

# Environmental Data

Materiality	Classification	Sources	Scope	Unit	FY2019	FY2020	FY2021	FY2022
Carbon Neutrality	Energies	Electricity	Global total	thousand kWh	736,508	533,095	503,399	405,636
			Japan		311,456	127,521	93,177	80,972
			Outside Japan		425,052	405,573	410,221	324,664
		CO <sub>2</sub> free electricity	Global total	thousand kWh	82,549	201,858	265,242	424,719
			Japan		74,805	194,051	226,690	289,010
			Outside Japan		7,744	7,807	38,552	135,709
		Natural gas & City gas	Global total	thousand m <sup>3</sup>	72,075	71,600	68,084	59,718
			Japan		32,014	31,498	31,153	22,696
			Outside Japan		40,061	40,101	36,930	37,022
		Coal	Global total	t	67,707	57,968	60,203	55,502
			Japan		0	0	0	0
			Outside Japan		67,707	57,968	60,203	55,502
		Steam	Global total	t	363,460	343,067	355,317	345,182
			Japan		158,207	152,076	152,010	139,282
			Outside Japan		205,253	190,991	203,307	205,900
		LNG	Global total	t	13,337	14,104	16,142	18,735
			Japan		13,055	13,823	15,729	18,735
			Outside Japan		282	281	413	0
		A HFO	Global total	kL	9,516	7,945	5,025	2,762
			Japan		9,516	7,945	5,025	2,762
			Outside Japan		0	0	0	0
		LPG	Global total	t	6,046	5,870	5,990	5,523
			Japan		5,776	5,596	5,664	5,473
			Outside Japan		270	274	327	50
		Diesel	Global total	kL	543	436	452	554
			Japan		69	58	20	18
			Outside Japan		474	378	432	536
Kerosene	Global total	kL	145	130	133	139		
	Japan		145	130	133	139		
	Outside Japan		0	0	0	0		
Gasoline	Global total	kL	50	115	48	52		
	Japan		50	115	48	52		
	Outside Japan		0	0	0	0		
Steam (non industrial)	Global total	GJ	1,033	1,084	1,198	1,397		
	Japan		1,033	1,084	1,198	1,397		
	Outside Japan		0	0	0	0		
Hot water	Global total	GJ	2,408	2,567	1,371	1,461		
	Japan		163	173	138	162		
	Outside Japan		2,245	2,393	1,233	1,299		
Cold water	Global total	GJ	11,400	11,774	3,897	4,087		
	Japan		11,400	11,774	3,897	4,087		
	Outside Japan		0	0	0	0		

					Material Issues							
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Materiality	Classification	Sources	Scope	Unit	FY2019	FY2020	FY2021	FY2022		
<b>Carbon Neutrality</b>	<b>Renewable Energies</b>	<b>Solar power</b>	Global total	thousand kWh	1,674	3,869	6,727	15,152		
			Japan		356	1,409	4,069	4,417		
			Outside Japan		1,318	2,459	2,658	10,735		
		<b>Solar water heater</b>	Global total	GJ	222	222	0	0		
			Japan		0	0	0	0		
			Outside Japan		222	222	0	0		
		<b>Biomass power</b>	Global total	thousand t	1	7	13	17		
			Japan		0	0	0	0		
			Outside Japan		1	7	13	17		
		<b>CO<sub>2</sub></b>	<b>CO<sub>2</sub> emissions</b>	Global total	thousand t-CO <sub>2</sub>	821	706	683	576	
	Japan			282,243		207,281	188,999	164,784		
	Outside Japan			538,525		498,754	494,704	411,032		
	<b>CO<sub>2</sub> emissions per sales</b>		Global total	t/¥ million	0.59	0.50	0.46	0.33		
	<b>GHG emissions throughout the value chain</b>		thousand t-CO <sub>2</sub>		1,320	1,118	1,030	1,110		
	<b>Scope1</b>		138,583		125,038	130,391	112,229			
	<b>Scope2</b>		92,444	36,647	9,731	3,215				
	<b>CO<sub>2</sub></b>		<b>Scope3 breakdown</b>	Category 1	Japan*1	t-CO <sub>2</sub>	730,219	635,542	592,537	648,624
				Category 2			85,119	52,402	38,763	85,592
				Category 3			29,633	45,579	34,167	30,272
				Category 4			79,981	70,621	70,519	72,548
				Category 5			11,851	12,836	13,535	10,966
				Category 6			10,882	6,030	5,413	8,285
				Category 7			5,888	5,773	5,917	5,679
				Category 8			8,463	6,356	7,258	7,294
		Category 9		22,484			20,407	20,736	22,480	
Category 10							N/A			
Category 11		81,034		80,209			79,452	80,051		
Category 12		23,681		20,751			21,163	22,879		
			N/A							
			N/A							
			N/A							
<b>Water Neutrality</b>	<b>Water</b>	<b>Water usage</b>	Global total	thousand m <sup>3</sup>	18,756	17,732	17,680	18,488		
			Japan		12,274	11,605	10,909	11,629		
			Outside Japan		6,482	6,127	6,772	6,859		
		<b>Water use efficiency</b>	Global total	t/¥ million	13.4	12.5	11.8	10.6		
		Japan	Municipal water (including industrial water)				9,654	10,399		
			River water		12,274	11,605	123	96		
			Ground water			1,131	1,134			
		Asia, the Middle East, etc.	Municipal water (including industrial water)			3,275	3,264			
			River water	5,615	5,330	0	0			
			Ground water			2,708	2,755			
		North and South America	Municipal water (including industrial water)			407	390			
			River water	587	525	0	0			
			Ground water			137	201			
		Europe	Municipal water (including industrial water)			212	220			
			River water	280	272	2	2			
Ground water				32	26					

