renewable energy-derived electricity for train operation

We are actively using electricity derived from renewable energy sources for train operation, mainly through off-site corporate PPAs (power purchase agreements). For our main Shinkansen lines (Sanyo Shinkansen and Hokuriku Shinkansen), which are high-speed intercity railways, we had been aiming to replace at least 10% of our total electricity consumption with electricity from renewable energy sources by fiscal 2028, but we now expect to achieve 13% renewable electricity by the end of fiscal 2028.

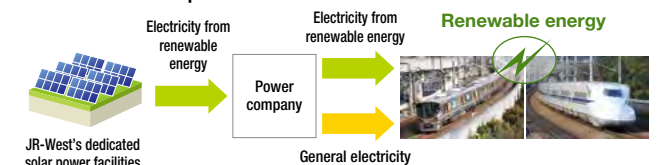
For the Osaka Loop Line and JR Yumesaki Line, which will be the main access routes for Expo 2025, we have advanced our target by four years to start operating on 100% renewable energy in February 2024.

The introduction of electricity derived from renewable energy is being expanded to major lines in the Kansai urban area, such as the JR Kyoto Line, Kobe Line, and Takarazuka Line. By fiscal

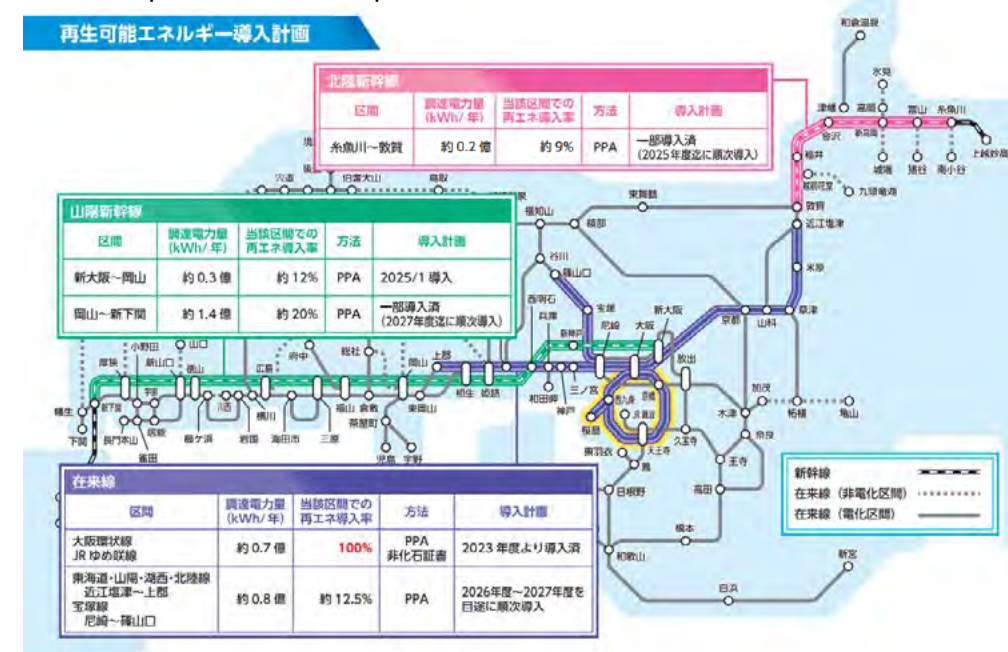
2028, approximately 11% of electricity used for operating conventional lines is scheduled to be replaced by electricity from renewable energy.

In order to further expand the use of electricity derived from renewable energy, we will also consider expanding beyond solar power to introduce new methods of power generation, such as wind power generation.

Off-site corporate PPA



PPA adoption rate route map



Newspaper ad announcing the start of carbon-neutral operations on the Osaka Loop Line and JR Yumesaki Line (March 2024)

Expanding the use of renewable energy in major facilities around Osaka Station

The North Gate Building and South Gate Building have been powered by 100% renewable energy since April 2024, and Inogate Osaka, which opened in July 2024, is also powered by 100% renewable energy. The Umekita area of Osaka Station (a ground-level station building), scheduled to open in the spring of 2025, is also expected to achieve 100% renewable energy by combining perovskite solar cells, a type of next-generation solar cell, with energy-saving equipment. We will continue to pursue the introduction of electricity derived from renewable energy sources into our group facilities.



North Gate Building (far right, across from Osaka Station) and South Gate Building (foreground left, across from Osaka Station)



Inogate Osaka (rendering)

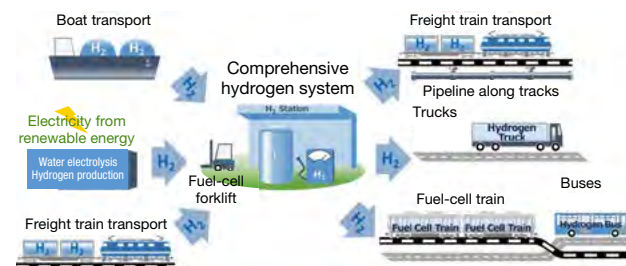
Global environment

Utilizing hydrogen in cooperation with local communities and businesses

The JR-West Group has been studying establishing a comprehensive hydrogen system within our train stations and other railway assets, and how to use this system as a base for supplying hydrogen to fuel-cell trains, buses, trucks, and cars, and as a means to transport the hydrogen. In addition to the Himeji area, we have begun conducting feasibility studies in the Okayama area, stretching from the Mizushima area of Kurashiki city to Tsuyama city, as well as the Yamaguchi/Shunan area, looking at supplying hydrogen to various types of mobilities and transporting hydrogen via freight.

For the Okayama area, we received a FY2023 railway technology development subsidy (to study the implementation of railway decarbonization facilities) from the Ministry of Land, Infrastructure, Transport and Tourism, and we conducted a joint survey with ENEOS Corporation and Japan Freight Railway Company. For the Yamaguchi/Shunan area, the second Shunan City hydrogen utilization plan was announced in April 2024, reflecting our hydrogen utilization plan.

The feasibility study in the Himeji area has been selected for a grant project by NEDO (New Energy and Industrial Technology Development Organization). Together with The Kansai Electric Power Co., Inc., Japan Freight Railway Company, Nippon Telegraph and Telephone Corporation, NTT Anode Energy Corporation, and Panasonic Corporation, the project is conducting research and investigation into the large-scale transportation and utilization of green hydrogen through to fiscal 2026, with the aim of creating demand for hydrogen and building an efficient hydrogen supply chain.



Running tests of renewable diesel

Since fiscal 2023, JR-West has been conducting performance tests and running tests as part of the fiscal 2022 new technology development challenges program of the Ministry of Land, Infrastructure, Transport and Tourism's railway technology development and adoption promotion system. We participated through a joint technological development body of seven JR companies and the Railway Technical Research Institute. The initiative aims to develop technologies that will facilitate the use of renewable diesel to power trains. As the tests up to fiscal 2024 showed good results, long-term running tests will be conducted using commercial trains on the Gantoku

Line and Sanyo Main Line in fiscal 2025. The goal is to replace 100% of the fuel in currently owned diesel railcars with renewable diesel, with the aim of using it on commercial trains in fiscal 2026.



