

# Sustainability Data

## Environment

	Unit	FYE2019	FYE2020	FYE2021
<b>Greenhouse Gas (GHG) Emissions</b>				
GHG Emissions Scope 1 ☑	Thousands of tonnes CO <sub>2</sub> e	14	1,061	<b>987</b>
GHG Emissions Scope 2 ☑	Thousands of tonnes CO <sub>2</sub> e	4,056	4,747	<b>4,664</b>
GHG Emissions Scope 3 –Total for the Following Categories ☑	Thousands of tonnes CO <sub>2</sub> e	3,634	3,662	<b>4,340</b>
Category 1 Purchased goods and services	Thousands of tonnes CO <sub>2</sub> e	—	883	<b>883</b>
Category 2 Capital goods	Thousands of tonnes CO <sub>2</sub> e	—	60	<b>43</b>
Category 3 Fuel- and energy-related activities not included in Scope 1 and Scope 2	Thousands of tonnes CO <sub>2</sub> e	—	276	<b>248</b>
Category 4 Upstream transportation and distribution (Including transportation services whose cost is borne by the Company)	Thousands of tonnes CO <sub>2</sub> e	—	40	<b>37</b>
Category 5 Waste generated in operations	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>2</b>
Category 6 Business travel	Thousands of tonnes CO <sub>2</sub> e	—	1	<b>1</b>
Category 7 Employee commuting	Thousands of tonnes CO <sub>2</sub> e	—	3	<b>3</b>
Category 8 Upstream leased assets	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 9 Downstream transportation and distribution	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 10 Processing of sold products	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 11 Use of sold product	Thousands of tonnes CO <sub>2</sub> e	—	1,583	<b>2,436</b>
Category 12 End-of-life treatment of sold products	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 13 Downstream leased assets	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 14 Franchises	Thousands of tonnes CO <sub>2</sub> e	—	N/A	<b>N/A</b>
Category 15 Investments	Thousands of tonnes CO <sub>2</sub> e	—	816	<b>687</b>

Reporting boundary: Scope 1 emissions and Scope 2 emissions represent main consolidated subsidiaries of Nippon Sanso Holdings. For information on Scope 3 emissions aggregation, please refer to pages 187-188.

Scope 1 emissions: Direct emissions occurring from sources owned or controlled by the company

Scope 2 emissions: Indirect emissions from the use of electricity, steam, and heat

Scope 3 emissions: Indirect emissions other than Scope 2 emissions

GHG emissions in Japan are calculated using emission factors specified in Japan's Act on Promotion of Global Warming Countermeasures. For GHG emissions overseas, Scope 1 emissions are calculated using emission factors set forth in Japan's Act on Promotion of Global Warming Countermeasures, while Scope 2 emissions are calculated using country-specific emission factors published by the International Energy Agency (IEA). However, for electricity in Europe, beginning FYE2021 a separate emissions factor for each electricity provider is used, and emissions are calculated making reference to the Guarantee of Origin, resulting in an increase in Scope 2 emission of approximately 244 thousand tonnes CO<sub>2</sub>e compared with using emission factors provided by the IEA. See pages 187-188 for details on the calculation method of Scope 3 emissions.

Indicators with ☑ mark have been assured by KPMG AZSA Sustainability Co., Ltd. for FYE2021.

		Unit	FYE2019	FYE2020	FYE2021
<b>Contributions to Environmental Protection through Products</b>					
GHG Emission Reduction Contribution	Products and Services ☑	Thousands of tonnes CO <sub>2</sub> e	1,779	2,373	<b>2,892</b>
	Industrial Gases ☑	Thousands of tonnes CO <sub>2</sub> e	—	—	<b>2,174</b>

See pages 183 and 189 for details about reporting boundaries and the calculation methods.

<b>Energy Usage</b>					
Energy Consumption ☑		Terajoules	72,014	109,512	<b>104,142</b>
Electric power		Terajoules	70,890	97,483	<b>93,400</b>
Fuels		Terajoules	418	11,378	<b>10,004</b>
Heat		Terajoules	706	651	<b>738</b>

Reporting boundary: Main consolidated subsidiaries of Nippon Sanso Holdings

The energy of the consumed fuels are calculated based on the gross calorific values specified in Japan's Act on the Rational Use of Energy. Purchased electricity and purchased steam are converted into primary energy amounts.