\*1 Five group companies: Otsuka Pharmaceutical, Otsuka Pharmaceutical Factory, Taiho Pharmaceutical, Otsuka Chemical, and Otsuka Foods

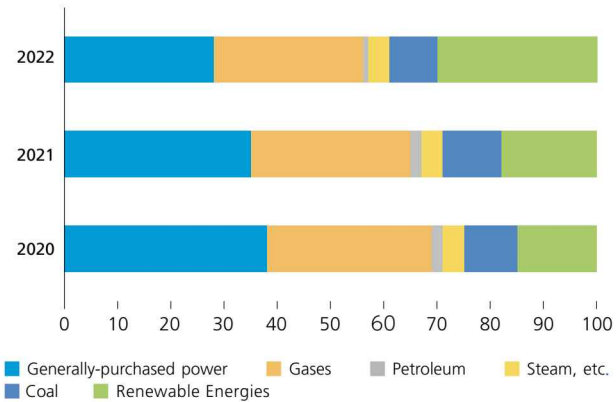
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Materiality	Classification	Sources	Scope	Unit	FY2019	FY2020	FY2021	FY2022									
Water Neutrality	Water	Wastewater by destination	Rivers, lakes and marshes	thousand m <sup>3</sup>	12,345	11,717	11,194	10,560									
			Underground seepage		61	60	4	1									
			Area of ocean		1,267	1,002	1,051	1,118									
			Third-party processing (municipal sewage, etc.)		3,109	2,886	2,873	2,729									
			<b>Total Amount of Wastewater</b>		<b>16,782</b>	<b>15,666</b>	<b>15,122</b>	<b>14,407</b>									
Circular Economy	Material	Material	Japan <sup>*1</sup>	t	125,289	114,847	114,771	119,541									
			Plastics	PET	14,376	11,963	12,028	14,416									
	Packaging material	Plastics	Others	Japan <sup>*1</sup>	t	17,783	16,028	14,998	15,675								
			Paper and cardboard			36,388	33,149	32,481	36,173								
			Others			95,658	89,826	88,949	92,812								
	Waste			Total amount of waste	t	Global total	100,126	91,838	93,895	92,943							
						Japan	43,083	35,723	35,246	30,820							
						Outside Japan	57,043	56,115	58,649	62,123							
						Recycled materials	Global total	Japan	38,003	31,110	30,352	27,279					
								Outside Japan	33,708	33,377	34,962	37,612					
						Global Breakdown	Material Recycling	t	Material Recycling	42,609	39,703	37,723	37,487				
									Thermal Recycle	11,945	9,528	11,911	12,639				
									Composting and feed	17,157	15,256	15,680	14,765				
						Total (Including valuables)	Global total	t	Global total	4,703	4,378	5,532	3,370				
									Japan	3,818	3,606	3,983	2,529				
									Outside Japan	885	772	1,549	841				
						(landfill)	Global total	t	Global total	13,760	12,594	13,695	14,660				
									Japan	115	99	112	207				
									Outside Japan	13,645	12,495	13,583	14,453				
						Bio-processing and chemical processing	Global total	t	Global total		10,379	9,355	10,022				
									Japan		909	799	804				
									Outside Japan		9,470	8,556	9,218				
						Hazardous <sup>*2</sup>			Total amount of waste	t	Global total	9,708	9,884	10,831	10,543		
											Japan	3,770	3,836	4,513	3,279		
											Outside Japan	5,938	6,048	6,318	7,264		
Recycled materials											Global total	t	Global total	5,074	4,549	5,450	6,365
													Japan	1,516	1,653	2,174	1,932
Global Breakdown											Material Recycling	t	Outside Japan	3,558	2,897	3,276	4,433
													Material Recycling	2,633	1,832	2,257	3,155
													Thermal Recycle	2,441	1,556	3,193	3,210
Total (Including valuables)	Global total	t	Composting and feed	0	0						0	0					
			Global total	2,389	2,443						2,694	1,661					
			Japan	2,124	2,047						2,235	1,201					
(landfill)	Global total	t	Outside Japan	265	396						459	460					
			Global total	1,520	1,914						2,265	2,003					
			Japan	9	1						1	2					
Bio-processing and chemical processing	Global total	t	Outside Japan	1,511	1,913						2,264	2,001					
			Global total	726	978						421	514					
			Japan	122	135						102	144					
Total (Including valuables)	Global total	t	Outside Japan	604	843						319	370					