DEC700 (electric railcar)

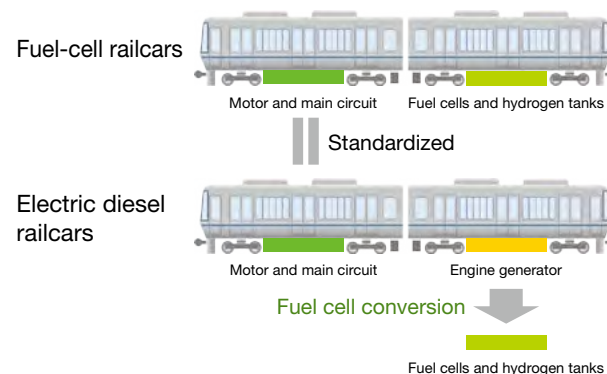


KiHa 40 train

Studying the development fuel-cell vehicles

Regarding the replacement of diesel railcars, we have also begun considering the introduction of fuel-cell vehicles. We will adopt highly versatile fuel-cell and hydrogen storage systems, which are expected to be standardized both domestically and internationally. Furthermore, the main circuit system that controls the motor will be shared with electric diesel railcars, which are intended for introduction in non-electrified sections, just like fuel-cell vehicles, and we will consider a configuration that will allow conversion to fuel cells, such as when the vehicles are updated. Development is being carried out in collaboration with Mitsubishi Electric Corporation and Toyota Motor Corporation, with the aim of starting commercial operation in the early 2030s.

■ Conceptual image of shared main circuit system



Modal shift initiatives in cooperation with local communities and society

To make Japan's transport sector decarbonized, it is essential to reduce carbon emissions in the various modes of transport, and at the same time shift to railways and other low-carbon transport mechanisms. With this in mind, we are striving to achieve a passenger modal shift by making trains and other public transportation more convenient through the JR-West WESTER app and publicizing the environmental friendliness of trains as transport modes within and between cities.

Specifically, in terms of modal shift in passenger transportation, from the second half of 2023, we have been working with the JR Group and the Japan Private Railway Association to create a common logo and slogan as a railway industry-wide initiative, and we will be strengthening PR efforts to promote understanding of the environmental advantages of railways.

As part of this, for corporate customers, we offer a carbon offset program in our online e5489 business trip reservation service, as well as a service for Express online reservation corporate members that uses CO₂-free electricity to ensure that CO₂ emissions associated with business trips on the Shinkansen are virtually zero. Together with companies committed to protecting the global environment, we are actively working to reduce CO₂

emissions and develop a sustainable society through the use of railways.

We are also working in collaboration with local governments on various initiatives, such as digital stamp rallies to encourage people to switch from driving to traveling by train and environmental education for elementary school students.



The common logo and slogan of the JR Group and the Japan Private Railways Association



Video to promote the environmental advantages of railways



Joint PR poster by the JR Group and the Japan Private Railway Association



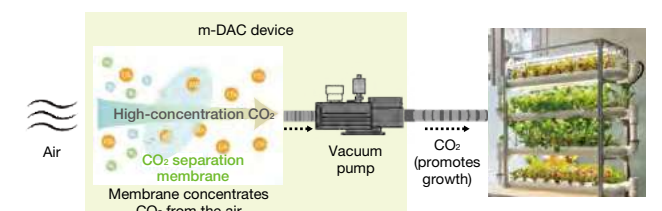
As part of our participation in an Osaka Prefecture project, we held a digital stamp rally via the WESTER app with the aim of promoting understanding of the environmental advantages of railways and of encouraging people to switch from automobiles to railways (held in August and September 2024).

Demonstration project to capture CO₂ from the air

In collaboration with Carbon Xtract Corporation and Spice Cube Inc., we have begun a demonstration project for a plant factory that utilizes m-DAC® technology* to capture CO₂ from the air. This project has been selected for Osaka Prefecture's FY2024 carbon neutral technology development and demonstration project subsidy. Our aim is to implement a new CO₂ reduction model in future society, such as by setting up these plant factories in stations and other locations in urban areas and selling the vegetables grown while, at the same time, capturing CO₂.

*Carbon Xtract's world-first technology uses an innovative nano-membrane separation technology (m-DAC®) with overwhelmingly high CO₂ permeability to capture CO₂ from the air through membrane separation. m-DAC® is a registered trademark of Kyushu University.

■ Plant factory using m-DAC® technology



Global environment

Contributing to the creation of a circular economy

Hotel company initiatives to eliminate plastic

West Japan Railway Hotel Development, Ltd., which handles JR-West's hotel business, has completed its efforts to eliminate specific plastic items at five Hotel Granvia hotels, four Hotel Vischio hotels, and the Nara Hotel. It has replaced 100% of the plastic items as defined by Japan's Plastic Resource Circulation Act (10 items, including guest room toiletries and cutlery) with items made of environmentally friendly materials by the end of fiscal year 2024. This is two years ahead of the end of fiscal year 2026 target.

With regard to the goal of eliminating plastic bottles for drinking water in guest rooms, which is set to be achieved by fiscal 2026, all hotels have achieved this goal two years ahead of schedule by switching from conventional plastic bottles to drinking water packaged in paper cartons or by installing water servers.

Hotel Granvia Kyoto has been collecting used vegetable oil and other cooking oil from its restaurants so that it can be used

to make straws made of Kaneka biodegradable polymer Green Planet™*. This initiative is now being rolled out to other hotels overseen by West Japan Railway Hotel Development. Efforts like these are being actively employed to eliminate plastic, with the goal of reducing plastic usage by approximately 70% by fiscal 2026 (compared to fiscal 2020).

Umekoji Potel Kyoto and The Osaka Station Hotel, which opened on July 31, 2024, are also working to eliminate plastic, including providing toiletries made of environmentally friendly materials.

*Kaneka biodegradable polymer Green Planet™ is produced by a microorganism fermentation process in which vegetable oils are used as a raw material. It is biodegradable in soil and seawater and eventually degrades into CO₂ and water through the digestive process of microorganisms existing in the environment.

JR-West Hotels is implementing various SDGs initiatives under the slogan of "Doing what we can to create a hotel that exists in harmony with society." We will continue to work hard every day to not only move away from plastic but also to be a people-friendly and environmentally friendly hotel group.



Section manager,
Brand Strategy Department,
West Japan Railway Hotel
Development, Ltd.
Junko Nakamoto



Toiletries made of environmentally friendly materials



Drinking water provided in paper cartons
in guest rooms

Upcycling and recycling lost umbrellas

As part of its efforts in conjunction with Kumano High School's Kumano Supporters Leader Club to promote the use of AEDs, the Kansai Regional Head Office's Kii-Tanabe Station is upcycling lost umbrellas discarded at the station into AED sheets designed to protect privacy when using an AED. These sheets have been well received by the public, including winning the Tokushima Governor's Prize at the Ethical Koshien 2023 awards and the grand prize at the 23rd Wakayama Environmental Awards. There are plans to install them at stations in the Kyoto/Osaka/Kobe area in the future.

Japan Railway West Trading Co. is also working to upcycle discarded plastic umbrellas. The aim is to collect and reuse the plastic parts, thereby significantly reducing the rate of umbrella waste. We are currently developing a scheme for commercialization and plan to start full-scale operations from next fiscal year.



Kumano High School's Kumano
Supporters Leader Club members
with Kii-Tanabe Station's

Tomohiro Izutani, section
chief, and **Miyoko Okada**,
transportation manager

Upcycling discarded uniforms by turning them into recycled felt

Japan Railway West Trading Co. collects discarded uniforms from JR-West and thoroughly pulverizes them at a factory. After processing them into fiber, the material is upcycled into items such as partitions for use in the workplace. The partitions can be easily removed and can also be used as makeshift mattresses in the event of an emergency, an ingenious design that contributes to a sustainable society.