<b>Environmental Impact</b>					
Nitrogen oxide (NOx) emissions ☑		Tonnes	3.0	3.2	<b>1.8</b>
Sulfur oxide (SOx) emissions ☑		Tonnes	1.0	1.4	<b>1.0</b>
Particulate emissions ☑		Tonnes	1.0	0.1	<b>0.1</b>
Volatile organic compound (VOC) emissions ☑		Tonnes	10	10	<b>5</b>
Releases of substances designated under the Pollutant Release and Transfer Register (PRTR) ☑		Tonnes	29	19	<b>7</b>

Reporting boundary: Consolidated subsidiaries in Japan, including Taiyo Nippon Sanso Corporation

<b>Water Usage</b>					
Fresh Water Withdrawn ☑		Ten thousand of m <sup>3</sup>	1,362	3,002	<b>4,335</b>
Breakdown of sources of fresh water withdrawn	Water supply from local government	Ten thousand of m <sup>3</sup>	—	1,496	<b>1,472</b>
	Municipal water	Ten thousand of m <sup>3</sup>	—	429	<b>490</b>
	Industrial water	Ten thousand of m <sup>3</sup>	—	1,067	<b>982</b>
	Groundwater	Ten thousand of m <sup>3</sup>	—	276	<b>258</b>
	Surface water	Ten thousand of m <sup>3</sup>	—	1,230	<b>2,602</b>
	Other	Ten thousand of m <sup>3</sup>	—	—	<b>3</b>

Reporting boundary: Gas production plants operated by domestic consolidated subsidiaries of Nippon Sanso Holdings, business locations with facilities specified under the Water Pollution Prevention Act, and main overseas consolidated subsidiaries

In FYE2020, we added business locations with facilities specified under the Water Pollution Prevention Act to the scope of aggregation.

<b>Waste</b>					
Waste generated*1 ☑		Tonnes	3,023	3,762	<b>14,273</b>
Waste disposed of as landfill*2 ☑		Tonnes	362	284	<b>7,152</b>
Hazardous waste generated*3 ☑		Tonnes	156	197	<b>1,325</b>
Waste recycled*4		Tonnes	1,695	2,381	<b>4,890</b>

Reporting boundary: Main consolidated subsidiaries of Nippon Sanso Holdings

Beginning FYE2021, main overseas consolidated subsidiaries are included in the reporting boundary. Waste generated by the Gas Business in Japan is the volume for which the Company issued a manifest.

\*1 Includes valuable materials \*2 Includes residue after intermediate treatment outside the Group company

\*3 Includes specially controlled industrial waste \*4 We consider waste collected to be the amount of resources recycled.

<b>Environmental Accounting</b>					
<b>Environmental protection costs</b>					
Investments		Millions of yen	9,655	1,351	<b>7,559</b>
Expenses		Millions of yen	844	1,033	<b>1,089</b>
Economic benefits associated with environmental conservation activities		Millions of yen	15	1,905	<b>8</b>

Reporting boundary: Taiyo Nippon Sanso, Japan Fine Products Co., Ltd., Taiyo Nippon Sanso Engineering Corporation, Nissan Unyu K.K., and Thermos K.K.

From FYE2020, the figures for chemical oxygen demand (COD) emissions, nitrogen emissions in wastewater, and phosphorus emissions have been omitted from disclosure since the amounts of these emissions have been immaterial. The Nippon Sanso Holdings Group uses water primarily for indirect cooling, and its impacts on water quality are therefore not large. Taiyo Nippon Sanso and its domestic subsidiaries have five business sites that are subject to restrictions on the concentration of COD, nitrogen, and phosphorus emissions in wastewater. The total amounts of COD, nitrogen, and phosphorus emissions for all five sites amount to less than one tonne each.

