Environmental Data

■**Energy Consumption**

		FY2019	FY2020	FY2021	FY2022	Scope
Fuel oil *1 (thousand tons)		3,273	2,865	2,925	2,874	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)
Marine Diesel oil *1 (thousand tons)		255	253	282	243	
Diesel oil (K litters)		6,572	6,040	6,944	6,621	
LNG (thousand tons)		37	27	19	47	
Bio-fuel (thousand tons)		—	—	—	9	
Electricity (MWh)		86,924	76,951	80,475	77,604	
	Total renewable energy used *3	237	248	3,532	39,983	
	Renewable energy used rate (%)	0.3	0.3	4.4	51.5	
Municipal gas (thousand m3)		1,648	1,627	1,618	1,663	
Total energy consumption *2 (thousand GJ)		158,105	142,492	146,748	143,150	

*1 Used mainly for vessel fuel.

*2 The energy equivalent of heat originated from fuel oil, diesel oil, bio-fuel, electricity, municipal gas and other energy consumed.

*3 Mainly due to introduction of renewable energy to offices.

■**Greenhouse Gas Emissions**

Organizational boundary for GHG data consolidation is operational control under the control approach.

		FY2019	FY2020	FY2021	FY2022	Scope
Scope1 (tons) *1		11,136,501	9,831,022	10,112,053	10,086,254	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)
	Vessels	11,114,501	9,811,474	10,088,981	10,063,916	
	Others	22,000	19,548	23,072	22,338	
Scope2 (tons) *2	Location-based	45,116	38,735	39,018	37,224	
	Market-based	—	—	35,887	19,483	
Scope3 (tons) *3		3,127,474	2,387,608	2,455,444	3,224,584	
	Category1 Purchased goods and services	51,067	40,138	43,292	50,420	
	Category2 Capital goods	721,175	481,817	511,873	1,221,693	
	Category3 Fuel- and energy related activities (not included in scope 1 or scope 2)	1,546,750	1,402,678	1,454,777	1,397,333	
	Category5 Waste generated in operations	477	638	907	653	
	Category6 Business travel	7,957	1,774	2,045	9,081	
	Category7 Employee commuting	283	282	71	210	
	Category11 Use of sold products	799,765	460,281	442,479	545,194	
Scope1+2 (tons)		11,181,617	9,869,757	10,147,940	10,105,737	
Scope1+2+3 (tons)		14,309,091	12,257,365	12,603,384	13,330,321	

*1 Scope1 : CO2 emissions originating mainly from the combustion of marine fuel.

*2 Scope2 : CO2 emissions originating mainly from electricity consumption.

*3 Scope3 : GHG emissions originating mainly from when the capital goods and/or ship's stores are produced, fuels the vessels used are generated etc.
Main cause of increase in number is the increase of new-built investments in catetory2.

【Third-party Verification of GHG Emission Data】

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 GHG emission data included in this report.

The verification was conducted based on ISO14064-3:2006, ISO14064-1:2006 and GHG protocols.

<Verification Target>

Scope1(Direct emissions), Scope2(Energy indirect emissions), Scope3(Other indirect emissions from Applicant's value chain), and Energy Consumption.

■GHG Emissions Intensity

	FY2019	FY2020	FY2021	FY2022	Scope
CO2 emissions per ton-mile（g/ton-mile） Standard method	10.86	10.46	10.46	10.32	Mitsui O.S.K. Lines, Ltd., major ocean-going vessls MOL Group subsidiaries in Japan and overseas
Reference method	10.86	9.90	10.74	10.81	

※Please refer P.45 of Environmental Vision 2.2 for definitions of the standard and reference methods.

【Third-party Verification of GHG Emissions Intensity Data】

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 GHG emissions intensity data included in this report.

■NOx and SOx Emissions

	FY2019	FY2020	FY2021	FY2022	Scope
NOx emissions（thousand tons）	272	231	231	231	Mitsui O.S.K. Lines, Ltd., MOL Group vessel operating subsidiaries in Japan and overseas (cover rate based on consolidated sales :81%)
SOx emissions（thousand tons）	130	24	28	28	

【Third-party Verification of SOx Emissions Data】

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 SOx emissions data included in this report.

■NOx and SOx Emissions Intensity

	FY2019	FY2020	FY2021	FY2022	Scope
NOx emissions per ton-mile（g/ton-mile）	0.25	0.23	0.22	0.21	Mitsui O.S.K. Lines, Ltd., major ocean-going vessls MOL Group subsidiaries in Japan and overseas
SOx emissions per ton-mile（g/ton-mile）	0.12	0.02	0.03	0.02	

■Other Resources

		FY2019	FY2020	FY2021	FY2022	Scope
Total waste *1（tons）		2,723	2,478	2,905	3,531	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan (cover rate based on consolidated sales:97%)
	Recyclable	1,637	1,323	1,340	1,825	
	Non-recyclable	1,086	1,155	1,565	1,706	
Recycling ratio（%）		60.1	53.4	46.1	51.7	
Total water intake *2（m3）		599,478	410,230	403,406	632,754	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)
	Tap water	599,478	410,230	403,406	632,754	
	River water	—	—	—	—	
	Seawater (cyclic usage)	—	—	—	—	
Total ship recycling（tons）		37,160	75,007	—	—	Mitsui O.S.K. Lines, Ltd.

*1 The total of waste from offices etc.
*2 The volume of water used in offices. Most of the water used in vessels is made from seawater and recycled.
The incease in the number from previous year is due to coverage increase.

■Hazardous Waste Generation

	FY2019	FY2020	FY2021	FY2022	Scope
Hazardous Waste Generation (tons) *1	1.84	15.01	8.86	0.57	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan (cover rate based on consolidated sales:77%)

*1 Total amount of PCB-containing equipment disposed of.

■Environment Investment Amount

		FY2020	FY2021	FY2022	Scope
Environment Investment Amount（billion yen）		64.4	119.4	206.6	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas
	Alternative Fueled Fleet *1	5.6	22.4	38.0	
	Growth of Low- & Zero Emission Business *2	58.8	97.0	168.6	

*1 Investment in the development and ordering LNG-fueled bulkers, PCCs, etc.
Zero emission vessel to reduce emissions of GHG, NOx, SOx, and other environmentally harmful substances in its own operations.
This corresponds to the R&D cost and the business area costs in Environmental Accounting Guidelines, the Ministry of the Environment.
*2 Investment in the development of LNG carriers, LPG/Ammonia carriers, Wind Power business and its associated business to contribute to reduce GHG emissions in society.

■Violations of environmental laws and regulations

		FY2020	FY2021	FY2022	Scope
Violations of environmental laws and regulations	Number of cases	0	0	0	Mitsui O.S.K. Lines, Ltd.
	Fine (million yen)	0	0	0	

※ Violations resulting in fines exceeding US$10,000.