Environmental initiatives of the JR East Group

March 6, 2024

East Japan Railway Company
Executive Officer
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Environment viewed in the JR East Group Medium-term Management Plan/Management Vision

1987 — 2018 — 2027

JNR privatization reforms

"First starting point"

Great East Japan Earthquake

"Second starting point"

JR East Group Management Vision "Move Up" 2027

[ESG Management]

Preventing global warming and diversifying energy sources

Realizing a "decarbonized society"

Reduce energy consumption and CO2 emissions

Net zero CO2 emissions in fiscal 2051

JR East Group Management Vision V
Fiscal 2013 -

[Pursuit of infinite possibilities]
Built energy/environmental strategies (energy creation, energy conservation, smart grid)

JR East 2020 Vision
Fiscal 2009 -

[Seven gear changes]
Addressed global environmental issues proactively and over the long term

New Frontier 2008
Fiscal 2006 -

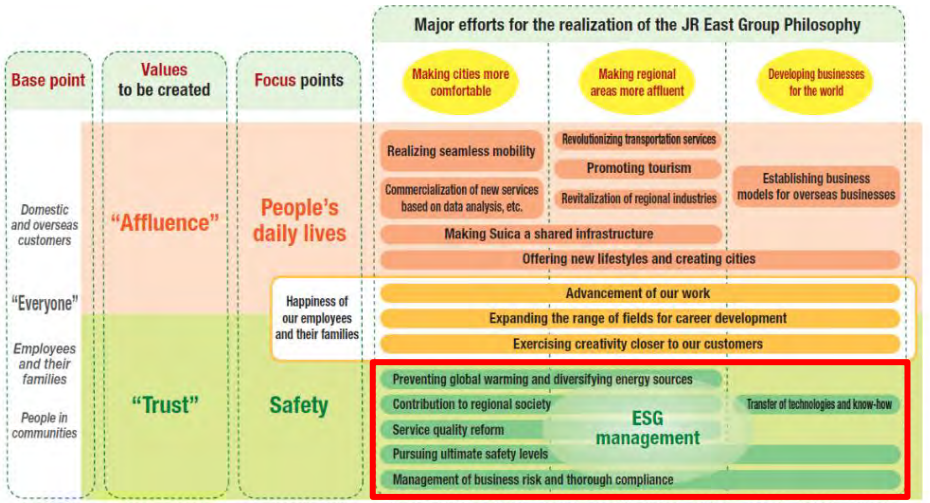
[Important management issues]
Fulfilled our corporate social responsibilities and put even more effort into legal compliance and **protection of the global environment**

New Frontier 21
Fiscal 2002 -

[Group Vision]
Harmony with society and
coexistence with the environment

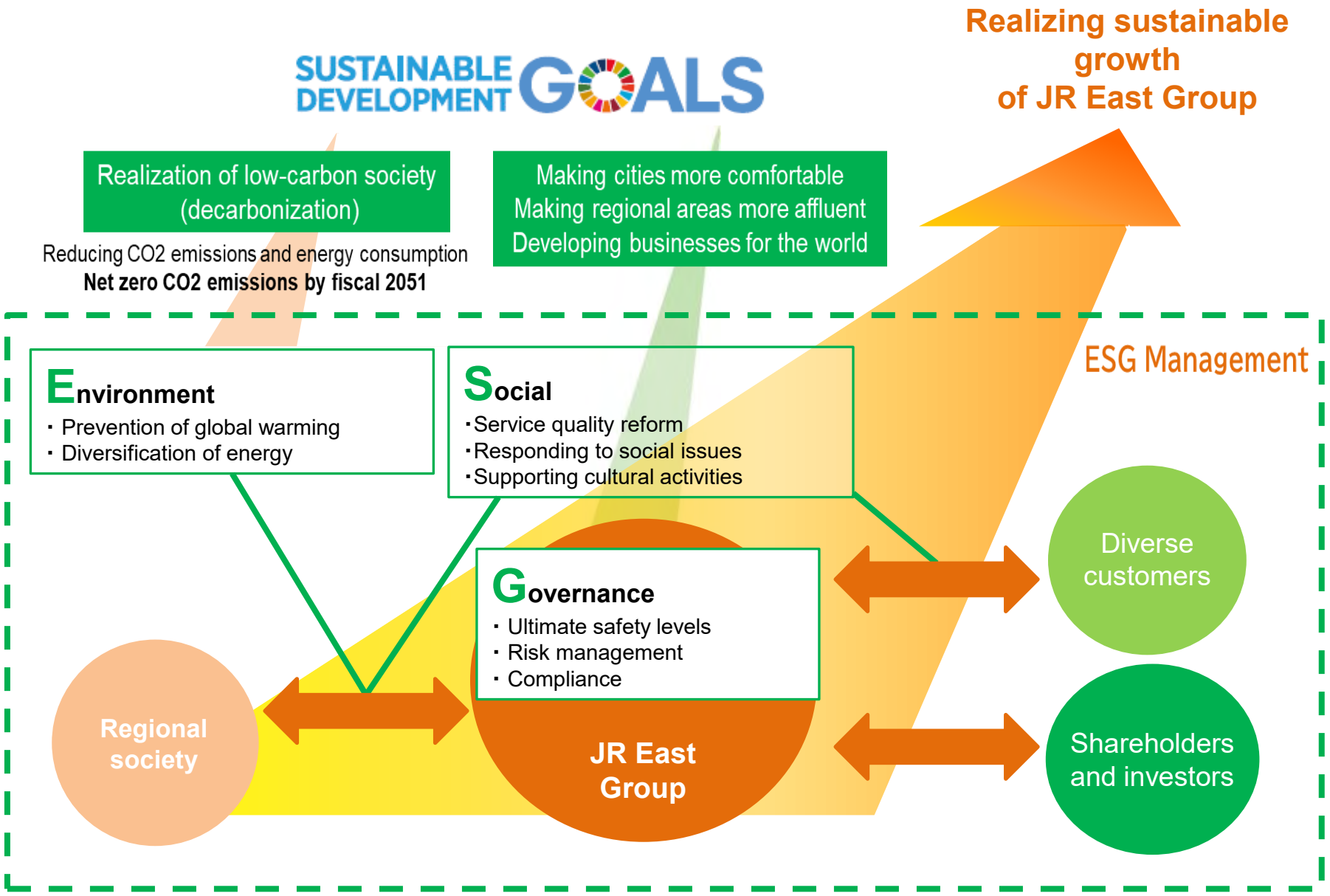
FUTURE21
Fiscal 1991 -

Actively developed technological innovations such as **improving energy efficiency**



[ESG Management viewed in "Move Up" 2027]

Main initiatives of “Move Up” 2027 (ESG management practice)



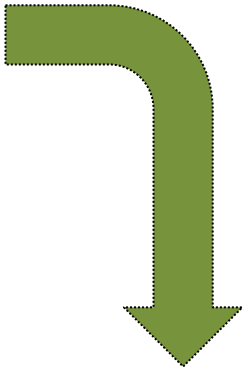
JR East Group's sustainability strategies

■Sustainability strategies

- The JR East Group's businesses fulfill a wide range of important functions in the daily lives of customers and are indispensable to local communities and society.
- While ensuring appropriate profits, we will practice ESG management that implements necessary measures from a medium- to long-term perspective, and work to solve social issues through our businesses.

■Materiality (important issues)

Providing Society with Safe, Reliable Infrastructure	Creating a Vibrant Society	Enriching the Global Environment
Providing Society with Innovative Technologies and Services	Increasing the Engagement of All Group Employees	Improving Confidence in Management



Specific initiatives

(1) Carbon Neutrality
- Zero Carbon Challenge 2050
- Utilization of diverse energy

(2) Circular Economy
- Promoting 3R (Reduce, Reuse, Recycle) initiatives
- Recycling waste generated at stations and on trains

(3) Nature Positive
- Hometown Forest Planting program
- Effort to protect ocean diversity
- Preservation of the Shinano River ecosystem

JR East Group's sustainability strategies

■Direction of specific initiatives

(1) Carbon Neutrality

- Formulated long-term environmental goals "Zero Carbon Challenge 2050" and declared our goal to achieve Groupwide “net zero” CO2 emissions by fiscal 2051
  => **Announced our commitment to acquire SBT certification** with the aim of setting science-based targets
  => **Upgraded the renewable energy plan to acquire SBT certification**
  => **While focusing on building new renewable energy power plants in our Group, we also procured renewable energy from other companies.**
- Challenges in visualizing CO2 emissions (e.g. carbon footprint (*))
  => Preparing **to disclose CO2 emissions by Shinkansen section** based on energy usage

*Carbon footprint: The value displayed on the product or service or the mechanism that involves GHG emissions from the entire life cycle of a product or service, from raw material procurement to disposal and recycling, converted into CO2 emissions

(2) Circular Economy

- Scheduled to make **capital investment in waste plastic recycling business**, including renovation of JR East Tokyo Resource Recycling Center
- **Aim to circulate resources within the JR East Group** by collaborating with group companies to further collect, recycle, and use waste such as waste plastics and food waste within the Group

(3) Nature Positive

- Continue efforts such as the Hometown Forest Planting program to regenerate forests, the construction of fishways at the Shinanogawa Power Station, and the release of salmon fry in downstream areas.
- Identify and exert necessary efforts toward Nature Positive by **announcing our support for the recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD) and promoting analysis/disclosure of nature-related risks/opportunities aligned with the recommendations**

Management commitment regarding sustainability strategies

■Promotion structure

Sustainability Strategy Committee

Aiming to realize a sustainable society, we will establish and promote the Group's basic policies and other measures to solve social issues such as global environmental problems.

Reports

Supervision and decision-making

Secretariat

Coordination of each working group and consideration of overall policy development
Reports to Sustainability Strategy Committee and coordinates promotion of measures

Cooperation

Coordinate

Zero Carbon Working Group

Considers energy conservation measures, introduction of renewable energy, etc.

