JR-WEST

Switch!
SUSTAINABLE
TRAIN

JR-West Group ZeroCarbon 2050 – Utilization of Carbon-Neutral Fuel in the Railway Sector –

January 19, 2026

West Japan Railway Company

JR-West Group business overview

Employees 24,580 (JR-West)
45,450 (JR-West Group)

Subsidiaries : 145

Total Route Length
4,898 km

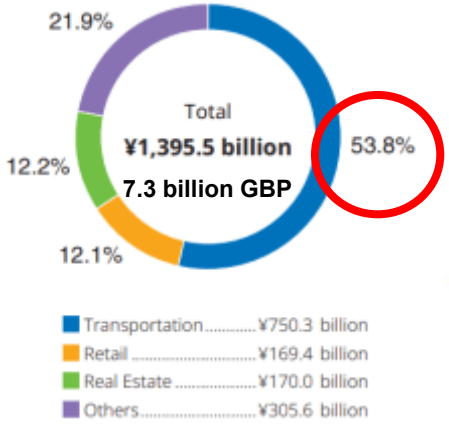
Stations
1,150

Rolling Stocks
6,303

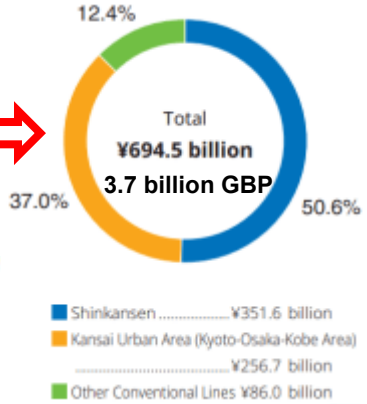
Passengers
1,758 million

Passenger-kilometers
54,975 million

■Operating Revenues (JR-West Group)