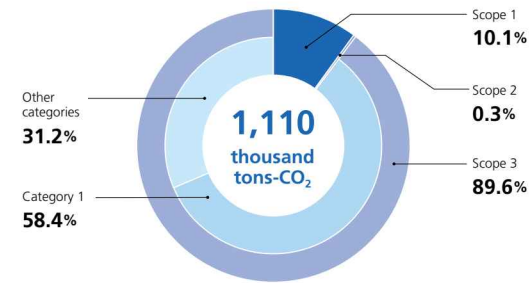
\*1 Five group companies: Otsuka Pharmaceutical, Otsuka Pharmaceutical Factory, Taiho Pharmaceutical, Otsuka Chemical, and Otsuka Foods \*2 Specially controlled industrial waste by Japanese regulations; in other countries, the classification is based on the respective national standards

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**Global energy composition (converted to heat quantity: GJ/year)**

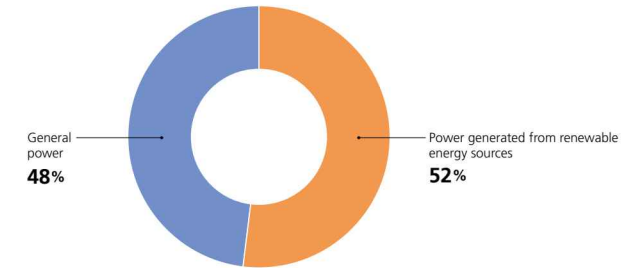


**GHG Emissions throughout the Value Chain**

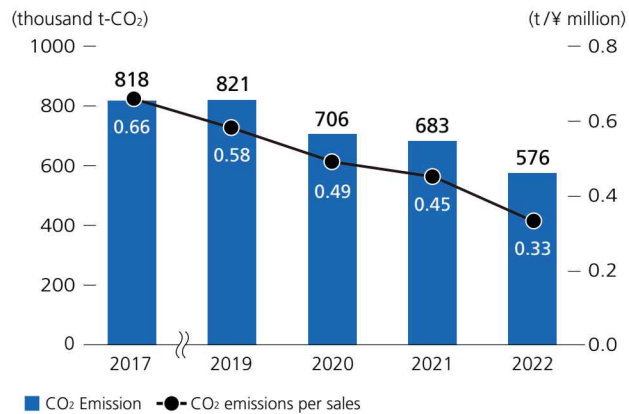


Scope: Five group companies: Otsuka Pharmaceutical, Otsuka Pharmaceutical Factory, Taiho Pharmaceutical, Otsuka Chemical, and Otsuka Foods