Hydrogen Working Group

Considers utilization of hydrogen

Sustainability Strategy Committee Implementation overview

Attendees

- President
- Vice presidents
- Executive directors
- Outside directors
- Directors who are also full-time Audit and Supervisory Committee members

and others

Number of meetings held

Twice a year
*Starting in 2020 and holding up to the 8th Committee Meeting

Participation in initiatives, etc.

■Basic policies

- We actively participate in domestic and international initiatives and support the statements related to the environment, and work together with other companies to facilitate climate change countermeasures and realize a sustainable society.

Initiatives and statements that we participate in and support

SDGs

TCFD

SBT

Excerpt from the front page of Kotsu Shimbun, August 24, 2023

CDP

GX League

WWF Japan

Participation in initiatives, etc. (TCFD recommendation-related initiatives)

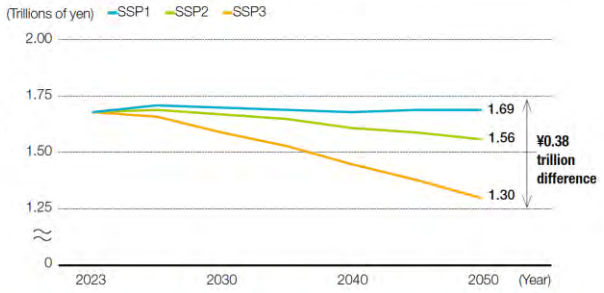
- We announced our support for TCFD in 2020, and started disclosing the financial impact of climate change from August 2020.
- The financial impact for Arakawa River flooding during climate change, which was disclosed in fiscal years 2023 and 2024, is shown below.

Estimated Change in Future Passenger Revenue Trends Based on Business Area Demographic Projections

Graph 1: Estimated Population of Our Business Areas by Scenario

Estimates of future population in our business areas based on Japanese SSP population estimates by municipality, GDP, and other data

Graph 2: Trends in Passenger Revenue by Scenario



Estimated future passenger revenues by SSP based on future population estimates within our business areas

Estimated Financial Impact for Flooding of the Arakawa River (Upstream)*8

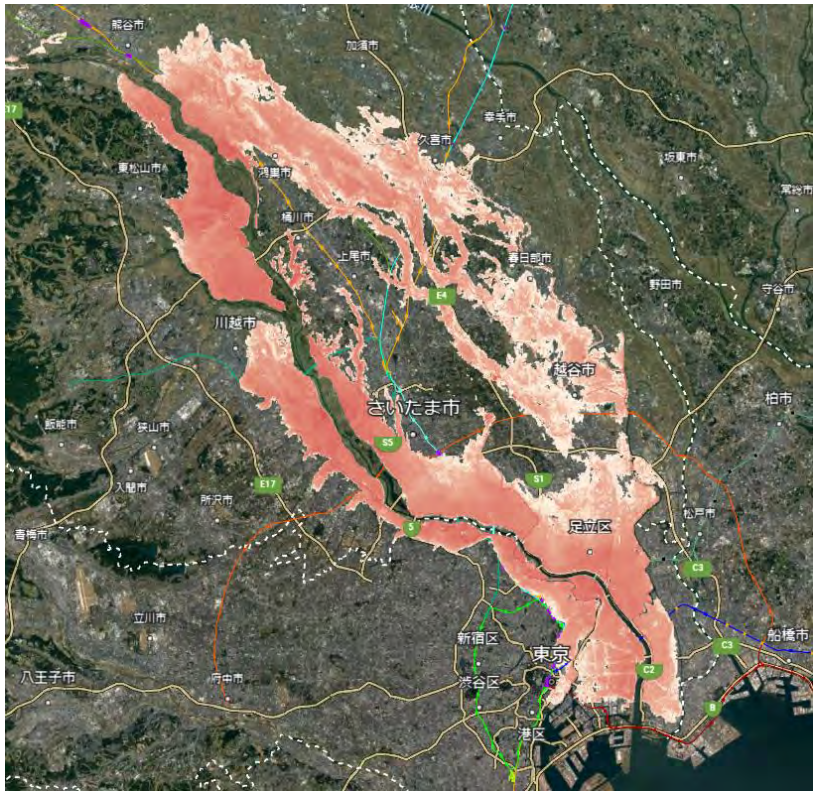
Rivers Expected to Overflow	Lines Expected to Be Significantly Affected			
Arakawa River (upstream)	Joetsu Shinkansen	Keihin-Tohoku Line	Utsunomiya Line	Joban Line
	Tohoku Shinkansen	Saikyo Line	Kawagoe Line	Sobu Line

Climate Change Scenarios	Flood Control Measures (Physical Facilities and Human Responses)	Increase in Financial Impact (Loss) (Billions of yen)	
		FY2051	FY2022-2051, Cumulative Total
RCP2.6 (2°C increase)	No countermeasures	+2.3	+33.8
	With countermeasures	+0.9	+13.9
	Loss reduction effects of countermeasures	(1.3)	(19.9)
RCP8.5 (4°C increase)	No countermeasures	+2.3	+34.4
	With countermeasures	+1.0	+14.8
	Loss reduction effects of countermeasures	(1.3)	(19.5)

As global warming progresses...

- **In case of 2℃ rise**
  - ➢ **Increase of 33.8 billion yen**
- **In case of 4℃ rise**
  - ➢ **Increase of 34.4 billion yen**

- **Map showing Arakawa River flooding (upstream) area superimposed on our lines**



Participation in initiatives, etc. (efforts to acquire SBT certification)

○ **In August 2023, we submitted a commitment letter to the SBT secretariat with the aim of becoming the first domestic railway company to acquire SBT certification.**

■What are Science-Based Targets (SBTs)?

- A joint initiative by CDP, WWF, World Resources Institute (WRI), and the United Nations Global Compact.
- Recommends companies to set a vision and goals for reducing greenhouse gas emissions based on a long-term perspective and the Paris Agreement.
- The number of SBT certified companies; approximately 380 in Japan, approximately 2,400 in the world (As of March 2023)
- Emission reduction targets must be set within two years after submitting a commitment letter.

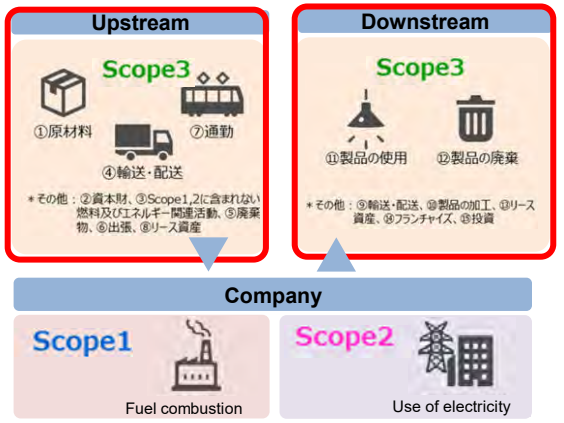
■Overview of SBT certification standards and comparison with Zero Carbon Challenge 2050

Item	SBT	Zero Carbon Challenge 2050
Target scope	Entire company including overseas consolidated subsidiaries	Domestic consolidated subsidiaries and JR East only *To be considered in the future whether to include overseas
(1) Base year **(2) Target year**	(1) Set after 2015 (2) Within 5 to 10 years from the time of application	(1) Fiscal 2014 (2) Fiscal 2031/2051
Reduction scope	Scopes 1 + 2 + 3 + FLAG emissions **=>Reductions are required including suppliers**	Scopes 1 + 2 => Possible to reduce only within the Group
Reduction target	(1) Scopes 1, 2: **4.2% + α reduction every year** *1 (2) Scope 3: **2.5% + α reduction every year** *2 =>A certain reduction is required every year.	(1) 50% reduction by fiscal 2031 (2) Net zero by fiscal 2051 =>There are no rules regarding reduction in the process.
Reduction method	Restrictions such as unavailability of forest-derived credits	No restrictions
GHG targeted for reduction	Greenhouse gases such as CO2, methane, and fluorocarbons	CO2

*1: Reduction necessary to keep temperature rise to 1.5℃ Reduction rate varies depending on the base year

*2: Reduction necessary to keep temperature rise below 2℃

[Scopes 1/2/3 overview diagram]



*Quoted from the Ministry of the Environment website

Areas not calculated by JR East Group (inside the red frame)

[Scope 1]
Direct greenhouse gas emissions by the reporting company itself (e.g. fuel combustion)

[Scope 2]
Indirect emissions from the use of electricity, heat, or steam supplied by others

[Scope 3]
Indirect emissions other than Scopes 1 and 2 emissions
(Emissions of other companies related to business activities)

Not calculated

Participation in initiatives, etc. (TNFD recommendation-related initiatives)

■About TNFD

- TNFD (Task Force on Nature-Related Financial Disclosures) has developed risk management and disclosure framework and disclosed final recommendations in September 2023.

<LEAP approach specific to TNFD>

- LEAP is an approach for analyzing natural capital-related risks and opportunities, which is **recommended to be executed prior to disclosing TNFD.**
- First, targets are **clarified by scoping the assessment** and then assessed according to the LEAP approach.

