

General Situation

I. Industrial Sites

The number of establishments engaged in the manufacturing industry with 30 or more employees in 2003 was 46,284, down 1.6% from the previous year, showing a decline for the twelfth straight year (Table 1).

The total site area of establishments was 1.40325 billion m² (down 1.1% compared to the previous year), floor space was 374.88 million m² (down 0.6% id.) and total floor space was 502.3 million m² (down 0.6% id.), indicating respective declines (Figure 1). The average site area per establishment was 30,318 m² in the manufacturing industry, up 0.6% from the previous year.

The value of shipments of manufactured goods per 1,000 m² of total floor space was 474.24 million yen (up 2.7% id.), an increase for the first time in 3 years.

Figure 1 Major Trends in Area of Industrial Sites
(Establishments with 30 or more employees)

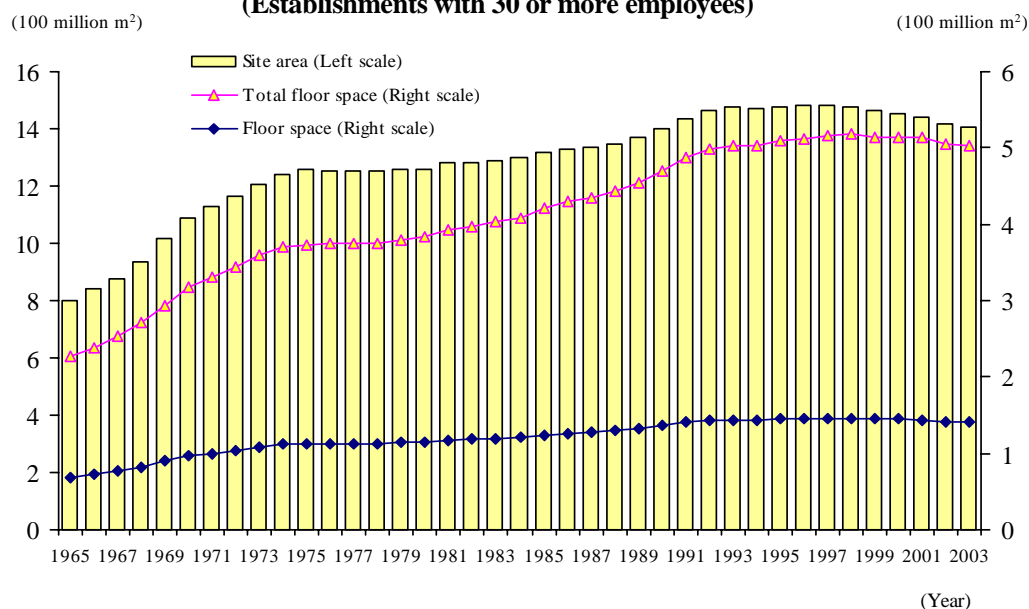


Table 1 Major Trends in Area of Industrial Sites
(Establishments with 30 or more employees)

Year	Number of establishments		Site area		Floor space		Total floor space		Value of shipments per 1,000 m ² of total floor space	
		Y/Y (%)	(1,000 m ²)	Y/Y (%)	(1,000 m ²)	Y/Y (%)	(1,000 m ²)	Y/Y (%)	(10,000 yen)	Y/Y (%)
1995	56749.0	-1.6	1478266.0	0.1	385845.0	0.5	508595.0	0.8	50799.0	1.4
1996	56106.0	-1.1	1480905.0	0.2	387520.0	0.4	511980.0	0.7	51852.0	2.1
1997	55386.0	-1.3	1479934.0	-0.1	390114.0	0.7	516554.0	0.9	53293.0	2.8
1998	54518.0	-4.1	1474839.0	-1.2	390442.0	-0.9	518648.0	-0.6	49896.0	-6.4
1999	52469.0	-3.8	1462761.0	-0.8	386057.0	-1.1	514749.0	-0.8	48286.0	-3.2
2000	51434.0	-2.0	1453611.6	-0.6	385354.7	-0.2	514994.6	0.0	50097.7	3.8
2001	49364.0	-4.0	1442586.1	-0.8	383510.0	-0.5	513981.7	-0.2	48010.5	-4.2
2002	47046.0	-3.7	1418232.5	-1.6	377165.6	-1.5	505229.7	-1.1	46164.0	-2.7
2003	46284.0	-1.6	1403247.0	-1.1	374877.0	-0.6	502300.0	-0.6	47424.0	2.7

Note 1 : Because of the adjustment to the number of establishments in the 1998 survey, the year-on-year comparison is based on a time series.

Note 2 : Because of the revision of the Japan Standard Industrial Classification in the 2002 survey, the year-on-year comparison is calculated by incorporating the classification of 2001 into that of 2002.

1. Situation by industry

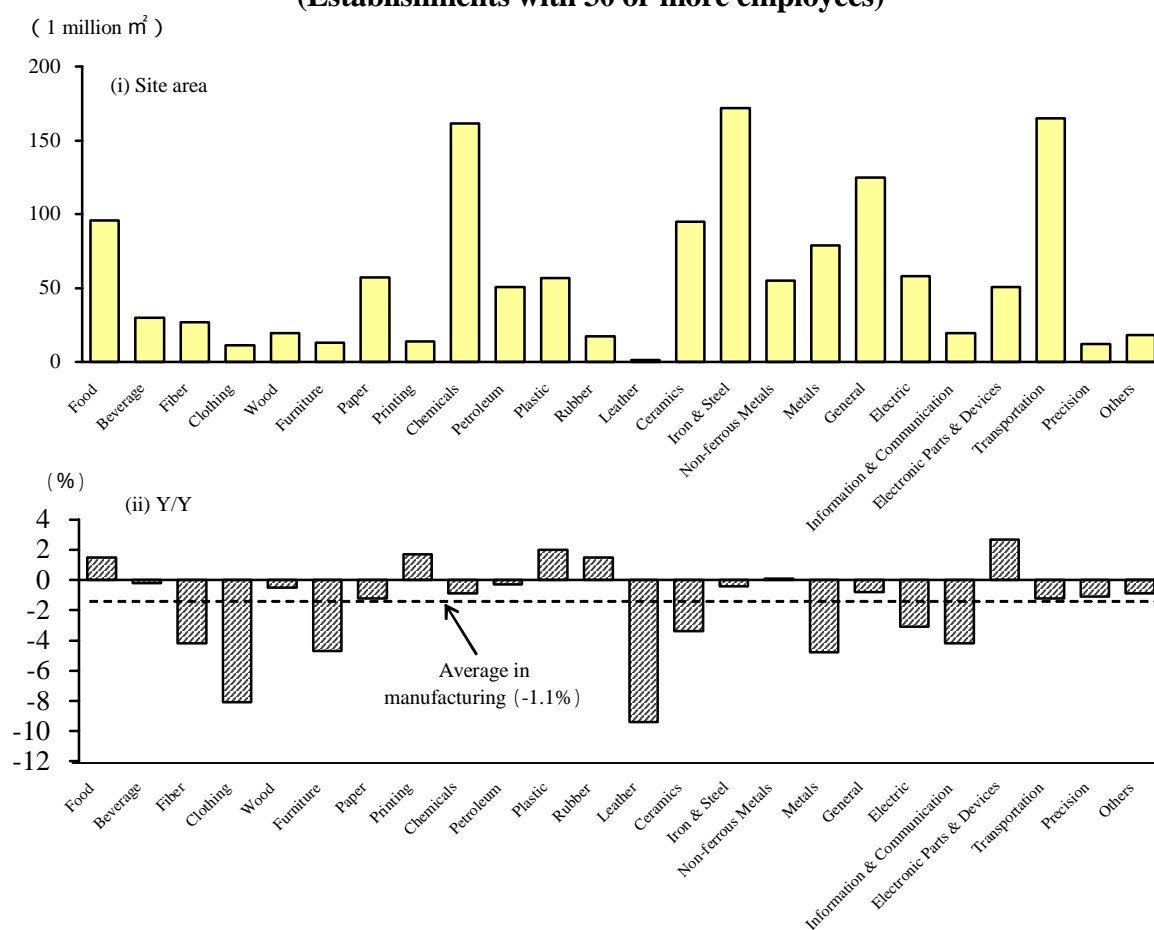
(1) Site area

- (i) The site area of establishments was 1.40325 m², down 1.1% compared to the previous year, and a decline for the seventh consecutive year (Table 1).

Industries with establishments which have a large site area were “iron and steel” (171.82 million m², composition ratio 12.2%), “transportation equipment” (164.84 million m², 11.7% id.), “chemical and allied products” (161.3 million m², 11.5% id.), “general machinery” (124.55 million m², 8.9% id.), “ceramic, stone and clay products” (94.78 million m², 6.8% id.), “food” (95.78 million m², 6.8% id.) and “fabricated metal products” (78.58 million m², 5.6% id.) (Table 2, Figure 2).

A year-on-year decline was seen in 18 industries including “fabricated metal products” (down 4.8% compared to the previous year), “ceramic, stone and clay products” (down 3.4% id.), “transportation equipment” (down 1.2% id.), “electrical machinery, equipment and supplies” (down 3.1% id.), “chemical and allied products” (down 0.9% id.), “textile mill products” (down 4.2% id.), and apparel and other finished products made from fabrics and similar materials” (down 8.1% id.). An increase was seen in 6 industries including “food” (up 1.5% id.), “electronic parts and devices” (up 2.7% id.) and “plastic products” (up 2.0% id.).

Figure 2 Site Area by Industry
(Establishments with 30 or more employees)



(ii) The site area per establishment increased by 0.6% from the previous year to 30,318 m² (Table 2).

Looking at this site area by industry, that of “petroleum and coal products” (503,483 m²) was the largest by far, followed by “iron and steel” (150,321 m²), “chemical and allied products” (75,058 m²) and “non-ferrous metals and products” (70,478 m²), placing equipment-related industries in top-ranking positions (Table 2, Figure 3).

In year-on-year terms, this site area increased in 15 industries including “ceramic, stone and clay products” (up 3.4% compared to the previous year), “printing and allied industries” (up 3.0% id.), “food” (up 2.4% id.), and “rubber products” (up 2.3% id.). It decreased in 8 industries including “petroleum and coal products” (down 6.2% id.), “leather tanning, leather products and fur skins” (down 3.2% id.) and “fabricated metal products” (down 2.9% id.). It was virtually unchanged in “iron and steel”.

Figure 3 Site Area per Establishment by Industry
(Establishments with 30 or more employees)

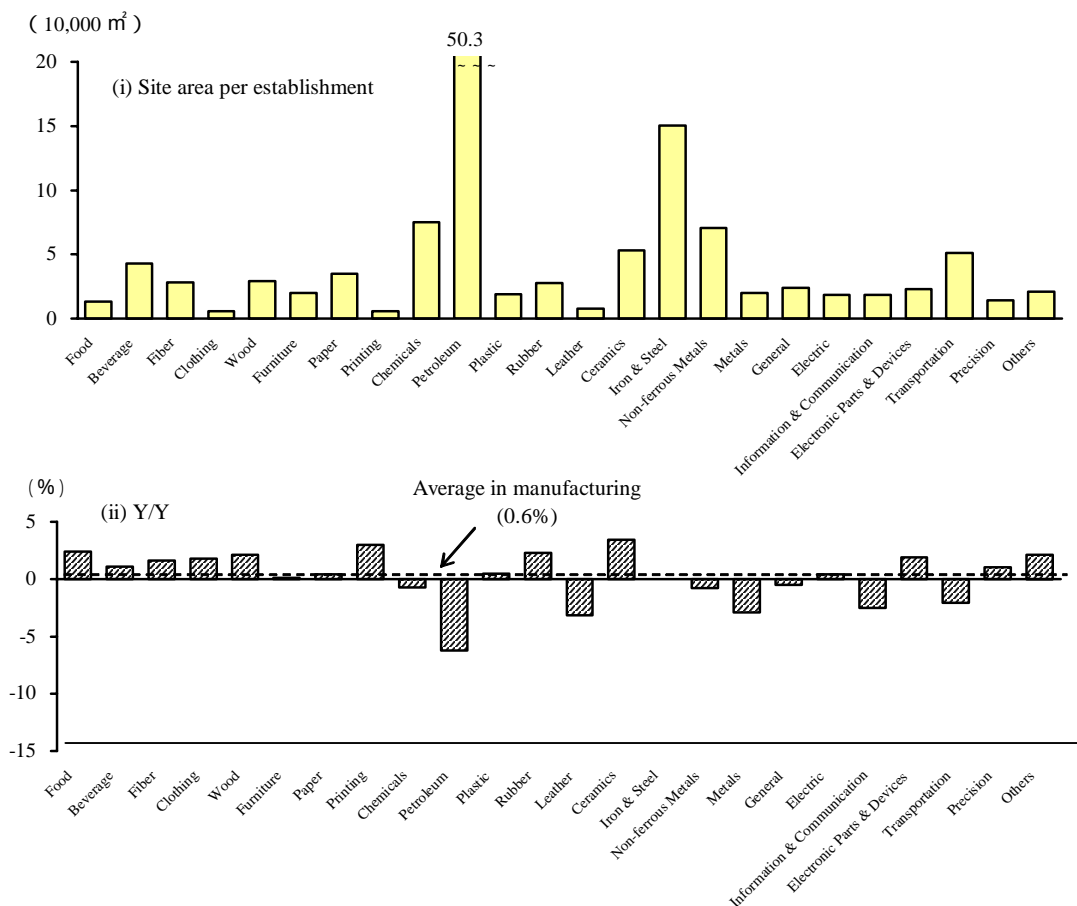


Table 2 Number of Establishments and Site Area by Industry
(Establishments with 30 or more employees)