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	Unit	FYE2019	FYE2020	FYE2021
<b>GHG-Related</b>				
GHG Scope 1 + Scope 2 <sup>☑</sup>	Thousands of tonnes CO <sub>2</sub> e	4,070	5,808	<b>5,651</b>
Gas Business in Japan	Thousands of tonnes CO <sub>2</sub> e	2,494	2,273	<b>2,014</b>
Gas Business in the United States	Thousands of tonnes CO <sub>2</sub> e	1,087	2,164	<b>2,066</b>
Gas Business in Europe	Thousands of tonnes CO <sub>2</sub> e	—	871	<b>1,049</b>
Gas Business in Asia and Oceania	Thousands of tonnes CO <sub>2</sub> e	488	499	<b>511</b>
Thermos Business	Thousands of tonnes CO <sub>2</sub> e	1	1	<b>11</b>
<b>Energy Consumption</b>				
Total <sup>☑</sup>	Thousands of gigajoules	72,014	109,512	<b>104,142</b>
Gas Business in Japan	Thousands of gigajoules	38,319	37,048	<b>33,635</b>
Gas Business in the United States	Thousands of gigajoules	24,507	37,946	<b>36,172</b>
Gas Business in Europe	Thousands of gigajoules	—	25,068	<b>24,960</b>
Gas Business in Asia and Oceania	Thousands of gigajoules	9,174	9,437	<b>9,201</b>
Thermos Business	Thousands of gigajoules	14	13	<b>174</b>
<b>Electricity Consumption</b>				
Total <sup>☑</sup>	Millions of kWh	7,290	10,013	<b>9,592</b>
Gas Business in Japan	Millions of kWh	3,866	3,742	<b>3,402</b>
Gas Business in the United States	Millions of kWh	2,511	2,861	<b>2,824</b>
Gas Business in Europe	Millions of kWh	—	2,464	<b>2,442</b>
Gas Business in Asia and Oceania	Millions of kWh	912	945	<b>908</b>
Thermos Business	Millions of kWh	1	1	<b>16</b>
<b>Water Withdrawal</b>				
Total <sup>☑</sup>	Ten thousands of m <sup>3</sup>	1,362	3,002	<b>4,335</b>
Gas Business in Japan	Ten thousands of m <sup>3</sup>	683	732	<b>676</b>
Gas Business in the United States	Ten thousands of m <sup>3</sup>	457	724	<b>707</b>
Gas Business in Europe	Ten thousands of m <sup>3</sup>	—	1,317	<b>2,730</b>
Gas Business in Asia and Oceania	Ten thousands of m <sup>3</sup>	222	229	<b>205</b>
Thermos Business	Ten thousands of m <sup>3</sup>	—	—	<b>17</b>
<b>Waste Generated (Including Valuable Materials)*1</b>				
Total <sup>☑</sup>	Tonnes	3,023	3,762	<b>14,273</b>
Gas Business in Japan	Tonnes	2,943	3,675	<b>5,505</b>
Gas Business in the United States	Tonnes	—	—	<b>5,691</b>
Gas Business in Europe	Tonnes	—	—	<b>758</b>
Gas Business in Asia and Oceania	Tonnes	—	—	<b>395</b>
Thermos Business	Tonnes	80	87	<b>1,924</b>

\*1 Beginning FYE2021, main overseas consolidated subsidiaries are included in the reporting boundary. Waste generated by the Gas Business in Japan is the volume for which the Company issued a manifest.

Society

	Unit	FYE2019	FYE2020	FYE2021
<b>Employees and Diversity (Consolidated)</b>				
Employees* <sup>☑</sup>	Number of individuals	18,974	19,341	<b>19,155</b>
Gas Business in Japan	Number of individuals	6,171	6,292	<b>6,295</b>
Gas Business in the United States	Number of individuals	4,916	4,724	<b>4,534</b>
Gas Business in Europe	Number of individuals	2,589	2,794	<b>2,884</b>
Gas Business in Asia and Oceania	Number of individuals	4,026	4,195	<b>4,114</b>
Thermos Business	Number of individuals	1,272	1,336	<b>1,328</b>
<b>Employees by gender</b>				
Male <sup>☑</sup>	Number of individuals	15,353	15,546	<b>15,307</b>
Female <sup>☑</sup>	Number of individuals	3,621	3,795	<b>3,848</b>
<b>Employees by age group (Composition ratio)</b>				
20s and below	%	16.1	16.8	<b>16.6</b>
30s	%	24.7	24.8	<b>24.6</b>
40s	%	28.9	29.0	<b>28.6</b>
50s and above	%	30.2	29.4	<b>30.2</b>
<b>Years of consecutive service</b>				
Overall average	Years	12.4	12.4	<b>11.3</b>
Men	Years	12.5	12.7	<b>11.7</b>
Women	Years	11.6	11.5	<b>9.5</b>
<b>Average age</b>				
Average age	Years	41.1	41.0	<b>42.3</b>
<b>New hires</b>				
New hires	Number of individuals	2,548	2,095	<b>1,893</b>
<b>Employee turnover rate</b>				
Employee turnover rate	%	6.2	6.1	<b>5.7</b>
<b>Female employees as a percentage of the total number of employees <sup>☑</sup></b>				
Female employees as a percentage of the total number of employees <sup>☑</sup>	%	19.1	19.6	<b>20.1</b>
<b>Female managers as a percentage of the total managerial positions <sup>☑</sup></b>				
Female managers as a percentage of the total managerial positions <sup>☑</sup>	%	13.7	13.7	<b>14.6</b>

\* Aggregated from actual figures of the Nippon Sanso Holdings Group companies as of the end of each fiscal year. Due to differences in the reporting periods, part of the data includes figures as of the end of December. Due to a revision of this aggregation method, figures presented in previous fiscal years have been retroactively revised.