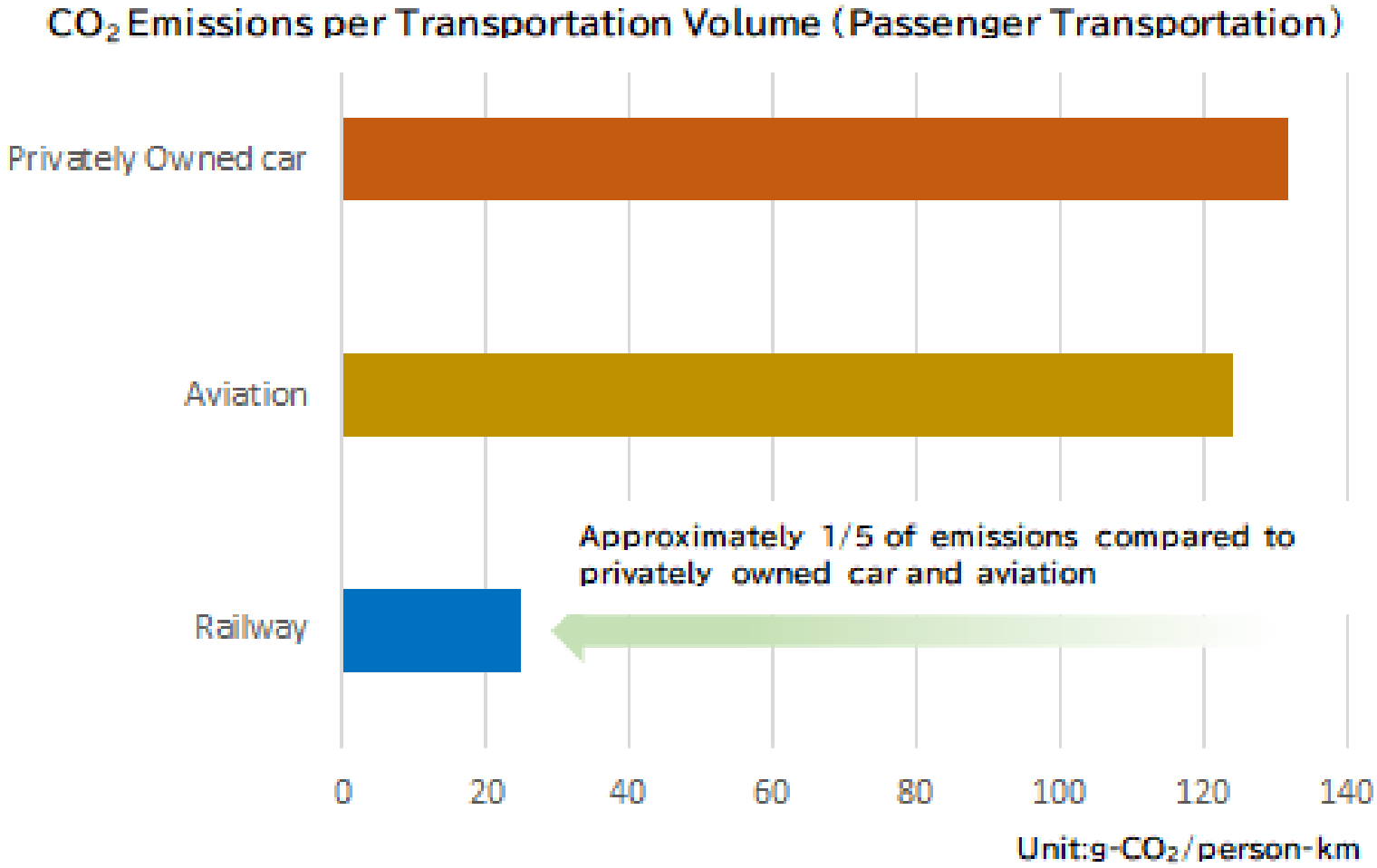
Scoping	Set the scope of the assessment	What are the organisation's activities where there are likely to be material nature-related dependencies, impacts, risks and opportunities?
Locate	Locate **the interface with nature**	Which of our bases have interface with nature and should be particularly assessed for their dependencies and impacts on nature?
Evaluate	Evaluate **dependencies and impacts**	What are our dependencies and impacts on nature and what is the scale of such dependencies and impacts?
Assess	Assess **key risks and opportunities**	What are the risks and opportunities for our organization and what is the scale of such risks and opportunities?
Prepare	Prepare to respond and report	What goals and indicators will we set? What and how will we disclose?

Based on the above approach, we have selected our Group's "target businesses" and "priority regions" and are currently considering supports/disclosures.

Environmental advantages of railways

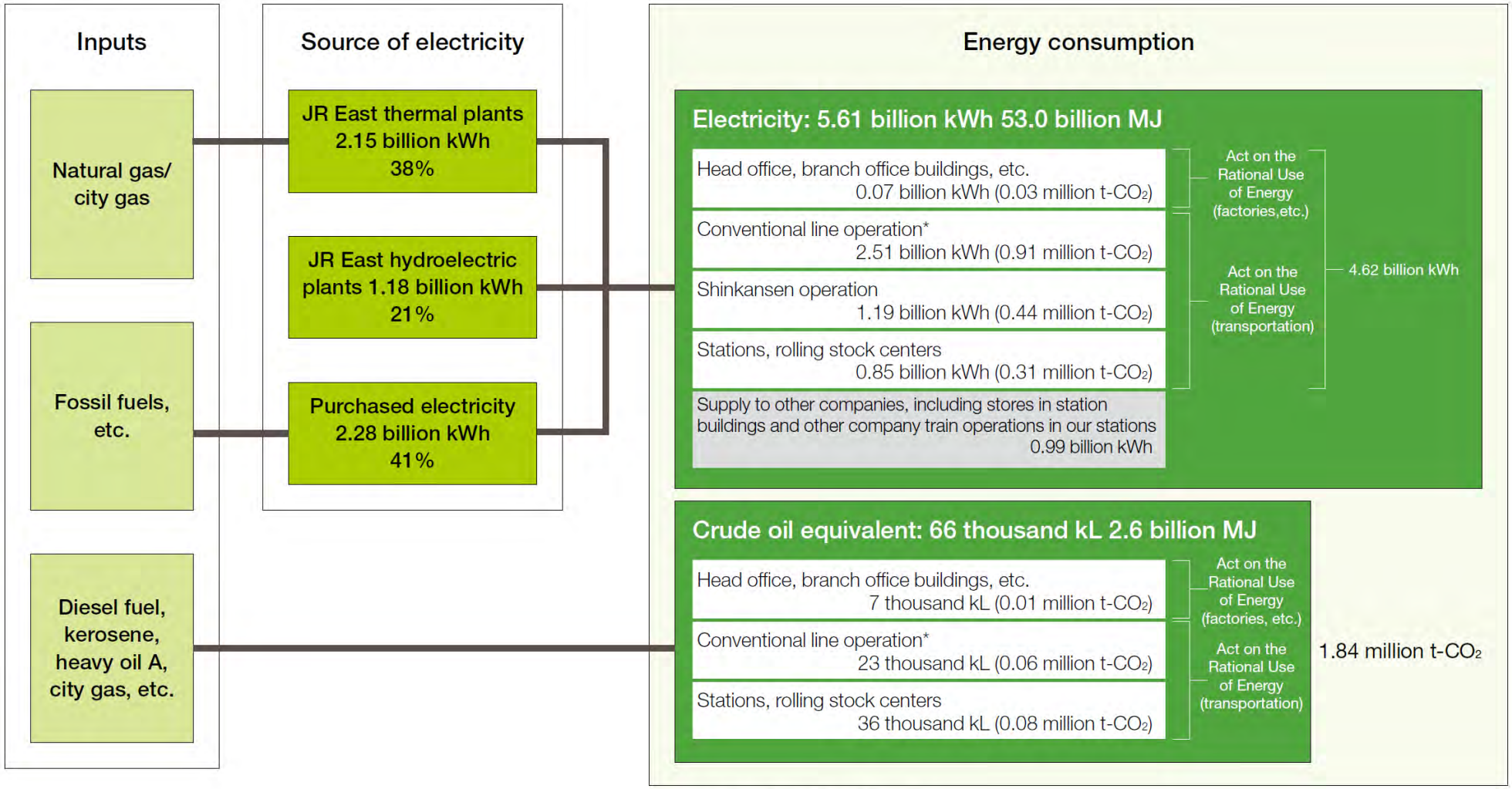
■ **Railways themselves are an environmentally advantageous transportation mode in the first place.**

~ Initiatives to further promote environmental advantages ~



Source: Adapted form the website of the Ministry of Land, Infrastructure, Transport and Tourism

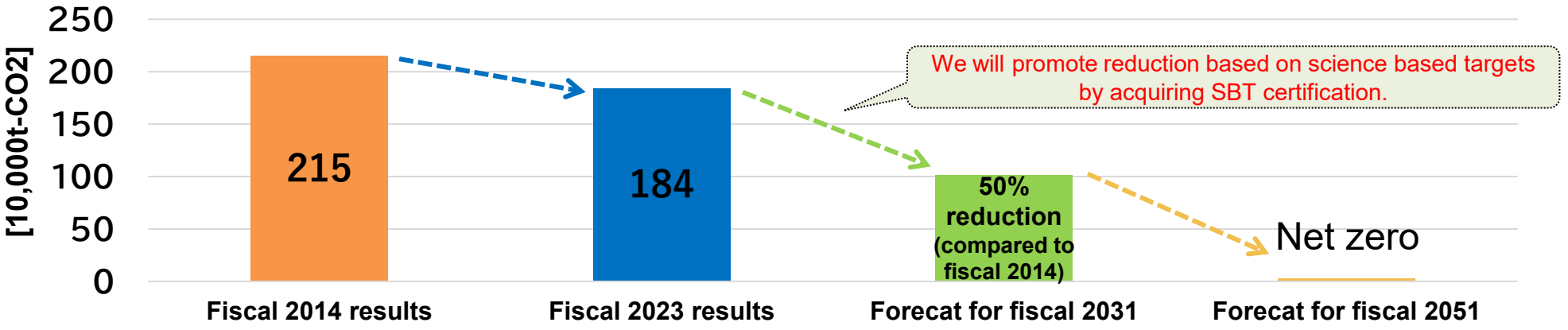
Energy flow map of railway business (fiscal 2023 results)



* Including BRT (Bus Rapid Transit)

(1) Carbon neutrality (realization of a decarbonized society)

