



SANTEN PHARMACEUTICAL CO., LTD.

Environmental Data Book

Year Ended March 31, 2020

For feedback and suggestions

Investor Relations Group

E-mail: ir@santen.com

Positioning of the Environmental Data Book

The Environmental Data Book provides information and data on the Santen Group's environmental efforts. Related information is also available on our Annual Report and website.

(Reporting boundary)

Japan: all facilities including sales offices

Other countries: Principal production facilities, Tampere Plant (Finland) and Suzhou Plant (China)

(Reporting period)

Japan: April 1, 2019 – March 31, 2020

Other countries: January 1, 2019 – December 31, 2019

Certain information is updated after the above period.

Tampere Plant (Finland) covers the period from January 1, 2019 to September 30, 2019 when the business transfer to Next Pharma was completed.

With regard to the major indicators, figures for previous fiscal years are also given.

(Important change in organization during the reporting period)

Transfer of functions of Osaka Plant to other plants completed and Osaka Plant was closed by March 31, 2015.

The business transfer of Tampere Plant (Finland) to Next Pharma was completed by September 30, 2019.

(Guidelines referenced)

This data book has been prepared with reference to the Environmental Reporting Guidelines (2018 edition, Ministry of the Environment of Japan), Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ministry of the Environment of Japan / Ministry of Economy, Trade and Industry of Japan, Ver.2.3), Environmental Accounting Guideline (2005 edition, the Ministry of the Environment of Japan), and GRI Standards.

(Notational system of numerical results)

Total and tallies of shares may not always match, due to the effect of rounding and so on.

(Currency exchange rate - U.S. dollar amounts)

In this data book, U.S.dollar amounts have been translated from yen, solely for the convenience of the reader, at the rate of ¥108.83 to U.S.\$1.00, the exchange rate prevailing on March 31, 2020.

(Independent Assurance)

The performance indicators denoted by ✓ this symbol have been assured independently. Independent Assurance Report is posted on P14.

(Date of issue)

December, 2020

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1. Environmental management

■FY2020 targets/ performances in FY2019

【Santen Group】

		FY2020 targets	Performance in FY2019
Measures against Climate Change	CO ₂ emissions	Lower than 34,357t-CO ₂	33,916t-CO ₂
Reducing our Environmental Impact	Final waste disposal ratio	Lower than 2.1%	3.3%
	Input water resources	Less than 2.4thousand m ³ /billion yen	2.43 thousand m ³ /billion yen

【In Japan】

		FY2020 targets	Performance in FY2019
Measures against Climate Change	CO ₂ emissions	Lower than 24,756t-CO ₂	24,773t-CO ₂
Reducing our Environmental Impact	Final waste disposal ratio	Lower than 0.01%	0.013%

■ISO14001certification

Organization	scope of activity	acquisition date
As integrated organization Shiga Product Supply Center Noto Plant Claire Co., Ltd	Production of pharmaceuticals Cleaning of antidust and sterilized clothing	December 2014 ※
Suzhou Plant (China)	Production of pharmaceuticals	February 2019

※ Shiga Plant was registered in 1999, Noto Plant was in 2003, and were migrated to integrated organization certification in 2014

■Environmental management audit

Our ISO 14001-certified plants are constantly subject to regular assessment by an ISO 14001 certification assessment body. We also make an internal audit of our plants that have not yet obtained ISO 14001 certification by following the ISO 14001 standard.