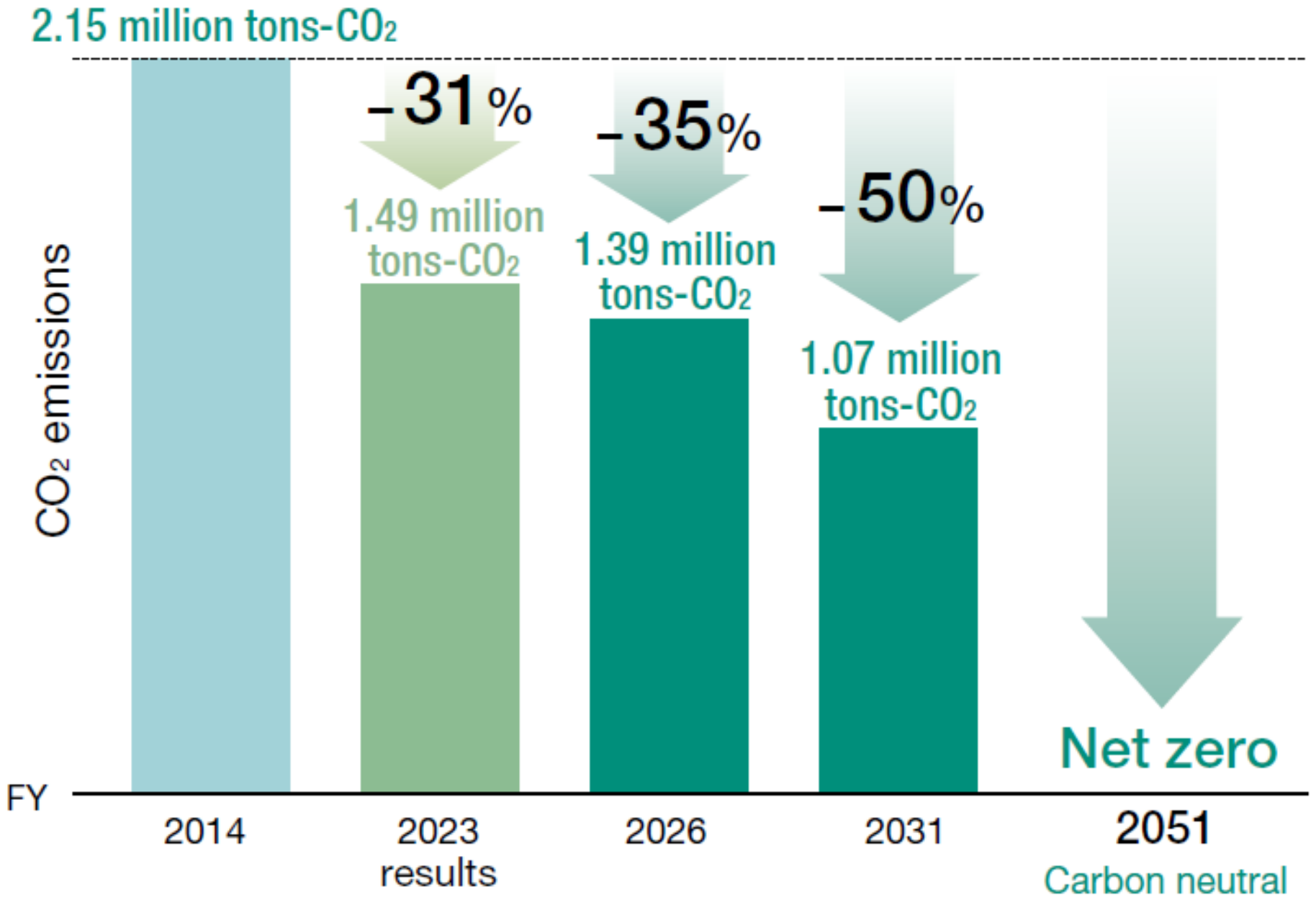


■Railway Revenues



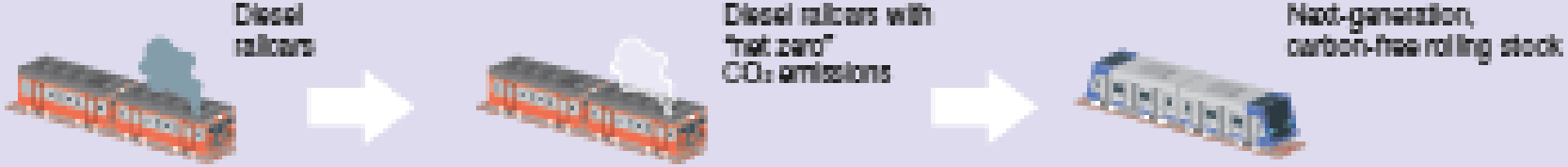
※ reference values
1 USD = 150 JPY
1 EUR = 150 JPY
1 GBP = 190 JPY