"As a trading company in the JR-West Group, we are working to address the various issues faced by the Group. Developing products is not easy, but we will continue to work towards the creation of a system that reduces waste, cuts CO₂ emissions, and achieves a circular economy, while also contributing to society."



Creativity Group, Solution Sales
Department, Japan Railway
West Trading Co.

Takehiro Kariya, leader
Masatoshi Konishi,
section chief

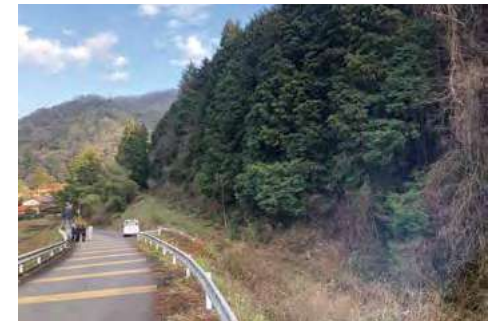
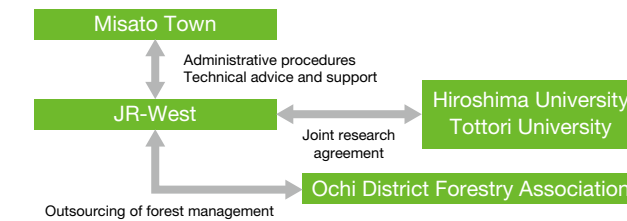
Living in harmony with nature

Forest regeneration in cooperation with the local community (Misato Town, Ochi District, Shimane Prefecture)

Since May 2024, we have been conducting a demonstration experiment on forest regeneration with Misato Town in Shimane Prefecture in a former railway forest (about 5.8 hectares) that we own along the former Sanko Line in our service area. The goal is to effectively utilize the forest's diverse functions. This experiment is a joint research project with Hiroshima University and Tottori University, and forest operations are being carried out in cooperation with the Ochi District Forestry Association. It involves activities such as verifying and evaluating timber extraction techniques, which make use of old railway tracks and investigating reforestation plans that take into account wildlife protection.

With this experiment, we seek, through regeneration of the aged forest, to maintain and enhance the forest's multifaceted functions, such as water source conservation, prevention of landslides, preservation of biodiversity, and CO₂ absorption.

Demonstration experiment structure



The former railway forest in Misato, Shimane



On-site forest survey by project members

Environmentally friendly weed control using ginkgo leaves

The Himeji Track Maintenance Center is addressing the problem of weeds along its tracks by finding ways to eliminate them. Under the supervision of Professor Emeritus Yoshiharu Fujii of Tokyo University of Agriculture and Technology, we are using ginkgo leaves to take advantage of their allelopathic* effects. We will continue to use ginkgo leaves collected with the cooperation of local residents and others to eliminate weeds, as this helps reduce the amount of herbicides, making this an environmentally friendly initiative.

"Last summer, at a family gathering, I learned a bit of traditional wisdom that if you plant ginkgo trees too close to a field, vegetables won't grow. This gave me the idea of using ginkgo leaves to prevent weeds. Track maintenance departments company-wide are struggling with weed control, with the risk of work accidents, the cost of weed control, and the effort involved becoming a major problem. We have requested the cooperation of local governments and others in collecting fallen ginkgo leaves, which can only be incinerated, and scattering them along the railway tracks to prevent the growth of weeds. This way we are working to achieve the SDGs and protect the environment."

*Allelopathy: A phenomenon whereby chemical substances released by plants have an effect on other plants and organisms.



Kakogawa Track Maintenance Office,
Himeji Track Maintenance Center

Tetsuro Nagahama,
Maintenance Office chief
Kotaro Yatsuka, facility
manager

Contributing to riverine biodiversity without burdening the ecosystem

An endangered Japanese eel was found in the Dotonbori River where construction work for building a railway caisson is underway. At the Osaka Construction Office's Naniwasuji Line Construction Site, we are working with the construction company, Kajima Corporation, to carry out surveys and keep the burden on the ecosystem caused by construction within acceptable limits. We are also installing "stone cages" at the site to help create habitats for living creatures and working with related companies to contribute to the maintenance and development of the ecosystem.

"The discovery of Japanese eels in Dotonbori River was covered by many media outlets and TV programs at the time. Construction work on the Naniwasuji Line project was about to begin, and the site where the eels were discovered was right where construction was taking place. So, we consulted with a specialist about considerations for the ecosystem, and, after repeated discussions with the construction company about what could be done during construction, we took measures. We believe that these sorts of considerations will help maintain the Dotonbori River ecosystem and increase public understanding of the construction work."



Structural Technology Office
(formerly Osaka
Construction Office,
Naniwasuji Line
Construction Site), Railway
Operations Headquarters
Takuya Nakashima

Global environment

Analysis of climate change and nature-related risks and opportunities (disclosure based on TNFD and former TCFD recommendations)

Basic approach

Realizing that environmental protection is an important management task, we have formulated the JR-West Group Basic Environmental Policy under which we pursue increasingly deeper initiatives from a long-run perspective.

Protecting the global environment is an important management issue for the future continuity of our business, and we are working to understand the various climate change and nature-related risks and opportunities. We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and the Task Force on Nature-related Financial Disclosures (TNFD) and will proceed with appropriate disclosure and analysis

Governance

The JR-West Group will contribute to the creation of a sustainable society, and we will pursue initiatives to protect the environment and allow us to grow sustainably in the long term. And to serve as the driving force behind these initiatives, we have established the Global Environment Committee, which is chaired by the president and comprises executive directors in charge of Head Office departments and general managers of the principal divisions. This committee generally

Strategy

Climate change-related

Based on the impacts of climate change and socioeconomic scenarios in light of the situations presented by the IPCC (Intergovernmental Panel on Climate Change), the JR-West Group has analyzed the risks and opportunities that climate change represents to its entire business.

We are aware of such risks as the heightened costs accompanying the introduction of carbon pricing, and increased damage brought on by more frequent typhoons and floods. Conversely, the superior environmental characteristics of railway have been recognized, and it was found that the increased convenience offered by the spread of MaaS and other similar services also provides opportunities to increase railway use.

The details of the analysis is shown on pages 69 to 72. The analysis was conducted using a 1.5°C increase scenario (RCP*1 1.9) and a 2°C increase scenario (RCP 2.6) in which society aggressively addresses climate change to prevent temperature rise; and a 4°C increase scenario (RCP 8.5) in which measures are insufficient to prevent a temperature rise. Note that the qualitative analysis is based on a 1.5°C increase scenario and a 2°C increase scenario.

The JR-West Group has formulated the JR-West Group Zero Carbon 2050 long-term environmental goals and has set the objective of achieving net-zero CO2 emissions*2 for the entire Group by 2050. We have set interim goals of reducing emissions by 35% by fiscal 2026 and 50% by fiscal 2031 (both against fiscal 2014 levels).

Towards these goals, as environmental protection initiatives under our Long-Term Vision and Medium-Term Management Plan 2025, we are further improving energy savings by, for example, introducing energy-efficient railcars, adopting power made from renewable energy, and using renewable diesel. We are also striving to achieve a passenger modal shift by, for example, making trains and other public transportation more convenient through MaaS apps and publicizing the environmental friendliness of trains as transport modes within and between cities. It is all part of collaborative efforts with regions and communities to achieve a decarbonized society.

of information on climate change and nature-related risks and opportunities.