■Evaluation of water stress

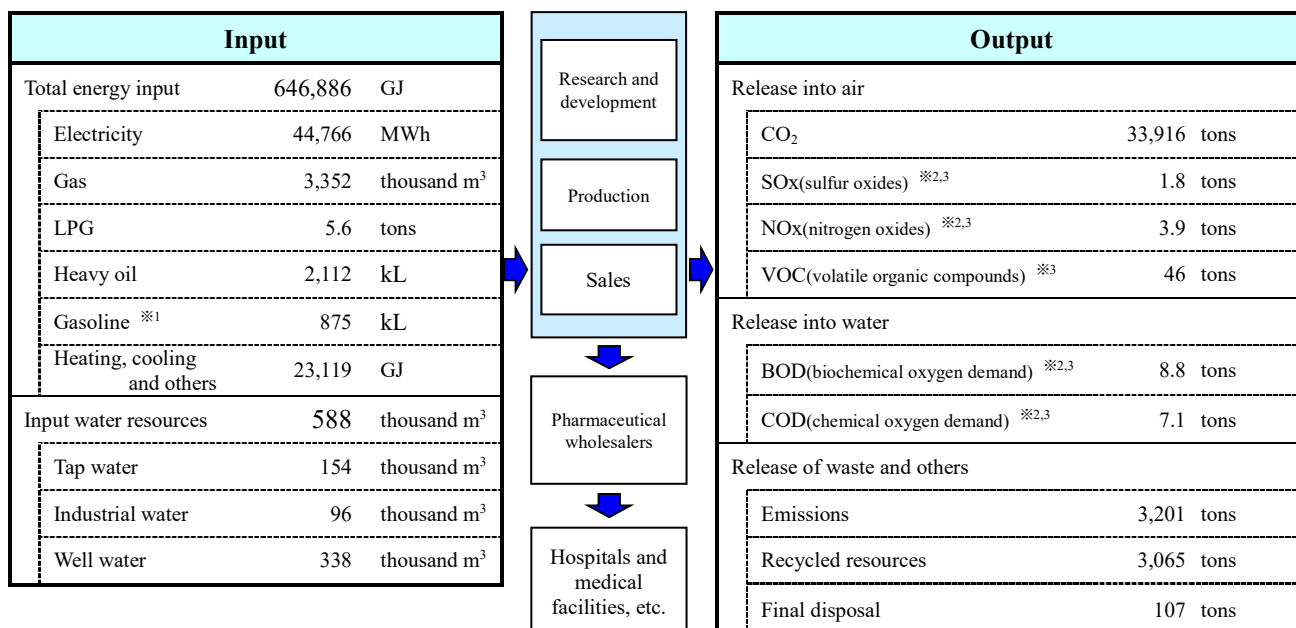
WRI AQUEDUCT is used to evaluate and confirm the rarity (water stress) of water sources in the area where each factory or research sites is located.

■Environment-related accidents and complaints

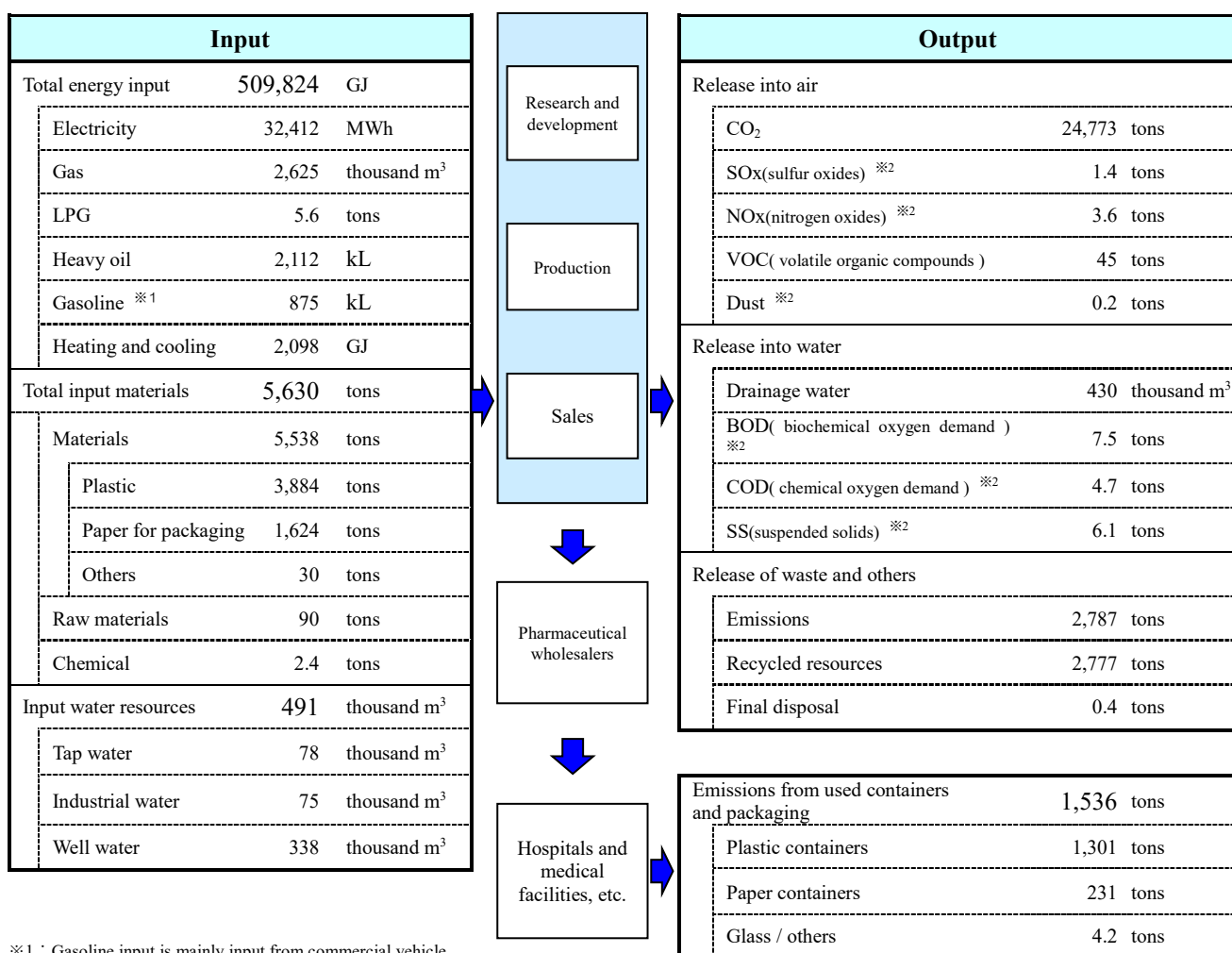
There was no accident that causes environmental pollution, i.e. soil contamination, and no infraction of laws or regulations related environmental issues, at our business sites.

