

Non-Financial Data (Environmental)

Total CO₂ Emissions (Scope 1/2/3, JR-West Group)










(Unit: Tons-CO₂)









Item	Target and calculation method	FY2020			FY2021			FY2022		
		Non-consolidated	Group companies	Total	Non-consolidated	Group companies	Total	Non-consolidated	Group companies	Total
(Restated) Scope 1+2+3	–	3,467,240	3,000,726	6,467,966	3,100,472	2,360,309	5,460,781	2,895,548	2,482,504	5,378,053
(Restated) Scope 1+2	–	1,518,404	249,409	1,767,813	1,392,423	191,793	1,584,216	1,315,545	213,759	1,529,304
Scope 1	Total CO ₂ 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 CO ₂ equivalent mass for leaked fluorocarbons)	85,910	76,454	162,364	85,884	53,368	139,252	77,332	69,206	146,539
Scope 2	Total CO ₂ emitted indirectly by the JR-West Group from the use of power and heat purchased from power companies and others	1,432,494	172,955	1,605,449	1,306,539	138,425	1,444,964	1,238,212	144,552	1,382,765
Scope 3	Total CO ₂ emitted from other companies in relation to the JR-West Group's business activities (indirect emissions other than Scope 1 and Scope 2)	1,948,836	2,751,317	4,700,153	1,708,050	2,168,516	3,876,566	1,580,004	2,268,746	3,848,749
Cat.1 Purchased goods and services	Calculated by multiplying the annual amount (monetary value) of products procured from outside the JR-West Group by the relevant emission factor	1,177,429	2,277,905	3,455,334	978,054	1,799,870	2,777,924	910,745	1,861,783	2,772,528
Cat.2 Capital goods	Calculated by multiplying the annual amount of capital investment by the relevant emission factor	532,124	238,985	771,109	505,548	152,830	658,378	451,188	197,411	648,599
Cat.3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	Calculated by multiplying the annual amount of each type of energy consumed by the relevant emission factor	224,386	65,699	290,085	215,943	47,270	263,213	207,748	51,205	258,954
Cat.4 Upstream transportation and distribution	Excluded from calculation (because of the nature of the JR-West Group's business, the impact from this has been determined to be negligible)	–	–	–	–	–	–	–	–	–
Cat.5 Waste generated in operations	Calculated by multiplying the annual amount of waste (by type and by treatment method) by the relevant emission factor	5,815	34,260	40,075	2,131	36,872	39,003	3,939	23,362	27,302
Cat.6 Business travel	Calculated by multiplying the number of employees by the relevant emission factor and then adding in the distance of business trips	3,186	3,332	6,518	608	653	1,261	925	1,045	1,970
Cat.7 Employee commuting	Calculated by multiplying the number of employees/number of working days by the relevant emission factor	5,896	6,130	12,026	5,766	6,167	11,933	5,458	6,157	11,615
Cat.8 Upstream leased assets	Excluded from calculation (because this is accounted for in Scope 1 and/or Scope 2)	–	–	–	–	–	–	–	–	–
Cat.9 Downstream transportation and distribution		–	–	–	–	–	–	–	–	–
Cat.10 Processing of sold products	Excluded from calculation (because of the nature of the JR-West Group's business, the impact from this has been determined to be negligible)	–	–	–	–	–	–	–	–	–
Cat.11 Use of sold products		–	–	–	–	–	–	–	–	–
Cat.12 End-of-life treatment of sold products		–	–	–	–	–	–	–	–	–
Cat.13 Downstream leased assets	For rental properties, this is calculated by multiplying the total floor area of the rental property by the relevant emission factor For hired cars and other leased assets that are not buildings, this is calculated by multiplying the number of leased assets by the relevant emission factor	0	125,007	125,007	0	124,853	124,853	0	127,781	127,781
Cat.14 Franchises	Excluded from calculation (because franchise business is not part of the JR-West Group's business)	–	–	–	–	–	–	–	–	–
Cat.15 Investments	Excluded from calculation (because the JR-West Group does not hold any investment management shares)	–	–	–	–	–	–	–	–	–

Notes

- The scope of calculation for group companies encompasses all consolidated subsidiaries and the five main group companies (Amagasaki Hotel Development Limited, Kosei Corporation, Osaka Energy Service Co., Ltd., Possible Medical Science, Ltd., JR West Iwll Co., Ltd.)
- Scope- and category-specific calculation of CO₂ emissions is carried out in line with the *Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain ver. 2.4* published by the Ministry of Economy, Trade and Industry and the Ministry of the Environment.
- Emission factors were taken from the Ministry of the Environment's *Database of Emission Unit Values ver. 3.2* and the *IDEA LCI Database ver. 2.3* (Sustainable Management Promotion Organization).

Fiscal 2022 Environmental Impact of Business Activities (Consolidated)

INPUT		Figures in [] are the non-consolidated amount of the consolidated figures	
 Electricity	3.2 billion kWh [2.86 billion kWh]	 Class A heavy oil	1,510 kl [710 kl]
 Kerosene	2,201 kl [2,095 kl]	 Utility gas	13.4 million m ³ [1.86 million m ³]
 Gasoline	5,944 kl [867 kl]	 Water (public water supply)	5.87 million m ³ [3.17 million m ³]
 Propane gas	354 tons [333 tons]	 Water (groundwater, industrial-use water)	1.31 million m ³ [1.01 million m ³]
 Diesel oil	34,769 kl [23,517 kl]		

OUTPUT	
 [Non-consolidated] Used materials (facility construction) 224.1 thousand tons Recycled volume (rate) 218.3 thousand tons (97.4%)	 [Non-consolidated] Station and onboard garbage 7.5 thousand tons Of which is recyclable 2.7 thousand tons Recycled volume (rate) 2.6 thousand tons (99.4%)
 [Non-consolidated] Used materials (rolling stock) 11.2 thousand tons Recycled volume (rate) 10.7 thousand tons (95.8%)	 Wastewater 7.03 million m ³ [3.83 million m ³]
 Industrial waste* ¹ 259.0 thousand tons [8.4 thousand tons]	 Carbon dioxide Scope 1+2 1,529 thousand tons-CO ₂ [1,316 thousand tons-CO ₂]
 Industrial waste, of which is plastic industrial waste* ^{1*2} 17.0 thousand tons [3.7 thousand tons]	 Amount of products provided that use specified plastics* ³ 30.7 tons [0 tons]

*1 Group company output includes waste generated from construction work ordered by JR-West.

*2 The weight of mixed waste containing waste plastic and other waste that cannot be sorted into other types of waste is included in the total for plastic industrial waste.

*3 The amount of products provided that use specified plastics is calculated from the total amount of target products provided in target industries under the Plastic Resource Circulation Act.