These risks and opportunities, and the analysis thereof, focus on those areas comprising our core businesses: railways, sales of goods and food services, hotels, shopping centers, and real estate. With regard to nature-related risks and opportunities and their analysis, we narrowed down the scope of our targets based on the size of our business bases and the extent of their contact with natural capital during operations, and we focused on general depots (rolling stock factories where inspections, repairs, and modifications of railway vehicles are carried out).

meets twice annually to deliberate on the Group’s basic policy for global environmental protection and on the setting of medium- and long-term environmental targets and plans. It also monitors the progress of concrete initiatives aimed at achieving the plans and targets.

Items on the Global Environment Committee agenda are reported to and discussed by the Sustainability Committee, Group Management Committee, and Board of Directors as necessary.

Nature-related

We analyzed and evaluated the railway business, which is the majority of the mobility segment and which accounts for approximately 60% of the JR-West Group’s revenue, in accordance with the LEAP (locate, evaluate, assess, prepare) approach advocated by the TNFD as an integrated approach to evaluating nature-related issues. Specifically, in order to clarify the scope of the study and the nature-related topics to be analyzed, we first used the ENCORE*3 nature risk assessment tool to confirm the overall status of our railway business’ dependence, and impact, upon nature. Of the identified items, we confirmed operational details that have a high point of contact with natural capital, focusing on items that are not subject to climate change causal analysis under the TCFD.

Our railway business is broadly comprised of train operation and equipment maintenance. As a result of narrowing down the scope of our analysis, we decided to focus on our general depots, which are the largest business base in terms of scale and, therefore, have the greatest dependency, and impact, upon natural capital, as well as also use the most water.

Regarding dependence on natural capital in the operation of our general depots, we recognized a certain degree of dependence on water resources for washing parts, water supply, and other uses. However, when we assessed the water stress around our bases using the Aqueduct*4 water risk assessment tool, we found that none of our general depots are located in areas with high water stress or risk of water depletion. Regarding the impact of our operations on natural capital, we recognize the risk of violating regulations and incurring liability for damages due to water and soil contamination caused by improper handling of wastewater and waste. However, we are taking steps, through our own ISO 14001-compliant environmental management system, to prevent environmental pollution, minimize damage if it does occur, and reduce our environmental impact.

We also learned that through nature-conscious business, we can gain opportunities to deepen collaboration with local communities and expand sales

of group company products and services that contribute to reducing environmental impact. The specific analysis content is given on pages 73 and 74.

As a goal related to natural capital, the JR-West Group set a target for water usage per unit of consolidated sales, which indicates the efficiency of water use in business activities, to 6.5 m³/million yen or less by fiscal 2026. This target was achieved in fiscal 2024 through actions to reduce water usage, such as water-saving efforts by all employees, facilitated via water-related education, and the replacement of equipment with water-saving ones in each business department. We will continue to push efforts that contribute to the protection of natural capital in general, including biodiversity.

Moving forward, the JR-West Group will take appropriate measures to address the risks and opportunities it has identified, thereby working to improve corporate value in a sustained, long-term manner as a corporate group responsible for social infrastructure, while contributing to the realization of a sustainable society.

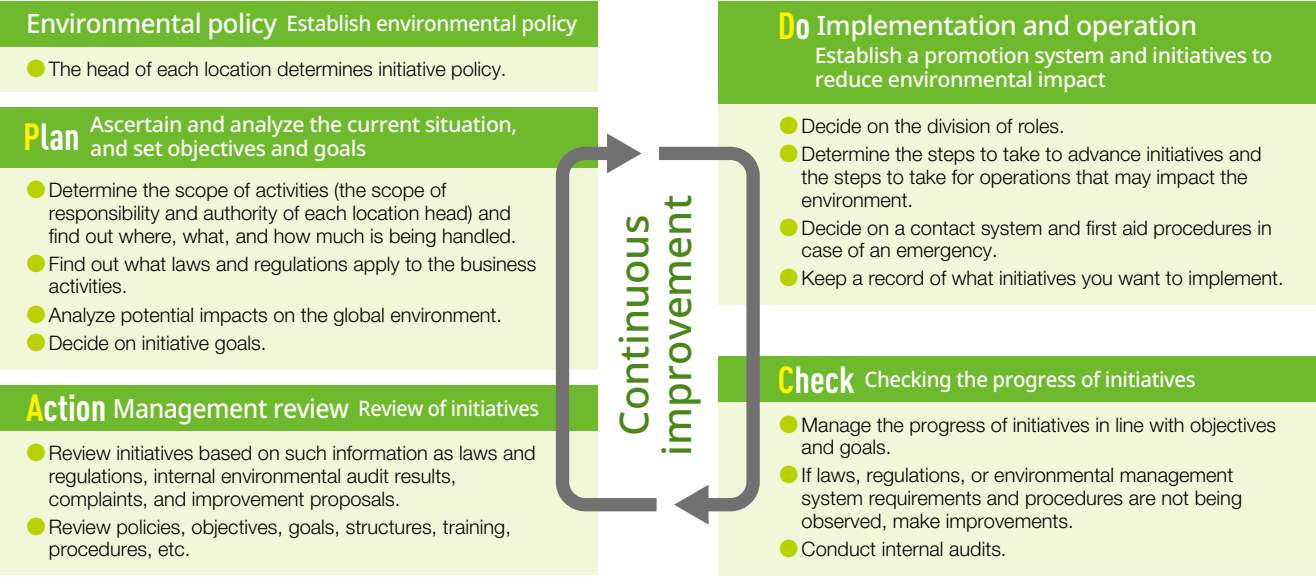
*1 RCP: Representative concentration pathways
*2 Scope 1 and Scope 2 emissions (consolidated)
*3 ENCORE (exploring natural capital opportunities, risks and exposure): A TNFD presentation tool that visualizes the risks posed to business by dependence, and impact, upon nature and by environmental change.
*4 Aqueduct: A TNFD presentation tool provided by the World Resources Institute (WRI) that can assess water-related risks, such as water stress and water depletion.

Railway business dependence, and impact, upon nature

Within scope of TCFD analysis				Outside scope of TCFD analysis			
Dependence		Impact		Dependence		Impact	
Adjustment		Climate change		Supply		Contamination	
Climate adjustment	Flood protection	Erosion protection	GHG emissions	Ground-water	Surface water	Non-GHG air pollution	Life hindrance
Medium	Medium	High	High	Medium	Medium	High	High

Note: Identified with the July 2024 updated version. Only identified results of “medium” or higher are listed.

JR-West’s ISO 14001-compliant environmental management system



Risk management

The JR-West Group will update the content of its analysis based on information such as changes in the business environment and the publication and update of a range of forecasts issued by public institutions in relation to climate change and nature-related risks and opportunities, along with measures to address them. Also, in meetings of the Global Environment Committee, we will also periodically deliberate on and monitor the content of the analysis and the state

of initiatives aimed at achieving environmental targets.

Content discussed by the Global Environment Committee is reported to and discussed by the Sustainability Committee, Group Management Committee, and Board of Directors as necessary, sharing and managing matters such as climate change-related risks as important issues for management.

Indices and goals

The JR-West Group has formulated the JR-West Group Zero Carbon 2050 long-term environmental goals and has set the objective of achieving net-zero CO2 emissions for the entire Group by 2050. We have set interim goals of reducing emissions by 35% by fiscal 2026 and 50% by fiscal 2031 (both against fiscal 2014 levels).