■ Overview of environmental impact (FY2019)

【Santen Group】



【In Japan】



※1 : Gasoline input is mainly input from commercial vehicle.

※2 : Emission is based on results from regular examinations.

※3 : Suzhou Plant in China is excluded.

2. Measures against Climate Change

■Greenhouse gas (CO₂) emissions trend by scope

【Scope 1 and 2】

(unit : t-CO₂)

		Year ended March 31		% Change 2020/2019
		2019	2020	
Scope 1	Santen Group	17,018	✓15,924	-6.4
	In Japan	14,390	13,779	-4.2
	Outside Japan	2,628	2,145	-18.4
Scope 2**	Santen Group	18,234	✓17,992	-1.3
	In Japan	10,533	10,994	4.4
	Outside Japan	7,701	6,998	-9.1

※ The amount of Scope 2 emissions in FY2018 (Year ended March 31, 2019) has been retroactively revised to improve data accuracy.

【Scope 3】

(unit : t-CO₂)

Category	Year ended March 31		% Change 2020/2019	Calculation methodology
	2019	2020		
1 : Purchased goods and services	142,215	147,531	3.7	Estimated figures based on multiplying the weight of raw materials, ingredients, or purchase amount of stock goods by the emission factors of the calculation database.
2 : Capital goods**	15,480	✓16,480	6.5	Estimated figures based on multiplying the amount of money for acquisition of the fixed assets by the emission factors of the calculation database.
3 : Fuel and energy related activities not included in Scope1 and Scope2	1,099	✓2,211	101.2	Estimated figures based on multiplying the usage of electricity by the emission factors of the calculation database.
4 : Transportation and distribution (Upstream)	630	763	21.1	Estimated figures based on the transportation distance between the plants/logistics centers and the destinations (pharmaceutical wholesalers, etc.) with using the fuel consumption method or the ton method.
5 : Waste generated in operation	440	489	11.1	Estimated figures based on multiplying the weight of each waste discharged by the emission factors of the calculation database.
6 : Business travel	2,763	2,041	-26.1	Estimated figures based on multiplying the travel expenses of each transportation type and accommodation expenses by the emission factors of the calculation database.
7 : Employee commuting	1,633	1,485	-9.1	Estimated figures based on multiplying the commutation expenses of public transportation systems and the amount of gasoline used of the commuter cars by the calculation database.
12 : End-of-life treatment of sold products	223	207	-7.2	Estimated figures based on multiplying the weight of each material for the sold products and packaging by the emission factors of the calculation database.
Total	164,483	171,207	4.1	
CO₂ emissions per unit of revenue [t-CO ₂ /billion yen]	933	938	0.4	

● Database of emissions unit values for accounting of greenhouse gas emissions, etc., by organizations throughout the supply chain (ver.3.0, Ministry of the Environment of Japan / Ministry of Economy, Trade and Industry of Japan).

● Category 8,10,11,13-15 are not indicated, because of our business characteristics. Category 9 is not calculated and indicated, at present.

※ Category 2: capital goods emissions in FY2018 (Year ended March 31, 2019) has been retroactively revised to improve data accuracy.