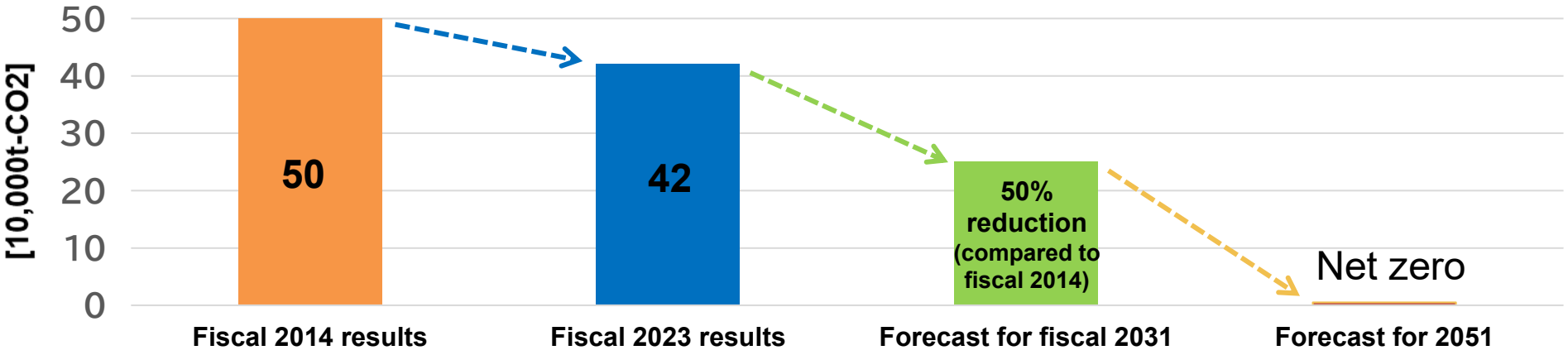
■ Toward the achievement of carbon neutrality at JR East only



Energy type (Breakdown of CO2 emissions)	2021	- 2030	- 2040	- 2050
Electricity (91%)	Promotion of introduction of energy-saving facilities ・Introduction of a new type of railcar ・Higher efficiency of heat source equipment and air conditioning system ・Introduction of LED lighting ・Further introduction of renewable energy facilities to stations, etc. ・Effective use of regenerative power ・Deployment of research and development results			
	CO2-free in Tohoku area (large-scale renewable energy development)		CO2-free in electricity purchase area	
Electricity generated by JR East (46%)	Higher efficiency in line with renewal of power plants and other facilities Expansion in supply through "independent power generation and wheeling," review of hydrogen co-firing power generation, CCUS investigation			Introduction of CO2-free hydrogen power generation Start of utilization of CCUS etc.
Fuel (9%)	Promotion of introduction of energy-saving facilities (introduction of storage battery trains, etc.)			
	Development, demonstration tests, etc. of hydrogen hybrid electric train		Social implementation	
			Electrification, etc. in line with facility renewal (shift to EV/FCV, etc. of commercial vehicles)	

(1) Carbon neutrality (realization of a decarbonized society)

■Toward “net zero” CO2 emissions from group companies



Energy type (Breakdown of CO2 emissions)	2021	- 2030	- 2040	- 2050
Electricity (70%)	Promotion of introduction of energy-saving facilities (・Introduction of LED lighting ・Higher efficiency of heat source equipment and air conditioning system ・Kitchen equipment ・Electric heavy machinery ・Refrigerators, freezers ・Office equipment ・Servers, etc.)			
	Switching to offset through the acquisition of non-fossil certificates and CO2-free plan provided by power companies, etc. Review/introduction of solar panel installation and corporate PPA			
JR electric power (30%)	Increase in supply of electricity generated by JR Offset with credits from electricity generated by JR			CO2-free in area where electricity is generated by JR East (introduction of CO2-free hydrogen power generation)
Fuel (30%)	Review of introduction of biofuel to commercial vehicles			
	Introduction of EV/FC buses and trucks to short-distance routes		Electrification, etc. in line with facility renewal (・Commercial vehicles, express route buses, heavy machinery, etc.)	
	Ammonia and hydrogen production using RPF			
	Electrification, FL, shift to EV of transport vehicles, etc. in line with facility renewal			
	Shift to carbon-neutral city gas			Shift to a CO2-free plan provided by gas companies, etc.
	Review of expanded ICP application			

■ Zero Carbon Challenge

- We are taking on specific challenges in each mode of “create,” “deliver/store” and “use.”

● **Introduction of energy-saving facilities/railcars**

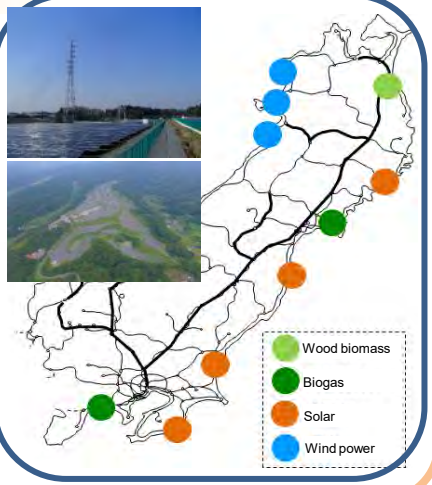
Introduction of LED lighting on platforms and concourses, higher efficiency of large and small air conditioning system, and introduction of energy-saving railcars

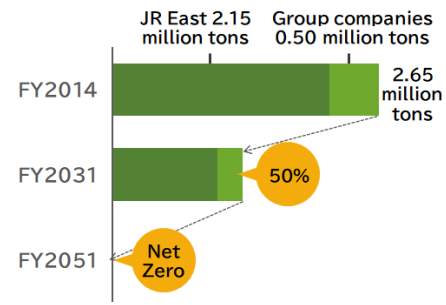
● **Expansion in the use of hydrogen energy**

Started a test run of hydrogen hybrid trains (nicknamed HYBARI) on the Tsurumi and Nambu Lines in late March 2022.

Considering the introduction of CO2-free hydrogen power generation

Development by aiming a total output of 1 million kW or more





● **Expansion in the use of hydrogen energy**

Started FC (fuel cell) bus services between Tokyo Station Marunouchi South Exit and Takeshiba area in October 2020.

(1) Carbon neutrality (realization of a decarbonized society)

Create | **Deliver/Store** | **Use**

■Electricity generation by JR East

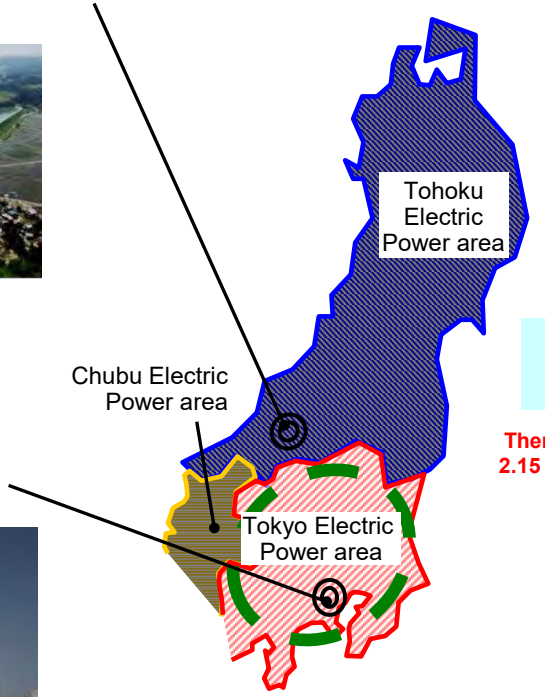
Shinanogawa Hydroelectric Power Station

- Total output 449,000 kW
- Clean energy source that does not generate CO2
- Aiming to harmonize with the river environment and coexist with the local community through the development of fishways and the release of salmon fry

Kawasaki Thermal Power Station

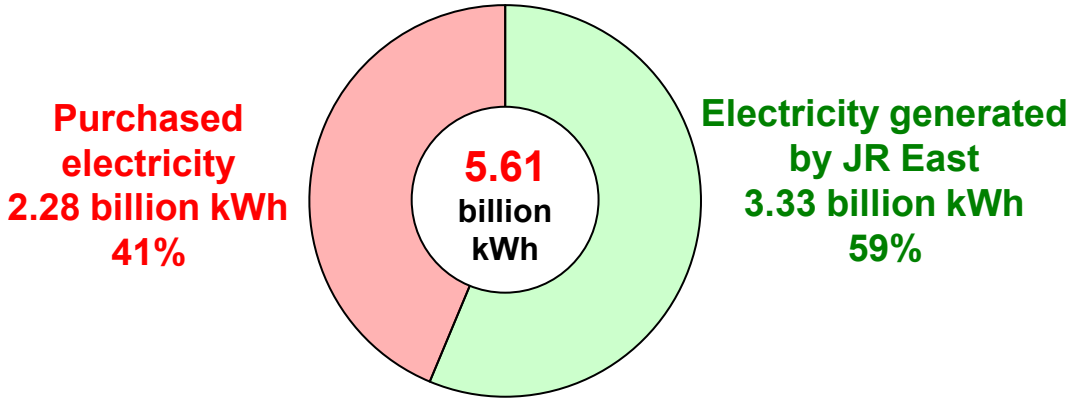
- Total output 809,000 kW

*Details on next page



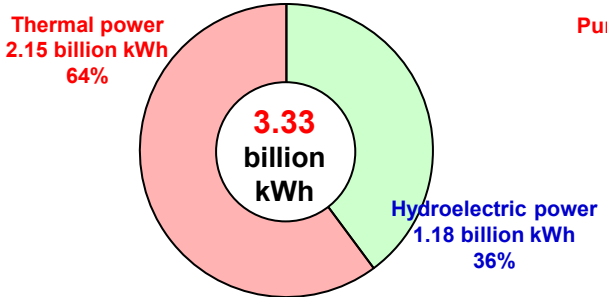
Network area of electricity generated by JR East

Electricity usage by JR East (Fiscal 2023)



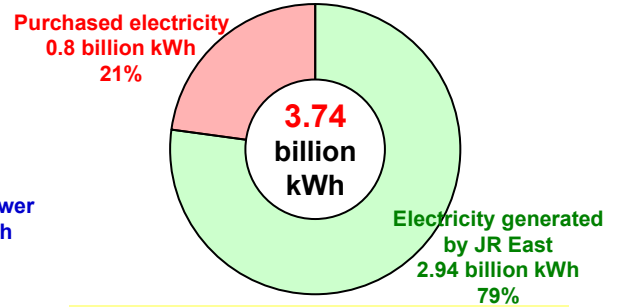
Approx. 60% of total electricity consumed is generated by JR East and 40% is purchased