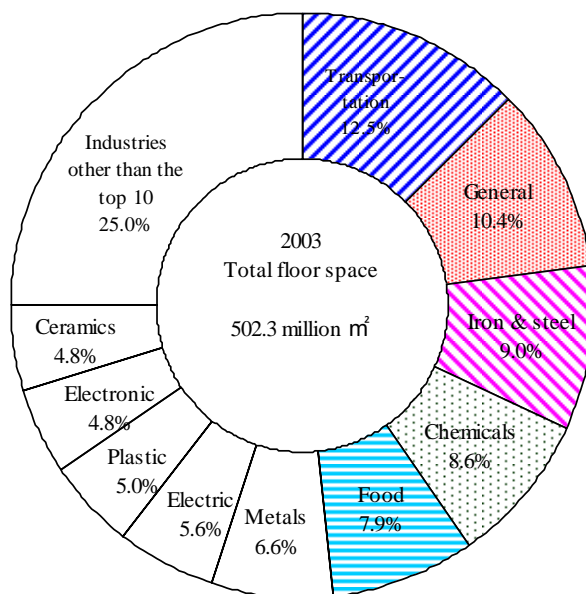
Industry	Number of establishments			Site area				
	2003			2003			2003	
	Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)		Y/Y (%)	
Total	46,284	-1.6	100.0	1,403,247	-1.1	100.0	30,318	0.6
09 Food	7,198	-0.9	15.6	95,780	1.5	6.8	13,306	2.4
10 Beverages, tobacco and feed	696	-1.3	1.5	29,835	-0.2	2.1	42,867	1.1
11 Textile mill products	944	-5.7	2.0	26,867	-4.2	1.9	28,461	1.6
12 Apparel and other finished products	1,921	-9.8	4.2	11,201	-8.1	0.8	5,831	1.8
13 Lumber and wood products	666	-2.5	1.4	19,395	-0.5	1.4	29,121	2.1
14 Furniture and fixtures	657	-4.8	1.4	13,176	-4.7	0.9	20,055	0.1
15 Pulp, paper and paper products	1,617	-1.6	3.5	57,042	-1.2	4.1	35,276	0.4
16 Printing and allied industries	2,342	-1.3	5.1	13,828	1.7	1.0	5,904	3.0
17 Chemical and allied products	2,149	-0.2	4.6	161,299	-0.9	11.5	75,058	-0.7
18 Petroleum and coal products	101	6.3	0.2	50,852	-0.3	3.6	503,483	-6.2
19 Plastic products	2,980	1.5	6.4	56,876	2.0	4.1	19,086	0.5
20 Rubber products	626	-0.8	1.4	17,483	1.5	1.2	27,928	2.3
21 Leather tanning, leather products and fur skins	173	-6.5	0.4	1,328	-9.4	0.1	7,679	-3.2
22 Ceramic, stone and clay products	1,781	-6.5	3.8	94,782	-3.4	6.8	53,219	3.4
23 Iron and steel	1,143	-0.3	2.5	171,817	-0.4	12.2	150,321	0.0
24 Non-ferrous metals and products	781	0.9	1.7	55,043	0.1	3.9	70,478	-0.8
25 Fabricated metal products	3,960	-2.0	8.6	78,577	-4.8	5.6	19,843	-2.9
26 General machinery	5,206	-0.2	11.2	124,550	-0.8	8.9	23,924	-0.5
27 Electrical machinery, equipment and supplies	3,126	-3.5	6.8	58,025	-3.1	4.1	18,562	0.4
28 Information and communication electronics equipment	1,054	-1.8	2.3	19,426	-4.2	1.4	18,430	-2.5
29 Electronic parts and devices	2,207	0.7	4.8	50,858	2.7	3.6	23,044	1.9
30 Transportation equipment	3,220	0.9	7.0	164,838	-1.2	11.7	51,192	-2.1
31 Precision instruments and machinery	876	-2.1	1.9	12,334	-1.1	0.9	14,080	1.0
32 Miscellaneous manufacturing industries	860	-2.9	1.9	18,036	-0.9	1.3	20,972	2.1

(2) Total floor space

- (i) The total floor space was 502.3 million m², down 0.6% from the previous year (Table 1). Comparing the space by industry, industries with large amounts of space are “transportation equipment” (62.88 million m², composition ratio 12.5%), “general machinery” (52.05 million m², 10.4% id.), “iron and steel” (44.97 million m², 9.0% id.), “chemical and allied products” (42.96 million m², 8.6% id.), “food” (39.73 million m², 7.9% id.) and “fabricated metal products” (33.18 million m², 6.6% id.) (Table 3, Figure 4).

On a year-on-year basis, it has declined in 15 industries including “fabricated metal products” (down 4.9% compared to the previous year), “ceramic, stone and clay products” (down 3.7% id.), “electrical machinery, equipment and supplies” (down 2.3% id.), “textile mill products” (down 4.5% id.), and “apparel and other finished products” (down 8.3% id.). It has increased in 9 industries including “plastic products” (up 3.0% id.), “food” (up 1.8% id.), “electronic parts and devices” (up 2.2% id.) and “transportation equipment” (up 0.8% id.).

Figure 4 Breakdown of Total Floor Space by Industry
(Establishments with 30 or more employees)

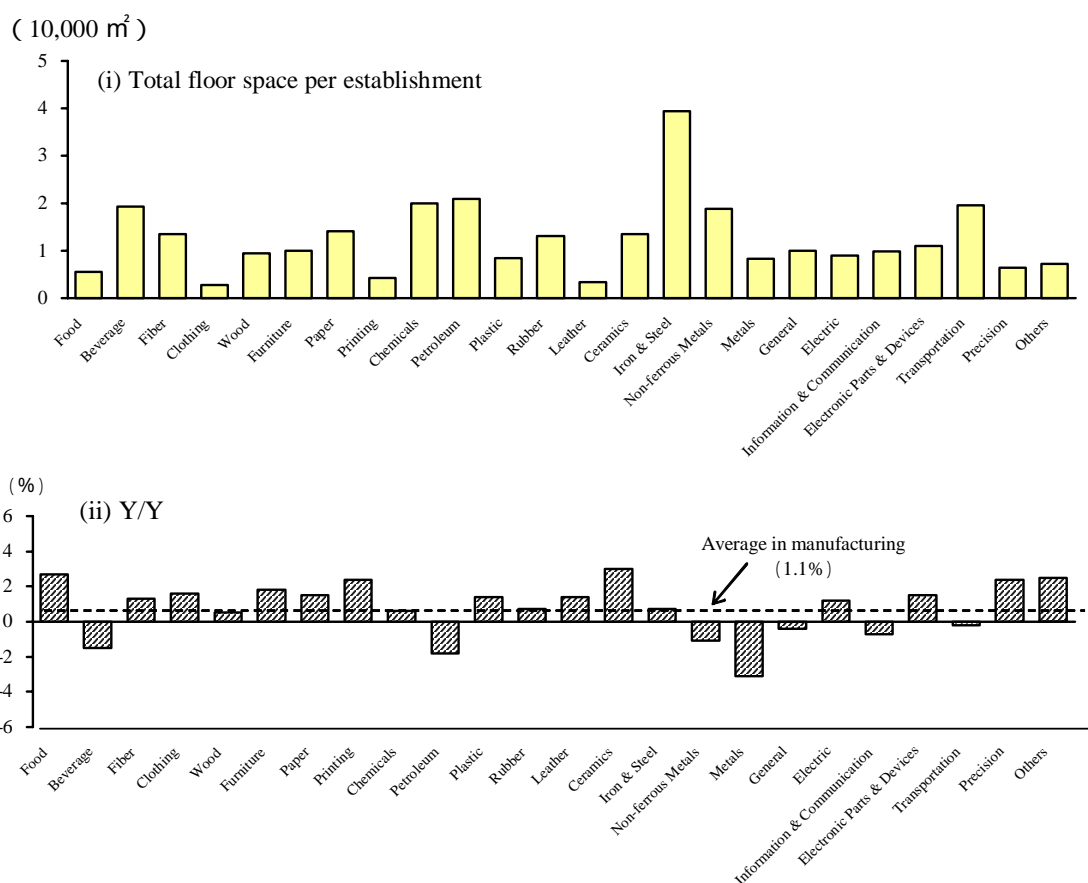


(ii) The total floor space per establishment was 10,853 m², up 1.1% from the previous year (Table 3).

By industry, “iron and steel” had the largest space (39,341 m²), followed by “petroleum and coal products” (20,998 m²), “chemical and allied products” (19,992 m²), “transportation equipment” (19,526 m²), “beverages, tobacco and feed” (19,307 m²), and “non-ferrous metals and products” (18,760 m²) (Table 3, Figure 5).

On a year-on-year basis, there was an increase in 17 industries including “ceramic, stone and clay products” (up 3.0% compared to the previous year), “food” (up 2.7% id.), “miscellaneous manufacturing industries” (up 2.5% id.), and “printing and allied industries” and “precision instruments and machinery” (both up 2.4%). There was a decrease in 7 industries including “fabricated metal products” (down 3.1% id.), “petroleum and coal products” (down 1.8% id.), and “beverages, tobacco and feed” (down 1.5% id.).

Figure 5 Total Floor Space per Establishment by Industry
(Establishments with 30 or more employees)



(iii) The value of shipments of manufactured goods per 1,000 m² of total floor space was 474.24 million yen and increased by 2.7% compared to the previous year (Table 3, Figure 6).

By industry, the value of shipments in “petroleum and coal products” (4.4731 billion yen) was the highest by far, followed by “information and communication electronics equipment” (1.20585 billion yen), “transportation equipment” (770.62 million yen), “electronic parts and devices” (698.13 million yen) and “beverages, tobacco and feed” (686.52 million yen).

On a year-on-year basis, there was an increase in 16 industries including “iron and steel” (up 7.8% compared to the previous year), “electronic parts and devices” (up 7.4% id.), “information and communication electronics equipment” (up 5.5% id.), and furniture and fixtures” (up 5.2% id.). There was a decline in 8 industries including “miscellaneous manufacturing industries” (down 12.3% id.), “printing and allied industries” (down 2.6% id.) and “food” (down 2.3% id.).