■ **Greenhouse gas (CO₂) emissions reporting boundary**

- Scope 1 and 2: All of the facilities and sales offices in Japan, and major production facilities in other countries (Tampere Plant in Finland and Suzhou Plant in China).
- Scope 3 Category 2: Santen Group consolidated companies
- Scope 3 Category 3: All of the facilities and sales offices in Japan

■ **Greenhouse gas (CO₂) emissions calculation standards**

Scope 1	CO ₂ emissions associated with fuel use 【Calculation method】 Calculated based on fuel consumption x heating value per unit x fuel CO ₂ emission factor 【CO ₂ emission factor】 "Progress management coefficient of The Federation of Pharmaceutical Manufacturers' Associations of Japan " at the time of target setting in Japan (2013) (Hereinafter, "FPMAJ progress management coefficient") is adopted.
Scope 2	CO ₂ emissions from the purchase of electricity and heat 【Calculation method】 Calculated based on electricity consumption x electricity CO ₂ emission factor + heat usage x heat CO ₂ emission factor 【CO ₂ emission factor】 <ul style="list-style-type: none"> • Electricity (Japan) (location-based): Emission factor of " FPMAJ progress management coefficient" at the time of target setting (2013) • Electricity (outside japan) (location-based): Emission factor of IEA "CO₂ Emissions from Fuel Combustion_2016" when setting global targets including outside japan (2017) • Heat (Japan) (location-based): "Calculation of greenhouse gas emissions" in the "Act on Promotion of Global Warming Countermeasures" and adopted values based on the "reporting / publication system" • Heat (outside japan) (location-based): Emission factor of heat supplied by the local corporation
Scope 3 Category 2	CO ₂ emissions associated with the acquisition of property, plant and equipment 【Calculation method】 Calculated by multiplying the capital investment amount of tangible fixed assets by the emission intensity according to the Ministry of the Environment database 【Emissions per unit】 [6] Emissions per unit price of capital goods <Secretariat> 06-0260 of Database of emissions unit values for accounting of greenhouse gas emissions, etc., by organizations throughout the supply chain" (ver.3.0, Ministry of the Environment of Japan / Ministry of Economy, Trade and Industry of Japan)
Scope 3 Category 3	Upstream CO ₂ emissions of purchased electricity (extraction, production, and transportation of fuels consumed in the generation of electricity consumed by the reporting company) 【Calculation method】 Calculated by multiplying the purchased electricity consumption by the emission intensity according to the Ministry of the Environment database 【Emissions per unit】 Electricity emission source of [7] Emission intensity per electricity / heat consumption" of "Database of emissions unit values for accounting of greenhouse gas emissions, etc., by organizations throughout the supply chain" (ver.3.0, Ministry of the Environment of Japan / Ministry of Economy, Trade and Industry of Japan)

■ **Greenhouse gas (CO₂) emissions conversion coefficients**

Type	Conversion Coefficients
Electricity(Japan)	0.3355 t-CO ₂ /MWh
Gas	2.289 t-CO ₂ /thousand m ³
LPG	3.004 t-CO ₂ /t
Heavy oil	2.710 t-CO ₂ /kL
Gasoline	2.320 t-CO ₂ /kL
Heating and cooling	0.057 t-CO ₂ /GJ

■Greenhouse gas (CO₂) emissions trend by operational site

【Santen Group】

(unit : t-CO₂)

	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Greenhouse gas (CO ₂) emissions**	32,374	34,135	34,422	35,252	33,916	-3.8
CO ₂ emissions per unit of revenue**						
[t-CO ₂ /billion yen]	166	171	153	151	140	-6.8
[t-CO ₂ /million \$]	18.0	18.7	16.7	16.4	15.3	

- U.S.dollar amounts have been translated from yen, solely for the convenience of the reader, at the rate of ¥108.83 to U.S.\$1.00, the exchange rate prevailing on March 31, 2020.
- ※ Greenhouse gas (CO₂) emissions and consolidated revenue intensity before FY2018 (Year ended March 31, 2019) have been retroactively revised to improve data accuracy.

【In Japan】

(unit : t-CO₂)

Operational site	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Osaka Office	336	246	244	208	182	-12.5
Noto Plant	10,096	10,817	10,985	11,072	11,487	3.8
Shiga Product Supply Center	6,544	6,543	6,802	6,860	6,397	-6.7
Nara Research and Development Center	4,034	4,223	4,151	4,112	4,222	2.7
Branch and Sales offices and others**	2,845	2,835	2,799	2,671	2,484	-7.0
Total	23,856	24,664	24,981	24,923	24,773	-0.6

- For the CO₂ conversion factor for electric power, the emission factor of the Federation of Pharmaceutical Manufacturers' Associations of Japan is used.

