

Calculation method for FY 2019 actual scope 3 emissions

Categories	Summary	Calculation Method	Emissions intensity * 1
1	Purchased goods and services	Purchase amount (1 million yen) × emission intensity of each product	Ministry of the Environment's * 1 [5] Emissions intensity based on the input-output table Emissions intensity on a monetary basis for each product (buyer price basis)
2	capital goods	Acquisition cost of capital goods (Facilities, etc.) (1 million yen) × emission intensity of each capital goods	Ministry of the Environment's DB * 1 [6] Emissions intensity per price of capital goods Emissions intensity on a monetary basis for each product
3	Fuel- and energy-related activities (not included in scope 1 or scope 2)	Energy consumption in scope 1 and scope 2 × emission intensity for each energy	Scope 1: Carbon Footprint Communication Program Basic Database ver. 1.01 (domestic data) Scope 2: Ministry of the Environment's DB * 1 [7] Emission intensity per electricity and heat usage. Emission intensity at the time of fuel procurement
4	Upstream transportation and distribution	<Domestic operations> ① Calculation method of CO2 emissions from save energy sources related to freight transportation by shippers, as stipulated by the Energy Conservation Law ② Annual transportation cost (1 million yen) × emission intensity	Domestic operation: ① " Greenhouse gas emission calculation / reporting manual" ② Ministry of the Environment's DB * 1 [5] Emissions intensity based on the input-output table Road freight transportation: 3.93 t-CO <sub>2</sub> eq/1 million yen Overseas operation: Ministry of the Environment's DB * 1 [5] Emissions intensity based on the input-output table

		<p>&lt;Overseas operations&gt;  Transportation cost (1 million yen) × emission intensity  for each transportation method</p>	<p>Emissions intensity on a monetary basis for each product (buyer price basis)</p> <p>Road freight transportation: 3.93 t-CO<sub>2</sub> eq/1 million yen</p> <p>Railway freight transportation: 4.90 t-CO<sub>2</sub> eq/1 million yen</p> <p>Air transportation: 12.14 t-CO<sub>2</sub> eq/1 million yen</p> <p>Ocean transport: 27.33 t-CO<sub>2</sub> eq/1 million yen</p> <p>Unclassified: 3.19 t-CO<sub>2</sub> eq/1 million yen</p>
5	Waste generated in operations	<p>&lt;Emissions from industrial waste transportation&gt;</p> <p>Domestic operations:  Calculation method of CO<sub>2</sub> emissions from save energy sources related to freight transportation by shippers, as stipulated by the Energy Conservation Law</p> <p>Overseas operations:  Transportation cost (1 million yen) × emission intensity</p> <p>&lt;Emissions from Industrial Waste Disposal&gt;</p> <p>Domestic operations :  Industrial waste emissions × emission intensity</p> <p>Overseas operations:  Industrial waste disposal cost (1 million yen) × emission intensity</p>	<p>&lt;Emissions from industrial waste transportation&gt;</p> <p>Domestic operations: " Greenhouse gas emission calculation / reporting manual"</p> <p>Overseas: Ministry of the Environment's DB *<sup>1</sup> [5] Emissions intensity based on the input-output table</p> <p>Road freight transportation: 3.93 t-CO<sub>2</sub> eq/1 million yen</p> <p>&lt;Emissions from Industrial Waste Disposal&gt;</p> <p>Domestic operations: Ministry of the Environment's database *<sup>1</sup> (8)  Emission intensity by type of waste (Exclude the waste transport stage)</p> <p>Overseas: Ministry of the Environment's DB *<sup>1</sup> [5] Emissions intensity based on the input-output table</p> <p>Emissions intensity on a monetary basis for each product (buyer price basis)</p> <p>Waste disposal (industry): 7.81 t-CO<sub>2</sub> eq/1 million yen</p>

6	Business travel	<p>&lt;Domestic operations&gt;  Number of employees × emission factor</p> <p>&lt;Overseas operations&gt;  ① Number of days by type of business trip (Domestic day trips, domestic overnight stays and overseas business trips) × emission intensity  ② Number of employees × emission factor</p>	<p>Domestic operations :  Ministry of the Environment's database * 1 [13] Unit emissions per employee</p> <p>Overseas operations :  ① Ministry of the Environment's database * 1 [13] Emissions intensity per total number of business trip days for employees  ② Ministry of the Environment's database * 1 [13] Emissions intensity per employee</p>
7	Employee commuting	<p>&lt;Domestic operations&gt;  Cars and motorcycles:  Round trip commuting distance × average number of working days per month × 12 ÷ fuel consumption × emission factor</p> <p>Public Transportation:  Number of public transportation users × basic unit of emissions by work type (offices and factories) and city category (Large cities, medium cities, etc.)</p> <p>&lt;Overseas operations&gt;  Calculation method similar to that of domestic public transportation</p>	<p>Fuel consumption of cars and motorcycle:  Fuel consumption as specified in company regulations "Standards for Payment of Commuting Allowance by Private Car"  Motorcycle: 25 km/l  Cars: 10.2 km/l</p> <p>Fuel emission factor:  Ministry of the Environment's * 1 [2] Gasoline emission intensity based on the transport ton-kilometer method: 2.32 t-CO<sub>2</sub> /kl</p> <p>Public Transportation:  Ministry of the Environment's DB * 1 [14] emission intensity per employee (number of working days)</p>

11	Use of sold products	Annual power consumption per unit of each product × CO2 emissions intensity per unit of power used x useful life of each product x number of units shipped in the fiscal year *For some products, substitute values for similar products.	<CO2 emissions per unit of power consumption <sub>2</sub> > IEA 'CO <sub>2</sub> Emissions From Fuel Combustion 2013' Global 2010 0.53 kg-CO <sub>2</sub> /kWh
12	End-of-life treatment of sold products	CO2 emissions at the time of disposal of each product × the number of units shipped of each product in the fiscal year concerned *For some products, substitute values for similar products.	CO2 emissions at the time of product disposal: Calculated based on the company's LCA results from the weight of waste assumed for each product, disposal method, transportation distance, and means of transportation. Basic unit of waste transportation: IDEA (Inventory Database for Lifecycle Analysis) 10 t Truck 0.126 t-CO <sub>2</sub> /t-km Basic unit for disposal and shredding: IDEA (Inventory Database for Lifecycle Analysis) 0.00382 t-CO <sub>2</sub> /t

Note:Categories not listed above are excluded from the scope of Scope3.

\*(1) A database of emission intensity used for calculating supply chain emissions (Ver. 3.0) is used.