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



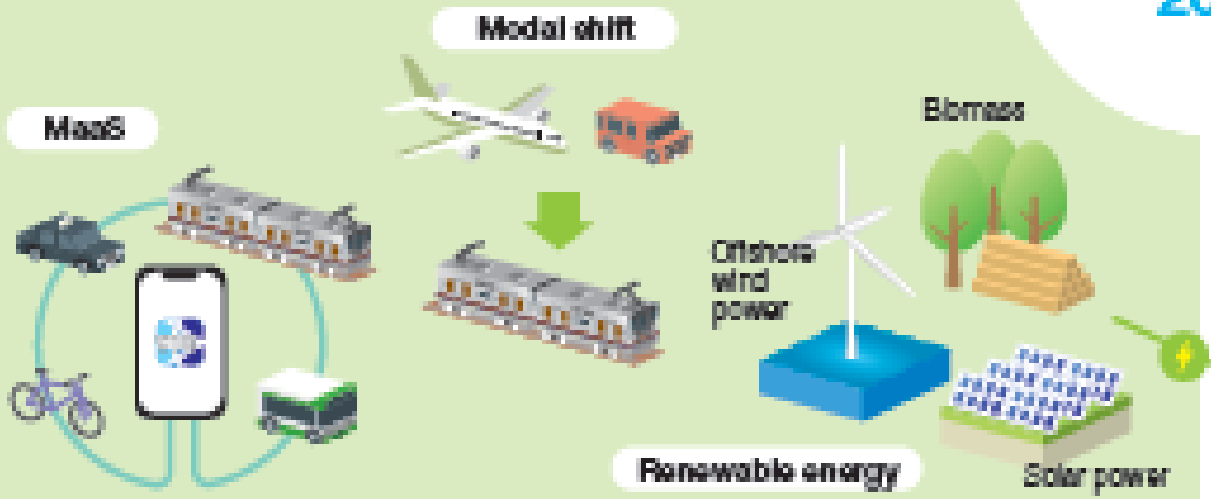
JR-West Group Zero Carbon 2050

Fostering innovation in the railway environment through new technologies

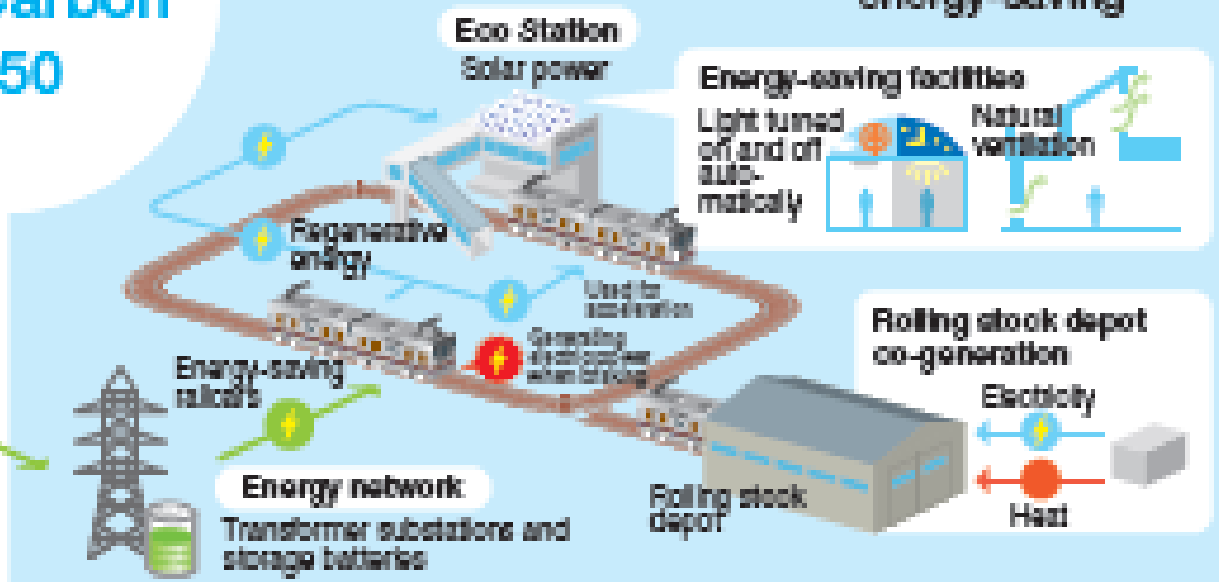


JR West Group
Zero Carbon 2050

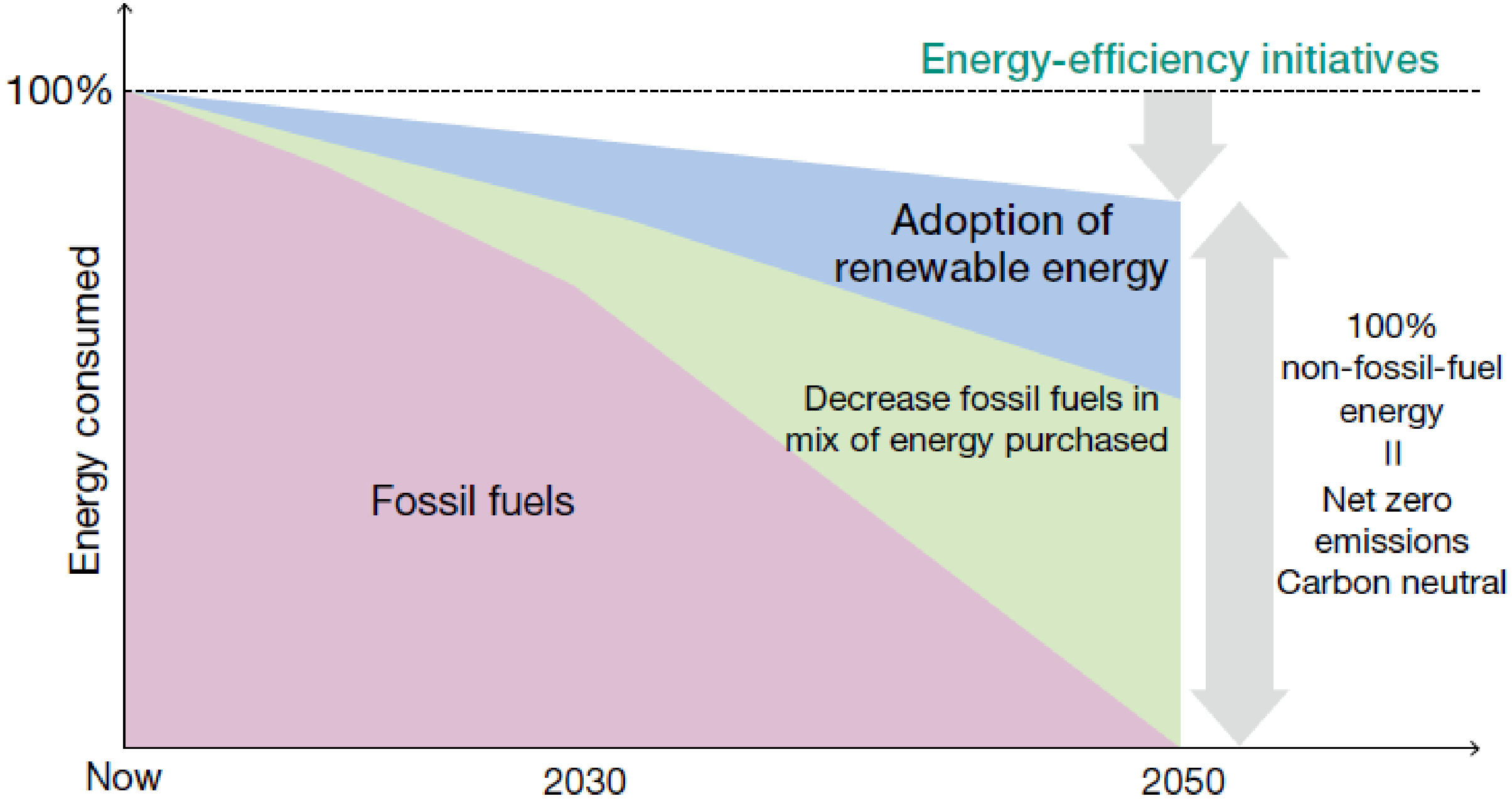
Contributing to the realization of a decarbonized society through collaboration with local communities



Further advancing energy-saving



Road map to carbon neutrality



Energy-efficiency initiatives

Energy-saving railcars

Shinkansen N700S

Express train Series273

Local train Series227

etc.

Energy-saving facilities

Air Conditioners

LED Lightings

Snow melters

etc.

Adoption of renewable energy

Renewable energy generation

■ Solar cells on roofs of facilities such as stations

■ Film-type perovskite solar cell

(Photo: Sekisui Chemical Co., Ltd.)