Usage of electricity generated by JR East (fiscal 2023)



Approx. 60% thermal power, 40% hydroelectric power

Electricity usage in the metropolitan area (fiscal 2023)



A little under 80% of electricity is generated by JR East

(1) Carbon neutrality (realization of a decarbonized society)

Create | **Deliver/Store** | **Use**

ISO certificate

■ Overview of Kawasaki Thermal Power Station

- ◆ Location　Kawasaki City, Kanagawa Prefecture
- ◆ Permitted output　809,000 kW
- ◆ Operation start year　1930
- ◆ Site area　67,351m^2 (approx. 1.4 times Tokyo Dome)
- ◆ List of thermal power generation facilities

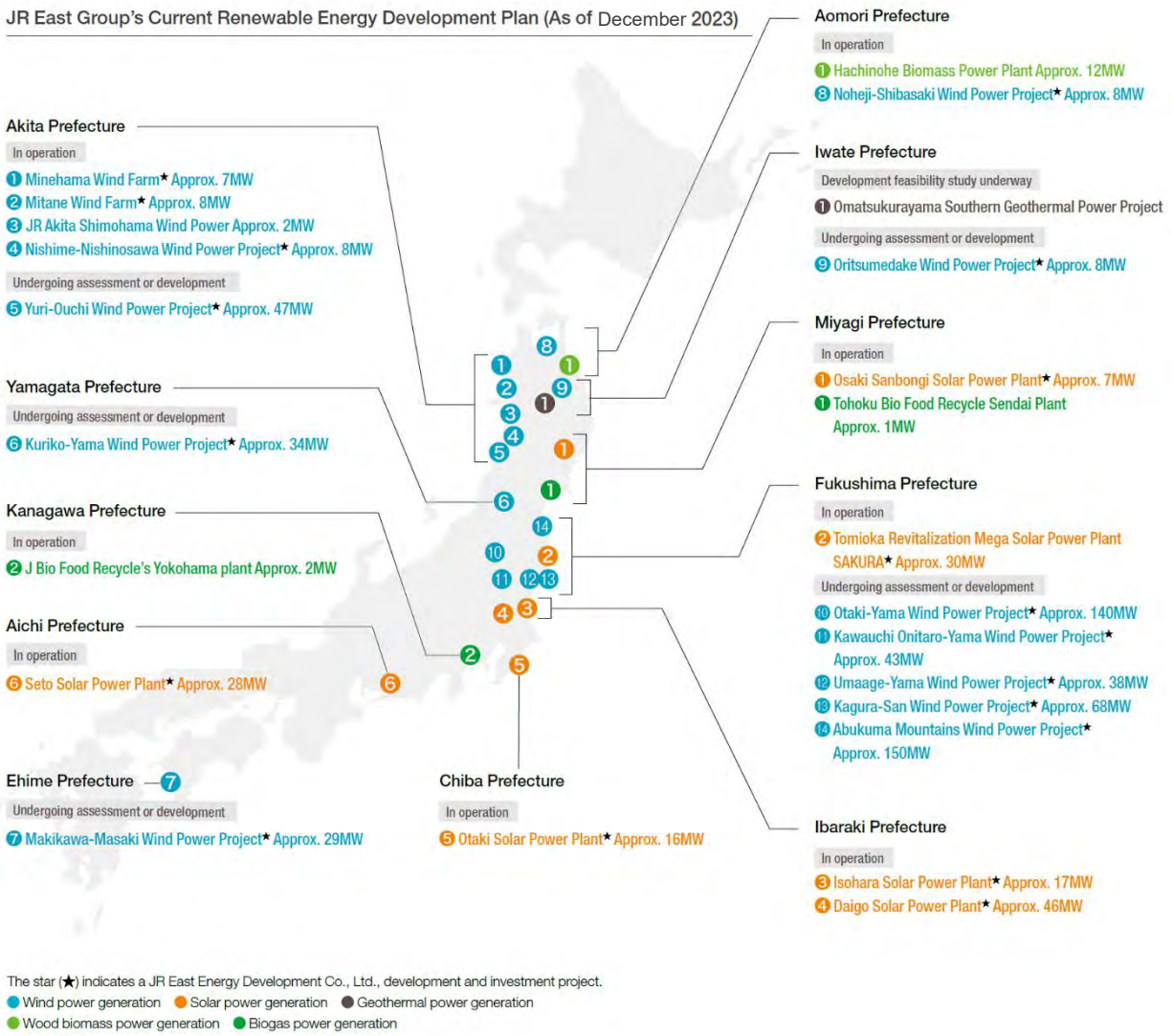
Unit	Unit 1	Unit 2	Unit 3	Unit 4
Operation start year	2021	1993	1999	2014
Power generation method	Combined cycle power generation (single shaft)	Combined cycle power generation (single shaft)	Combined cycle power generation (single shaft)	Combined cycle power generation (single shaft)
Permitted output (kW)	212,600	187,400	198,400	210,600
Efficiency(%)	50.6	49.2	50.3	50.6
Fuel	Natural gas	City gas	Natural gas	Natural gas

- The thermal power station has replaced facilities approximately every 35 years to improve CO2 emission coefficients by improving power generation efficiency and converting to fuels with less environmental impact. (e.g.) Unit 1 (replaced in 2021): Kerosene ⇒ Natural gas (Emission coefficients improved about 40%.)
- The establishment of a hydrogen supply chain is planned in Kawasaki, so we will aim to realize hydrogen power generation in the future.
- Since it takes time to develop technology for hydrogen-only combustion on our scale, we are preparing to announce the goal of realizing hydrogen co-combustion.

(1) Carbon neutrality (realization of a decarbonized society)

Create | **Deliver/Store** | **Use**

■Renewable energy



We aim to develop renewable energy power sources of 700 MW by fiscal 2031 and 1 million kW by fiscal 2051.

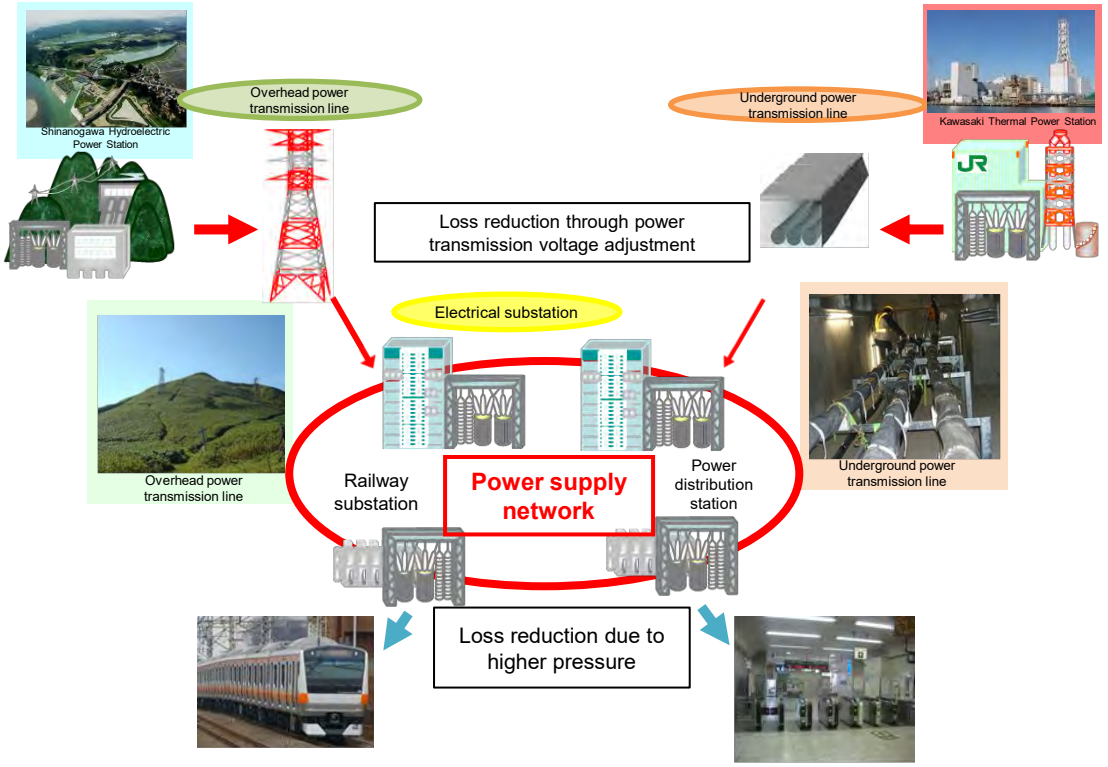
J Bio Food Recycle's Yokohama plant

Osaki Sanbongi Solar Power Plant (Miyagi Pref.)

(1) Carbon neutrality (realization of a decarbonized society)

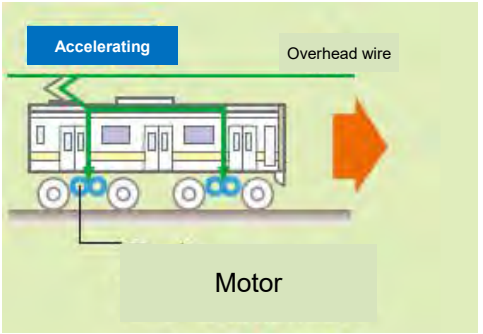
Create | Deliver/Store | Use

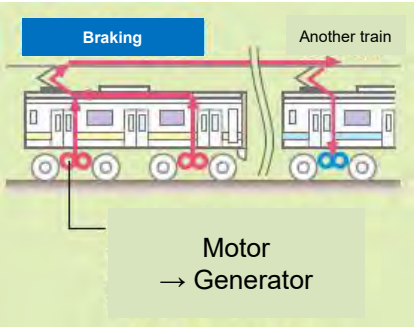
■Power transmission network



■Effective use of regenerative power

- Regenerative electric energy generated during train braking
  - ➢ A system for converting the kinetic energy during train deceleration into electrical energy
  - ➢ During braking, the motor is switched to a generator, and the generated electricity is returned to the overhead wires and used to accelerate other trains.





