



SANTEN PHARMACEUTICAL CO.,LTD.

# Environmental Data Book 2014

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Year Ended March 31, 2014

# Contents



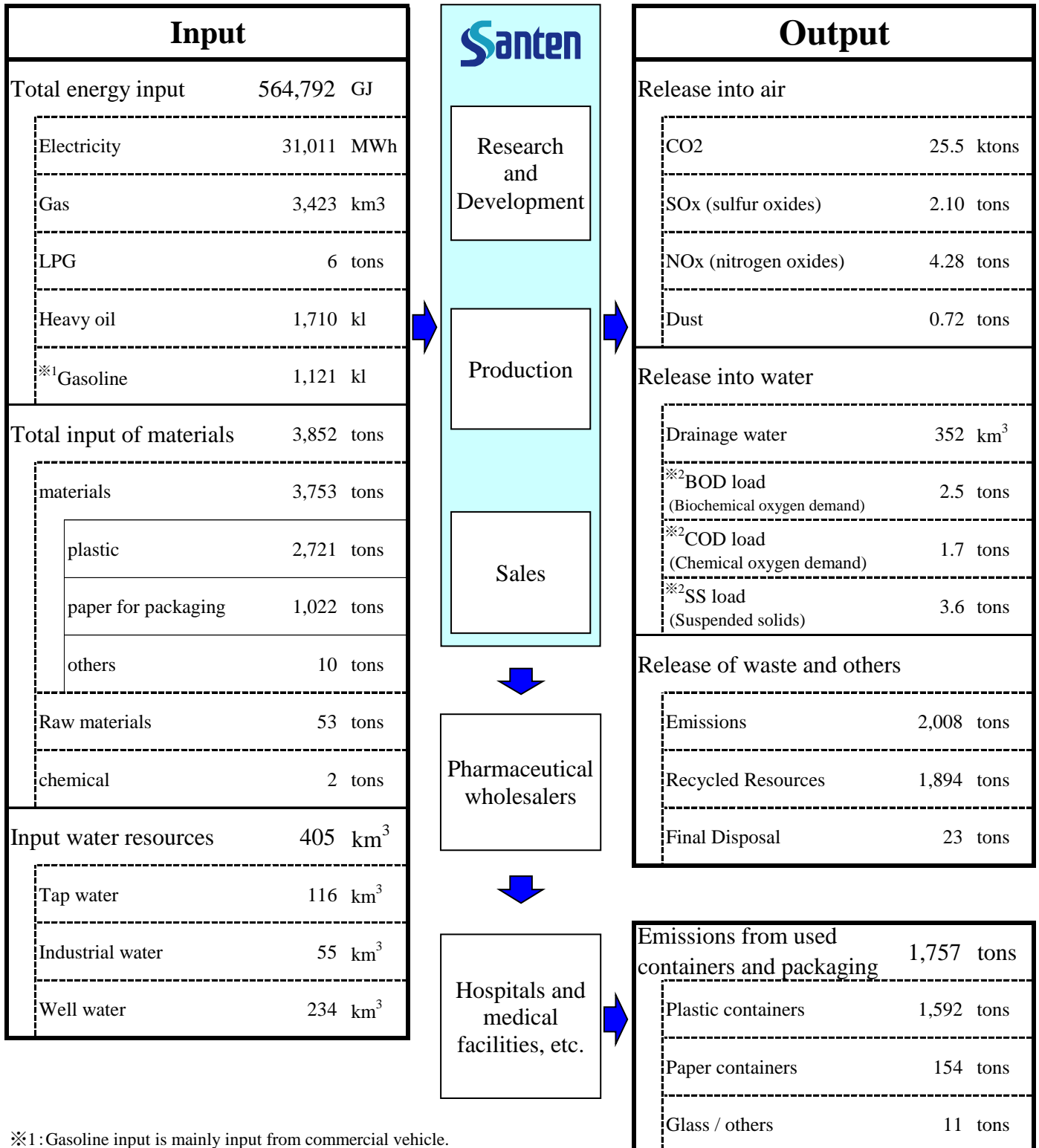
Impact on the Environment	1
Environmental Accounting	2
■ Environmental conservation costs	2
■ Economic effects of environmental conservation measures	2
■ Environmental conservation effect	3
Emissions from used containers and packaging	3
Greenhouse gas emissions by establishment	4
Energy usage by establishment	4
Waste reduction / Recycling	5
Water resource protection	5
Amounts of PRTR substances handled	5

## Scope of reporting

This report primarily presents data of Santen Co., Ltd.  
It also includes some data of Santen's subsidiaries.