CO ₂ emissions per unit of revenue**						
[t-CO ₂ /billion yen]	153	157	145	141	136	-4.1

- ※ Greenhouse gas (CO₂) emissions and non-consolidated revenue intensity of sales offices and others before FY2018 (Year ended March 31, 2019) has been retroactively revised to improve data accuracy.

【Outside Japan】

(unit : t-CO₂)

Operational site	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Tampere Plant (Finland)**	2,015	2,786	2,659	2,634	1,775	-32.6
Suzhou Plant (China)**	5,744	6,685	6,782	7,695	7,368	-4.2
Total	8,518	9,471	9,441	10,329	9,143	-11.5

- For the CO₂ conversion factor for electric power, the emission factor of the International Energy Agency (IEA) is used.
- ※ Greenhouse gas (CO₂) emissions from the Tampere plant (Finland) and Suzhou plant (China) prior to FY2018 (Year ended March 31, 2019) have been retroactively revised to improve data accuracy.

■Energy usage trend

【Santen Group】

(unit : GJ)

	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Energy usage**	617,922	648,643	656,715	668,462	646,886	-3.2
Energy usage per unit of revenue**						
[GJ/billion yen]	3,164	3,258	2,919	2,856	2,678	-6.2
[GJ/million \$]	344	355	318	311	291	

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- ※ Energy consumption and consolidated revenue intensity for FY2018 (Year ended March 31, 2019) has been retroactively revised to improve data accuracy.

【In Japan】

(unit : GJ)

Operational site	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Osaka Office	9,625	7,173	7,122	6,085	5,333	-12.4
Noto Plant	219,213	236,784	238,837	241,750	248,878	2.9
Shiga Product Supply Center	153,088	152,713	158,305	159,485	153,698	-3.6
Nara Research and Development Center	93,807	98,259	96,359	95,572	97,865	2.4
Branch and Sales offices and others	8,001	8,880	8,522	3,954	4,050	2.4
Total	483,733	503,808	509,145	506,845	509,824	0.6
Energy usage per unit of revenue						
[GJ/billion yen]	3,099	3,210	2,962	2,876	2,792	-2.9

【Outside Japan】

(unit : GJ)

Operational site	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Tampere Plant (Finland)**	51,413	48,791	50,314	49,984	35,342	-29.3
Suzhou Plant (China)	83,871	96,044	97,256	111,632	101,721	-8.9
Total	135,284	144,835	147,570	161,617	137,063	-15.2

- ※ Energy consumption of the Tampere Plant (Finland) in FY2018 (Year ended March 31, 2019) has been retroactively revised to improve data accuracy.

■Renewable energy trend

(unit : MWh)

type	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Solar energy generation ^{※1}	13	13	13	11	12	12.3
Purchased renewable energy ^{※2}	602	554	554	581	1,591	173.9
Total	615	567	567	592	1,603	171.0

- ※1 : Generated by solar energy equipment installed in Nara Research and Development Center. Not included in energy consumption.

- ※2 : Purchased and consumed in Tampere Plant. Not subtracted from the amount of energy consumption.

3. Reducing our Environmental Impact

■Waste reduction and recycling trend

【Santen Group】

(unit : tons)

		Year ended March 31					% Change 2020/2019
		2016	2017	2018	2019	2020	
Total	Emissions	3,274	2,702	2,910	3,178	3,201	0.7
	Recycled resources	2,501	2,630	2,814	2,888	3,065	6.1
	Final disposal	40	37	62	254	107	-57.8
	Final disposal ratio	1.2%	1.4%	2.1%	8.0%	3.3%	-4.6ppt
Final disposal per unit of revenue	[t/billion yen]	0.2	0.2	0.3	1.1	0.4	-59.1
	[t/million \$]	0.02	0.02	0.03	0.12	0.05	

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【In Japan】

(unit : tons)