We believe that this is a level that will result in Japan meeting the goals that it has set for CO2 reduction and lead to the achievement of the targeted temperature increase of 1.5°C or less, or less than 2°C higher than that of the time of the industrial revolution—the goal of the Paris Agreement.

With regard to water, which is the main natural capital related to our business activities, we have set a target for reduction of water usage per unit of consolidated sales, which indicates the efficiency of water use in our business activities, to 6.5 m³/million yen or less by fiscal 2026. Moving forward, we will continue to investigate what nature-related indicators and targets the Group should set, with reference to the disclosure indicators recommended by the TNFD.

The JR-West Group will contribute to the realization of a sustainable society by promoting efforts to reduce CO2 emissions and protect natural capital.

Global environment

Qualitative analysis of climate change-related risks and opportunities

Potential risks

Type		Risk to the company	Impact	Railways	Sales* food*	Hotels	SC*	Real estate	Measures
Risks associated with the transition to a decarbonized society (transition risks)	Policy and legal	Heightened costs accompanying the introduction of carbon pricing	Large	○	○	○	○	○	<ul style="list-style-type: none">Promote energy-efficient rolling stock, energy-saving equipment, and energy-saving drivingUse alternative fuels, switch electricity to renewable sourcesTransition to low-carbon equipment and facilities through the use of internal carbon pricing (5,000 yen/t-CO₂ as of Sept. 2024)Install energy-efficient equipment (high-efficiency air conditioners, LED lighting, water-saving equipment, etc.)Decrease the amount of electricity purchased from retail electricity providers by incorporating solar power from on-site PPAs and other meansReduce basic contract fees by managing demand values through cooperation with tenants
	Technology	Increased green investment brought on by emissions controls	Large	○			○	○	<ul style="list-style-type: none">Respond to growing green investment through sustainable finance
		Increased development costs to support next-generation technology		○		○	○	○	<ul style="list-style-type: none">Control development costs through open innovation and joint development with other companiesUse subsidy systems from the government and other organizations
		Failed investment due to errors in assessing environmental values		○		○	○	○	<ul style="list-style-type: none">Investment that takes environmental values into account using internal carbon pricing (5,000 yen/t-CO₂ as of Sept. 2024)
	Market	Increased costs for procuring fossil fuels		○		○	○	○	<ul style="list-style-type: none">Use alternative fuelsStudy sustainable modes of transportation that are environmentally appropriate for the region
		Increase in material prices due to suppliers passing on environmental costs through their pricing	Large	○		○	○	○	<ul style="list-style-type: none">Control the cost of purchasing materials by updating equipment and reviewing facilities
		Increase in electricity shortages caused by disturbances in the supply-demand balance associated with the electrification of society and the expanded use of renewable energy		○	○	○	○	○	<ul style="list-style-type: none">Promote energy-efficient rolling stock, energy-saving equipment, and energy-saving drivingEstablish in-house systems and methods to respond to power shortage warnings
		Increase in construction costs with the dissemination of ZEH and ZEB						○	<ul style="list-style-type: none">Use subsidy systems from the government and other organizations (ZEH support project of the Sustainable Open Innovation Initiative, etc.)
	Reputation	Growth of ethical consumption in society		○		○	○	○	<ul style="list-style-type: none">Achieve smart, green transport by using MaaS in urban areas and intercity transportationConsider sustainable transport systems that are environmentally appropriate for the region, in consultation with the region concerned
		Decline in the environmental preeminence of railways due to the electrification of automobiles	Large	○	○		○		<ul style="list-style-type: none">Pursue business (new store set-up, etc.) from the perspective of the environment and ethical consumptionExpand EV parking spaces so EVs can coexist with public transportationAdopt environmentally friendly product planning, construction planning, and equipment specifications (use solar power systems, make rooftop gardens, make wooden apartment buildings fire-proof)Use environmentally friendly sales promotion tools in model homes (use posters and banners made of green materials, buy environmentally friendly equipment, switch to digital pamphlets, etc.)
		Negative effect on material procurement due to reduced ESG rating	Large	○	○	○	○	○	<ul style="list-style-type: none">Disclose information on the status of TCFD analysis and the JR-West Group Zero Carbon 2050 long-term environmental goalsConduct research on the development of social infrastructure through the Kyoto University Disaster Risk Management Engineering course (JR-West), and hold regular lectures for citizens, both funded by the company
		More criticism from stakeholders due to delays in initiatives and insufficient information disclosure	Large	○	○	○	○	○	<ul style="list-style-type: none">Acquire environmental certifications, such as DBJ Green Building Certification (Development Bank of Japan) and CASBEE, and publicize theseCreate environmentally friendly standard specificationsIncorporate new technologies in collaboration with installation contractors
Risks associated with the physical impact of climate change (physical risks)	Abnormal weather	Loss of consumer confidence due to increased suspensions of train operations		○	○		○		<ul style="list-style-type: none">Publish information on JR-West safety initiatives, including planned suspensions of operationsProvide information to customers in a timely and appropriate manner when train operations are suspended
		Increased damage to railway facilities due to the increasing frequency of typhoons and floods	Large	○	○		○	○	<p>Initiatives mainly in the railway business</p> <p>Measures to prevent flooding of railway facilities</p> <ul style="list-style-type: none">Implement both facilities-based and operations-based measures to prevent flooding and relocate rolling stock at important facilities such as general depots, rolling stock holding facilities, signal equipment facilities, and control centers <p>Weather disaster response system</p> <ul style="list-style-type: none">Introduce a weather disaster response system on major railway lines in the Kansai area to prepare for worsening weather disasters and minimize the risk of human errorDeploy radar rainfall monitoring systems on all conventional railway lines to improve safety in the event of localized heavy rainfall <p>Reinforcement measures of slopes on railway lines</p> <ul style="list-style-type: none">Reinforce sloping areas and establish drainage systems to improve safety and shorten times when operation is restricted, primarily in the Kyoto/Osaka/Kobe areaCreate slope disaster charts and utilize sensing technologies to understand slope deformation and enhance detection precision <p>Strengthening of railway track equipment</p> <ul style="list-style-type: none">Improve train operations' safety and durability by replacing old wooden sleeper sections with concrete ones <p>Planned suspensions of operations</p> <ul style="list-style-type: none">Implement planned suspensions of operations, including relocation of rolling stock, as necessary when large typhoons approach or make landfallAppropriately provide information regarding planned suspension and resumption of operations <p>Emergency response training</p> <p>Initiatives common to all businesses</p> <ul style="list-style-type: none">Create a crisis management manualEnsure safe operation of business through proper shutdowns, and early or delayed openings or closings of storesHave BCP measures (supplies, BCP back-up power source, etc.) in place in new office buildings.Install emergency equipment (water and flood gates, etc.), have back-up power, install cubicles on higher building floorsCollaborate with local government to offer usage of buildings with floors and cubicles that don't flood, and elevated water tanks, for use as regional evacuation shelters (e.g., Machiya Building, Yokohama Portside Building)Use hazard maps to minimize risks and boost market competitiveness (e.g., do not put apartments on the first floor of buildings in areas in danger of flooding)
		More suspension of train operations and stoppage of business due to damage to railway facilities	Large	○	○	○	○	○	
		Increased impact on trains due to power blackouts	Large	○	○		○	Large	<ul style="list-style-type: none">Taking BCP into account, install emergency power generators at control centers in order to maintain function during power blackoutsEstablish in-house systems and methods to respond to power shortage warningsDeploy the N700S to the Tokaido and San'yo Shinkansen lines (its onboard battery-based self-propulsion system will allow us to help customers in the event of extended blackouts)
	Chronic risks	Material shortages due to disruptions in supplier logistics		○		○	○	○	<ul style="list-style-type: none">Ensure that there are multiple channels in the supply chain for important items that have a significant effect on train operation and that a certain amount of inventory is maintained
		Increased damage insurance		○			○		<ul style="list-style-type: none">Pursue initiatives to mitigate damage to railway facilities (stated above)
		Increased air conditioning costs due to rising temperatures		○	○	○	○	○	<ul style="list-style-type: none">Green rooftops and building walls, adopt heat-insulating materialsImprove air conditioning efficiency by introducing regional heating and cooling systemsReduce energy consumption by installing high-efficiency air conditioners
		Increased damage from animals due to the expanding range of wildlife caused by decreased snowfall		○					<ul style="list-style-type: none">Expand measures to prevent damage from animals (install fences to keep deer from entering, develop sound equipment for repelling animals, improve vehicle obstruction guards, etc.)
	Working environment	Increase in the risk of food poisoning due to rising temperatures			○	○			<ul style="list-style-type: none">Step up food hygiene
		Increase in labor accidents such as heat stroke due to rising temperatures		○	○		○	○	<p>Measures to prevent heat stroke</p> <ul style="list-style-type: none">Prepare equipment to counter heatstroke, such as air-conditioned clothing, use the WBGT index, work in the morning and evening hoursEquip crew compartments on railcars with air conditioners <p>Reconstruction of railway systems</p> <ul style="list-style-type: none">Reduce workload along railway lines through onboard and sensor-networked ground inspections, surveying with MMS technology, and the mechanization and automation of construction workReduce workload along railway lines through the integration of functions into vehicles and the simplification of ground facilities
		Increased cost of measures to prevent heat stroke		○			○	○	