<b>Employees and Diversity (Non-Consolidated)</b>				
Employees	Number of individuals	—	—	<b>81*</b>
<b>Employees by gender</b>				
Male	Number of individuals	—	—	<b>66</b>
Female	Number of individuals	—	—	<b>15</b>
<b>Female employees as a percentage of the total number of employees</b>				
Female employees as a percentage of the total number of employees	%	—	—	<b>18.5</b>
<b>Female managers as a percentage of the total managerial positions</b>				
Female managers as a percentage of the total managerial positions	%	—	—	<b>4.1</b>

\* Includes 47 employees working concurrently for Taiyo Nippon Sanso Corporation

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	Unit	FYE2019	FYE2020	FYE2021
<b>Employees, Diversity, and Work-Life Balance (Registered employees of Taiyo Nippon Sanso Corporation)</b>				
Employees	Number of individuals	1,983	2,024	<b>2,065</b>
Employees by gender				
Male	Number of individuals	1,758	1,775	<b>1,789</b>
Female	Number of individuals	225	249	<b>276</b>
Employees by age group (Composition ratio)				
20s and below ☒	%	17.9	18.9	<b>19.5</b>
30s ☒	%	19.8	19.7	<b>20.1</b>
40s ☒	%	31.8	29.6	<b>27.6</b>
50s and above ☒	%	30.5	31.8	<b>32.9</b>
Years of consecutive service				
Overall average	Years	18.1	17.9	<b>17.8</b>
Men	Years	18.6	18.5	<b>18.5</b>
Women	Years	14.4	13.8	<b>12.9</b>
Average age ☒	Years	42.6	41.9	<b>42.3</b>
New hires ☒	Number of individuals	108	109	<b>102</b>
Employee turnover rate*1 ☒	%	2.8	3.1	<b>2.8</b>
Employee training hours	Total hours per year	5,175	5,547	<b>2,296</b>
Unions members ☒	Number of individuals	1,106	1,146	<b>1,195</b>
Union members as a percentage of the total number of employees ☒	%	55.8	56.6	<b>57.8</b>
Layoffs*2 ☒	Number of individuals	0	0	<b>0</b>
Female employees as a percentage of the total number of employees	%	11.3	12.3	<b>13.4</b>
Female managers as a percentage of the total managerial positions	%	1.4	1.5	<b>1.5</b>
Employment ratio of persons with disabilities (as of June 1 of each fiscal year) ☒	%	2.2	2.3	<b>2.3</b>
Number of employees reemployed after retirement ☒	Number of individuals	57	64	<b>74</b>
Employees using childcare leave systems ☒				
Men ☒	Number of individuals	2	0	<b>6</b>
Women ☒	Number of individuals	5	7	<b>10</b>
Employees using nursing care leave or long-term nursing care leave ☒	Number of individuals	0	0	<b>0</b>
Usage rate for annual paid leave*3 ☒	%	61.3	62.5	<b>60.2</b>
Employees using volunteer leave system ☒	Number of individuals	4	0	<b>0</b>

\*1 Employee turnover rate is the number of employees leaving the Company during the fiscal year (including mandatory-age retirees and excluding personnel transferring to other Group companies) divided by the number of employees at the end of the fiscal year

\*2 Employees leaving the Company for reasons attributable to the Company (dismissals)

\*3 The number of new days granted in the reporting year is the denominator. The number of days used in the reporting year is the numerator. The denominator does not include the number of days carried over from the previous year.

	Unit	FYE2019	FYE2020	FYE2021
<b>Others (Consolidated)</b>				
Expenditures on social contribution initiatives	Thousands of yen	40,396	49,472	<b>109,706</b>

\* Data is calculated on a consolidated basis from FYE2021.

<b>Occupational Health and Safety</b>				
Frequency rate of occupational accidents resulting in lost workdays (Number of injuries / fatalities due to occupational accidents per million work hours)				
Nippon Sanso Holdings Group (Including Taiyo Nippon Sanso Group) ☒	—	2.32	1.99	<b>2.30</b>
Taiyo Nippon Sanso Group ☒	—	0.73	0.73	<b>0.64</b>

Reporting boundary: Consolidated subsidiaries with production divisions in Japan and overseas  
Nippon Sanso Holdings include overseas subsidiaries of Thermos K.K. from January 2017 and Nippon Gases Euro-Holding from January 2019.