- Promoting effective use of regenerative electric energy
  - ➢ "Regenerative inverter device" that converts energy into electricity to be used at stations and signal equipment
  - ➢ The world's first demonstration tests of a superconducting flywheel energy storage system for railways

(1) Carbon neutrality (realization of a decarbonized society)

Create | Deliver/Store | **Use**

■ Energy-saving trains

- Trains installed with regenerative brakes that convert kinetic energy during deceleration into electrical energy, or VVVF inverters that efficiently control the motor, etc.

99.9% installed as of end of fiscal 2023

E235 series
Introduced on the Yamanote Line in November 2015

Introduced on the Yokosuka Line and Sobu Rapid Line in December 2020

E7 series
Hokuriku Shinkansen railcars that bring together the highest level of customer service and cutting-edge technology (March 2015 -)

E233 series
VVVF inverter railcars as the mainstay of commuting/transportation in the suburban areas (December 2006 -)

(1) Carbon neutrality (realization of a decarbonized society)

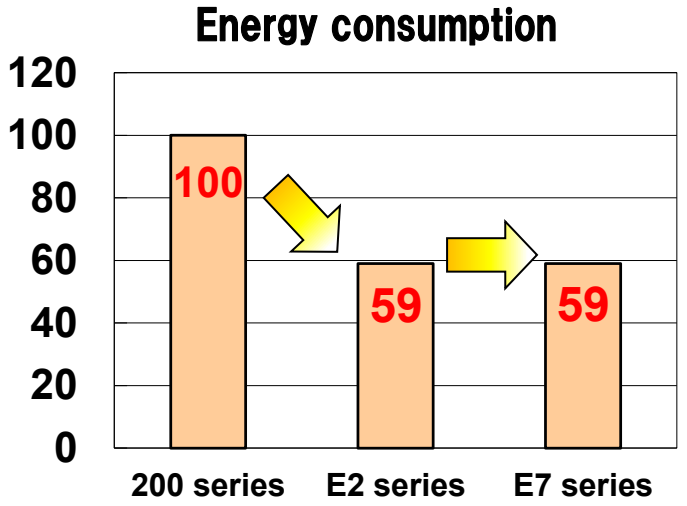
Create | **Deliver/Store** | **Use**

○ Comparison of Shinkansen 200 series, E2 series, and E7 series

200 series (1982)
Thyristor phase control

E2 series (1997)
VVVF inverter control
Regenerative brake

E7 series (2015)
VVVF inverter control
Regenerative brake

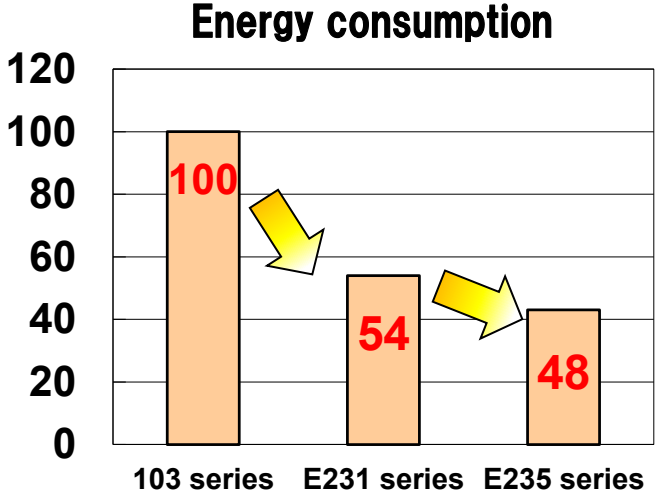


○ Comparison of Commuter Train (Yamanote Line)
103 series, E231 series, and E235 series

103 series (1963)
Resistance control

E231 series (2000)
VVVF inverter control
Regenerative brake

E235 series (2015)
VVVF inverter control
Regenerative brake



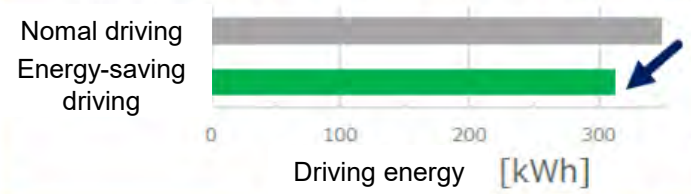
*Estimated based on the results of a survey of power consumption for each railcar type

Create | Deliver/Store | Use

■ Research on energy-saving driving on the Yamanote Line

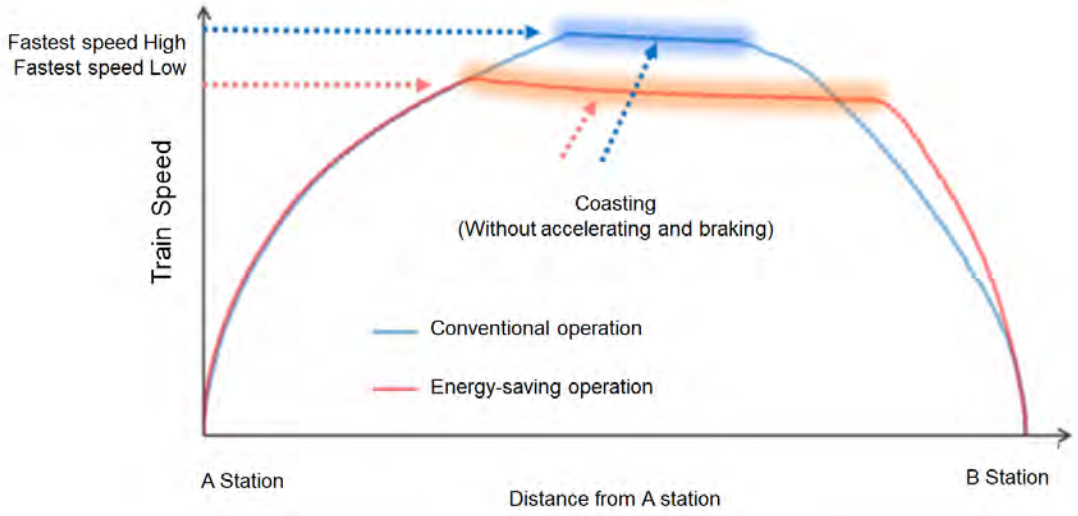
- The Yamanote Line crew tried energy-saving driving, resulting in approximately 10% reduction in driving energy.
- Creating an environment where crew members can easily engage in energy-saving driving to promote energy-saving driving

Driving energy reduction per Yamanote Line lap



Reduction of driving energy and CO2 (per year)

Lines	Driving energy	CO_2
Yamanote Line	Approx. 5 million kWh	Approx. 1,400t
Conventional lines (metropolitan area)	Approx. 230 million kWh	Approx. 73,000t



Features of driving for energy savings

① Lengthen acceleration time and reduce maximum speed

② Lengthen coasting time

③ Shorten deceleration time

(1) Carbon neutrality (realization of a decarbonized society)

Create | **Deliver/Store** | **Use**

■Railcars in non-electrified sections

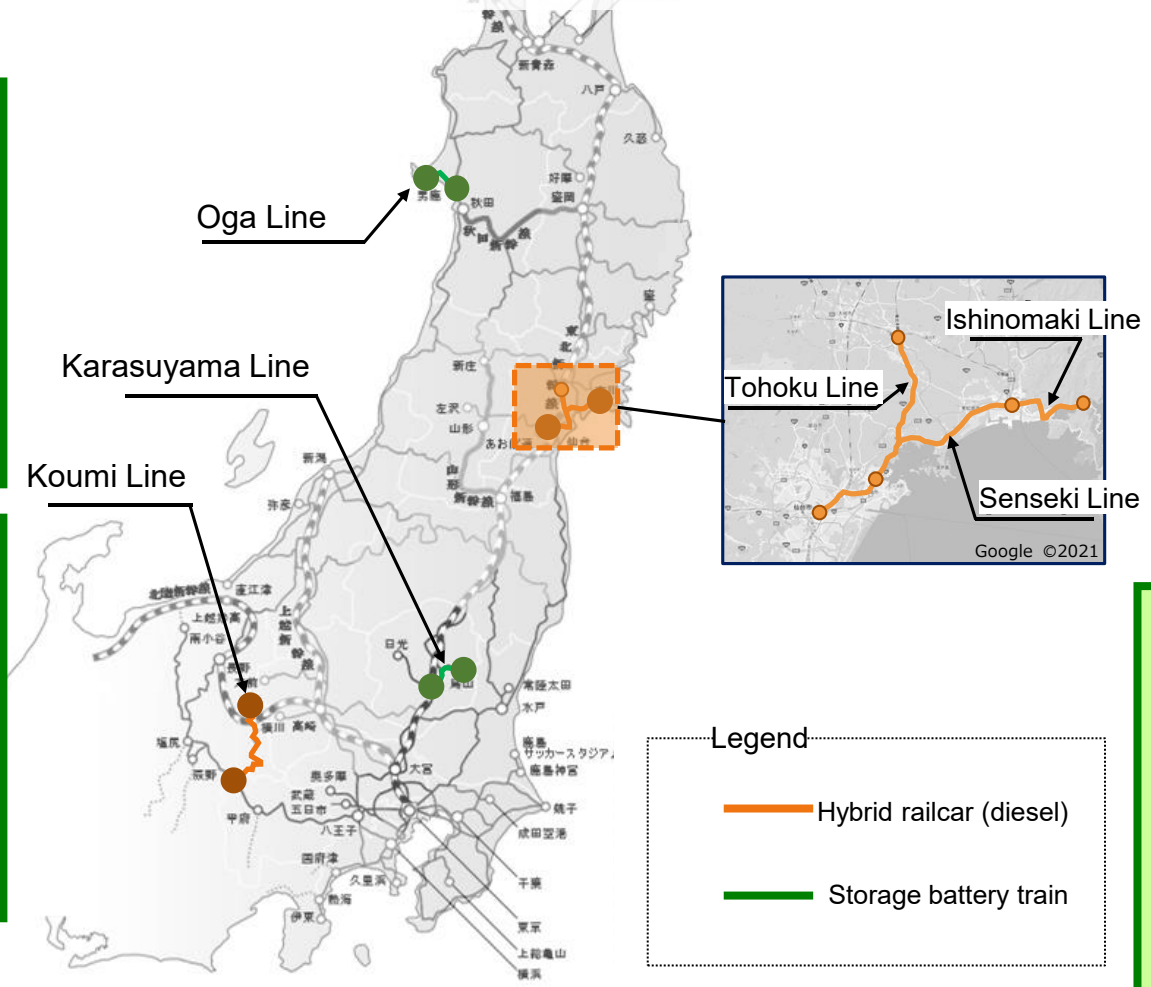
- Strategically replace non-electrified vehicles based on technological trends, with a focus on the use of hydrogen energy, aiming for “Net zero" CO2 emissions by 2050