Operational site		Year ended March 31					% Change 2020/2019
		2016	2017	2018	2019	2020	
Osaka Office*	Emissions	136	109	83	231	99	-57.1
	Recycled resources	132	105	78	62	90	45.1
	Final disposal	0.2	0.2	0.2	159.4	0.2	-99.9
Noto Plant	Emissions	1,580	1,715	1,686	1,793	1,865	4.0
	Recycled resources	1,580	1,715	1,686	1,793	1,865	4.0
	Final disposal	0.0	0.0	0.1	0.1	0.1	0.0
Shiga Product Supply Center	Emissions	405	524	711	671	743	10.9
	Recycled resources	405	524	711	671	743	10.9
	Final disposal	0.0	0.0	0.0	0.0	0.0	0.0
Nara Research and Development Center	Emissions	103	49	53	73	80	8.5
	Recycled resources	97	47	51	72	78	8.8
	Final disposal	0.2	0.1	0.1	0.1	0.1	-1.2
Total	Emissions	2,224	2,398	2,533	2,768	2,787	0.7
	Recycled resources	2,213	2,391	2,526	2,597	2,777	6.9
	Final disposal	0.4	0.3	0.4	159.6	0.4	-99.8
	Final disposal ratio	0.02%	0.01%	0.01%	5.76%	0.01%	-5.75ppt
Final disposal per unit of revenue	[t/billion yen]	0.0	0.0	0.0	0.9	0.0	-99.8

※ Regarding the final disposal of year ended March 31 2019 at Osaka Office, the emissions was temporarily increased due to disposal of residual equipment, etc. associated by selling of the former head office and the Osaka Plant.

【Outside Japan】

(unit : tons)

Operational site		Year ended March 31					% Change 2020/2019
		2016	2017	2018	2019	2020	
Tampere Plant (Finland)	Emissions	992	266	260	262	234	-10.8
	Recycled resources	263	234	231	237	213	-9.9
	Final disposal	6.5	4.0	1.7	0.0	2.3	-
Suzhou Plant (China)**	Emissions	58	38	117	148	179	20.9
	Recycled resources	25	5	57	54	75	38.5
	Final disposal	33	33	60	94	104	10.7

※ Regarding the emissions at Suzhou Plant in China from the year ended March 31 2018, the scope has expanded by reviewing the definition of the emissions.

■Air pollutants emissions trend

【Santen Group】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
SOx(sulfur oxides) ※1,2	10.1	8.3	6.1	2.2	1.8	-19.7
NOx(nitrogen oxides) ※1,2	7.9	7.5	8.3	4.0	3.9	-2.9
VOC(volatile organic compounds) ※2	65	36	36	41	46	10.4

【In Japan】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
SOx(sulfur oxides) ※1	4.5	2.7	2.4	1.8	1.4	-20.9
NOx(nitrogen oxides) ※1	5.5	5.1	5.9	3.6	3.6	0.9
VOC(volatile organic compounds)	27	34	35	40	45	11.2
Dust	0.6	0.4	0.4	0.2	0.2	-9.1

【Outside Japan】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
SOx(sulfur oxides) ※1,2	5.6	5.6	3.7	0.4	0.3	-13.5
NOx(nitrogen oxides) ※1,2	2.4	2.4	2.4	0.4	0.3	-34.1
VOC(volatile organic compounds) ※2	38.3	1.2	1.4	1.2	1.0	-16.7

※1 : Emission is estimated based on results from regular examinations.

※2 : Suzhou Plant in China is excluded.

■Water pollutants emissions trend

【Santen Group】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
BOD(biochemical oxygen demand) ※1,2	7.4	4.5	4.5	8.7	8.8	1.2
COD(chemical oxygen demand) ※1,2	11.1	5.4	4.8	7.5	7.1	-5.5

【In Japan】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
BOD(biochemical oxygen demand) ※1	2.1	2.9	3.0	8.7	7.5	-13.7
COD(chemical oxygen demand) ※1	1.9	2.5	2.6	4.9	4.7	-4.8
SS(suspended solids) ※1	4.7	6.5	8.9	7.2	6.1	-16.0

【Outside Japan】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
BOD(biochemical oxygen demand) ※1,2	5.3	1.6	1.5	0.0	1.3	-
COD(chemical oxygen demand) ※1,2	9.2	2.9	2.2	2.6	2.4	-7.0

※1 : Emission is estimated based on results from regular examinations.

※2 : Suzhou Plant in China is excluded.

■PRTR substances handled (in Japan)

【In Japan】

(unit : tons)

Substance	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Acetonitrile	1.8	1.8	1.8	1.9	1.8	-3.6
Boron and its compounds	0.7	0.9	1.0	0.6	0.7	11.8
Xylene	0.2	0.1	0.6	0.1	0.2	352.0
Others	0.2	0.1	0.2	0.8	0.3	-57.7
Total※	2.8	2.9	3.5	3.3	3.1	-7.6

※ The data included chemical materials used more than 1 kg in a year.