Electricity from renewable energy into train operation

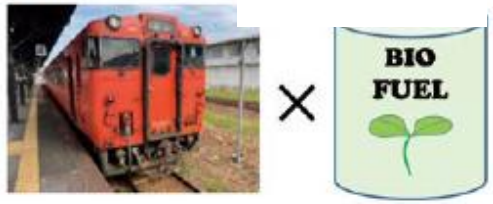
■ Off-site corporate PPA for Shinkansen

■ KPIs (key performance indicators)

Electricity from renewable energy as percentage of all power to operate trains		
FY2026	Shinkansen:	6%
	Osaka Loop Line and JR Yumesaki Line total:	60%
FY2028	Shinkansen:	10%
	Osaka Loop Line and JR Yumesaki Line total:	100%

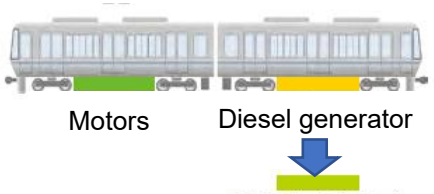
Biofuel and Hydrogen

■ Diesel train and biofuel



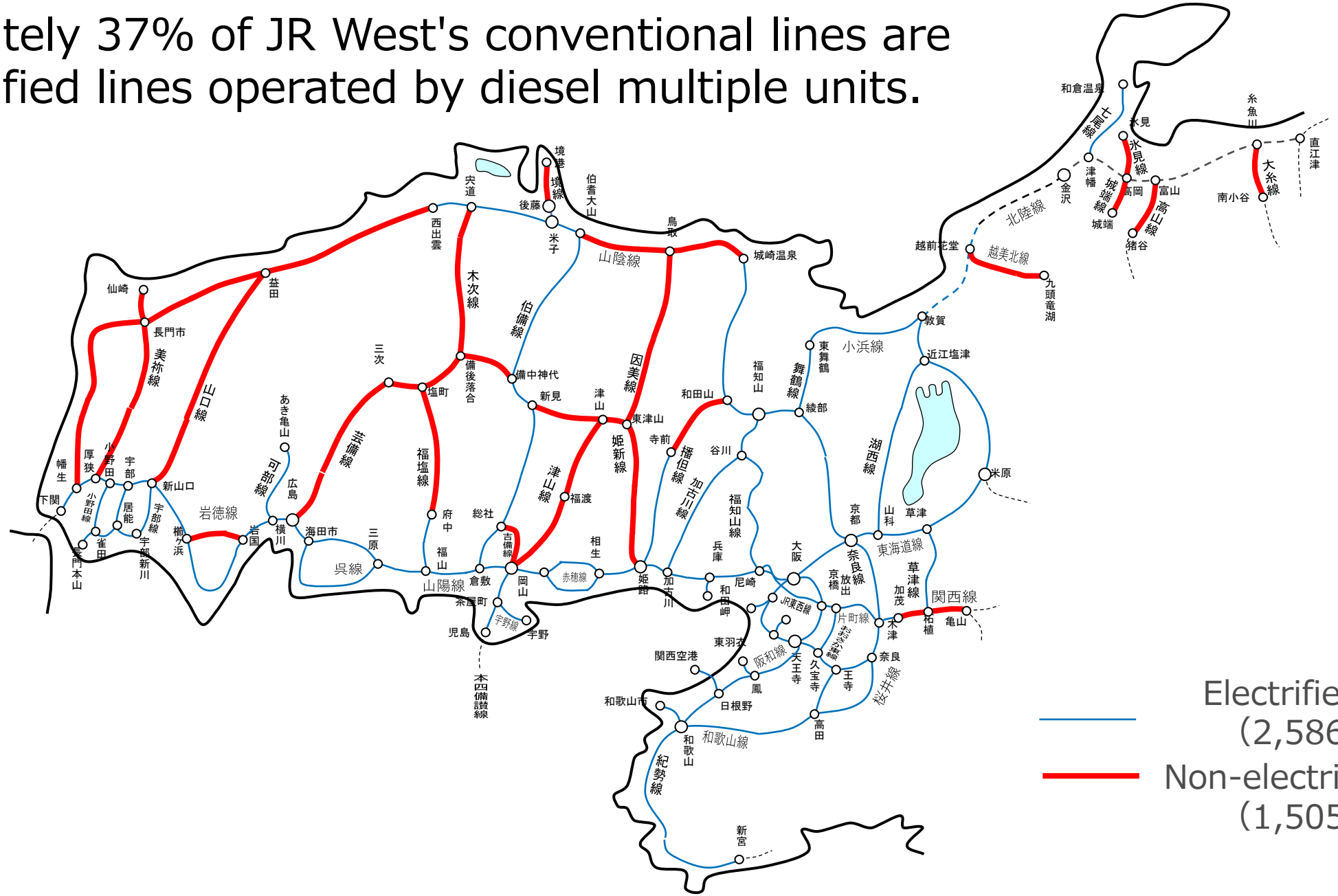
■ Converting diesel trains to hydrogen fuel cell trains

Electric diesel train



Non-electrified lines of JR West

Approximately 37% of JR West's conventional lines are non-electrified lines operated by diesel multiple units.