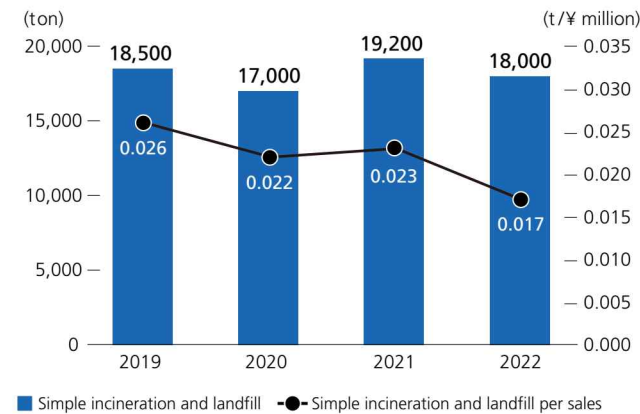
**Global renewable energy ratio**



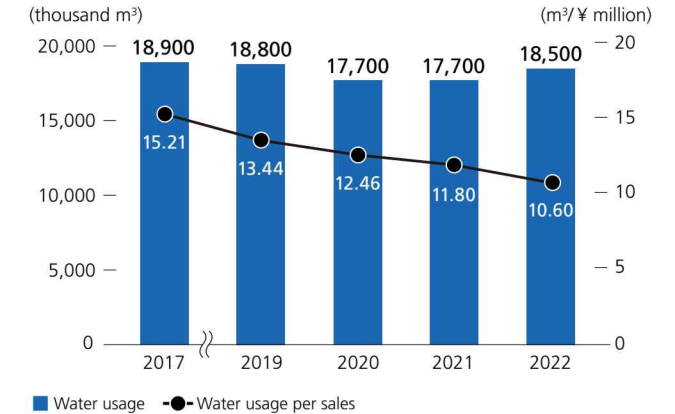
**CO<sub>2</sub> emissions per sales**



**Simple incineration and landfill per sales**



**Water Usage, Water Usage per Sales**

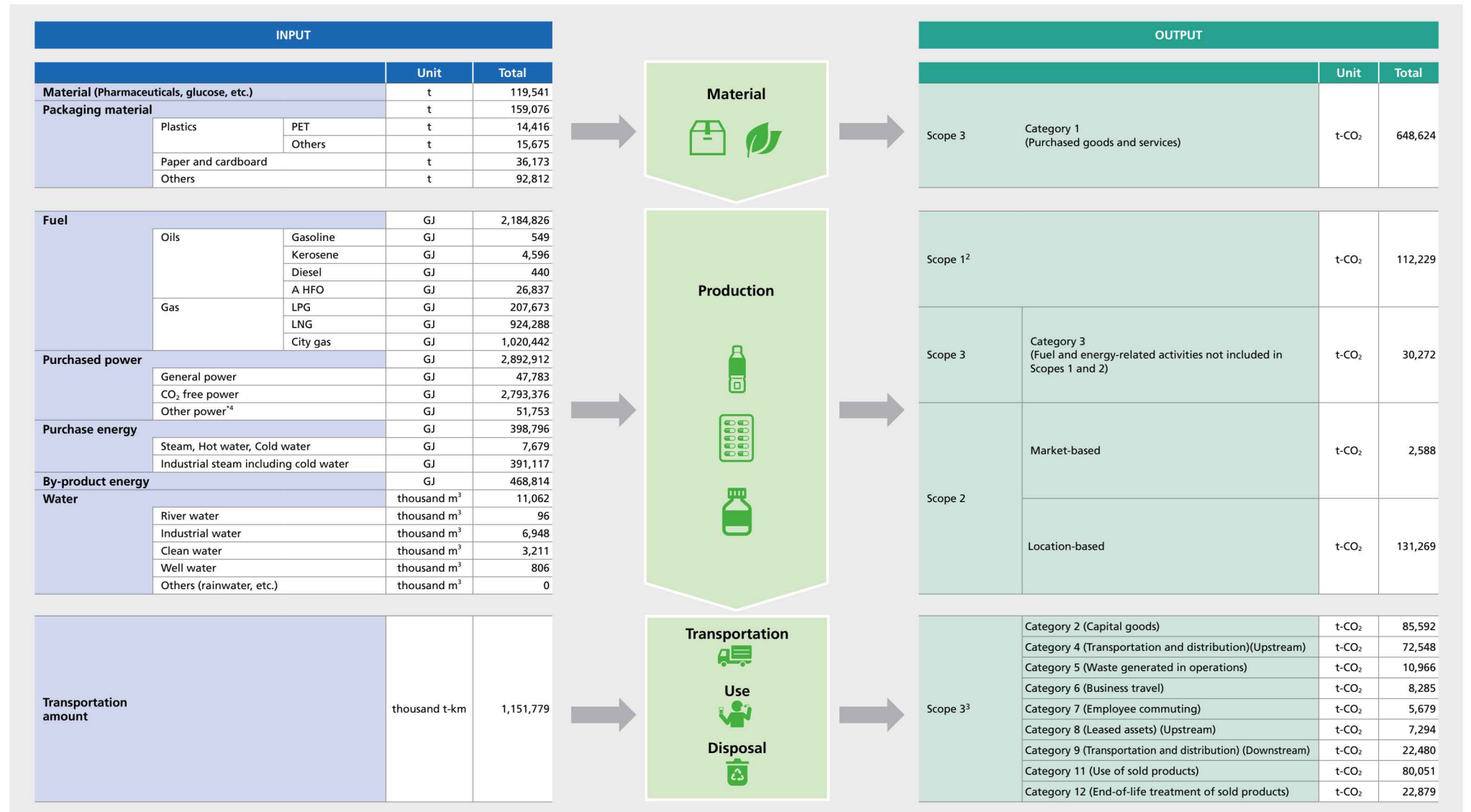


**Reporting of Violations of Environmental Laws and Regulations**

In FY 2022, the Otsuka group had five violations of environmental laws and regulations (violations due to inadequate reporting and waste water exceeding the standards). We have completed the correction of the violations, and will make efforts to prevent recurrence.

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## Material balance over the life cycle of the business\*1



\*1 Five group companies: Otsuka Pharmaceutical, Otsuka Pharmaceutical Factory, Taiho Pharmaceutical, Otsuka Chemical, and Otsuka Foods \*2 Indirect emissions from energy sources and indirect emissions from freon leak volume and during the production of carbonated beverages, etc.  
 \*3 Categories 10 and 13 to 15 are not applicable \*4 Power generation by co-generation systems