The number of substances over 1kg used per year	18	14	30	34	26	-23.5
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■PCB storage

We have no PCB-containing equipment in our business sites at July 2020. In March 2017, we completed, through a nationally designated service provider, appropriately disposing of the three PCB-containing fluorescent light ballasts that had been stored at our former Osaka Plant, and making them harmless.

■ Water usage trend

【Santen Group】

(unit : thousand m³)

	Year ended March 31					% Change 2020/2019
	2016	2017	2018	2019	2020	
Water usage Total	519	552	545	559	588	5.2
Water usage per unit of revenue [thousand m ³ /billion yen]	2.66	2.77	2.42	2.39	2.43	1.9
[thousand m ³ /million \$]	0.29	0.30	0.26	0.26	0.26	

● U.S.dollar amounts have been translated from yen, solely for the convenience of the reader, at the rate of ¥108.83 to U.S.\$1.00, the exchange rate prevailing on March 31, 2020.

【In Japan】

(unit : thousand m³)

Operational site		Year ended March 31					% Change 2020/2019
		2016	2017	2018	2019	2020	
Osaka Office	Usage	5.2	4.3	4.2	3.9	2.9	-25.3
	Discharge	5.1	4.3	4.2	3.9	2.9	-25.3
Noto Plant	Usage	271	301	300	294	343	16.7
	Discharge	215	261	291	286	296	3.8
Shiga Product Supply Center	Usage	94	110	115	107	93	-12.9
	Discharge	69	91	91	93	93	-0.6
Nara Research and Development Center	Usage	41	44	46	55	52	-5.2
	Discharge	41	44	35	43	38	-11.1
Total	Usage	411	460	466	460	491	6.8
	Discharge	330	401	421	425	430	1.1
Water usage per unit of revenue [thousand m ³ /billion yen]	Usage	2.6	2.9	2.7	2.6	2.7	3.1
	Discharge	2.1	2.6	2.4	2.4	2.4	-2.5

【Outside Japan】

(unit : thousand m³)

		Year ended March 31					% Change 2020/2019
		2016	2017	2018	2019	2020	
Tampere Plant (Finland)	Usage	51	39	39	41	35	-13.7
Suzhou Plant (China)	Usage	57	53	40	58	61	5.2

■ Prevention of environmental pollution

To conserve the living environments of the areas where our plants are located, we have conducted regular environmental monitoring, and have successfully ensured that all plants stay far below the regulation values based on laws, ordinances, treaties, etc.

● Measurements and results of analysis of environmental data (FY2019)

			Noto Plant		Shiga Product Supply Center		Nara Research and Development Center	
			Criteria	Results	Criteria	Results	Criteria	Results
Air pollution	Soot and dust	[g/Nm ³]	0.3	0.01	0.2	< 0.005	0.1	0.001
	NOx	[ppm]	150	54	180	36	150	37
	SOx	[Nm ³ /h]	0.98	0.02	—	—	—	—
Water contamination	pH		5.8~8.6	7.5~7.9	5.0~9.0	7.1~8.0	5.0~9.0	6.5~7.9
	BOD	[mg/L]	80	32	600	24	1,500	81
	COD	[mg/L]	80	13	600	20	—	—
	SS	[mg/L]	120	15	600	42	1,500	74
Noise	Morning	[dB]	60	48	50	47	60	40
	Noon	[dB]	65	51	55	48	65	43
	Evening	[dB]	60	48	50	43	60	41
	Night	[dB]	50	50	45	44	50	40
Vibration levels	Noon	[dB]	65	33	70	29	65	29
	Night	[dB]	60	41	65	< 25	60	28

● Criteria values are specified according to the agreements with municipalities where the workplaces are located.

4. Biodiversity

■Forest conservation activities

Because appropriate forest conservation contributes to not only facilitating the absorption of CO2 but also maintaining the rich natural environment and headwater conservation capacity, leading to the protection of biodiversity, Santen Group engages in forest conservation activities.

• Activities of Noto Plant

Noto Plant supports the Environmental Education Project to conserve nature at Mt. Hodatsu, organized by the board of education of Hodatsushimizu Town, the local government of the area where it is located. Santen employees participate in the project as helpers by leading local students in mountain climbing and cleaning.

• Activities of Shiga Product Supply Center

Santen calls for employees' participation in events held by a Shiga Prefecture-based NPO to offer practical training on the management and use of satoyama forests and other matters.

■Local environmental clean-up activities

To contribute to the cleaning up and beautification of local environments, Santen's offices, laboratories and plants, including the Noto Plant, the Shiga Product Supply Center and the Shimoshinjo Office, conduct clean-up activities in collaboration with local governments and regional organizations.