* Sales of goods and food services; SC: shopping centers

Potential opportunities

Type		Opportunities for the company	Impact	Railways	Sales* food*	Hotels	SC*	Real estate	Seizing opportunities
Resource efficiency		Reductions in CO ₂ emissions and energy consumption by updating rolling stock and equipment to energy-efficient ones		○	○	○	○	○	<ul style="list-style-type: none">Accelerate the installation of high-efficiency equipment such as devices that utilize regenerative power, by using new subsidy programs and energy-saving facilitiesInstall energy-efficient equipment when upgrading (high-efficiency air conditioners, LED lighting, water-saving equipment)Use ZEH subsidy systems and other support from the Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry, and Ministry of the Environment
		Equipment updates making effective use of government support systems such as tax incentives		○	○	○	○	○	
Energy sources		Wider use of fuels with net-zero CO ₂ emissions, fuel cells, and storage batteries through technological progress and reductions in pricing	Large	○			○	○	<ul style="list-style-type: none">Study new energy sources (renewable diesel, carbon-free next-generation rolling stock, fuel-cell co-generation systems, etc.)Reduce the cost of installing storage batteries by utilizing national and local government grants
		In areas where the characteristics of railway can be put to good use, railways are acknowledged as being environmentally superior, with use increasing due to policy-based promotion of public transport and greater environmental awareness of customers (modal shift)	Large	○	○	○	○		<ul style="list-style-type: none">Increase usage of trains and the JR-West Group's many other services by publicizing trains' environmental advantages and the Group's green initiativesEnhance secondary transport services linked with railway (park and ride, electric bicycle sharing services, etc.)Enhance services using digital technology (ICOCA de Jisapo point program for staggered commuting)Enhance MaaS (Kansai MaaS, WESTER MaaS app, etc.)Create synergy by offering public transport users the courtesy services of other JR-West Group businesses
Products and services		Increased use due to the greater convenience of public transport associated with the proliferation of MaaS, and due to a growth in non-resident population	Large	○	○	○	○	○	
		Increasing the use of public transport and spreading the sharing economy		○				○	<ul style="list-style-type: none">Upgrade equipment and systems for bike sharing and other parts of the sharing economy
		Spread of sustainable modes of transportation that are environmentally appropriate for the region	Large	○					<ul style="list-style-type: none">Cooperate with regional communities using demand-based transportation to make regional public transport more convenientPromote BRT development projects using self-driving and convoy driving technologies
		Spread of sustainable modes of housing that are environmentally appropriate for the region						○	<ul style="list-style-type: none">Develop environmentally friendly housing (architectural planning, equipment specs, sales methods*) <p>*e.g., save on building materials by reusing a model home for multiple properties; use VR to give prospective buyers virtual tour of housing units</p>
Market		Reduction of electricity procurement costs through expansion of renewable energy		○			○	○	<ul style="list-style-type: none">Study participation in renewable energy businessExpand renewable energy use by installing solar power equipment through on-site PPAs that utilize building rooftops and idle land
		Wider use of electricity with net-zero CO ₂ emissions through technological progress and reductions in pricingAcquisition of real estate that has low environmental impact and meets rental needs						○	<ul style="list-style-type: none">Use 100% renewable energy for new lease propertiesEncourage customers and others to carry out ESG investing by acquiring environmental certifications, such as DBJ Green Building Certification (Development Bank of Japan) and CASBEE
		Securing of revenue in the electricity supply and demand market using JR-West equipment		○			○		<ul style="list-style-type: none">Study participation in VPP (virtual power plant) business
		Ensuring of reliability through successful BCP measures in the event of weather disasters so as to reduce suspensions of train operations and stoppage of business		○		○	○	○	<ul style="list-style-type: none">Pursue measures to mitigate damage to railway facilities (see previous page) and disclose related informationGain customers by developing real estate resistant to natural disastersHave BCP measures (supplies, BCP back-up power source, etc.) in place in new office buildingsInstall emergency equipment (water and flood gates, etc.)
Resilience		Maintaining railway forests helps reduce CO ₂ emissions and prevent disasters		○					<ul style="list-style-type: none">Ongoing forest conservation activities through Club J-WEST ForestStudy the effective use of railway forests

* Sales of goods and food services; SC: shopping centers

Global environment

Assumptions for quantitative impact of climate change-related risks and other concerns

For risks and other concerns extracted through qualitative analysis, we have made quantitative impact assumptions for those items that we expect to have a significant impact and for which objective future forecast data corresponding to the scenarios used in the analysis are available. In addition, we have estimated the trend in transportation revenues based on estimated population and GDP data derived from socioeconomic scenarios.

Our assumptions are based on society in 2030 or 2050. The transition risks are calculated based on a 1.5°C/2°C

scenario in which society acts proactively to address climate change. The physical risks and impacts on transportation revenues are calculated based on 1.5°C/2°C and 4°C scenarios. (The results of the estimated impacts are shown in the chart on page 72.)

In particular, the physical risks and impacts on transportation revenues are greater in the 4°C scenario than in the 1.5°C/2°C scenario. Based on these factors, we will take measures to address the risks and promote initiatives to realize a decarbonized society, so as to help curb climate change.