Figure 6 Transition in Value of Shipments of Manufactured Goods per 1,000 m² of Total Floor Space (Establishments with 30 or more employees)

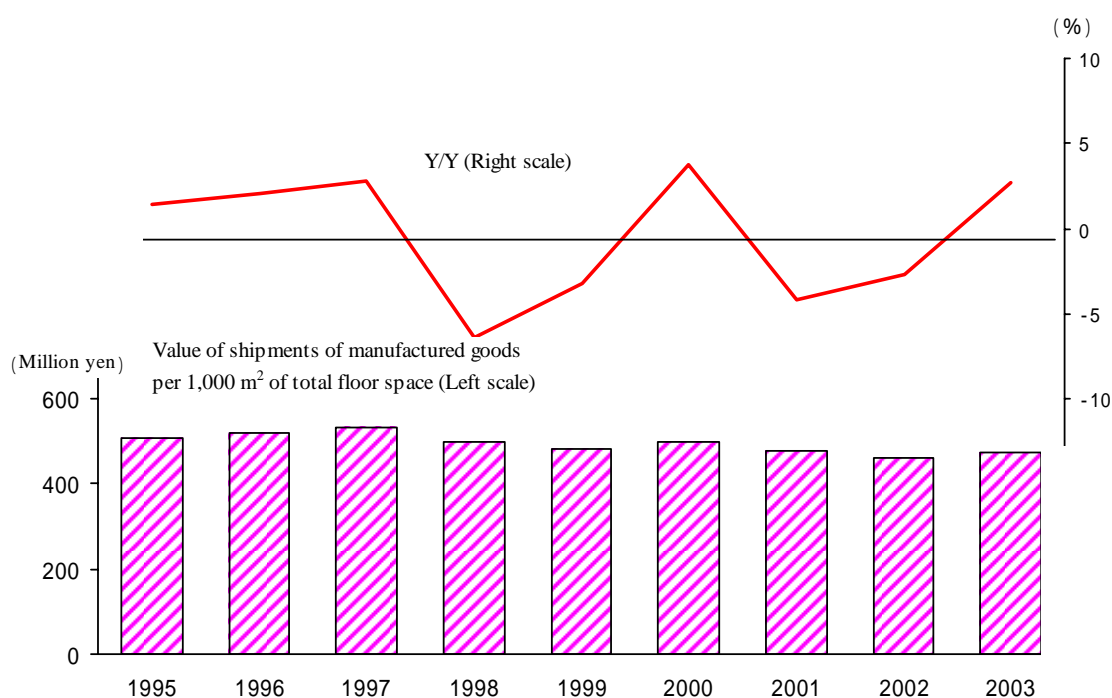


Table 3 Number of Establishments, Floor Space and Total Floor Space by Industry
(Establishments with 30 or more employees)

Industry	Number of establishments			Floor space		
	2003			2003		
		Y/Y (%)	Composition ratio (%)	(1,000 m ²)	Y/Y (%)	Composition ratio (%)
Total	46,284	-1.6	100.0	374,877	-0.6	100.0
09 Food	7,198	-0.9	15.6	27,640	1.7	7.4
10 Beverages, tobacco and feed	696	-1.3	1.5	9,658	-1.0	2.6
11 Textile mill products	944	-5.7	2.0	10,555	-4.4	2.8
12 Apparel and other finished products	1,921	-9.8	4.2	3,674	-8.6	1.0
13 Lumber and wood products	666	-2.5	1.4	5,582	-1.9	1.5
14 Furniture and fixtures	657	-4.8	1.4	4,720	-3.2	1.3
15 Pulp, paper and paper products	1,617	-1.6	3.5	17,074	0.0	4.6
16 Printing and allied industries	2,342	-1.3	5.1	5,467	1.3	1.5
17 Chemical and allied products	2,149	-0.2	4.6	27,976	-0.5	7.5
18 Petroleum and coal products	101	6.3	0.2	1,613	3.8	0.4
19 Plastic products	2,980	1.5	6.4	18,687	2.3	5.0
20 Rubber products	626	-0.8	1.4	6,470	0.7	1.7
21 Leather tanning, leather products and fur skins	173	-6.5	0.4	405	-4.2	0.1
22 Ceramic, stone and clay products	1,781	-6.5	3.8	19,242	-3.6	5.1
23 Iron and steel	1,143	-0.3	2.5	39,918	0.8	10.6
24 Non-ferrous metals and products	781	0.9	1.7	12,173	-0.2	3.2
25 Fabricated metal products	3,960	-2.0	8.6	27,258	-4.3	7.3
26 General machinery	5,206	-0.2	11.2	39,917	-1.1	10.6
27 Electrical machinery, equipment and supplies	3,126	-3.5	6.8	18,919	-1.6	5.0
28 Information and communication electronics equipment	1,054	-1.8	2.3	5,842	-3.0	1.6
29 Electronic parts and devices	2,207	0.7	4.8	13,607	2.8	3.6
30 Transportation equipment	3,220	0.9	7.0	50,660	0.7	13.5
31 Precision instruments and machinery	876	-2.1	1.9	3,602	0.9	1.0
32 Miscellaneous manufacturing industries	860	-2.9	1.9	4,216	-3.3	1.1

Industry	Total floor space			Total floor space per establishment		Value of shipment of manufactured goods per 1,000 m ² of total floor space	
	2003			2003		2003	
	(1,000 m ²)	Y/Y (%)	Composition ratio (%)	(m ²)	Y/Y (%)	(10,000 yen)	Y/Y (%)
Total	502,300	-0.6	100.0	10,853	1.1	47,424	2.7
09 Food	39,734	1.8	7.9	5,520	2.7	46,757	-2.3
10 Beverages, tobacco and feed	13,437	-2.7	2.7	19,307	-1.5	68,652	-0.6
11 Textile mill products	12,803	-4.5	2.5	13,563	1.3	12,430	1.1
12 Apparel and other finished products	5,228	-8.3	1.0	2,721	1.6	25,189	-0.3
13 Lumber and wood products	6,288	-2.0	1.3	9,441	0.5	21,583	3.9
14 Furniture and fixtures	6,555	-3.1	1.3	9,978	1.8	20,321	5.2
15 Pulp, paper and paper products	22,899	-0.1	4.6	14,162	1.5	26,276	-0.5
16 Printing and allied industries	9,978	1.0	2.0	4,261	2.4	51,657	-2.6
17 Chemical and allied products	42,963	0.4	8.6	19,992	0.6	51,025	2.4
18 Petroleum and coal products	2,121	4.4	0.4	20,998	-1.8	447,310	-0.3
19 Plastic products	25,060	3.0	5.0	8,409	1.4	31,505	2.8
20 Rubber products	8,184	-0.1	1.6	13,073	0.7	30,824	1.0
21 Leather tanning, leather products and fur skins	592	-5.2	0.1	3,421	1.4	35,549	0.2
22 Ceramic, stone and clay products	24,119	-3.7	4.8	13,542	3.0	18,717	1.6
23 Iron and steel	44,967	0.3	9.0	39,341	0.7	23,822	7.8
24 Non-ferrous metals and products	14,652	-0.2	2.9	18,760	-1.1	34,930	-0.1
25 Fabricated metal products	33,178	-4.9	6.6	8,378	-3.1	26,395	0.2
26 General machinery	52,052	-0.7	10.4	9,998	-0.4	41,910	3.1
27 Electrical machinery, equipment and supplies	28,093	-2.3	5.6	8,987	1.2	58,870	3.5
28 Information and communication electronics equipment	10,347	-2.5	2.1	9,817	-0.7	120,585	5.5
29 Electronic parts and devices	24,302	2.2	4.8	11,011	1.5	69,813	7.4
30 Transportation equipment	62,875	0.8	12.5	19,526	-0.2	77,062	3.2
31 Precision instruments and machinery	5,664	0.2	1.1	6,466	2.4	55,276	0.9
32 Miscellaneous manufacturing industries	6,209	-0.5	1.2	7,220	2.5	50,252	-12.3

2. Situation by size of workforce

In 2003, establishments with 199 or fewer persons accounted for about 90% of all establishments with 30 or more employees. In site area and floor space terms, establishments with 50 to 99 persons, 100 to 199 persons and 1,000 or more persons accounted for nearly 20% respectively and other establishment sizes for around 10% (Table 4).

The greater the size of the workforce was, the larger the site area and total floor space per establishment were. The value of shipments of manufactured goods per 1,000 m² of total floor space showed the same trend.

Observing the space by size of the workforce compared to the previous year, the site area per establishment and the total floor space per establishment indicated higher figures for all establishments except those with 200 to 299 and 500 to 999 persons. The value of shipments of manufactured goods per 1,000 m² of total floor space was higher than the figure for the previous year for all establishments.

Table 4 Number of Establishments, Site Area, Floor Space and Total Floor Space by Size of Workforce (Establishments with 30 or more employees)

Size of workforce (persons)	Number of establishments			Site area			Site area per establishment	
	2003			2003			2003	
		Y/Y (%)	Composition ratio (%)	(1,000 m ²)	Y/Y (%)	Composition ratio (%)	(m ²)	Y/Y (%)
Total	46,284	-1.6	100.0	1,403,247	-1.1	100.0	30,318	0.6
30 to 49	16,652	-3.2	36.0	147,557	-0.9	10.5	8,861	2.4
50 to 99	16,098	-1.1	34.8	242,825	-1.1	17.3	15,084	0.1
100 to 199	7,993	0.1	17.3	270,844	2.6	19.3	33,885	2.5
200 to 299	2,383	0.7	5.1	135,084	-8.2	9.6	56,686	-8.9
300 to 499	1,712	-2.8	3.7	194,153	1.2	13.8	113,407	4.2
500 to 999	1,003	1.7	2.2	157,774	-3.2	11.2	157,302	-4.8
1000 or more	443	-4.9	1.0	255,011	-1.2	18.2	575,645	3.9

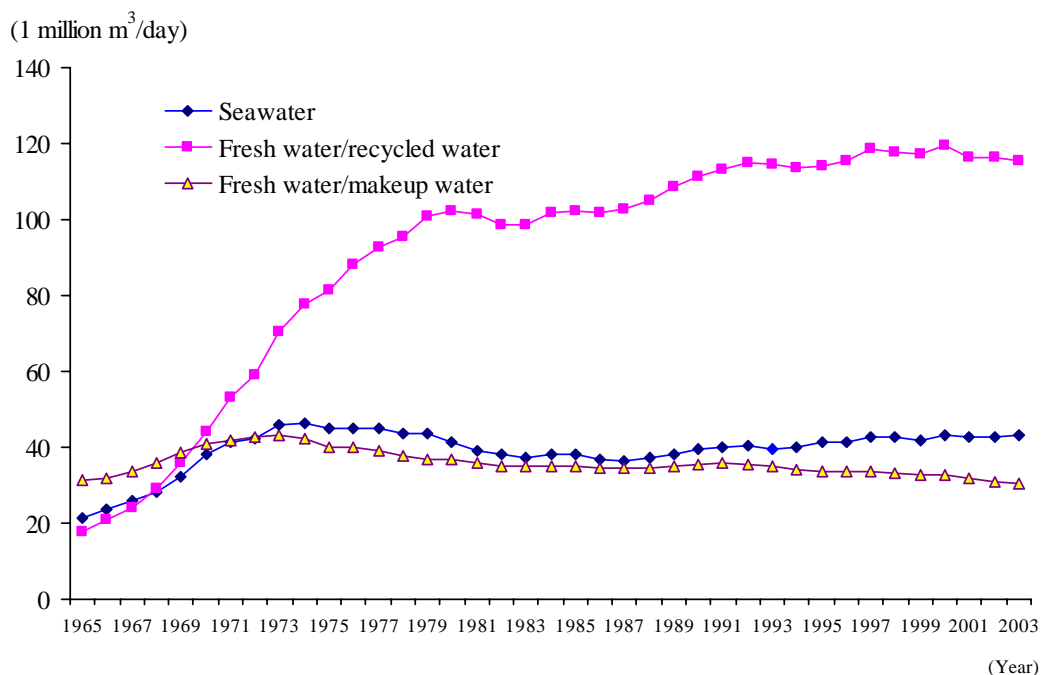
Size of workforce (persons)	Floor space			Total floor space			Total floor space per establishment	
	2003			2003			2003	
	(1,000 m ²)	Y/Y (%)	Composition ratio (%)	(1,000 m ²)	Y/Y (%)	Composition ratio (%)	(m ²)	Y/Y (%)
Total	374,877	-0.6	100.0	502,300	-0.6	100.0	10,853	1.1
30 to 49	42,810	-1.4	11.4	53,921	-1.6	10.7	3,238	1.6
50 to 99	71,437	-0.4	19.1	91,494	-0.1	18.2	5,684	1.1
100 to 199	72,638	1.7	19.4	94,953	1.4	18.9	11,880	1.3
200 to 299	36,164	-3.2	9.6	49,200	-2.4	9.8	20,646	-3.1
300 to 499	42,148	-1.1	11.2	58,618	-0.4	11.7	34,239	2.5
500 to 999	42,003	1.3	11.2	59,881	0.1	11.9	59,702	-1.6
1000 or more	67,676	-2.1	18.1	94,234	-2.0	18.8	212,717	3.1

Size of workforce (persons)	Value of shipments of manufactured goods per 1,000 m ² of total floor space	
	2003	
	(10,000 yen)	Y/Y (%)
Total	47,424	2.7
30 to 49	26,272	1.9
50 to 99	32,258	0.6
100 to 199	37,927	2.2
200 to 299	46,863	0.9
300 to 499	57,316	4.8
500 to 999	59,643	4.9
1000 or more	70,196	3.2

II. Industrial Water

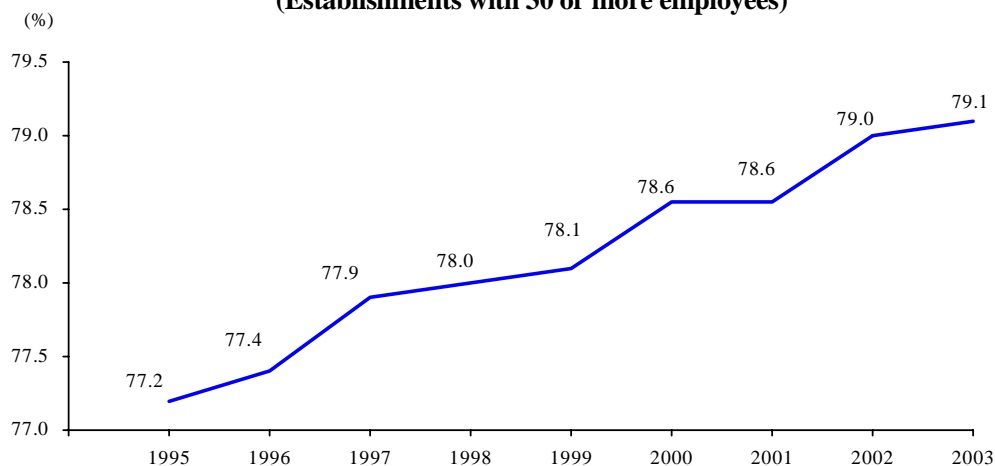
The daily volume of industrial water (hereinafter referred to as “volume of water”) used at establishments engaged in manufacturing with 30 or more employees was 188.89 million m³ in 2003 (down 0.5% compared to the previous year). Of this volume, fresh water accounted for 145.74 million m³ (down 0.9% id., composition ratio 77.2%) and seawater for 43.15 million m³ (up 0.9% compared to the previous year, 22.8% id.) (Table 5).