# Impact on the Environment

Santen works to determine the impact on the environment and acts continually for the reduction of environmental burdens regarding energy input, input of materials, input of water resources, emissions into air and water, and disposal of waste and others for general business.



\*<sup>1</sup>: Gasoline input is mainly input from commercial vehicle.

\*<sup>2</sup>: Emission is based on results from regular examinations.

# Environmental Accounting

For more efficient environmental management, Santen accepts the (economic and environmental preservation) effect and the cost (investment amount and expense) for environmental preservation efforts and works to reduce the effects on the environment.

Period covered: April 1st, 2013 to March 31st, 2014

Scope: The cost and effect of Environmental preservation in Santen

Reference: MOE Environmental Accounting Guideline (2005)

## ■ Environmental conservation costs

unit:millions of yen

Category	2013		2014	
	Investment	Expenses	Investment	Expenses
Business area costs	75.2	309.6	72.7	287.9
Pollution prevention	7.3	110.9	2.4	89.1
Global environmental conservation	67.5	131.1	12.8	116.1
Resource circulation	0.4	67.6	57.6	82.7
Upstream/downstream costs	—	18.1	—	15.3
Administration costs	16.9	100.0	1.2	93.3
R&D costs	—	—	—	—
Social activity costs	—	0.7	—	0.0
Environmental damage costs	—	—	—	—
Total	92.1	428.4	73.9	396.5

- 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 in 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:millions of yen

Category	2013	2014
Profits from sales of waste etc	62.8	54.6
Cost reductions	12.8	13.6

- 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		Environmental conservation effect	%Change 2014/2013	
		2013	2014			
Energy	Total energy usage	GJ	606,035	564,792	- 41,242	-6.8
	Electricity	MWh	30,844	31,011	167	0.5
	Gas	km <sup>3</sup>	3,818	3,423	- 395	-10.4
	LPG	tons	6	6	- 1	-10.6
	Heavy oil	kℓ	2,384	1,710	- 674	-28.3
	Gasoline	kℓ	1,084	1,121	37	3.4
Water resources	Total water usage	km <sup>3</sup>	459	405	- 54	-11.8
	Tap water	km <sup>3</sup>	131	116	- 15	-11.8
	Industrial water	km <sup>3</sup>	76	55	- 21	-27.3
	Well water	km <sup>3</sup>	252	234	- 18	-7.1
Raw materials	Raw materials	tons	4,309	3,806	- 503	-11.7
Global warming	CO <sub>2</sub>	ktons	28.1	25.5	- 3	-9.2
Atmospheric pollutants	Sulfic oxide emissions	tons	2.8	2.1	- 1	-25.3
	Nitrous oxide emissions	tons	6.4	4.3	- 2	-33.4
	Dust	tons	0.9	0.7	- 0	-18.5
Water pollutants	Drainage water	km <sup>3</sup>	370	352	- 18	-4.8
	BOD load (Biochemical oxygen demand)	tons	5.0	2.5	- 3	-50.0
	COD load (Chemical oxygen demand)	tons	3.4	1.7	- 2	-50.3
	SS load (Suspended solids)	tons	5.7	3.6	- 2	-35.6
Waste materials	Emmitions	tons	2,344	2,008	- 336	-14.3
	Recycred resources	tons	2,142	1,894	- 247	-11.5
	Final disposal	tons	33	23	- 9	-28.6

## Emissions from used containers and packaging

Category	unit	Year ended March 31		Environmental conservation effect	%Change 2014/2013
		2013	2014		
Plastic containers	tons	1,605	1,592	- 13	-0.8
Paper containers	tons	182	154	- 28	-15.4
Glass / others	tons	11	11	- 1	-6.2
Total	tons	1,799	1,757	- 42	-2.3

## Greenhouse gas emissions by site (CO<sub>2</sub> equivalent) [tons]

Operational site	Year ended March 31				
	2010	2011	2012	2013	2014
Osaka Office and Osaka Plant	5,659	5,476	4,967	4,510	3,265
Noto Plant	11,776	11,976	11,829	10,868	9,340
Shiga Product Supply Center	5,239	4,948	4,708	5,158	5,416
Nara Research and Development Center	5,356	5,331	4,778	4,837	4,666
Branch and sales offices and others	2,987	2,925	2,785	2,709	2,803
<b>Total</b>	<b>31,017</b>	<b>30,656</b>	<b>29,067</b>	<b>28,082</b>	<b>25,491</b>
				[t-CO <sub>2</sub> /billion yen]	
CO <sub>2</sub> emissions per unit of sales	3.09	3.08	2.82	2.63	1.98