Reporting Boundary

**Main consolidated subsidiaries**

Consolidated subsidiaries in Japan including Taiyo Nippon Sanso Corporation; Matheson Tri-Gas, Inc.; Nippon Gases Euro-Holding S.L.U. and its consolidated subsidiaries; Leeden National Oxygen Ltd.; Nippon Sanso Ingasco, Inc.; Nippon Sanso Ingasco Philippines, Inc.; Nippon Sanso Ingasco Clark, Inc.; Nippon Sanso (Thailand) Co., Ltd.; Ayutthaya Industrial Gases Co., Ltd.; Taiyo Gases Co., Ltd.; Nippon Sanso Vietnam Joint Stock Company; Taiyo Nippon Sanso India Pvt. Ltd.; Shanghai Taiyo Nippon Sanso Gas Co., Ltd.; Suzhou Taiyo Nippon Sanso Gas Co., Ltd.; Dalian Changxing Island Taiyo Nippon Sanso Gas Co., Ltd.; Dalian Taiyo Nippon Sanso Gas Co., Ltd.; Yangzhou Taiyo Nippon Sanso Semiconductor Gases Co., Ltd.; Nippon Sanso Taiwan, Inc.; Taiyo Nippon Sanso Engineering Taiwan, Inc.; Fu Yang Gas Co., Ltd.; Supagas Pty Ltd; Nippon Sanso Myanmar Co., Ltd.; Top Thermo Mfg. (Malaysia) Sdn. Bhd.; Vacuumtech Philippines Inc.

Beginning FYE2021, environmental data includes the HyCO plant and liquid carbon dioxide plant of Nippon Gases Euro-Holding S.L.U. and its consolidated subsidiaries, Top Thermo Mfg. (Malaysia) Sdn. Bhd and Vacuumtech Philippines Inc.

Sustainability Data

Governance

	Unit	FYE2019	FYE2020	FYE2021
<b>Activities of Committees</b>				
Management Configuration	Number of individuals	6	9	<b>9</b>
Internal directors	Number of individuals	4	7	<b>7</b>
Independent outside directors	Number of individuals	2	2	<b>2</b>
Directors serving concurrently as executive officers	Number of individuals	3	4	<b>3</b>
Percentage of directors serving concurrently as executive officers	%	50.0	44.4	<b>33.3</b>
Independent outside directors as a percentage of total Board of Directors' members	%	33.3	22.2	<b>22.2</b>
Female directors as a percentage of total Board of Directors' members	%	0.0	0.0	<b>0.0</b>
Term of appointment	Years	1	1	<b>1</b>
Frequency of Board of Directors' meetings	Times	15	12	<b>11</b>
Attendance at Board of Directors' meetings	%	97.8	99.1	<b>98.0</b>
Attendance of independent outside directors at Board of Directors' meetings	%	96.7	100.0	<b>100.0</b>
Number of directors attending less than 75% of Board of Directors' meetings	Number of individuals	0	0	<b>0</b>
Audit & Supervisory Board members	Number of individuals	4	4	<b>4</b>
Internal Audit & Supervisory Board members	Number of individuals	1	1	<b>1</b>
Independent outside Audit & Supervisory Board members	Number of individuals	3	3	<b>3</b>
Independent outside Audit & Supervisory Board members as a percentage of total Audit & Supervisory Board members	%	75.0	75.0	<b>75.0</b>
Female Audit & Supervisory Board members as a percentage of total Audit & Supervisory Board members	%	0.0	0.0	<b>0.0</b>
Frequency of Audit & Supervisory Board meetings	Times	18	16	<b>16</b>
Attendance at Audit & Supervisory Board meetings	%	100.0	92.2	<b>100.0</b>
Attendance of independent outside Audit & Supervisory Board members at Audit & Supervisory Board meetings	%	100.0	89.6	<b>100.0</b>
Number of Audit & Supervisory Board members attending less than 75% of Audit & Supervisory Board meetings	Number of individuals	0	1	<b>0</b>
Average age of directors and Audit & Supervisory Board members	Years	65.5	64.3	<b>64.8</b>
Number of executive officers*	Number of individuals	23	22	<b>7</b>
Female executive officers as a percentage of total executive officers	%	0.0	0.0	<b>0.0</b>

\* Figures for FYE2021 represent executive officers of Nippon Sanso Holdings (including the president). Figures for FYE2020 and earlier represent executive officers of Taiyo Nippon Sanso Corporation (including the president).