Diesel multiple units operating on non-electrified lines of JR West

87series
(Diesel-hybrid Multiple Unit)
TWILIGHT EXPRESS Mizukaze

DEC700
(Diesel-electric Multiple Unit)

HOT7000 series

Kiha187 series

Kiha189 series

Kiha40・47

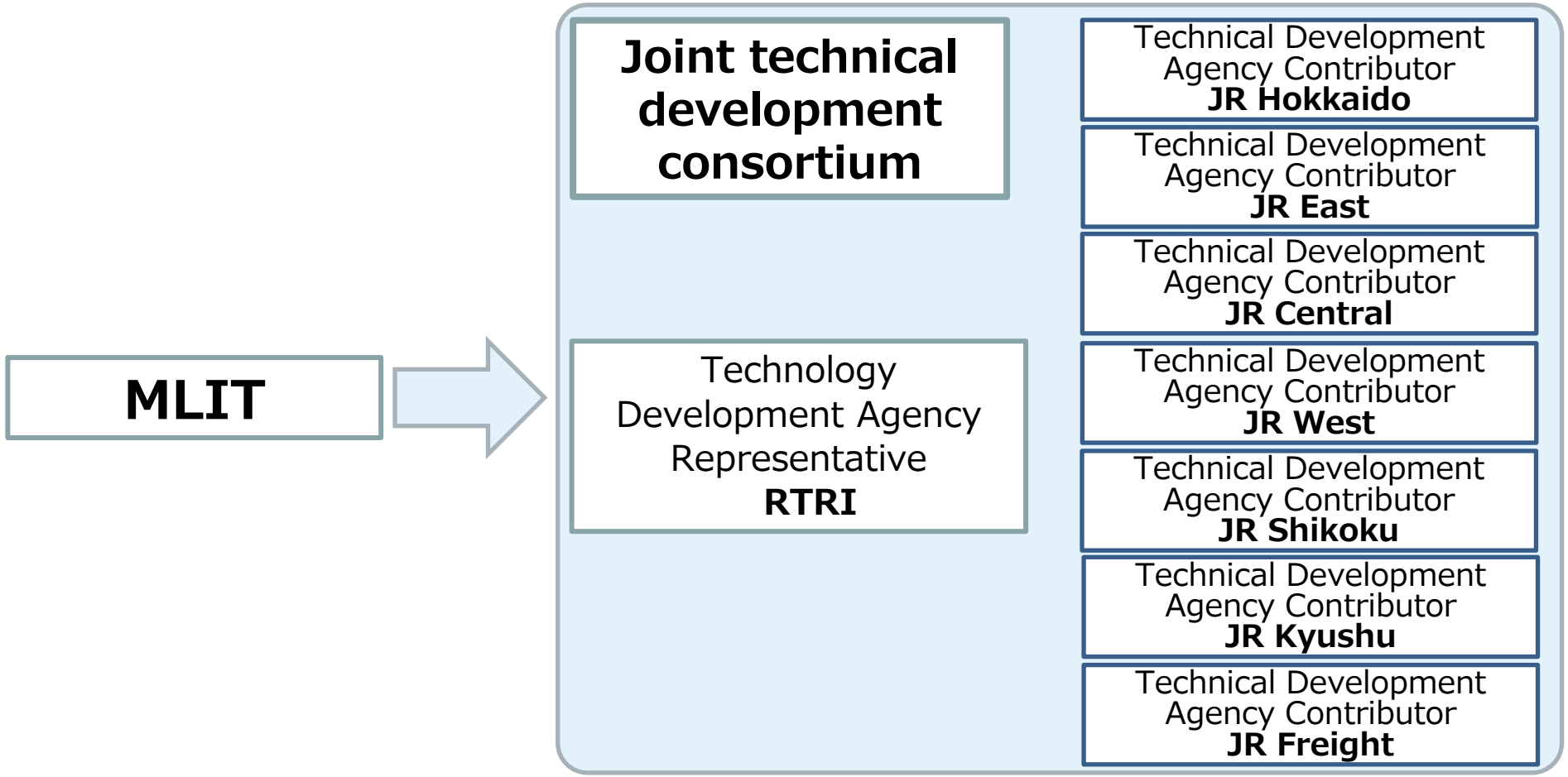
Kiha120

Kiha121・126

Kiha122・127

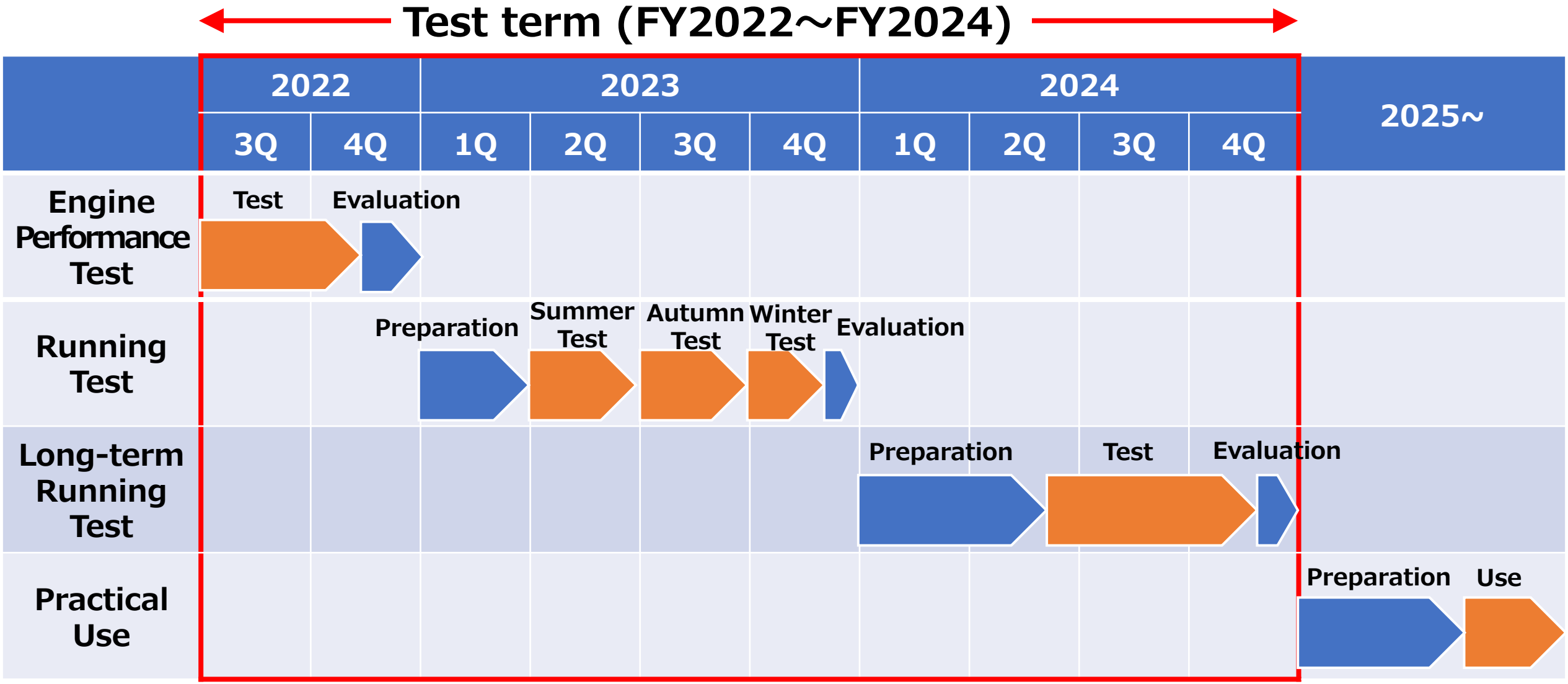
Biodiesel Fuel Demonstration Test

There had been no significant records of the full-scale use of biodiesel fuel (HVO) in railway vehicles until now, so a demonstration test was conducted to confirm that it could be used in railway vehicles without any issues.
The biodiesel fuel demonstration test conducted by a joint technical development consortium of the Railway Technical Research Institute (RTRI) and JR group as a project commissioned by the Ministry of Land, Infrastructure, Transport and Tourism(MLIT).