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## Otsuka Group's subsidiaries' acquisition of ISO 14001 certification

### Acquisition rate 56.7% (Japan78.3%, Outside Japan37.3%)

\* All production sites of the consolidated Otsuka Group

Integrated certification as Otsuka Holdings  
(Otsuka Pharmaceutical Co., Ltd., Otsuka Pharmaceutical Factory, Inc., Taiho Pharmaceutical Co., Ltd., Otsuka Chemical Co., Ltd., Otsuka Food Co., Ltd., Otsuka Techno Corporation, EN Otsuka Pharmaceutical Co., Ltd.)

**Japan: 12 Companies**  
(Certified Companies)

Otsuka Packaging Industries Co., Ltd.  
Higashiyama Film Co., Ltd.  
J.O. Pharma Co., Ltd.  
Otsuka Electronics Co., Ltd.

Taiwan Otsuka Pharmaceutical Co., Ltd.  
Korea Otsuka Pharmaceutical Co., Ltd.  
Nutrition & Sante SAS  
Nutrition & Sante Iberia SL  
Otsuka Pakistan Ltd.  
PT Amerta Indah Otsuka  
PT Otsuka Indonesia  
Zhejiang Otsuka Pharmaceutical Co., Ltd.  
Egypt Otsuka Pharmaceutical Co., S.A.E.  
PT Widatra Bhakti  
P.T.Lautan Otsuka Chemical  
Zhangjiagang Otsuka Chemical Co., Ltd.  
Hebron S.A.  
Otsuka Techno Vietnam Co., Ltd.