Presuppositions for assumed transition risk and physical risk impact

Transition risks	Item	Source of forecast data used for trial calculation	Assumed impact in 2030	
			4°C scenario	1.5°C/2°C scenario
	Heightened costs accompanying the introduction of carbon pricing	IEA "World Energy Outlook 2023"	—	US\$ 140/t-CO ₂ (2030, NZE scenario, developed countries) Exchange rate: US\$ 1 = ¥140
	High material prices due to suppliers passing on environmental costs	Kiyoshi Fujikawa (author) "Load of Carbon Tax by Region and Income Group," others	—	About 2% higher than the current level
Physical risks	Item	Source of forecast data used for trial calculation	Assumed impact in 2050	
			4°C scenario	1.5°C/2°C scenario
	Greater damage to facilities due to increase in natural disasters	Technical Study Group on Flood Control Planning in Light of Climate Change "Recommendations for Flood Control Planning in Light of Climate Change" (revised April 2021); Ministry of Land, Infrastructure, Transport and Tourism	Approx. four times more frequent than current levels	Approx. two times more frequent than current levels
	Reduced revenue owing to increased operational suspensions due to natural disasters			

Quantitative impact assumptions (financial impact) for transition risks and physical risks

Transition risks	Item	Assumed impact in 2030	
		4°C scenario	1.5°C/2°C scenario
	Heightened costs accompanying the introduction of carbon pricing	—	+21 billion yen/year
	High material prices due to suppliers passing on environmental costs	—	+2 billion yen/year
Physical risks	Item	Assumed impact in 2050	
		4°C scenario	1.5°C/2°C scenario
	Greater damage to facilities due to increase in natural disasters	10 billion yen/year	3 billion yen/year
	Reduced revenue owing to increased operational suspensions due to natural disasters	4.5 billion yen/year	1.5 billion yen/year

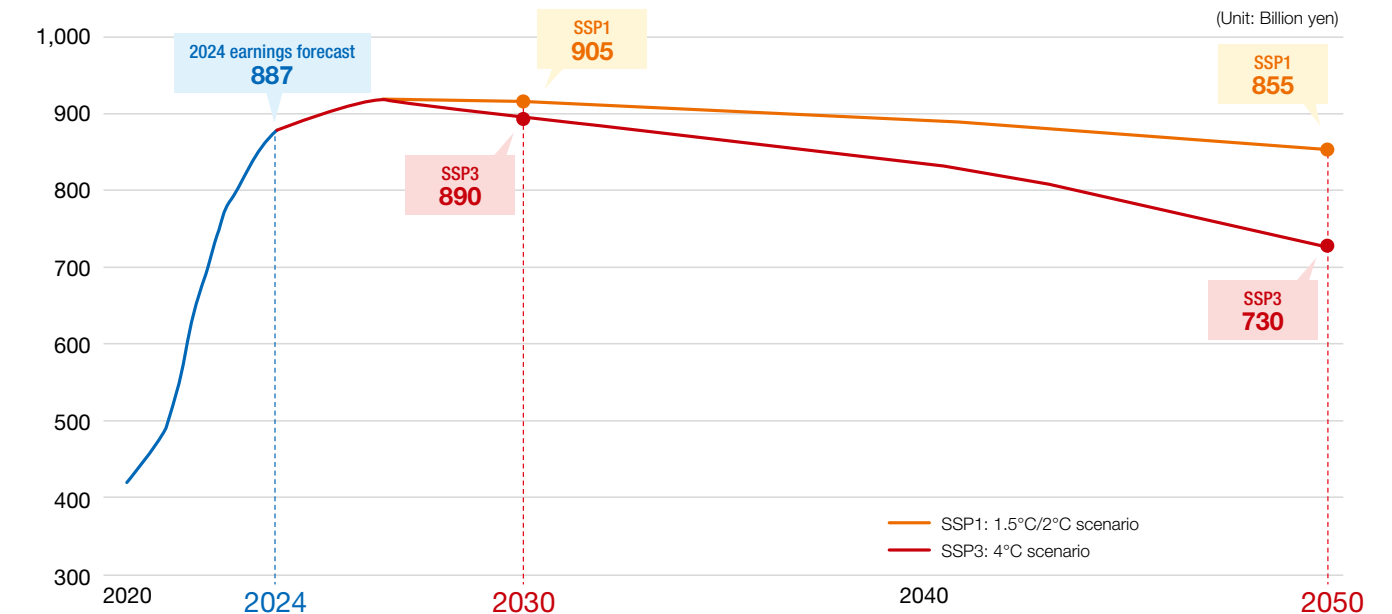
Trial calculation of changes in rail transportation revenue

Based on population and GDP data derived from socioeconomic scenarios, which are used in cross-disciplinary climate change research, we have estimated the changes in rail transportation revenue up to 2050.

The population data is derived from "Japanese SSP Population Estimates by City, Town, and Village," published by the National Institute for Environmental Studies. GDP data is derived from "Socioeconomic Projections of the Shared Socioeconomic Pathways (SSPs) Release 3.1," published by IIASA (International Institute for Applied Systems Analysis).

Based on projected demographic and domestic GDP changes in our business areas, we have estimated the changes that will occur after implementation of the JR-West Group Medium-Term Management Plan 2025. (For the data referenced here, the 1.5°C/2°C scenario = SSP1 and the 4°C scenario = SSP3.)

The future forecasts in our trial calculation are based on demographic and GDP estimates only and do not take into account individual factors that may affect revenues, such as future sales measures.



Global environment

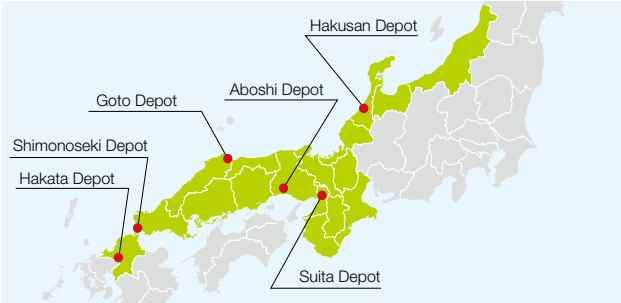
Qualitative analysis of nature-related risks and opportunities

TNFD

Taskforce on Nature-related Financial Disclosures

Analysis target

The JR-West Group focuses on its general depots, which are central locations with significant points of contact with natural capital, and conducts analysis and assessments in accordance with the LEAP approach advocated by the TNFD as an integrated approach to assessing nature-related issues. We have six general depots: Hakusan Depot (Hakusan, Ishikawa Prefecture), Hakata Depot (Nakagawa, Fukuoka Prefecture), Suita Depot (Suita, Osaka Prefecture), Aboshi Depot (Ibo, Hyogo Prefecture), Goto Depot (Yonago, Tottori Prefecture), and Shimonoseki Depot (Shimonoseki, Yamaguchi Prefecture). In carrying out regular inspections of railcars and large-scale improvements to trains, these depots remain aware of their dependence, and impact, upon natural capital.



Analysis of regional characteristics

Scoping using the LEAP approach was used to assess water and biodiversity-related risks based on results considering operations at general depots.

Water-related risks

To assess water-related risks at general depots, we conducted an analysis using Aqueeduct. The results showed that, at all general depots, the risk level of water stress and water depletion for water resources, which are heavily relied upon in the regular inspection process, did not exceed “low to medium,” thus we view the risk as being low. We will continue to recognize water as an important resource and promote daily water conservation practices, utilization of recycled water, and other actions.