Biodiesel Fuel Demonstration Test

Test Schedule

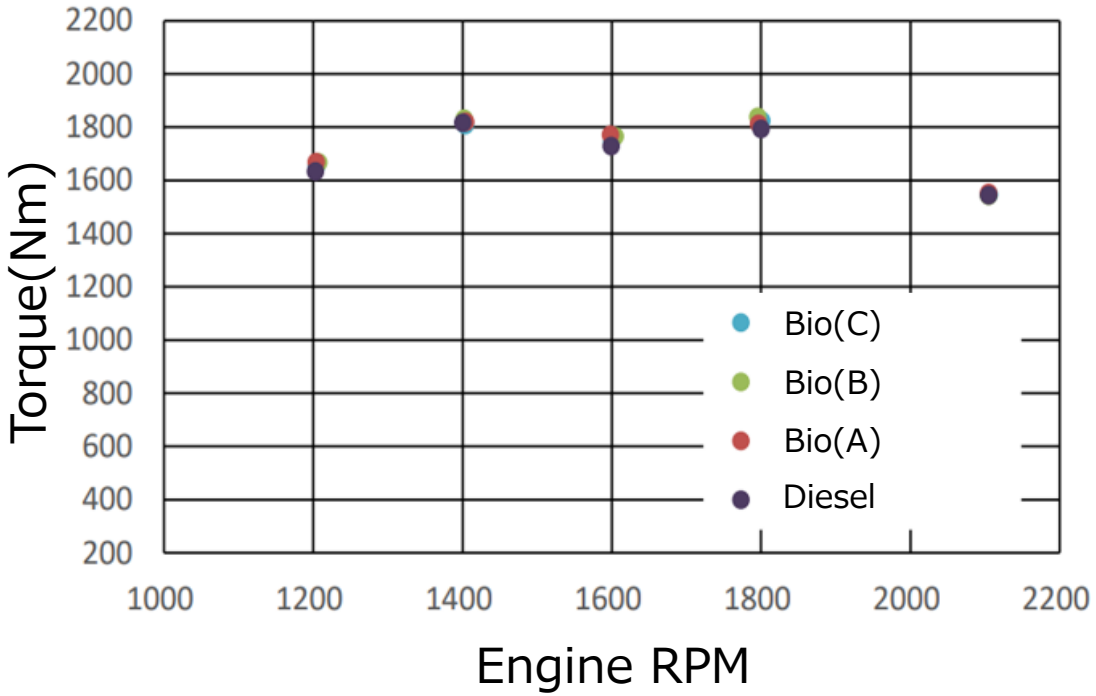


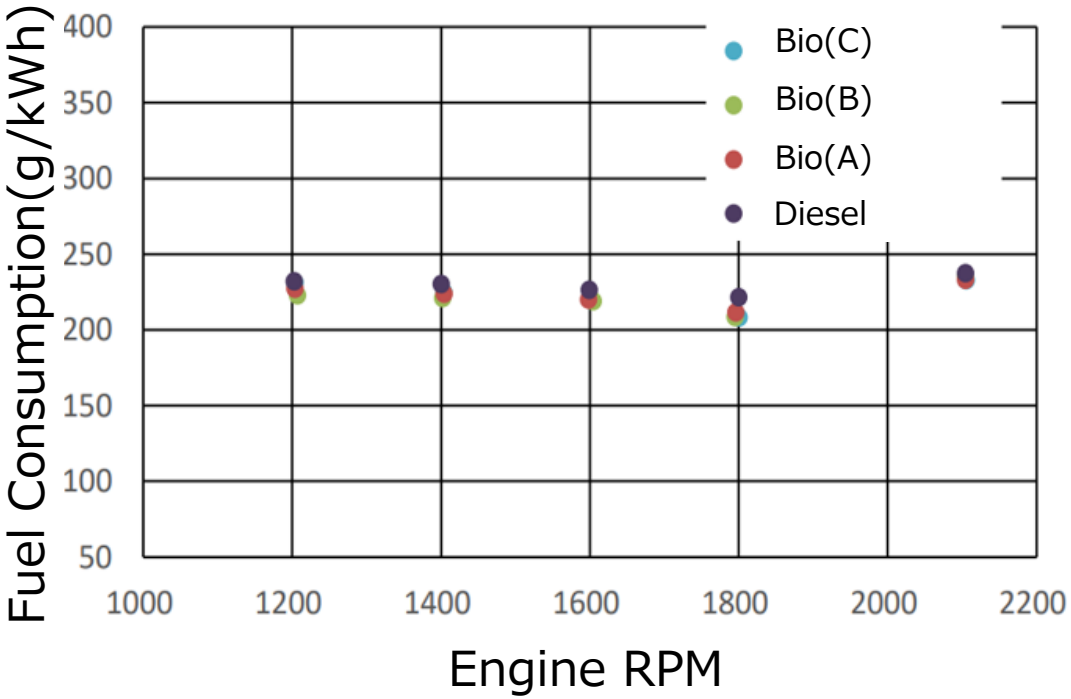
Engine Performance Test

Term	Test Field	Test Details
FY2022 FY2023	RTRI JR Central	• We confirmed the differences in performance between using diesel fuel and biodiesel fuel. • We also conducted tests by varying the mixing ratio of diesel fuel and biodiesel fuel blends. • Depending on the engine's fuel injection system, a slight decrease in output was observed; however, no differences were noted in the trend of the output curve. • The exhaust emissions of biodiesel fuel (NO_X, CO, CO_2, and smoke concentration) are approximately equivalent to those of diesel fuel.  Test Equipment(Photo courtesy of RTRI)

Engine Perfomance Test Result

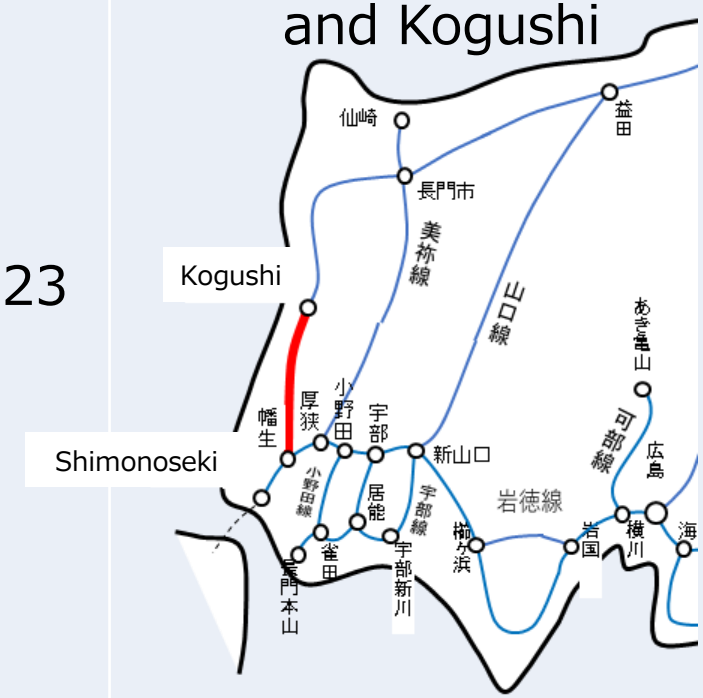
The torque performance and the fuel consumption are equivalent for both diesel and biodiesel fuels.