Karasuyama Line

EV-E301 series (2014)
Storage battery train **(ACCUM)**

Koumi Line

KiHa E200 series (2007)
Hybrid railcar



Oga Line

EV-E801 series (2017)
Storage battery train **(ACCUM)**

Gono Line and others

HB-E300 series (2010)
Hybrid railcar

Senseki-Tohoku Line

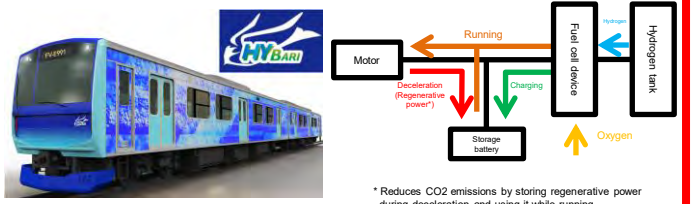
HB-E210 series (2015)
Hybrid railcar

(1) Carbon neutrality (realization of a decarbonized society)

Create → **Deliver/Store** → **Use**

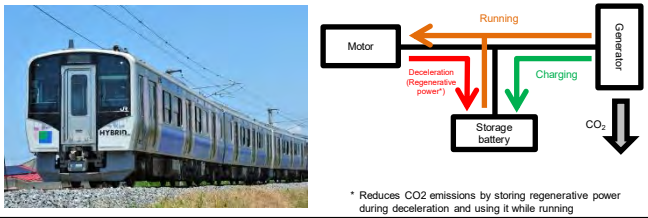
■ Decarbonization of railcars powered by diesel fuel (domestic trends)

Hydrogen hybrid train



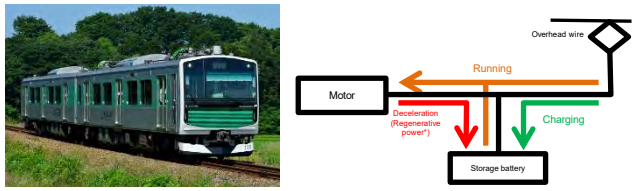
- Carbon-free power source powered by hydrogen
- Started a test run in March 2022
- Aim for social implementation in fiscal 2031

Diesel hybrid railcar



- Power generated by the engine is distributed to the motor and the storage battery to drive
- Limited CO2 reduction (10 - 20% emission reduction)

Storage battery train



- Run by using power charged on overhead wires
- No CO2 emissions while running
- The driving distance per charge is a challenge.

■ Overseas trends in the development of hydrogen-powered passenger railcars

In addition to the following, streetcars installed with fuel cells are in commercial operation in China and the United States.

Coradia iLint [France: Alstom]	Mireo plus H [Germany: Siemens Mobility]	FLIRT H2 [Switzerland: Stadler Rail]	HydroFLEX [UK: Porterbrook]
			
September 2018 - Partial commercial operation in Germany	2024 - Test run scheduled in Germany	2024 - Commercial operation scheduled in the United States	2020 - Test run

■ Significance and challenges of our development of hydrogen fueled railcars

- ○ The railway track width (gauge) and the railcar size in Japan are smaller than those in Europe, resulting in more restrictions
  ⇒ Opportunities for export to countries that use the same narrow gauge
- ○ Challenges include ensuring performance (driving distance/output) comparable to current diesel railcars, hydrogen infrastructure (supply bases for railcars), and legal development.

Create | Deliver/Store | Use

■ Overview of hydrogen hybrid train test run

01 Test run section

○ Nambu Line
Kawasaki - Noborito
○ Nambu Line Shitte Branch Line
Shitte - Hamakawasaki
○ Tsurumi Line
Ogimachi - Tsurumi

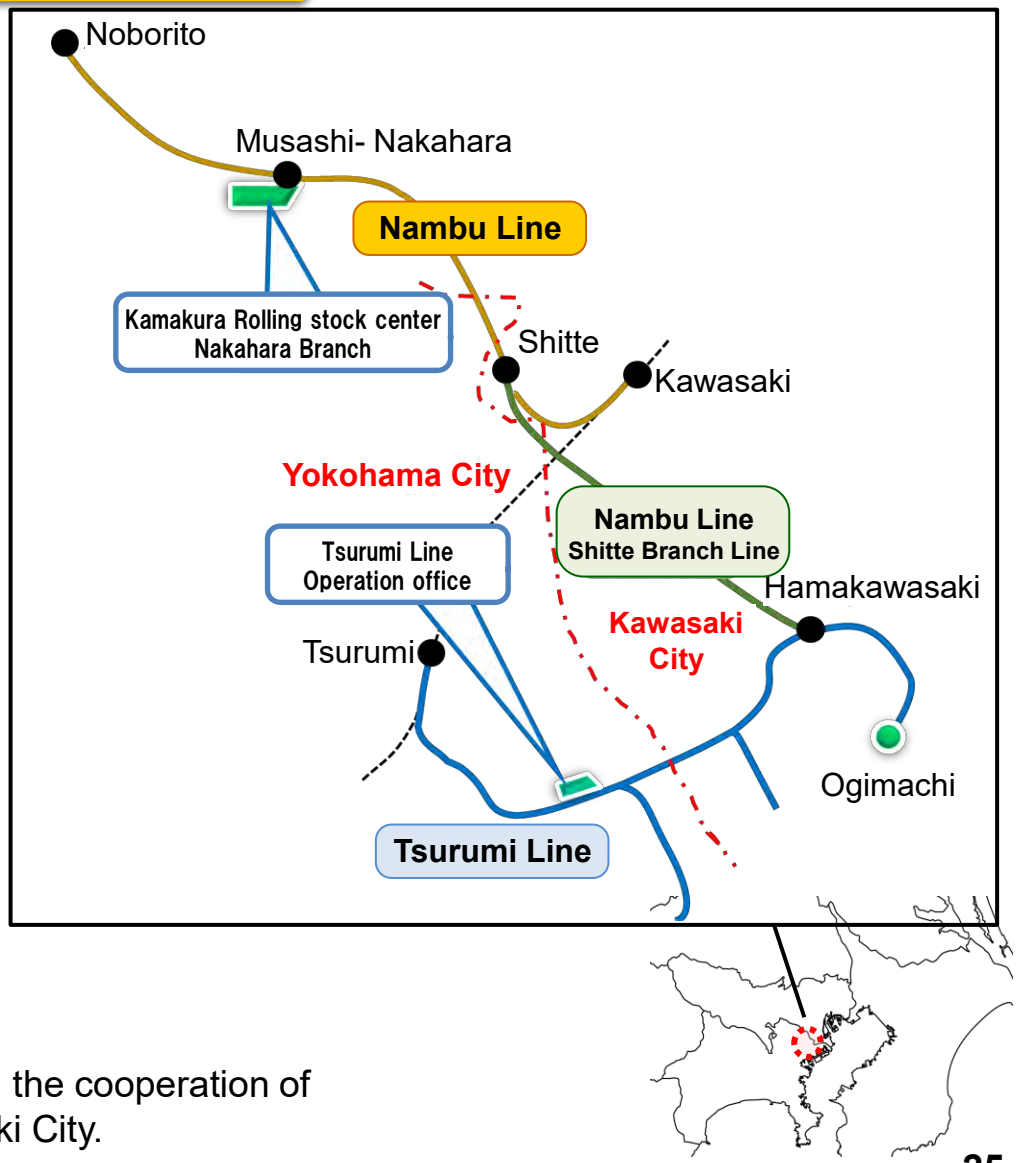
02 Main items of test run

- Railcar performance
- Hybrid control of hydrogen fuel cells and storage batteries
- Hydrogen consumption
- Verification of hydrogen filling method, etc.

03 Start year of test run

Late March 2022 -

Improved environment for carrying out test runs with the cooperation of Kanagawa Prefecture, Yokohama City, and Kawasaki City.