### \*Overseas subsidiaries

Operational site	Year ended March 31				
	2010	2011	2012	2013	2014
Santen Oy (Finland)	1,402	1,418	1,158	1,253	1,251
Santen Inc. (US)	257	273	—	—	—
<b>Total</b>	<b>1,659</b>	<b>1,691</b>	<b>1,158</b>	<b>1,253</b>	<b>1,251</b>

## Energy usage by site (heat amount equivalent) [GJ]

Operational site	Year ended March 31				
	2010	2011	2012	2013	2014
Osaka Office and Osaka Plant	134,427	129,940	117,961	106,892	79,094
Noto Plant	230,745	234,627	232,515	222,110	204,470
Shiga Product Supply Center	122,956	116,277	110,679	121,064	127,411
Nara Research and Development Center	125,786	124,671	111,585	112,775	109,050
Branch and sales offices and others	47,848	46,994	44,346	43,193	44,768
<b>Total</b>	<b>661,762</b>	<b>652,509</b>	<b>617,085</b>	<b>606,035</b>	<b>564,792</b>
				[GJ/billion yen]	
Energy usage per unit of sales	65.8	65.6	59.8	56.8	43.9

### \*Overseas Subsidiaries

Operational site	Year ended March 31				
	2010	2011	2012	2013	2014
Santen Oy	72,898	67,491	56,804	59,481	57,067
Santen Inc.	2,860	3,214	—	—	—
<b>Total</b>	<b>75,757</b>	<b>70,705</b>	<b>56,804</b>	<b>59,481</b>	<b>57,067</b>

## Waste reduction / Recycling [tons]

Operational site		Year ended March 31				
		2010	2011	2012	2013	2014
Osaka Office and Osaka Plant	Emissions	359	323	306	336	296
	Recycled resources	275	257	237	272	241
	Final disposal	4.2	3.3	3.4	3.1	11.4
	Recycle rate	76.4%	79.7%	77.6%	81.0%	81.6%
Noto Plant	Emissions	1,365	1,410	1,467	1,484	1,320
	Recycled resources	1,361	1,405	1,455	1,484	1,320
	Final disposal	0.1	0.2	0.6	0.1	0.1
	Recycle rate	99.8%	99.7%	99.2%	100.0%	100.0%
Shiga Product Supply Center	Emissions	370	359	380	378	262
	Recycled resources	348	359	380	378	262
	Final disposal	6.9	0.0	0.0	0.0	0.0
	Recycle rate	94.2%	100.0%	100.0%	100.0%	100.0%
Nara Research and Development Center	Emissions	160	144	149	146	130
	Recycled resources	19	18	22	8	71
	Final disposal	25.3	23.4	22.8	29.4	11.9
	Recycle rate	11.9%	12.5%	14.4%	5.2%	54.6%
Total	Emissions	2,254	2,236	2,303	2,344	2,008
	Recycled resources	2,003	2,040	2,094	2,142	1,894
	Final disposal	36.5	26.9	26.8	32.7	23.3
	Recycle rate	88.9%	91.2%	90.9%	91.4%	94.3%

## Water resource protection [km<sup>3</sup>]

Operational site		Year ended March 31				
		2010	2011	2012	2013	2014
Osaka Office and Osaka Plant	Consumption	85	80	74	67	44
	Discharge	60	55	54	47	44
Noto Plant	Consumption	254	305	324	257	239
	Discharge	214	239	225	225	214
Shiga Product Supply Center	Consumption	72	70	69	82	75
	Discharge	62	58	60	65	48
Nara Research and Development Center	Consumption	57	53	49	52	46
	Discharge	34	30	31	33	46
Total	Consumption	468	508	516	459	405
	Discharge	370	382	369	370	352

### \*Overseas Subsidiary

Operational site		Year ended March 31				
		2010	2011	2012	2013	2014
Santen Oy		100	97	66	70	50

## Amounts of PRTR substances handled [kg]

Substance name	Year ended March 31				
	2010	2011	2012	2013	2014
Acetonitrile	1,492	1,704	2,071	1,819	1,602
Chloroform	508	403	430	364	139
Boron and its compounds	709	650	705	636	632
Norman hexane	578	496	615	350	108
Xylene	489	391	390	256	220
Formaldehyde	450	97	76	314	63
Others	156	128	111	171	131
Total	4,382	3,868	4,398	3,910	2,895

Note : The data included chemical materials used more than 1 kg in a year

	Year ended March 31				
	2010	2011	2012	2013	2014
More than 1kg of the items used for only a year	26	20	19	19	24