Figure 7 Change in Daily Volume of Industrial Water Consumption
(Establishments with 30 or more employees)



The recycling rate of fresh water (ratio of recycled water to the total volume of fresh water) was 79.1%, an increase by 0.1% in the total manufacturing (Table 5, Figure 8).

Figure 8 Change in Recycling Rate of Fresh Water
(Establishments with 30 or more employees)



**Table 5 Change in Volume of Industrial Water and Fresh Water by Water Source and Usage
(Establishments with 30 or more employees)**

Year	Number of establishments		Volume of water									
			Total	Total volume of fresh water			Recycling rate of fresh water		Total volume of seawater			
	Y/Y (%)	Y/Y (%)		Y/Y (%)	Composition ratio (%)	(%)	Y/Y (割合)	(1,000 m³/day)	Y/Y (%)	Composition ratio (%)		
											(1,000 m³/day)	(1,000 m³/day)
1995	56,284	-1.8	189,644	1.0	148,146	0.3	78.1	77.2	0.3	41,499	3.4	21.9
1996	55,533	-1.3	190,369	0.4	148,943	0.5	78.2	77.4	0.2	41,426	-0.2	21.8
1997	55,386	-0.3	195,060	2.5	152,124	2.1	78.0	77.9	0.5	42,936	3.6	22.0
1998	54,518	-4.1	193,803	-0.7	151,166	-0.7	78.0	78.0	0.1	42,636	-0.7	22.0
1999	52,469	-3.8	192,244	-0.8	150,277	-0.6	78.2	78.1	0.1	41,967	-1.6	21.8
2000	51,434	-2.0	194,952	1.4	151,965	1.1	77.9	78.6	0.5	42,988	9.6	22.1
2001	49,364	-4.0	190,547	-2.3	147,978	-2.6	77.7	78.6	0.0	42,569	-1.0	22.3
2002	47,046	-3.7	189,774	-0.3	147,021	-0.5	77.5	79.0	0.4	42,753	0.0	22.5
2003	46,284	-1.6	188,889	-0.5	145,743	-0.9	77.2	79.1	0.1	43,146	0.9	22.8

Year	Volume of fresh water by water source									
	Public water system				Well water		Other fresh water		Recycled water	
	Industrial waterworks		Waterworks							
	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)
1995	12,414	1.4	2,450	1.4	9,654	-2.9	9,324	-2.7	114,304	0.7
1996	12,647	1.9	2,459	0.4	9,416	-2.5	9,174	-1.6	115,247	0.8
1997	12,981	2.6	2,412	-1.9	9,253	-1.7	9,031	-1.6	118,447	2.8
1998	12,953	-0.3	2,315	-5.8	8,967	-3.8	9,090	0.7	117,842	-0.5
1999	12,751	-1.6	2,371	2.4	8,677	-3.2	9,057	-0.4	117,421	-0.4
2000	12,833	0.6	2,234	-5.7	8,537	-1.6	8,987	-0.8	119,373	1.7
2001	12,652	-1.4	2,105	-5.8	8,252	-3.3	8,732	-2.8	116,238	-2.6
2002	12,449	-1.6	2,072	-1.0	8,007	-2.9	8,286	-5.1	116,206	0.1
2003	12,314	-1.1	2,054	-0.9	7,874	-1.7	8,180	-1.3	115,320	-0.8

Year	Volume of fresh water by usage									
	Boiler feed water		Raw material water		Product processing and washing water		Cooling and temperature-controlling		Other fresh water	
	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)
1995	1,868	-0.8	587	8.1	25,501	-1.1	113,073	0.7	7,117	0.0
1996	1,881	0.7	579	-1.4	25,387	-0.4	115,969	2.6	5,127	-28.0
1997	1,902	1.1	588	1.5	25,633	1.0	118,813	2.5	5,188	1.2
1998	1,869	-2.1	526	-12.1	25,580	-0.5	118,002	-0.7	5,190	-0.4
1999	1,860	-0.5	542	3.1	25,315	-1.0	117,618	-0.3	4,941	-4.8
2000	1,857	-0.2	544	0.4	25,409	0.4	119,239	1.4	4,915	-0.5
2001	1,791	-3.6	547	0.5	24,836	-2.3	115,961	-2.7	4,843	-1.5
2002	1,765	-1.4	527	-3.7	24,731	-0.4	115,191	-0.5	4,808	-0.6
2003	1,824	3.4	537	1.9	24,340	-1.6	114,215	-0.8	4,827	0.4

Note 1: Because of the adjustment to the number of establishments in the 1998 survey, the year-on-year comparison is based on a time series.

Note 2: Because of the revision of the Japan Standard Industrial Classification in the 2002 survey, the year-on-year comparison is calculated by incorporating the classification of 2001 into that of 2002.

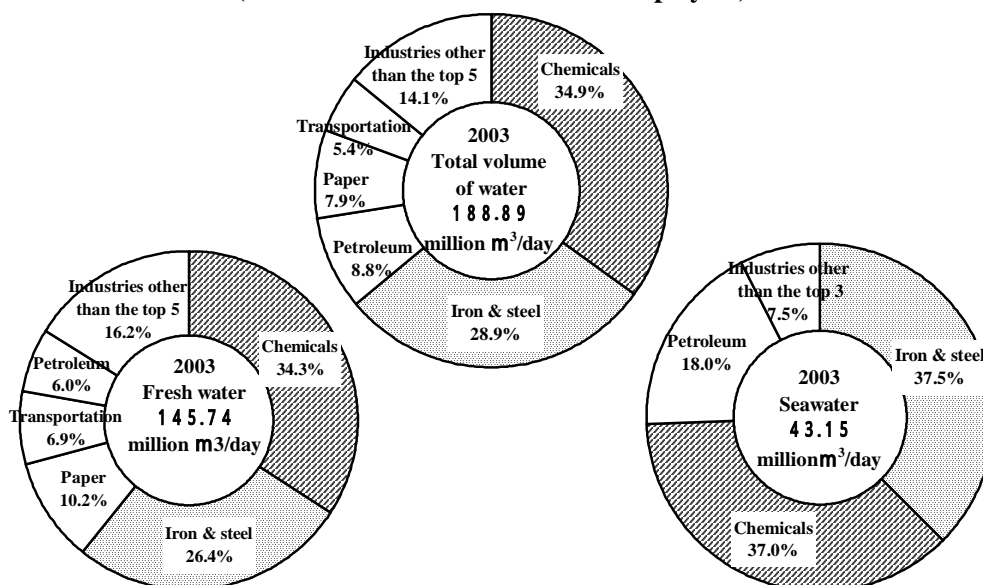
1. Situation by industry

(1) Total volume of water

- (i) Observing the volume of water by industry, the top 2 industries, “chemical and allied products” (65.96 million m³, composition ratio 34.9%) and “iron and steel” (54.61 million m³, 28.9% id.), accounted for more than 60%, followed by “petroleum and coal products” (16.55 million m³, 8.8% id.), “pulp, paper and paper products” (14.87 million m³, 7.9% id.) and “transportation equipment” (10.19 million m³, 5.4% id.). These 5 industries accounted for about 86% of the use of industrial water (Table 6, Figure 9).

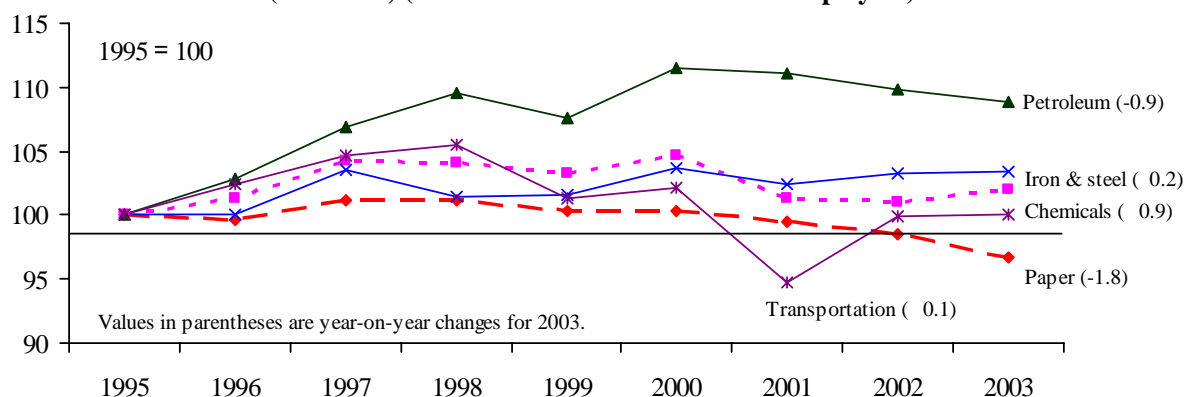
The industry-based ranking in declining order for use of fresh water was “chemical and allied products (50 million m³, composition ratio in fresh water 34.3%), “iron and steel” (38.42 million m³, 26.4% id.), “pulp, paper and paper products” (14.83 million m³, 10.2% id.), “transportation equipment” (10.12 million m³, 6.9%) and “petroleum and coal products” (8.76 million m³, 6.0% id.). The 3 industries using the most seawater were “iron and steel” (16.19 million m³, composition ratio in seawater 37.5%), “chemical and allied products” (15.96 million m³, 37.0% id.) and “petroleum and coal products” (7.79 million m³, 18.0% id.), accounting for about 93% of the use of seawater.

Figure 9 Breakdown of Water Volume Used by Industry
(Establishments with 30 or more employees)



Regarding the year-on-year change in water volume used by the top 5 industry users, the volume used was up 0.9% compared to the previous year for “chemical and allied products”, up 0.2% for “iron and steel”, down 0.9% for “petroleum and coal products”, down 1.8% for “pulp, paper and paper products” and up 0.1% for “transportation equipment” (Figure 10).

Figure 10 Change in Daily Water Volume Used by the Top 5 Industry Users
(1995=100) (Establishments with 30 or more employees)



(ii) The volume of fresh water, which accounted for nearly 80% of industrial water, was 145.74 million m³, down 0.9% from the previous year (Table 6).

Regarding the change in water volume used by the top 5 industry users, water usage was down 0.5% compared to the previous year for “chemical and allied products”, flat for “iron and steel”, down 1.8% for “pulp, paper and paper products”, up 0.3% for “transportation equipment and down 1.0% for “petroleum and coal products”.

The industry using the highest volume of fresh water per establishment was “petroleum and coal products” at 86,768 m³, followed by “iron and steel” (33,610 m³), “chemical and allied products” (23,267 m³), and “pulp, paper and paper products” (9,172 m³).