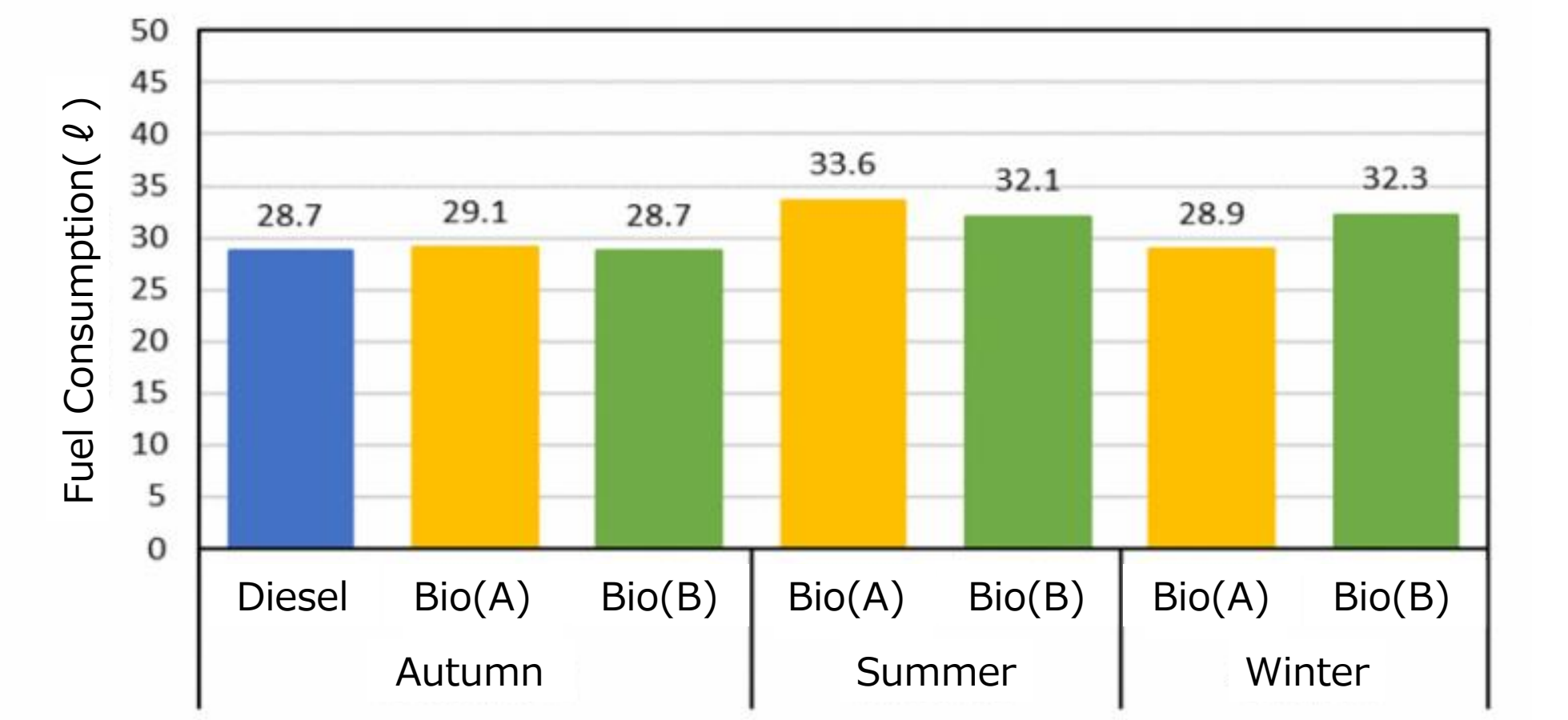
Biodiesel Fuel Demonstration Test

Running Test

Term	Test Field	Test Details
FY2023	San-in main line Between Shimonoseki and Kogushi 	• We operated the test train to verify the basic performance. • To verify the impact of temperature, we conducted driving tests across three seasons—summer, autumn, and winter—and obtained favorable results.  Test Vehicle(DEC700)  Test Vehicle(Kiha40)

Running Test Result

Fuel consumption is equivalent for both diesel and biodiesel fuels.



Biodiesel Fuel Demonstration Test

Long-term Running Test

Term	Test Field	Test Details
FY2024	Sanyo main line and Gantoku line Between Shin-yamaguchi・Tokuyama and Iwakuni	After using a regular service train to check for any abnormalities caused by long-term use, we didn't found no issues. We conducted this test between September 3, 2024, and January 29, 2025.

Photo of the regular service train by using biodiesel fuel

Practical Use

We have started the practical use of biodiesel fuel from November 11, 2025.

- Area : Non-electrified line in Okayama prefecture and around
- Refueling point : Okayama depot and Tsuyama depot
- Vehicles using biodiesel fuel : Kiha40･47, Kiha120
- Fuel consumption : Approximately 2,100kL/year
  ※Approximately 10% of total diesel fuel consumption in JR-WEST
- CO2 Emission Reduction Amount : Approximately 5,500tons/year
  ※Approximately 0.26% of total CO_2 Emission Amount of JR-WEST in FY2013(The reference year)

Photo of train by using biodiesel fuel

: Refueling point
: Lines of using biodiesel fuel

We will address some issues related to cost and other factors, and we would like to expand the use of biodiesel fuel.

Thank you for your attention!