【Reference】 Environmental accounting (in Japan)

Scope: The cost and effect of Environmental preservation of Santen Pharmaceutical Co., Ltd.
 Period covered: April 1st, 2019 to March 31st 2020
 Reference: Environmental Accounting Guideline (2005 edition, the Ministry of the Environment of Japan)

【Environmental conservation costs】

(unit : million yen)

category	Year ended March 31, 2019		Year ended March 31, 2020	
	Investments	Expenses	Investments	Expenses
Business area costs	23.3	223.4	35.8	159.6
Pollution prevention	0.0	57.7	0.3	47.0
Global environmental conservation	23.2	108.1	28.3	57.2
Resource circulation	0.1	57.6	7.2	55.5
Upstream/downstream costs	—	12.9	—	10.0
Administration costs	0.1	67.1	1.1	91.2
R&D costs	—	—	—	—
Social activity costs	—	0.6	—	1.4
Environmental damage costs	—	—	—	0.1
Total	23.3	304.0	36.9	262.3

- Only the cases that can be determined as related to the purpose of environmental conservation are included in the calculation.
- The cost includes the depreciation amount and was accounted for the same way as the accounting.
- Current investment includes both the investment amount and expense.
- Total number was only a rough estimation because the totals were rounded off.
- The employment cost of the environmental management department and operation and maintenance of the environmental management system was accounted for as administration costs.
- “—” means no cost or no activities.

【Economic effects of environmental conservation measures】

(unit : million yen)

category	Year ended March 31, 2019	Year ended March 31, 2020
Profits from sales of waste etc	80.3	90.5
Cost reductions	13.1	14.0

- Only economic effects that can be determined with a high degree of certainty are included in the calculation.

【Environmental conservation effect】

category	unit	Year ended March 31		Environment al burden reduction	% Change 2020/2019	
		2019	2020			
Energy	Total energy usage	GJ	506,845	509,824	2,978	0.6
	Electricity	kWh	31,039	32,412	1,373	4.4
	Gas	thousand m ³	2,943	2,625	-318	-10.8
	LPG	tons	5.5	5.6	0.1	2.3
	Heavy Oil	kL	1,988	2,112	124	6.2
	Gasoline	kL	969	875	-94	-9.7
Water resources	Total water usage	thousand m ³	460	491	31	6.8
	Tap water	thousand m ³	74	78	4	5.8
	Industrial water	thousand m ³	97	75	-22	-22.6
	Well water	thousand m ³	289	338	49	17.0
Materials	Raw and other materials	tons	5,435	5,628	193	3.6

Global warming	CO ₂ **	tons	24,923	24,773	-151	-0.6
Atmospheric pollutants	SOx (sulfur oxides)	tons	1.8	1.4	-0.4	-20.9
	NOx (nitrogen oxides)	tons	3.6	3.6	0.0	0.9
	VOC (volatile organic compounds)	tons	40	45	5	11.2
	Dust	tons	0.2	0.2	-0.0	-9.1
Water pollutants	Discharged water	thousand m ³	425	430	4	1.1
	BOD(biochemical oxygen demand)	tons	8.7	7.5	-1.2	-13.7
	COD(chemical oxygen demand)	tons	4.9	4.7	-0.2	-4.8
	SS(suspended solids)	tons	7.2	6.1	-1.2	-16.0
Waste materials	Emissions	tons	2,768	2,787	20	0.7
	Recycled resources	tons	2,597	2,777	180	6.9
	Final disposal	tons	159.6	0.4	-159.2	-99.8

※ CO₂ (carbon dioxide) emissions in 2018 have been retroactively revised to improve data accuracy.



Independent Assurance Report

To the President and Chief Executive Officer of Santen Pharmaceutical Co., Ltd.

We were engaged by Santen Pharmaceutical, Co., Ltd. (the “Company”) to undertake a limited assurance engagement of the environmental indicators marked with “✓” (the “Indicators”) for the period from April 1, 2019 to March 31, 2020, included in its Environmental Data Book 2020 (the “Data Book”) for the fiscal year ended March 31, 2020.

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 Data Book.

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 Data Book, 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 Data Book 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.
- Making inquiries and reviewing materials including documented evidence of one of the Company’s plants selected on the basis of a risk analysis, as alternative procedures to site visits.
- 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 Data Book are not prepared, in all material respects, in accordance with the Company’s reporting criteria as described in the Data Book.

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.

Osaka, Japan

December 14, 2020