Table 6 Volume of Water Used by Industry
(Establishments with 30 or more employees)

Industry	Number of establishments			Total volume of water			Volume of water per establishment	
	2003			2003			2003	
		Y/Y (%)	Composition ratio (%)	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)	(m ³ /day)	Y/Y (%)
Total	46,284	-2	100.0	188,889	-0.5	100.0	4081.0	1.2
09 Food	7,198	-1	15.6	5,125	-0.9	2.7	712.0	0.0
10 Beverages, tobacco and feed	696	-1	1.5	973	-5.8	0.5	1397.0	-4.6
11 Textile mill products	944	-6	2.0	1,308	-6.5	0.7	1386.0	-0.9
12 Apparel and other finished products	1,921	-10	4.2	72	-5.9	0.0	37.0	2.8
13 Lumber and wood products	666	-3	1.4	56	6.2	0.0	84.0	9.1
14 Furniture and fixtures	657	-5	1.4	30	-11.0	0.0	46.0	-8.0
15 Pulp, paper and paper products	1,617	-2	3.5	14,872	-1.8	7.9	9197.0	-0.2
16 Printing and allied industries	2,342	-1	5.1	97	-3.1	0.1	41.0	-2.4
17 Chemical and allied products	2,149	0	4.6	65,964	0.9	34.9	30695.0	1.1
18 Petroleum and coal products	101	6	0.2	16,549	-0.9	8.8	163855.0	-6.8
19 Plastic products	2,980	2	6.4	2,378	-2.3	1.3	798.0	-3.7
20 Rubber products	626	-1	1.4	967	3.2	0.5	1544.0	4.0
21 Leather tanning, leather products and fur skins	173	-7	0.4	11	-1.7	0.0	62.0	5.1
22 Ceramic, stone and clay products	1,781	-7	3.8	4,145	-16.3	2.2	2327.0	-10.5
23 Iron and steel	1,143	0	2.5	54,606	0.2	28.9	47775.0	0.5
24 Non-ferrous metals and products	781	1	1.7	4,072	8.0	2.2	5214.0	7.1
25 Fabricated metal products	3,960	-2	8.6	856	-10.9	0.5	216.0	-9.2
26 General machinery	5,206	0	11.2	1,400	-4.8	0.7	269.0	-4.6
27 Electrical machinery, equipment and supplies	3,126	-4	6.8	787	-11.1	0.4	252.0	-7.7
28 Information and communication electronics equipment	1,054	-2	2.3	507	-5.3	0.3	481.0	-3.6
29 Electronic parts and devices	2,207	1	4.8	3,549	-2.9	1.9	1608.0	-3.6
30 Transportation equipment	3,220	1	7.0	10,186	0.1	5.4	3163.0	-0.8
31 Precision instruments and machinery	876	-2	1.9	182	43.1	0.1	208.0	46.5
32 Miscellaneous manufacturing industries	860	-3	1.9	198	-22.0	0.1	230.0	-19.6

Industry	Freshwater			Volume of fresh water per establishment		Seawater		
	2003			2003		2003		
	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)	(m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)
Total	145,743	-1	100.0	3,149	0.8	43,146	0.9	100.0
09 Food	4,226	0	2.9	587	0.5	899	-3.3	2.1
10 Beverages, tobacco and feed	960	-6	0.7	1,379	-4.9	13	27.4	0.0
11 Textile mill products	1,307	-7	0.9	1,384	-0.9	1	5.2	0.0
12 Apparel and other finished products	72	-6	0.0	37	2.8	-	-	-
13 Lumber and wood products	56	6	0.0	84	9.1	-	-	-
14 Furniture and fixtures	30	-11	0.0	46	-8.0	-	-	-
15 Pulp, paper and paper products	14,832	-2	10.2	9,172	-0.2	41	-1.6	0.1
16 Printing and allied industries	97	-3	0.1	41	-2.4	-	-	-
17 Chemical and allied products	50,002	-1	34.3	23,267	-0.3	15,962	5.3	37.0
18 Petroleum and coal products	8,764	-1	6.0	86,768	-6.9	7,786	-0.7	18.0
19 Plastic products	2,378	-2	1.6	798	-3.7	0	-50.5	0.0
20 Rubber products	967	3	0.7	1,544	4.0	-	-	-
21 Leather tanning, leather products and fur skins	11	-2	0.0	62	5.1	-	-	-
22 Ceramic, stone and clay products	3,432	-9	2.4	1,927	-2.9	714	-39.0	1.7
23 Iron and steel	38,417	0	26.4	33,610	0.4	16,190	0.6	37.5
24 Non-ferrous metals and products	2,651	9	1.8	3,394	8.3	1,421	5.7	3.3
25 Fabricated metal products	856	-11	0.6	216	-9.2	0	-	0.0
26 General machinery	1,350	-3	0.9	259	-3.0	49	-34.4	0.1
27 Electrical machinery, equipment and supplies	786	-11	0.5	252	-7.7	0	1150.0	0.0
28 Information and communication electronics equipment	507	-5	0.3	481	-3.6	-	-	-
29 Electronic parts and devices	3,549	-3	2.4	1,608	-3.6	0	-	0.0
30 Transportation equipment	10,116	0	6.9	3,141	-0.7	70	-16.7	0.2
31 Precision instruments and machinery	182	43	0.1	208	46.5	-	-	-
32 Miscellaneous manufacturing industries	198	-22	0.1	230	-19.6	0	-	0.0

(2) Volume of fresh water by water source

In terms of the volume of fresh water used by water source, recycled water (115.32 million m³, composition ratio 79.1%) accounts for nearly 80%. This is followed by industrial waterworks (12.31 million m³, 8.4% id.), other fresh water (8.18 million m³, 5.6% id.), well water (7.87 million m³, 5.4% id.) and waterworks (2.05 million m³, 1.4% id.) (Tables 5 and 7, Figure 11).

In year-on-year terms, there was a decline for industrial water (down 1.1%), waterworks (down 0.9% id.), well water (down 1.7% id.), recycled water (down 0.8% id.) and other fresh water (down 1.3% id.).

- (i) “Chemical and allied products” (42.4 million m³, composition ratio in recycled water 36.8%) and “iron and steel” (34.81 million m³, 30.2% id.) utilized the most recycled water by far, followed by “transportation equipment” (9.37 million m³, 8.1% id.), “petroleum and coal products” (7.91 million m³, 6.9% id.) and “pulp, paper and paper products” (6.9 million m³, 6.0% id.). These top 5 industries utilized close to 90% of recycled water.
- (ii) The ranking in declining order of the industries using the industrial waterworks most was “chemical and allied products” (4.15 million m³, composition ratio in industrial waterworks 33.7%), “iron and steel” (2.82 million m³, 22.9% id.) and “pulp, paper and paper products” (2.31 million m³, 18.7% id.). These top 3 industries accounted for more than 70% of industrial waterworks use.
- (iii) For “other fresh water”, “pulp, paper and paper products” (4.4 million m³, composition ratio in other fresh water 53.8%) and “chemical and allied products” (1.92 million m³, 23.5% id.) were the top 2 industry users, accounting for about 80% of other fresh water use.
- (iv) For well water, the industry ranking in declining order of volume used was “chemical and allied products” (1.34 million m³, composition ratio in well water 16.9%), “food” (1.26 million m³, 16.0% id.), “pulp, paper and paper products” (1.18 million m³, 15.0% id.) and “textile mill products” (780 thousand m³, 9.9% id.). These top 4 industries accounted for nearly 60% of the use of well water.
- (v) For waterworks, the ranking for industries using the waterworks most was “food” (450 thousand m³, composition ratio in waterworks 21.7%), “electronic parts and devices” (190 thousand m³, 9.3% id.), “chemical and allied products” (190 thousand m³, 9.2% id.), “general machinery” (150 thousand m³, 7.4% id.) and “transportation equipment” (150 thousand m³, 7.3% id.). These top 5 industries accounted for about 50% of the use of waterworks.

Figure 11 Composition Ratio of Volume of Fresh Water Used by Water Source and recycled water by industry
(Establishments with 30 or more employees)

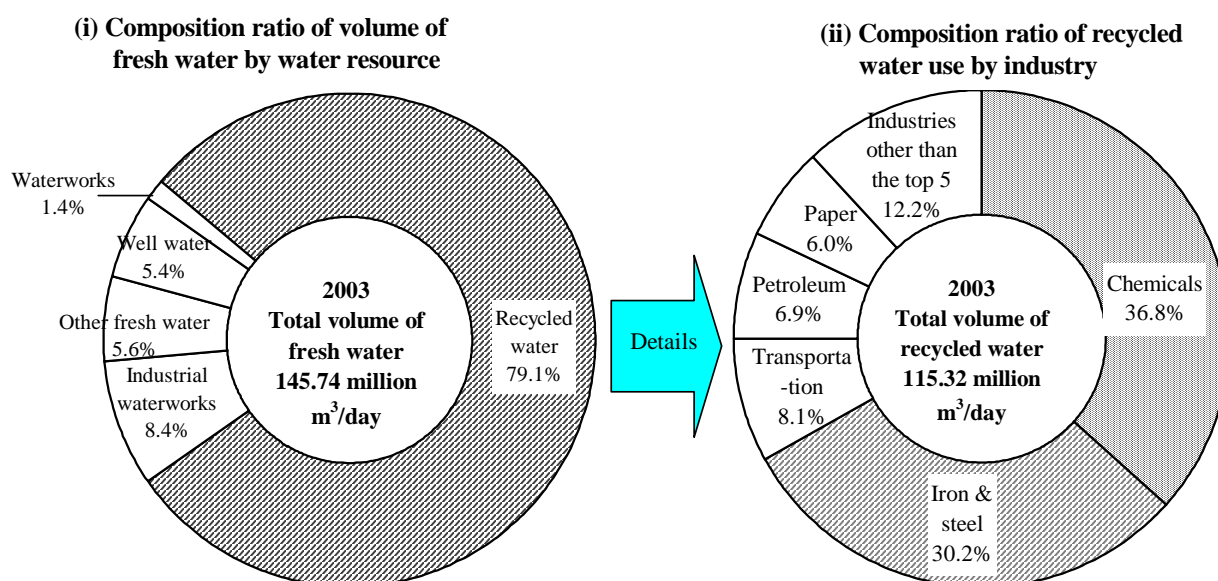


Table 7 Volume of Fresh Water Used by Industry and Water Source
(Establishments with 30 or more employees)

(Unit : 1,000 m³ / day)

Industry	Public waterworks						Well water		
	Industrial waterworks			Waterworks			2003		
	2003			2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	12,314	-1.1	100.0	2,054	-0.9	100.0	7,874	-1.7	100.0
09 Food	354	2.0	2.9	445	-5.0	21.7	1,260	-3.8	16.0
10 Beverages, tobacco and feed	195	-4.2	1.6	121	-5.1	5.9	423	0.3	5.4
11 Textile mill products	185	-9.2	1.5	36	-5.0	1.7	777	-6.7	9.9
12 Apparel and other finished products	4	4.7	0.0	17	-9.5	0.8	42	-3.0	0.5
13 Lumber and wood products	10	12.3	0.1	23	20.7	1.1	13	9.4	0.2
14 Furniture and fixtures	5	9.9	0.0	8	-10.3	0.4	12	-11.6	0.2
15 Pulp, paper and paper products	2,307	-1.0	18.7	50	0.8	2.4	1,178	0.9	15.0
16 Printing and allied industries	7	-5.9	0.1	41	-2.1	2.0	28	-11.2	0.4
17 Chemical and allied products	4,153	-1.1	33.7	189	4.1	9.2	1,335	-0.4	16.9
18 Petroleum and coal products	820	4.1	6.7	10	0.8	0.5	10	0.7	0.1
19 Plastic products	91	-20.7	0.7	77	4.3	3.7	510	-0.7	6.5
20 Rubber products	33	2.3	0.3	20	-0.4	1.0	140	-1.8	1.8
21 Leather tanning, leather products and fur skins	0	-28.2	0.0	2	-22.4	0.1	6	6.7	0.1
22 Ceramic, stone and clay products	204	-6.1	1.7	80	0.9	3.9	348	-4.0	4.4
23 Iron and steel	2,816	-0.7	22.9	98	0.2	4.8	174	5.2	2.2
24 Non-ferrous metals and products	241	1.5	2.0	51	0.7	2.5	198	-2.0	2.5
25 Fabricated metal products	110	-0.8	0.9	129	-1.0	6.3	215	-2.4	2.7
26 General machinery	64	-24.6	0.5	152	15.8	7.4	195	-4.7	2.5
27 Electrical machinery, equipment and supplies	90	2.6	0.7	86	-9.2	4.2	182	-2.2	2.3
28 Information and communication electronics equipment	20	-12.3	0.2	38	-0.4	1.9	28	-4.0	0.4
29 Electronic parts and devices	307	0.1	2.5	191	-0.8	9.3	436	1.3	5.5
30 Transportation equipment	288	0.4	2.3	150	-3.3	7.3	285	2.6	3.6
31 Precision instruments and machinery	4	-3.7	0.0	25	1.6	1.2	53	-7.2	0.7
32 Miscellaneous manufacturing industries	4	-8.8	0.0	15	-14.1	0.7	27	-5.8	0.3

(Unit : 1,000 m³ / day)