	Unit	FYE2019	FYE2020	FYE2021
<b>Activities of Committees</b>				
Advisory Committee on Appointments and Remuneration				
Members	Number of individuals	3	3	<b>3</b>
Internal directors	Number of individuals	1	1	<b>1</b>
Independent outside directors	Number of individuals	2	2	<b>2</b>
Frequency of meetings	Times	8	11	<b>6</b>
Attendance	%	100.0	100.0	<b>100.0</b>
Management Committee				
Members	Number of individuals	17	17	<b>13</b>
Frequency of meetings	Times	21	16	<b>6</b>
Attendance* <sup>1</sup>	%	99.1	97.1	<b>100.0</b>
Investment Committee				
Members* <sup>2</sup>	Number of individuals	12	12	<b>15</b>
Frequency of meetings	Times	2	2	<b>1</b>
Attendance* <sup>1</sup>	%	95.5	100.0	<b>93.3</b>
Global Strategy Review Committee				
Members	Number of individuals	—	—	<b>17</b>
Frequency of meetings	Times	—	—	<b>1</b>
Attendance	%	—	—	<b>100.0</b>
Global Risk Management Committee				
Members	Number of individuals	—	—	<b>17</b>
Frequency of meetings	Times	—	—	<b>1</b>
Attendance	%	—	—	<b>100.0</b>
Global Compliance Committee				
Members	Number of individuals	20	20	<b>20</b>
Frequency of meetings* <sup>3</sup>	Times	1	0	<b>0</b>
Attendance	%	100.0	—	<b>—</b>

\*<sup>1</sup> Average attendance rate

\*<sup>2</sup> Excluding additional attendees and secretariat

\*<sup>3</sup> Not held during FYE2020 or FYE2021 due to COVID-19

Sustainability Data

	Unit	FYE2019	FYE2020	FYE2021
<b>Remuneration for Officers</b>				
Remuneration for directors (excluding outside directors)				
Total	Millions of yen	249	255	<b>263</b>
Basic remuneration	Millions of yen	151	162	<b>169</b>
Corporate political contributions	Millions of yen	97	93	<b>94</b>
Remuneration for Audit & Supervisory Board members (excluding independent outside members)				
Total	Millions of yen	25	25	<b>27</b>
Basic remuneration	Millions of yen	25	25	<b>27</b>
Remuneration for independent outside directors				
Total	Millions of yen	102	102	<b>100</b>
Basic remuneration	Millions of yen	102	102	<b>100</b>
Remuneration for independent auditors				
Total	Millions of yen	212	198	<b>210</b>
Remuneration for audit services	Millions of yen	209	195	<b>209</b>
Other remuneration for independent auditors	Millions of yen	3	3	<b>1</b>
<b>Others</b>				
Anti-takeover measures	—	Not adopted	Not adopted	<b>Not adopted</b>
Code of ethics	—	Adopted	Adopted	<b>Adopted</b>
Policy on transparency of tax affairs	—	Adopted (Internal)	Adopted (Internal)	<b>Adopted</b> (Currently disclosed on the Company website)
Corporate political contributions	Yen	0	0	<b>0</b>

Intellectual Property and Research and Development

	Unit	FYE2019	FYE2020	FYE2021
<b>Intellectual Property</b>				
Registered patents				
Total	Patents	1,147	1,255	<b>1,560</b>
Japan	Patents	774	802	<b>925</b>
Overseas	Patents	373	453	<b>635</b>

\* Figures for FYE2019 and earlier are based on a December 31 fiscal year-end. Figures for FYE2020 and later are based on a March 31 fiscal year-end. Figures through 2020 represent Taiyo Nippon Sanso Corporation on a non-consolidated basis, while figures for 2021 represent the total for all operating companies.

<b>Research and Development</b>				
Research and Development				
Total	Millions of yen	3,494	3,389	<b>3,315</b>
Gas Business in Japan	Millions of yen	2,846	2,691	<b>2,694</b>
Gas Business in the United States	Millions of yen	614	658	<b>589</b>
Thermos Business	Millions of yen	34	39	<b>32</b>

Calculation Methods for Scope 3 GHG Emissions

Referenced Guidelines

Our Scope 3 GHG emissions are calculated based on the Corporate Value Chain (Scope 3) Accounting and Reporting Standard issued by the GHG Protocol. For emission factors, we used the emission factor database Ver. 3.1 provided in the Green Value Chain Platform, the Inventory Database for Environmental Analysis (IDEA v2) for supply-chain GHG emissions accounting, and information included in MiLCA Ver. 2, a life-cycle assessment software developed by the Japan Environmental Management Association for Industry.