(1) Carbon neutrality (realization of a decarbonized society)

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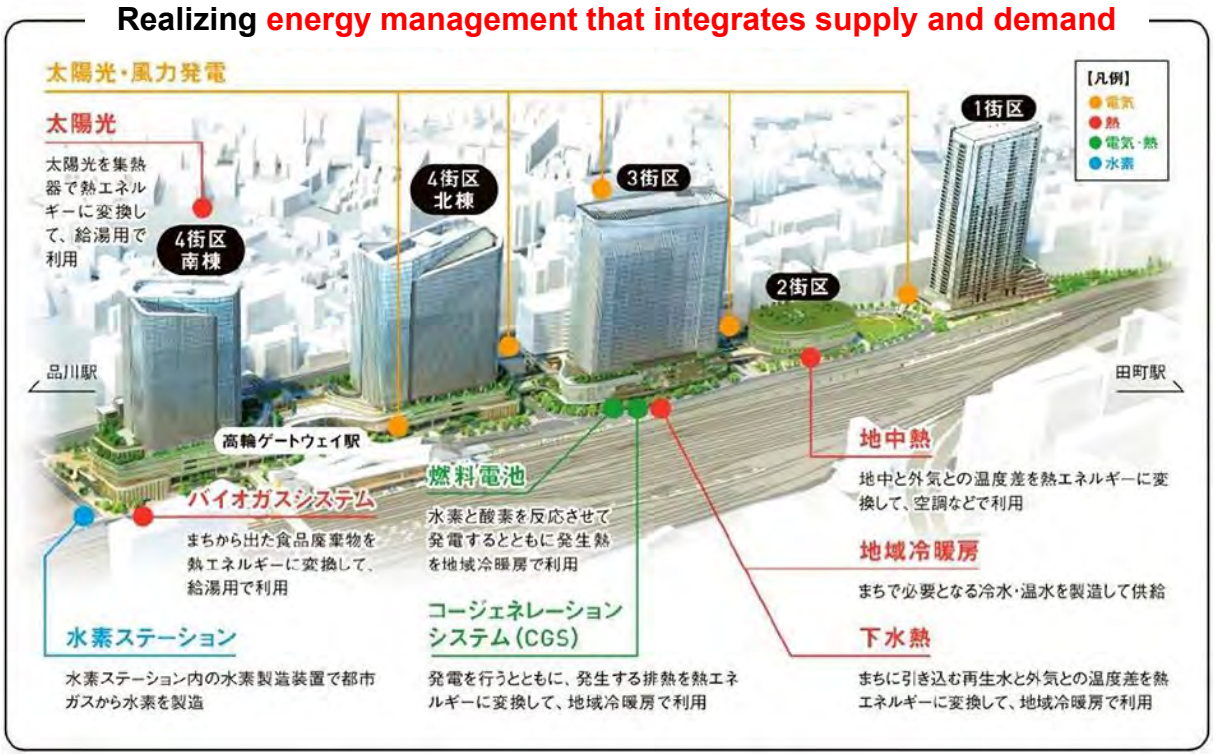
■ “TAKANAWA GATEWAY CITY,” a testing ground for the future

- In “TAKANAWA GATEWAY CITY,” scheduled to open in March 2025, we will achieve "net zero" CO2 emissions throughout the City and promote environmentally conscious and sustainable town development.

(1) Energy management that integrates supply and demand



(2) Utilization of hydrogen

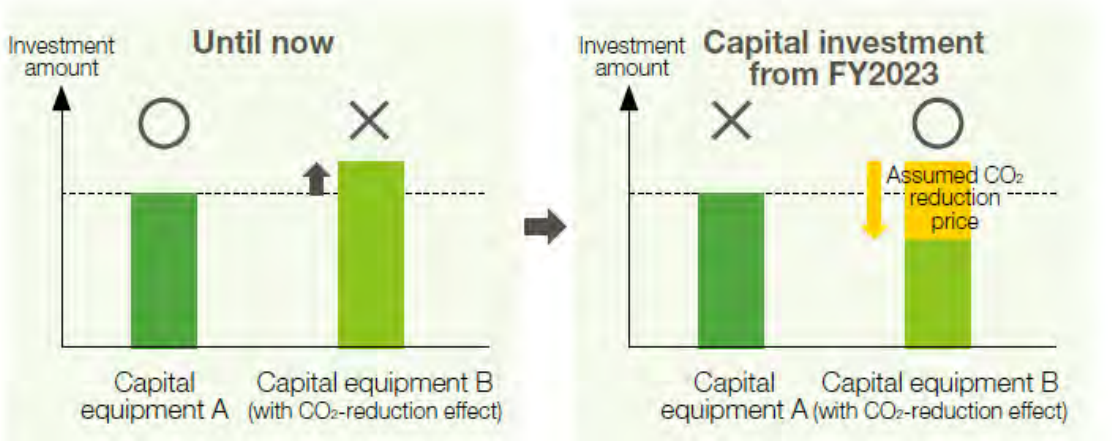
・To be used for core infrastructure in the City in the future in addition to mobility and fuel cells

(1) Carbon neutrality (realization of a decarbonized society)

Create | Deliver/Store | Use

■Introduction of an internal carbon price for capital investment

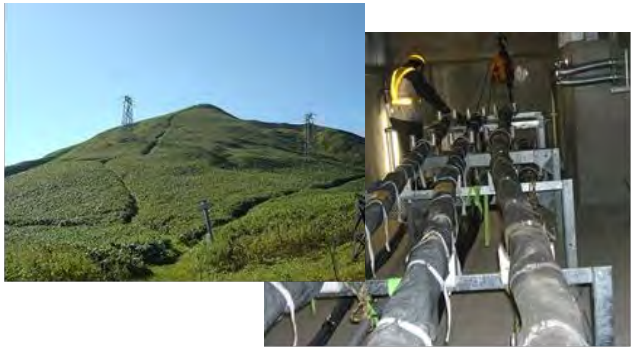
- ○ With the aim of promoting capital investment that leads to reductions in CO2 emissions, such as accelerated introduction of energy-saving equipment, we convert CO2 reduction effects into monetary amounts and include them in conventional investment decision criteria.
- ○ We initially set the internal carbon price at 5,000 yen/t-CO2, and started full-scale operation for capital investment in fiscal 2023.



Introduction of LED lighting at stations, etc.

Installation of higher efficient air conditioning system

Expansion in JR East-generated power grid



(2) Circular Economy (realization of a recycling-based society)

■ A resource recycling-based society that the JR East Group aims to achieve

- We have set targets for fiscal 2031 to reduce the amount of waste discharged from business activities, and are promoting the 3Rs.

Item		Fiscal 2031 target (%)	Fiscal 2023 results (%)
Recycling rate improvement (single fiscal year)	Recycling rate for waste generated at stations and on trains	94	91
	Recycling rate for waste (PET bottles) generated at stations and on trains	100	97
	Recycling rate for waste generated at general rolling stock centers, etc.	96	93
	Recycling rate for waste generated in facility construction projects	96	91

- While reducing waste discharged when using railways or inside stations, we aim to recycle it.

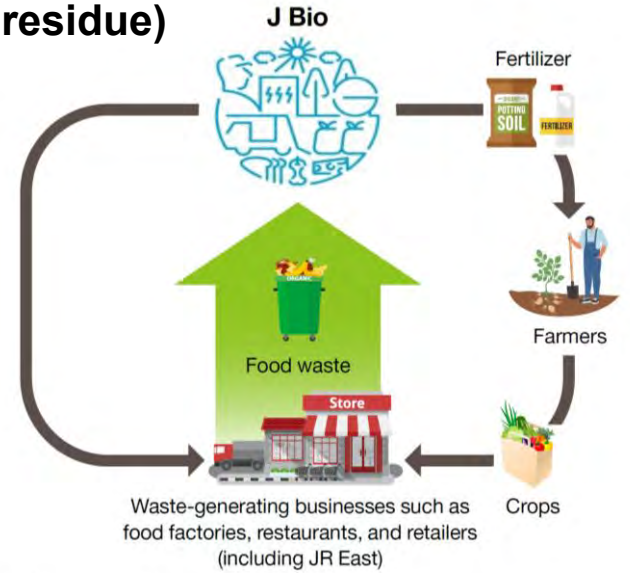
● Installation of “Recycling Stations”

- Set up recycling stations for promoting the collection of waste plastics at stations (Tokyo, Osaki, and Kawasaki).
- Promote recycling of waste plastics and resource circulation.

(2) Circular Economy (realization of a recycling-based society)

■ Efforts to circulate resources (utilization of methane fermentation residue)

- At J Bio Food Recycle's Yokohama plant, food waste brought in from the JR East Group, etc. is fermented, and the methane gas generated is used as fuel for power generation.
- In addition, we took the fermentation residue, which we had conventionally incinerated, and registered it as a fertilizer, which then went into use in agriculture.
- Going forward, we will aim for resource recycling by using the agricultural products within the Group and recycling the food waste generated again.



J Bio Food Recycle, Agriculture Group (diagram)

■ Trends regarding the Global Plastics Treaty

- June 2019 G20 Osaka Summit　Sharing of the Osaka Blue Ocean Vision
  "Reduce additional pollution by marine plastic litter to zero by 2050"
- May 2023 G7 Hiroshima Summit　G7 goal on plastic pollution
  "We are committed to end plastic pollution, with the ambition to reduce additional plastic pollution to zero by 2040."
- November 2023 Intergovernmental Negotiating Committee (INC3)
  The contents of the treaty are expected to be agreed in November 2024.
  =>Japan's stance is to "emphasize resource recycling and efforts throughout the life cycle."
  "Obligation should not be introduced uniformly at an international level."

We will pay close attention to the Global Plastics Treaty and domestic laws, and review future initiatives of our Group.

(3) Nature positive (preservation of biodiversity and natural capital)

■ Hometown Forest Planting program

- We have been running the Hometown Forest Planting program, an activity to plant native trees and regenerate forests to protect the richness of the land, since fiscal 2005.
- To date, we have planted a total of approximately 170,000 trees in four locations in our Group's tree planting areas during fiscal years 2005 and 2024.
- We have carried out the Program in the Shima area (in Gumma Pref.) during fiscal years 2020 and 2024.

Image of "Hometown Forest Planting program in Shima" on the day of the forestation event (September 2023)

Past forest planting sites

■ New railway forest establishment

- Railway forests began to be established on the Tohoku Main Line to protect railways from snowstorms, and are now established across the country to prevent snowstorms and landslides.
- We have approximately 3,900 hectares, 5.8 million trees, and 1,080 locations for railway forests.
- We promote the "New Railway Forest" project to replant trees to be trimmed over a period of approximately 20 years.

(3) Nature positive (preservation of biodiversity and natural capital)

■ Revitalization of the environment and creation of a place for learning at “Takeshiba tideland”

- In an effort to protect ocean diversity, we are working at Takeshiba tideland, which is adjacent to the WATERS takeshiba development, to revitalize the environment of Tokyo Bay Edomae and create a place for learning.

■ Efforts on the Miyanaka dam of the Shinanogawa Power Station

- The presence of over 20 species of fish has been confirmed.

➢ To allow many fish to use the fishway, we have set up three types of fishways including a “large fishway (ice harbor type),” “small fishway (staircase type)” and a rock-ramp fishway called the “Seseragi Fishway.”

➢ In the fishway observation room, you can observe fish swimming upstream, including sweetfish around June and salmon from mid-September to early November.