**Outside Japan : 14 Companies**  
(Certified Companies)

As of December, 2022

## Third-Party Verification

In order to improve the transparency and reliability of its environmental data, the Otsuka group has its GHG emissions Scopes 1 and 2 (CO<sub>2</sub> emissions from energy sources, including energy consumption), and Scope 3 (Category 1) verified by third-party organizations. This helps us identify emissions trends and implement improvements. We will continue to expand the scope of verification and further enhance the reliability of our data.

**Verification Opinion**

11 July 2022  
Opinion No: SGS23V006

Mr. Tetsuo Higuchi  
President and Representative Director, CEO  
Otsuka Holdings Co., Ltd.  
2-9 Kanda-Tsukakamachi, Chiyoda-ku, Tokyo

**Objective**  
SGS Japan Inc. (hereinafter referred to as "SGS") was commissioned by Otsuka Holdings Co., Ltd. (hereinafter referred to as "the Organization") to conduct independent verification based on Criteria of Verification (ISO14064-3:2019 and the SGS verification protocol) regarding the data prepared by the Organization on the scope of verification (hereinafter referred to as "the Statement"). The objective of this verification is to confirm that the Statement in the Organization's applicable scope has been correctly calculated and reported in the Statement in conformance with the criteria, and to express our views as a third party. The Organization is responsible for the preparation and fair presentation of the Statement.

**Scope**  
The scope of verification is Scope 1 and 2 emissions, energy consumption, Crude oil equivalent and Scope 3 emissions.  
The period subject to report is from 1 January 2022 to 31 December 2022.  
Refer to the attached sheet for the detailed scope of verification.

**Procedure of Verification**  
The Statement was verified in accordance with Criteria of Verification, and the following processes were implemented at a limited level of assurance:  
• Verification of the calculation system: Interviews on the measurement, tabulation, calculation, and reporting methods employed by the Organization as well as review of related documents and records  
• Verification of the Statement: On-site verification and voucher review conducted at Otsuka Pharmaceutical Factory, Inc., Toyama Factory and TAIHO PHARMACEUTICAL CO., LTD. Kitajima Plant, and analytical procedures and interviews for the other sites in the scope of verification carried out at the Tokyo Headquarters

The criteria for this review are based on the Act on the Rational Use of Energy, the Act on Promotion of Global Warming Countermeasures, Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain, Ver. 2.4 and Emission Factor Database on the same Accounting Ver. 3.2, the protocol specified by the Organization.

**Conclusion**  
Within the scope of the verification activities employing the methodologies mentioned above, nothing has come to our attention that caused us to believe that the Organization's Statement was not calculated and reported in conformance with the criteria.  
SGS Japan Inc. affirms our independence from the Organization, being free from bias and conflicts of interest with the Organization.

For and on behalf of SGS Japan Inc.  
Tokuhiro Yamamoto Park North Square 1  
13, Goudo-cho, Hongo-ku, Tokyo 113-8501, Japan  
Knowledge  
Management Committee Member  
Head of Certification/Verification

Yuji Takachi

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Attached file  
11 July 2022  
Opinion No: SGS23V006

**The details of the scope of verification**

The Scope	The Boundary	The Statement
1 The performance data Scope 1 and 2 include energy related greenhouse gas emissions, Energy consumption. Crude oil equivalent ①Excluding the vehicles which run outside of the sites	SG production plants of domestic and overseas group companies and 243 domestic office sites	Scope1: 333,152.8 t-CO <sub>2</sub> Scope2: 242,662.6 t-CO <sub>2</sub> Crude oil equivalent: 363,569 tL
2 Scope3 (category 1)	Limited to raw materials, purchased goods and packaging materials purchased by the following 5 companies: Otsuka Pharmaceutical Co., Ltd., Otsuka Foods Co., Ltd., Otsuka Pharmaceutical Factory, Inc., TAIHO PHARMACEUTICAL CO., LTD., Otsuka Chemical Co., Ltd.	648,624 t-CO <sub>2</sub>

※ All calculations of crude oil equivalent for electricity consumption are converted at 0.97 MJ/kWh.

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