Industry	Other fresh water			Recycled water		
	2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	8,180	-1.3	100.0	115,320	-0.8	100.0
09 Food	507	-2.3	6.2	1,660	4.0	1.4
10 Beverages, tobacco and feed	36	-13.9	0.4	186	-18.7	0.2
11 Textile mill products	115	3.0	1.4	194	-8.5	0.2
12 Apparel and other finished products	5	-9.5	0.1	4	-19.9	0.0
13 Lumber and wood products	5	-37.7	0.1	5	-0.7	0.0
14 Furniture and fixtures	0	11.4	0.0	4	-28.6	0.0
15 Pulp, paper and paper products	4,399	-2.1	53.8	6,898	-2.3	6.0
16 Printing and allied industries	4	19.4	0.0	18	6.9	0.0
17 Chemical and allied products	1,921	0.7	23.5	42,404	-0.5	36.8
18 Petroleum and coal products	15	-0.1	0.2	7,908	-1.5	6.9
19 Plastic products	185	-0.8	2.3	1,515	-1.9	1.3
20 Rubber products	16	0.5	0.2	758	4.4	0.7
21 Leather tanning, leather products and fur skins	2	-0.9	0.0	1	9.8	0.0
22 Ceramic, stone and clay products	161	-8.0	2.0	2,638	-10.5	2.3
23 Iron and steel	514	3.9	6.3	34,814	0.0	30.2
24 Non-ferrous metals and products	171	1.4	2.1	1,990	12.6	1.7
25 Fabricated metal products	25	-17.4	0.3	378	-19.6	0.3
26 General machinery	24	-30.7	0.3	915	-2.6	0.8
27 Electrical machinery, equipment and supplies	19	-0.9	0.2	409	-17.6	0.4
28 Information and communication electronics equipment	1	16.2	0.0	419	-5.5	0.4
29 Electronic parts and devices	15	-3.6	0.2	2,600	-4.1	2.3
30 Transportation equipment	23	-22.7	0.3	9,368	0.3	8.1
31 Precision instruments and machinery	12	38.0	0.1	89	168.5	0.1
32 Miscellaneous manufacturing industries	7	413.3	0.1	144	-28.3	0.1

(3) Volume of fresh water used by usage

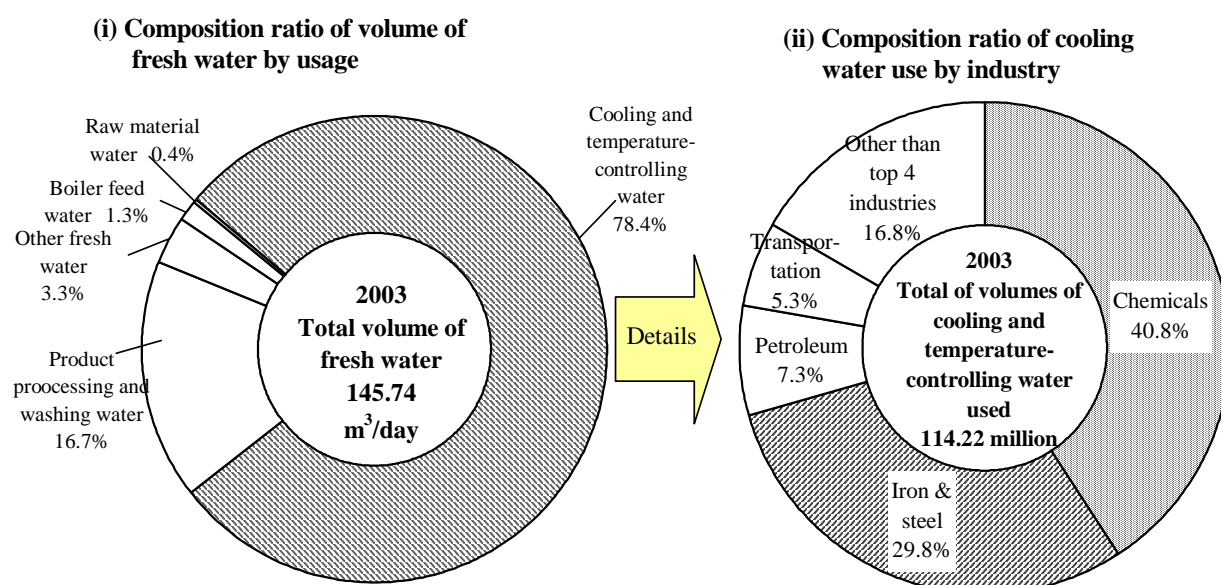
Observing the volume of fresh water by application, cooling and temperature-controlling water (114.22 million m³, composition ratio 78.4%) accounted for about 80% of the total, followed by product processing and washing water (24.34 million m³, 16.7% id.) and other fresh water (4.83 million m³, 3.3% id.). The ratio of boiler feed water (1.82 million m³, 1.3% id.) and raw material water (540 thousand m³, 0.4% id.) was very small (Table 8, Figure 12).

On a year-on-year basis, the volume decreased for product processing and washing water (down 1.6% compared to the previous year) and cooling and temperature-controlling water (down 0.8% id.), which had a large weighting, although there was an increase for boiler feed water (up 3.4% id.), raw material water (up 1.9% id.), and other fresh water (up 0.4% id.).

Observing by application,

- (i) Fresh water for cooling and temperature controlling was used the most by far in the two industries of “chemical and allied products” (46.57 million m³, composition ratio in cooling and temperature-controlling water 40.8%) and “iron and steel” (34.02 million m³, 29.8% id.), accounting for about 70% of the total. This is followed by “Petroleum and coal products” (8.36 million m³, 7.3% id.) and “transportation equipment” (6.08 million m³, 5.3% id.).
- (ii) Regarding the fresh water for product processing and washing, almost the half of the volume was accounted for by “pulp, paper and paper products” (11.54 million m³, composition ratio in product processing and washing water 47.4%), followed by “transportation equipment” (3.37 million m³, 13.8% id.), “iron and steel” (3.06 million m³, 12.6% id.), “chemical and allied products” (1.82 million m³, 7.5% id.) and “food” (1.28 million m³, 5.2% id.).
- (iii) The ranking for industries using large quantities of boiler feed water was “chemical and allied products” (590 thousand m³, composition ratio in boiler feed water 32.2%), “pulp, paper and paper products” (320 thousand m³, 17.4% id.), “petroleum and coal products” (220 thousand m³, 12.1% id.) and “food” (180 thousand m³, 9.7% id.).
- (iv) The raw material water was the most used in the top 4 industries including “food” (210 thousand m³, composition ratio in raw material water 39.3%), “beverages, tobacco and feed” (140 thousand m³, 26.4% id.), “chemical and allied products” (120 thousand m³, 21.6% id.) and “ceramic, stone and clay products” (50 thousand m³, 8.7% id.), which together account for the use of almost all raw material water.

Figure 12 Composition Ratio of Volume of Fresh Water Used by Application and Cooling Water Use by Industry
(Establishments with 30 or more employees)



**Table 8 Volume of Fresh Water Used by Industry and Volume
(Establishments with 30 or more employees)**

(Unit : 1,000 m³ / day)

Industry	Boiler feed water			Raw material water			Product processing and washing water		
	2003			2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	1,824	3.4	100.0	537	1.9	100.0	24,340	-1.6	100.0
09 Food	177	-1.4	9.7	211	3.8	39.3	1,276	-5.1	5.2
10 Beverages, tobacco and feed	48	-5.9	2.6	142	3.7	26.4	340	-2.6	1.4
11 Textile mill products	61	5.6	3.3	-	16.7	0.0	607	-4.4	2.5
12 Apparel and other finished products	8	-2.9	0.4	0	-	0.0	18	-8.9	0.1
13 Lumber and wood products	21	28.5	1.2	-	0.0	0.0	12	-2.2	0.0
14 Furniture and fixtures	3	-15.9	0.2	-	-	0.0	8	-17.4	0.0
15 Pulp, paper and paper products	318	9.7	17.4	19	133.6	3.5	11,536	-2.7	47.4
16 Printing and allied industries	6	-3.9	0.3	0	-20.0	0.0	21	-9.5	0.1
17 Chemical and allied products	588	4.2	32.2	116	-6.3	21.6	1,819	0.2	7.5
18 Petroleum and coal products	220	1.5	12.1	1	8.6	0.2	37	-10.3	0.2
19 Plastic products	36	0.1	1.9	0	-30.7	0.1	113	4.0	0.5
20 Rubber products	24	3.0	1.3	-	-100.0	0.0	17	-6.5	0.1
21 Leather tanning, leather products and fur skins	1	-14.7	0.0	-	-	0.0	8	3.7	0.0
22 Ceramic, stone and clay products	57	-5.8	3.1	47	-10.5	8.7	457	-4.0	1.9
23 Iron and steel	104	4.0	5.7	-	-100.0	0.0	3,057	0.6	12.6
24 Non-ferrous metals and products	22	-1.0	1.2	0	3.4	0.0	202	3.2	0.8
25 Fabricated metal products	20	30.7	1.1	0	-33.0	0.0	273	-2.3	1.1
26 General machinery	15	-8.5	0.8	0	-12.5	0.0	143	-7.8	0.6
27 Electrical machinery, equipment and supplies	12	-10.3	0.7	-	-	0.0	174	-5.1	0.7
28 Information and communication electronics equipment	4	40.9	0.2	-	-	0.0	29	-1.9	0.1
29 Electronic parts and devices	30	2.0	1.6	0	-	0.0	714	3.9	2.9
30 Transportation equipment	44	-2.1	2.4	0	-23.1	0.0	3,370	0.5	13.8
31 Precision instruments and machinery	3	3.1	0.2	1	23.0	0.2	45	12.1	0.2
32 Miscellaneous manufacturing industries	3	-5.3	0.2	0	73.7	0.0	63	16.4	0.3

(Unit : 1,000 m³ / day)

Industry	Cooling and temperature-controlling water			Other fresh water		
	2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	114,215	-0.8	100.0	4,827	0.4	100.0
09 Food	2,235	2.2	2.0	327	0.0	6.8
10 Beverages, tobacco and feed	375	-11.9	0.3	55	-7.6	1.1
11 Textile mill products	583	-9.1	0.5	56	-12.2	1.2
12 Apparel and other finished products	26	-7.7	0.0	19	-1.3	0.4
13 Lumber and wood products	14	1.2	0.0	9	-12.8	0.2
14 Furniture and fixtures	11	-4.8	0.0	9	-9.9	0.2
15 Pulp, paper and paper products	2,505	0.8	2.2	453	-2.7	9.4
16 Printing and allied industries	46	1.5	0.0	24	-5.2	0.5
17 Chemical and allied products	46,574	-0.8	40.8	905	11.7	18.8
18 Petroleum and coal products	8,364	-1.3	7.3	141	23.6	2.9
19 Plastic products	2,136	-2.9	1.9	94	4.8	1.9
20 Rubber products	894	3.5	0.8	32	3.5	0.7
21 Leather tanning, leather products and fur skins	1	-2.7	0.0	1	-22.8	0.0
22 Ceramic, stone and clay products	2,764	-8.6	2.4	107	-36.2	2.2
23 Iron and steel	34,015	-0.1	29.8	1,240	1.0	25.7
24 Non-ferrous metals and products	2,335	10.7	2.0	92	-5.6	1.9
25 Fabricated metal products	484	-16.3	0.4	79	-9.9	1.6
26 General machinery	984	-3.7	0.9	207	3.3	4.3
27 Electrical machinery, equipment and supplies	500	-13.2	0.4	100	-9.8	2.1
28 Information and communication electronics equipment	441	-5.1	0.4	32	-14.6	0.7
29 Electronic parts and devices	2,625	-4.5	2.3	180	-4.8	3.7
30 Transportation equipment	6,075	0.1	5.3	626	0.6	13.0
31 Precision instruments and machinery	115	80.6	0.1	19	-6.9	0.4
32 Miscellaneous manufacturing industries	114	-36.4	0.1	18	0.8	0.4

2. Situation by size of workforce

Comparing the volume of water by size of the workforce, about 40% of the volume was accounted for by establishments with 1,000 or more persons (72.26 million m³, composition ratio 38.3%), followed by establishments with 500 to 999 persons (35.98 million m³, 19.0% id.) and 300 to 499 persons (34.92 million m³, 18.5%). Establishments with 300 or more persons utilized about 80% of the total (Table 9).

By year-on-year comparison ratio, the volume declined in establishments with 200 to 299 persons (down 14.4% compared to the previous year), 50 to 99 persons (down 4.6% id.), 500 to 999 persons (down 1.9% id.), and 1,000 or more persons (down 0.8% id), and rose in establishments with 100 to 199 persons (up 13.5% id.), 30 to 49 persons (up 10.4%id.), and 300 to 499 persons (up 0.9% id.).

Moreover, the larger the size of the workforce in establishments was, the greater the volume of water used was. Compared by the year-on-year ratio, the volume increased in establishments with 30 to 49 persons (up 13.8% compared to the previous year) and 100 to 199 persons (up 13.3% id.), while it decreased in establishments with 200 to 299 persons (down 15.0% id.) and 500 to 999 persons (down 3.6% id.).