Reporting Boundary

Unless otherwise specified, the data covers consolidated subsidiaries in Japan, including Taiyo Nippon Sanso Corporation

Calculation Method by Category

<b>Category 1</b> Purchased goods and services	Calculated by multiplying the amounts of products and services in physical or monetary units purchased by Taiyo Nippon Sanso Corporation by the respective emission factor for each type of product or service. However, emissions from transport and shipping services and from oxygen, nitrogen, and argon purchased from Taiyo Nippon Sanso's consolidated subsidiaries or affiliates are included in the reporting boundary of Scope 1 or 2, or categories 4 and 15 of Scope 3, and are therefore deducted from the procured amounts used for this calculation.
<b>Category 2</b> Capital goods	Calculated by multiplying the amounts of capital investment during each reporting fiscal year by an emission factor per price of capital goods.
<b>Category 3</b> Fuel- and energy-related activities not included in Scope 1 and 2	This category includes emissions associated with the extraction, production, and transportation of purchased fuels and those consumed in the production of electricity and steam that are purchased by the Group. Fuels: Calculated by multiplying the amount purchased during the fiscal year by an emission factor for each fuel type. Electricity and steam: Calculated by multiplying the amount purchased from outside the Group by the upstream emission factor for each purchased energy reflecting electricity transmission loss.
<b>Category 4</b> Upstream transportation and distribution (Including distribution services whose cost is borne by the Group)	Calculated by subtracting the CO <sub>2</sub> emissions from logistics subsidiaries, which are included in Scope 1 emissions, from the CO <sub>2</sub> emissions reported for Taiyo Nippon Sanso Corporation and Nippon Ekitan Corporation as specified shippers in accordance with the Act on Promotion of Global Warming Countermeasures. CO <sub>2</sub> emissions related to transportation and distribution of products for which Taiyo Nippon Sanso Corporation and Nippon Ekitan Corporation bear the transportation costs are included in this category.
<b>Category 5</b> Waste generated in operations	Calculated by multiplying industrial waste output by the emission factors for each waste type (including transportation stages).
<b>Category 6</b> Business travel	Calculated by multiplying the number of employees of consolidated subsidiaries in Japan, including Taiyo Nippon Sanso Corporation by the emission factor (0.13 tonnes of CO <sub>2</sub> /person/year).
<b>Category 7</b> Employee commuting	Taiyo Nippon Sanso Corporation employees: For train commuters, the annual payment for commuter passes is multiplied by an emission factor per transportation expense. For car commuters, the round-trip distance is multiplied by the annual number of commuting days and an emission factor per person-kilometer for passenger car. Employees of domestic consolidated subsidiaries: The number of employees is multiplied by the annual number of commuting days, and multiplied by the emission factor per commuting day.

Sustainability Data

<b>Category 8</b> Upstream leased assets	Since the amount of applicable lease assets is negligible, emissions in this category are not calculated.
<b>Category 9</b> Downstream transportation and distribution	The emissions associated with the transportation of sold products whose cost is borne by Taiyo Nippon Sanso Corporation and Nippon Ekitan Corporation fall within category 4 as the Group basically bears the cost of transporting products.
<b>Category 10</b> Processing of sold products	The Taiyo Nippon Sanso Group's main product group is gas, and since it is difficult to rationally calculate the GHG emissions associated with the processing of these products, the emissions are not calculated.
<b>Category 11</b> Use of sold products	The amount of CO <sub>2</sub> emissions generated from the use of propane gas (LP gas), liquefied carbon dioxide gas, and dry ice, and from use of electricity for the operation of its ASUs during the service life, which were sold to customers outside of the Taiyo Nippon Sanso Group.
<b>Category 12</b> End-of-life treatment of sold products	The Taiyo Nippon Sanso Group's primary products are gases (oxygen, nitrogen, and argon). After use, these gases return to the atmosphere and do not become waste. Furthermore, since the gas containers are loaned, and therefore the amount of waste from sold is negligible, emissions in this category are not calculated.
<b>Category 13</b> Downstream leased assets	Since the amount of applicable lease assets is negligible, emissions in this category are not calculated.
<b>Category 14</b> Franchises	As the Group does not have any businesses in this format, there are no emissions in this category.
<b>Category 15</b> Investments	Calculated by multiplying the emissions of each of the seven main affiliates of Taiyo Nippon Sanso Corporation in Japan by the Company's shareholding ratio (as of the fiscal year-end). The seven companies' GHG emissions are based on their actual emissions in the reporting period.

Calculation Methods for GHG Emission Reduction Contribution

We include the following products and services sold by consolidated subsidiaries of Nippon Sanso Holdings and certain affiliated companies in the calculation of GHG emission reduction contribution. The calculation method per product or service is as follows. The CO<sub>2</sub> emission factor used for electricity is 0.470 t-CO<sub>2</sub>/MWh.