■ Water-related risk assessment

Analysis using Aqueeduct

Water-related risk	Hakusan	Hakata	Suita	Aboshi	Goto	Shimonoseki
Water stress*	Low to medium	Low to medium	Low to medium	Low to medium	Low to medium	Low to medium
Water depletion**	Low to medium	Low	Low to medium	Low to medium	Low to medium	Low to medium

* Water stress: Ratio of total water demand (consumptive and non-consumptive) to renewable surface and groundwater supplies
** Water depletion: Ratio of total water demand (consumptive) to renewable surface and groundwater supplies

Biodiversity-related risks

To assess biodiversity-related risks at general depots, we conducted an analysis using IBAT*. From the results, seven biological habitats and protected areas were identified within a 3 km radius of general depots. However, all of these were at IUCN category IV to VI levels, and no areas were designated as strict nature reserves, wilderness areas, national parks, or natural monuments.

* IBAT (integrated biodiversity assessment tool): A TNFD presentation tool for biodiversity-related assessment developed by four organizations: BirdLife International, the World Conservation Monitoring Centre (WCRC), the International Union for Conservation of Nature (IUCN), and Conservation International.

■ Biodiversity-related risk assessment

Analysis using IBAT (number of applicable areas within a 3 km radius)

IUCN category*		Hakusan	Hakata	Suita	Aboshi	Goto	Shimonoseki
I a	Strict nature reserve	0	0	0	0	0	0
I b	Wilderness area	0	0	0	0	0	0
II	National park	0	0	0	0	0	0
III	Natural monument	0	0	0	0	0	0
IV	Habitat/species management area	0	1	1	0	1	1
V	Protected landscape/seascape	0	0	0	0	0	0
VI	Protected areas with sustainable use of natural resources	1	0	0	0	1	1
Total number of applicable areas		1	1	1	0	2	2

*Based on the IUCN's "Guidelines for Applying Protected Area Management Categories"

Dependence, and impact, upon nature

With regard to regular inspections, which are the main job of the general depots, we checked the actual conditions at the depots and used ENCORE to clarify their dependence, and impact, upon natural capital. We identified water, soil, air, and living things (animals) as natural capital related to operations.

Water

● Dependence: Large amounts of water are used in processes such as the washing of rolling stock and their parts during regular inspections and the supplying of water to rolling stock. Therefore, if water becomes unavailable, it may not be possible to carry out these tasks adequately. However, even in such cases, apart from some impact on service quality, there will be no problems with ensuring safety or train operations, and there will be no immediate impact on rail transportation revenue. We have also determined that the risk of water stress and water depletion is low in the areas where all of our general depots are located and that the likelihood of these risks materializing is low. At the same time, because water is a vital resource, we are using water resources efficiently, in preparation for the risk of water being unavailable, by raising awareness of water conservation through education, utilizing water recycling systems, and regularly monitoring water usage.

● Impact: At general depots, oil and grease are in the washing water effluent from rolling stock and their parts, as well as used in repair work, so there is a risk of water contamination due to improper handling. We work to reduce this risk by performing work in accordance with work manuals, as well as by conducting regular inspections and site visits and by monitoring usage.

Soil

● Impact: There is a risk of soil contamination due to improper handling of industrial waste or materials containing organic solvents, or due to oil spills during refueling. To address this risk, we have taken measures such as continuing education on how to handle industrial waste, conducting regular site visits, and managing usage. We are also working to reduce risk by using water-based paints, which have a lower environmental impact.

Air

● Impact: There is a risk of air pollution due to improper disposal of volatile organic compounds (VOCs) used in painting. We are working to reduce this risk by properly installing and operating dust collection equipment and regularly monitoring and measuring emissions.

Living things (animals)

● Impact: The noise associated with work operations may have an impact on animals. With regard to biodiversity-related risks, although there are no areas within a 3 km radius of general depots that are categorized as IUCN categories Ia to III, we are working to reduce the burden on living things through strict operational management based on our environmental management system, the installation of soundproof fences, and noise monitoring.

■ Analysis of contact with nature at each stage of regular inspections

Regular inspection flow	Dependence	Impact			
	Water	Water	Soil	Air	Animals
Entrance/entrance inspection	—	—	—	—	Noise from work
Equipment and parts removal	—	—	—	—	
Inspection and repair	Washing	Oil and organic solvent spillage		—	
	Supplying water	Industrial waste scattering and spillage		—	
Painting	—	Wastewater	—	—	
	Boiler equipment drying	Organic solvent spillage		VOC emissions	
Equipment and parts installation	—	—	—	—	
Exit inspection/exit	Supplying water	—	—	—	

■ Qualitative analysis of risks and opportunities

We analyzed risks and opportunities, and our actions in response to them, based on dependencies and impacts. The main risks identified were those related to water. We have been steadily addressing this issue through our environmental management system, and we will continue to conduct object- and policy-based measures, which include the thorough implementation of our environmental management system.

With regard to opportunities, we will pursue collaboration with local communities and undertake various energy conservation and recycling activities for the effective use of resources. We will also work to expand sales channels to companies outside the Group for products and services from group companies that help reduce environmental impact.

Risks

Type		Risks for JR-West	Response
Physical risks	Chronic risks	Improper cleaning of railcars and parts due to depletion of water	● Raise awareness of, and practice, daily water conservation ● Save water through water usage monitoring ● Utilize recycled water
	Policies	Stronger regulations on wastewater and other emissions from business activities	● Comply with relevant laws and regulations via thorough implementation of our environmental management system and implement measures to adapt to tighter regulations ● Respond with both object- and policy-based measures, such as maintenance and management of wastewater treatment equipment and water quality monitoring
Transition risks	Reputation	Damage to company reputation as a result of negative impact of operations-related noise on neighboring residents and community	● Implement measures corresponding to the cause of noise, such as installing soundproof sheets or changing the work location ● Build relationships with local residents and the community, such as through collaboration in community service projects
	Liability	Water and soil contamination caused by improper handling of waste and other materials	● Avoid risks of environmental pollution and reduce environmental impact via our ISO 14001-compliant environmental management system ● Conduct regular training and education aimed at ensuring proper handling of waste and other materials ● Establish a system for rapid response and communication in the event of contamination

Opportunities

Type		Opportunities for JR-West	Seizing opportunities
Business performance	Market	Progress in collaboration with local communities	● Collaborate with local communities, such as through partnership agreements
	Resource efficiency	Progress in efficient use of water resources	● Raise awareness of, and practice, daily water conservation ● Save water through water usage monitoring ● Utilize recycled water
		Progress in efficient use of resources other than water	● Recycle items and materials related to the operation of general depots ● Railcar material waste ● Recyclable train waste such as bottles, cans, and PET bottles ● Wooden pallets ● Used cooking oil from employee cafeterias...etc.
	Products and services	Popularization of low-environmental-impact products in response to growing societal demand for reduced environmental impact	● Use renewable diesel fuel on diesel trains ● Use environmentally friendly materials, such as low-VOC materials
		Expansion in sales of products and services that contribute to reducing environmental impact	● Expand sales channels to companies outside the Group (e.g., West Japan Railway Technia Co., Ltd. J-TREAT highly efficient wastewater purification equipment, West Japan Railway Technos Corporation renovation work based on existing trains, etc.)
Sustainability performance	Sustainable use of natural resources Ecosystem protection, restoration, and regeneration	Progress in collaboration with local communities	● Actively participate in cleanups and environmental conservation activities in collaboration with local communities

Collaborating with the local community

Goto Depot in Yonago, Tottori Prefecture, participates in the cleanup of Lake Nakaumi, which is regularly conducted by the city of Yonago. Lake Nakaumi is registered as a Ramsar Convention wetland and is also a nationally designated wildlife sanctuary (special protection area). The JR-West Group will continue to actively participate in cleanups and other eco-friendly activities.