Table 9 Volume of Water by Size of Workforce
(Establishments with 30 or more employees)

Size of workforce (Persons)	Number of establishments			Total volume of water			Volume of water per establishment	
	2003			2003			2003	
		Y/Y (%)	Composition ratio (%)	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)	(m ³ /day)	Y/Y (%)
Total	46,284	-1.6	100.0	188,889	-0.5	100.0	4,081	1.2
30 to 49	16,652	-3.2	36.0	3,562	10.4	1.9	214	13.8
50 to 99	16,098	-1.1	34.8	8,219	-4.6	4.4	511	-3.4
100 to 199	7,993	0.1	17.3	20,374	13.5	10.8	2,549	13.3
200 to 299	2,383	0.7	5.1	13,576	-14.4	7.2	5,697	-15.0
300 to 499	1,712	-2.8	3.7	34,921	0.9	18.5	20,398	3.9
500 to 999	1,003	1.7	2.2	35,976	-1.9	19.0	35,868	-3.6
1000 or more	443	-4.9	1.0	72,262	-0.8	38.3	163,120	4.4

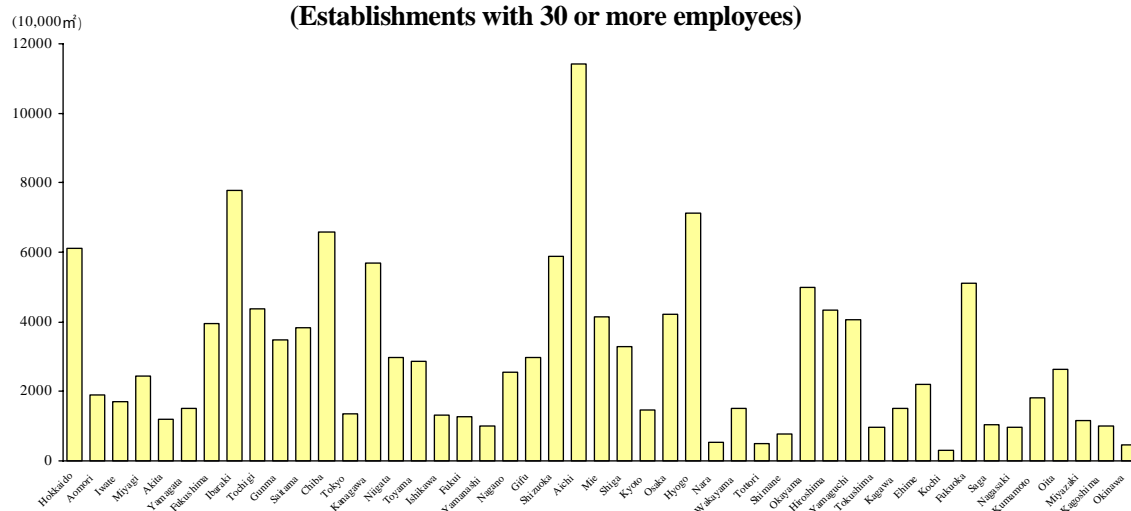
Size of workforce (Persons)	Fresh water			Volume of fresh water per establishment		Seawater		
	2003			2003		2003		
	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)	(m ³ /day)	Y/Y (%)	(1,000 m ³ /day)	Y/Y (%)	Composition ratio (%)
Total	145,743	-0.9	100.0	3,149	0.8	43,146	0.9	100.0
30 to 49	3,140	2.0	2.2	189	5.6	422	184.0	1.0
50 to 99	6,782	-0.5	4.7	421	0.5	1,437	-20.0	3.3
100 to 199	16,610	13.5	11.4	2,078	13.3	3,764	13.6	8.7
200 to 299	11,483	-8.4	7.9	4,819	-9.0	2,093	-37.0	4.9
300 to 499	25,324	0.2	17.4	14,792	3.1	9,596	2.8	22.2
500 to 999	28,956	-6.4	19.9	28,869	-8.0	7,020	22.2	16.3
1000 or more	53,449	-0.5	36.7	120,653	4.6	18,813	-1.5	43.6

III. Situation by prefecture

1. Site area

When observing the site area of establishments by prefecture, the prefectures with a large site area were Aichi (114.24 million m², composition ratio 8.1%), Ibaraki (77.92 million m², 5.6% id.), Hyogo (71.15 million m², 5.1% id.), Chiba (65.65 million m², 4.7% id.), Hokkaido (61.25 million m², 4.4% id.), Shizuoka (58.93 million m², 4.2%) and Kanagawa (56.89 million m², 4.1% id.) (Table 10, Figure 13).

Figure 13 Site Area by Prefecture
(Establishments with 30 or more employees)



By ratio compared to the previous year, a decline was seen in 34 prefectures including Tokyo (down 12.4% compared to the previous year), Kochi (down 5.3% id.), Nagasaki (down 3.7% id.), and Chiba (down 3.2% id.) and an increase was seen in 9 prefectures including Tottori (up 1.8% id.), Fukui (up 1.0% id.), Miyazaki (up 1.0% id.), and Okinawa (up 0.7% id.), with the figure remaining virtually flat for 4 prefectures (Table 10, Figure 14).

The significant decrease in Tokyo was due to the shutdown of an automobile factory.

Figure 14 Year-on-Year Change in Site Area by Prefecture
(Establishments with 30 or more employees)

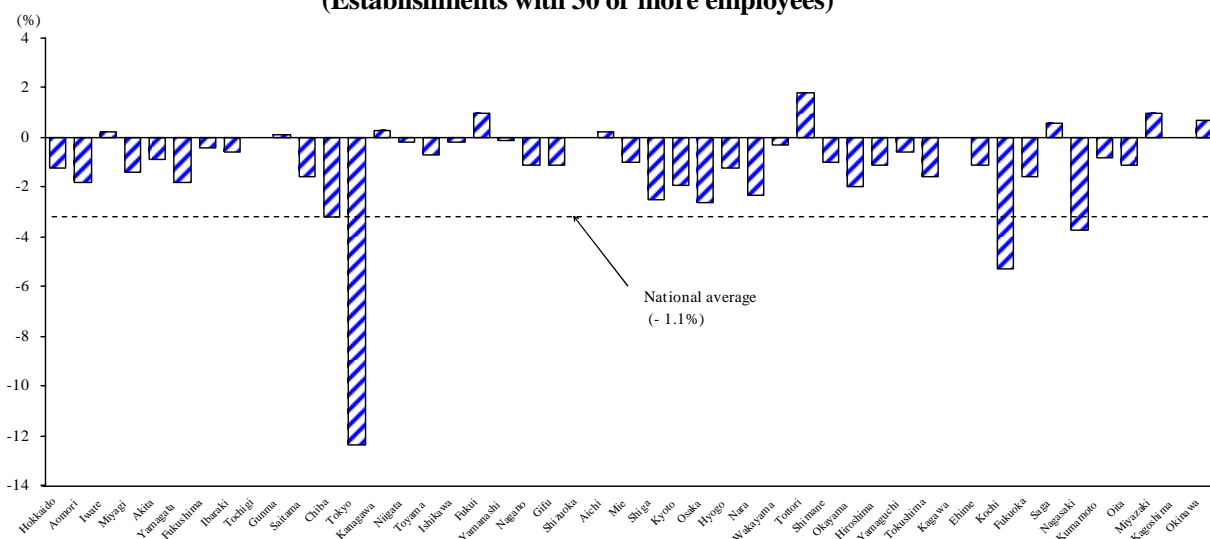


Table 10 Site Area, Floor Space and Total Floor Space by Prefecture
(Establishments with 30 or more employees)

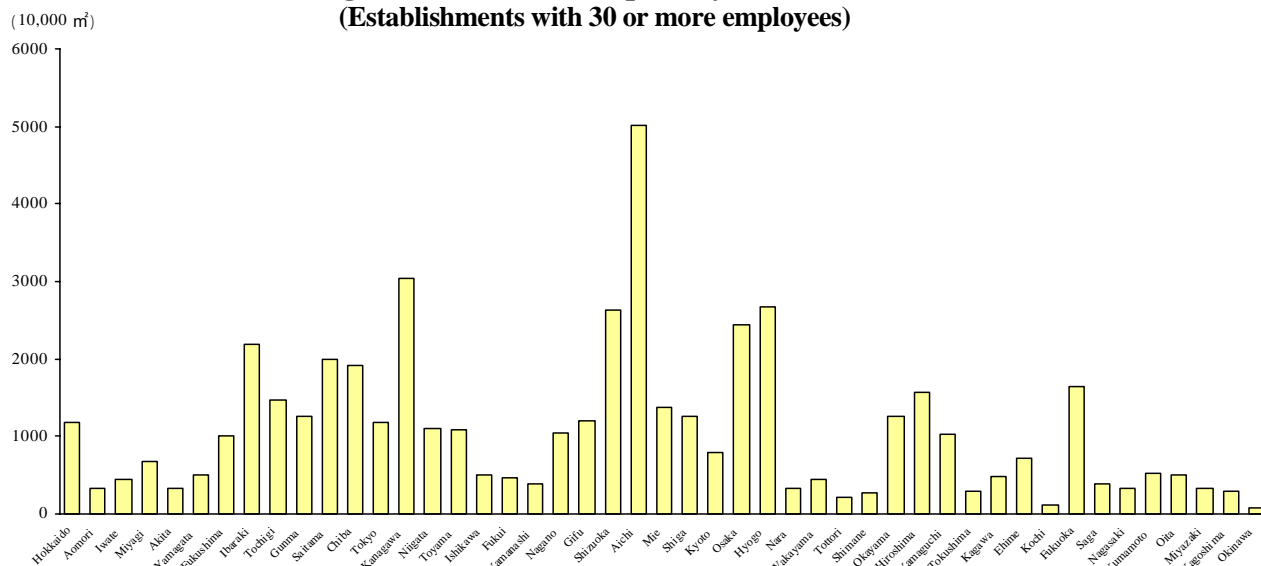
(Unit : 1,000 m²)

Prefecture	Site area			Floor space			Total floor space		
	2003			2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	1,403,247	-1.1	100.0	374,877	-0.6	100.0	502,300	-0.6	100.0
1 Hokkaido	61,247	-1.2	4.4	9,310	0.8	2.5	11,861	0.5	2.4
2 Aomori	18,791	-1.8	1.3	2,291	-1.0	0.6	3,259	-0.9	0.6
3 Iwate	17,196	0.2	1.2	3,639	2.3	1.0	4,537	2.0	0.9
4 Miyagi	24,225	-1.4	1.7	5,320	-1.7	1.4	6,713	-1.7	1.3
5 Akita	11,882	-0.9	0.8	2,661	-0.4	0.7	3,211	0.7	0.6
6 Yamagata	15,041	-1.8	1.1	3,904	-1.4	1.0	5,106	-1.3	1.0
7 Fukushima	39,672	-0.4	2.8	8,015	-0.1	2.1	10,057	0.0	2.0
8 Ibaraki	77,916	-0.6	5.6	17,423	-0.8	4.6	21,775	-0.5	4.3
9 Tochigi	43,663	0.0	3.1	12,174	0.3	3.2	14,758	0.4	2.9
10 Gunma	34,661	0.1	2.5	10,056	1.8	2.7	12,541	0.8	2.5
11 Saitama	38,243	-1.6	2.7	13,589	-3.6	3.6	19,850	-2.2	4.0
12 Chiba	65,653	-3.2	4.7	14,762	-2.6	3.9	19,109	-2.1	3.8
13 Tokyo	13,735	-12.4	1.0	6,102	-6.7	1.6	11,801	-5.8	2.3
14 Kanagawa	56,893	0.3	4.1	20,219	1.3	5.4	30,360	2.0	6.0
15 Niigata	29,928	-0.2	2.1	7,915	-0.1	2.1	11,001	0.0	2.2
16 Toyama	28,494	-0.7	2.0	8,241	-0.2	2.2	10,807	-0.1	2.2
17 Ishikawa	13,142	-0.2	0.9	3,882	0.3	1.0	5,090	0.3	1.0
18 Fukui	12,593	1.0	0.9	3,386	0.2	0.9	4,670	0.5	0.9
19 Yamanashi	10,218	-0.1	0.7	2,760	0.0	0.7	3,863	0.2	0.8
20 Nagano	25,563	-1.1	1.8	7,417	-0.1	2.0	10,357	-0.3	2.1
21 Gifu	29,635	-1.1	2.1	9,333	-1.4	2.5	12,055	-1.4	2.4
22 Shizuoka	58,927	0.0	4.2	19,332	0.0	5.2	26,272	0.3	5.2
23 Aichi	114,240	0.2	8.1	37,489	0.7	10.0	50,069	0.6	10.0
24 Mie	41,516	-1.0	3.0	10,441	0.4	2.8	13,781	1.2	2.7
25 Shiga	32,998	-2.5	2.4	9,742	-1.3	2.6	12,590	-1.6	2.5
26 Kyoto	14,712	-1.9	1.0	5,255	-0.5	1.4	7,865	-0.4	1.6
27 Osaka	42,253	-2.6	3.0	16,067	-2.5	4.3	24,353	-3.3	4.8
28 Hyogo	71,150	-1.2	5.1	19,965	-1.6	5.3	26,793	-1.7	5.3
29 Nara	5,558	-2.3	0.4	2,148	0.8	0.6	3,231	-1.1	0.6
30 Wakayama	15,013	-0.3	1.1	3,529	-1.0	0.9	4,476	-1.4	0.9
31 Tottori	4,978	1.8	0.4	1,533	2.4	0.4	2,044	2.9	0.4
32 Shimane	7,746	-1.0	0.6	2,172	-1.4	0.6	2,751	-1.1	0.5
33 Okayama	49,934	-2.0	3.6	10,207	-0.7	2.7	12,503	-0.6	2.5
34 Hiroshima	43,324	-1.1	3.1	12,468	-2.1	3.3	15,700	-2.7	3.1
35 Yamaguchi	40,536	-0.6	2.9	8,238	1.2	2.2	10,227	2.0	2.0
36 Tokushima	9,531	-1.6	0.7	2,182	-1.9	0.6	2,996	-2.7	0.6
37 Kagawa	15,030	0.0	1.1	3,977	-0.6	1.1	4,848	-0.8	1.0
38 Ehime	22,066	-1.1	1.6	5,173	-0.9	1.4	7,131	-0.5	1.4
39 Kochi	2,906	-5.3	0.2	912	-2.7	0.2	1,236	-1.4	0.2
40 Fukuoka	51,241	-1.6	3.7	12,883	-1.0	3.4	16,460	-1.3	3.3
41 Saga	10,554	0.6	0.8	3,108	-0.1	0.8	3,857	0.6	0.8
42 Nagasaki	9,842	-3.7	0.7	2,508	-4.4	0.7	3,264	-5.3	0.6
43 Kumamoto	18,195	-0.8	1.3	4,099	0.5	1.1	5,199	0.2	1.0
44 Oita	26,382	-1.1	1.9	3,807	0.4	1.0	4,969	0.8	1.0
45 Miyazaki	11,800	1.0	0.8	2,590	1.9	0.7	3,370	1.5	0.7
46 Kagoshima	9,887	0.0	0.7	2,108	1.2	0.6	2,856	1.1	0.6
47 Okinawa	4,539	0.7	0.3	548	-1.8	0.1	678	-1.9	0.1