Product or Service	Calculation Methods of GHG Emission Reduction Contribution
Combustion-type exhaust gas abatement system Reporting Boundary: Consolidated subsidiaries in Japan	An average processing capacity of 0.6 L/min for nitrogen trifluoride (NF <sub>3</sub> ) gas per one combustion-type exhaust gas abatement system was assumed, and this value was multiplied by the number of such systems that were installed in FYE2019 and FYE2021, the number of operating hours per year, and the global warming potential (GWP) of NF <sub>3</sub> to calculate the GHG emission reduction contribution. The amount of CO <sub>2</sub> emissions from fuel used in combustion equipment was deducted.
SF <sub>6</sub> recovery service Reporting Boundary: Consolidated subsidiaries in Japan	The volume of sulfur hexafluoride (SF <sub>6</sub> ) gas recovered in FYE2021 was multiplied by its GWP to calculate GHG emission reduction contribution.
SCOPE-Jet® Reporting Boundary: Consolidated subsidiaries in Japan	Based on actual observed values at two electronic furnace manufacturers who had introduced SCOPE-JET®, the electricity-saving effect per volume of jet oxygen (kWh/Nm <sup>3</sup> ) was calculated. The ratio of the number of plants that have introduced SCOPE-JET® to the total number of electric furnace manufacturing plants was multiplied by the volume of crude steel products by electric furnaces in Japan in FYE2021, and the resulting number was assumed to be the production volume of crude steel contributed by the electricity saving from SCOPE-JET®. The amount of oxygen consumed by SCOPE-JET® in the production of this crude steel, and the amount of electricity saved per volume of oxygen were multiplied by the CO <sub>2</sub> emission factor for electricity to calculate the GHG emission reduction contribution. The amount of the CO <sub>2</sub> emissions generated during the manufacture of the oxygen was deducted.
MG Shield® Reporting Boundary: Consolidated subsidiaries in Japan	The amount of SF <sub>6</sub> gas whose use was avoided through use of MG Shield® sold in FYE2021 was multiplied by the gas' GWP to calculate the GHG emission reduction contribution.
New refrigerants Reporting Boundary: Consolidated subsidiaries in Europe	We calculated the amount of reduction contribution by assuming a 7% per year leakage rate of new refrigerants sold in FYE2021, and multiplying leakage amount by the difference between the GWP of alternative refrigerants and the GWP of new refrigerants.
Nitrogen gas supply system for laser processing (PSA) Reporting Boundary: Consolidated subsidiaries in Japan	The annual power consumption of Taiyo Nippon Sanso Corporation's conventional air compressor was compared with that of the energy-saving type nitrogen gas supply system to calculate the annual electricity saving from using the energy-saving type system. The annual electricity saved was multiplied by the CO <sub>2</sub> emission factor for electricity and the cumulative number of units sold from FYE2012 to FYE2021 to calculate the GHG emission reduction contribution.
Shuttle Chef® Reporting Boundary: Consolidated subsidiaries in Japan	The amount of electric power usage saved per year from using Shuttle Chef® when cooking was multiplied by the CO <sub>2</sub> emission factor for electricity and the total number of units sold over the three years from FYE2019 to FYE2021 to calculate the GHG emission reduction contribution.
Hydrogen station Reporting Boundary: Consolidated subsidiaries in Japan	The annual CO <sub>2</sub> emissions, which include emissions during the manufacture of the hydrogen, emitted by fuel cell vehicles (FCVs) filled with hydrogen at hydrogen stations sold or operated by Taiyo Nippon Sanso Corporation and operated during FYE2021 was compared with the annual CO <sub>2</sub> emissions of gasoline cars to calculate the GHG emission reduction contribution.
Oxygen-enriched combustion in blast furnaces Reporting Boundary: Consolidated subsidiaries in Japan and affiliated companies in Japan	We calculated the GHG emission reduction contribution as the difference between the amount CO <sub>2</sub> emissions in the production of crude steel using 100% coke and the production of crude steel via pulverized coal combustion based on crude steel production by the six steel companies to whom Taiyo Nippon Sanso Group supplied oxygen in FYE2021. This calculation method is described in "The Impact of Oxygen on Reducing CO <sub>2</sub> Emissions in Blast Furnace Ironmaking" (July 2011) by Dr. Michael F. Riley. We deducted the amount of CO <sub>2</sub> emitted during the production of oxygen and the pumping of gas into the blast furnace.

## Independent Assurance Report



### Independent Assurance Report

To the Representative Director, President CEO of Nippon Sanso Holdings Corporation

We were engaged by Nippon Sanso Holdings Corporation (the “Company”) to undertake a limited assurance engagement of the environmental and social performance indicators marked with  (the “Indicators”) for the period from April 1, 2020 to March 31, 2021 included in its Integrated Report 2021 (the “Report”) for the fiscal year ended March 31, 2021.

#### The Company’s Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Report.

#### Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and the ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’ issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Report and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and recalculating the Indicators.
- Visiting the Kashima Plant of TM-Air Co., Ltd. selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

#### Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company’s reporting criteria as described in the Report.

#### Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.

Tokyo, Japan

September 29, 2021