2. Total floor space

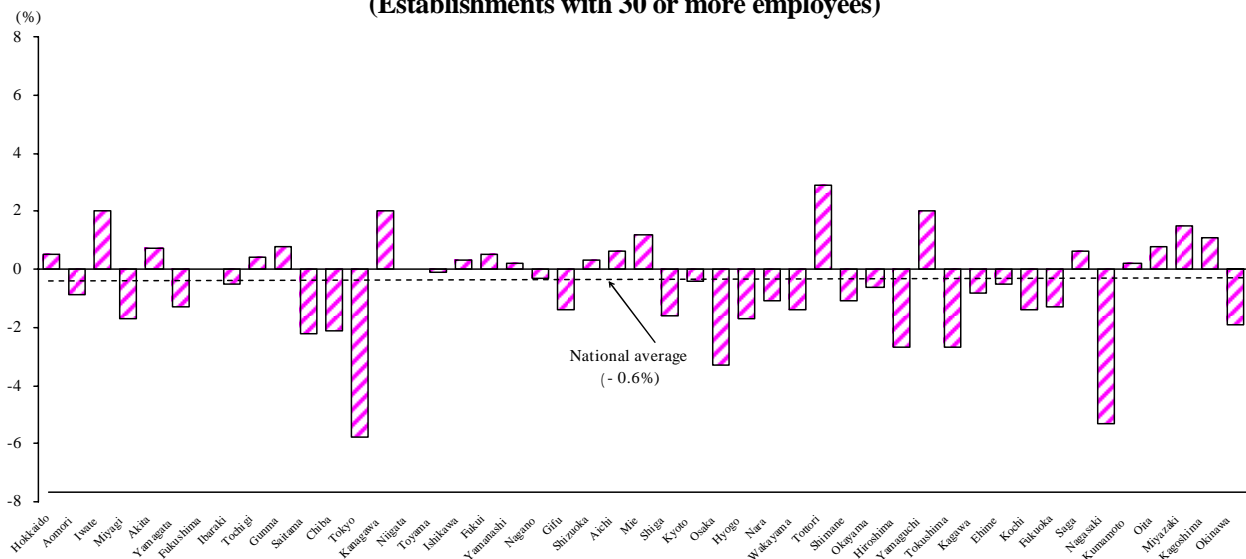
Regarding the total floor space of establishments by prefecture, Aichi (50.07 million m², composition ratio 10.0%) had the largest space, followed by Kanagawa (30.36 million m², 6.0% id.), Hyogo (26.79 million m², 5.3% id.), Shizuoka (26.27 million m², 5.2% id.), Osaka (24.35 million m², 4.8% id.), Ibaraki (21.78 million m², 4.3% id.), Saitama (19.85 million m², 4.0% id.), and Chiba (19.11 million m², 3.8% id.) (Table 10, Figure 15).

Figure 15 Total Floor Space by Prefecture
(Establishments with 30 or more employees)



On a year-on-year basis, there was a decline in 26 prefectures including Tokyo (down 5.8% compared to the previous year), Nagasaki (down 5.3% id.), Osaka (down 3.3% id.), Hiroshima (down 2.7% id.), Tokushima (down 2.7% id.), Saitama (down 2.2% id.), and Chiba (down 2.1% id.), and there was an increase in 19 prefectures including Tottori (up 2.9% id.), Iwate (up 2.0% id.), Kanagawa (up 2.0% id.), Yamaguchi (up 2.0% id.), Miyazaki (up 1.5% id.), Mie (up 1.2% id.), and Kagoshima (up 1.1% id.) with the figure for 2 prefectures remaining virtually flat (Table 10, Figure 16).

Figure 16 Year-on-Year Change in Total Floor Space by Prefecture
(Establishments with 30 or more employees)



3. Situation regarding industrial water

By prefecture, prefectures using a large volume of industrial water were Chiba (20.42 million m³, composition ratio 10.8%), Aichi (17.27 million m³, 9.1% id.), Yamaguchi (16.73 million m³, 8.9% id.), Hyogo (13.32 million m³, 7.1% id.), Kanagawa (12.67 million m³, 6.7% id.), Okayama (12.30 million m³, 6.5% id.) and Ibaraki (10.26 million m³, 5.4% id.) (Table 11, Figure 17).

In more specific terms, “chemical and allied products”, “iron and steel” and “petroleum and coal products” accounted for a substantial part in Chiba and Kanagawa, “iron and steel” and “transportation equipment” in Ibaraki and Hyogo, “iron and steel” and “transportation equipment” in Aichi, “chemical and allied products”, “iron and steel” and “petroleum and coal products” in Okayama, and “chemical and allied products” and “petroleum and coal products” in Yamaguchi.

Figure 17 Volume of Water Used by Prefecture
(Establishments with 30 or more employees)

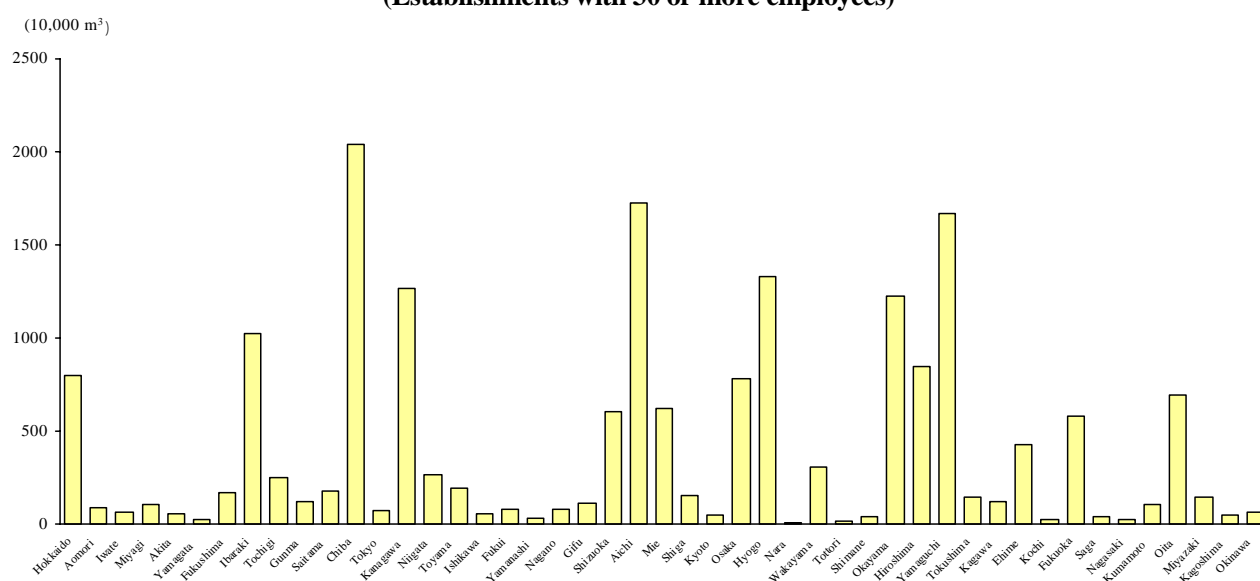


Table 11 Volume of Water Used by Prefecture
(Establishments with 30 or more employees)

(Unit : 1,000 m³ / day)

Prefecture	Total volume of water used			Fresh water			Seawater		
	2003			2003			2003		
		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)		Y/Y (%)	Composition ratio (%)
Total	188,889	-0.5	100.0	145,743	-0.9	100.0	43,146	0.9	100.0
1 Hokkaido	8,008	-4.0	4.2	6,283	-5.2	4.3	1,725	0.5	4.0
2 Aomori	888	-3.6	0.5	863	-3.7	0.6	24	0.0	0.1
3 Iwate	634	-0.9	0.3	415	-0.7	0.3	219	-1.3	0.5
4 Miyagi	1,008	-0.9	0.5	1,005	-0.9	0.7	3	-5.3	0.0
5 Akita	562	0.5	0.3	355	-2.8	0.2	207	6.8	0.5
6 Yamagata	272	-1.3	0.1	272	-1.3	0.2	-	-	-
7 Fukushima	1,731	0.9	0.9	1,183	2.2	0.8	548	-1.8	1.3
8 Ibaraki	10,257	-0.4	5.4	7,929	0.2	5.4	2,328	-2.5	5.4
9 Tochigi	2,528	-1.7	1.3	2,528	-1.7	1.7	-	-	-
10 Gunma	1,184	0.6	0.6	1,184	0.6	0.8	-	-	-
11 Saitama	1,767	-11.5	0.9	1,767	-11.5	1.2	-	-	-
12 Chiba	20,417	-0.3	10.8	12,380	-0.7	8.5	8,037	0.3	18.6
13 Tokyo	718	-7.1	0.4	718	-7.1	0.5	0	1733.3	0.0
14 Kanagawa	12,667	-0.7	6.7	9,091	-0.6	6.2	3,576	-1.1	8.3
15 Niigata	2,701	1.1	1.4	2,701	1.1	1.9	-	-	-
16 Toyama	1,930	-2.7	1.0	1,930	-2.7	1.3	-	-	-
17 Ishikawa	548	0.7	0.3	548	0.7	0.4	-	-	-
18 Fukui	837	3.6	0.4	837	3.6	0.6	-	-	-
19 Yamanashi	335	-17.2	0.2	335	-17.2	0.2	-	-	-
20 Nagano	769	33.0	0.4	769	33.0	0.5	-	-	-
21 Gifu	1,162	-1.4	0.6	1,162	-1.4	0.8	-	-	-
22 Shizuoka	6,017	-1.5	3.2	5,930	-1.5	4.1	87	0.8	0.2
23 Aichi	17,266	0.4	9.1	13,994	1.0	9.6	3,272	-2.1	7.6
24 Mie	6,171	1.6	3.3	5,200	-1.7	3.6	972	23.8	2.3
25 Shiga	1,540	-13.2	0.8	1,540	-13.2	1.1	-	-	-
26 Kyoto	488	-1.6	0.3	488	-1.6	0.3	-	-	-
27 Osaka	7,787	-0.8	4.1	7,304	-0.6	5.0	483	-3.3	1.1
28 Hyogo	13,319	-0.2	7.1	8,629	-2.4	5.9	4,691	4.0	10.9
29 Nara	67	2.8	0.0	67	2.8	0.0	-	-	-
30 Wakayama	3,036	-1.4	1.6	2,078	-1.8	1.4	958	-0.6	2.2
31 Tottori	178	-0.9	0.1	178	-0.9	0.1	0	0.0	0.0
32 Shimane	413	-5.1	0.2	411	-5.1	0.3	2	0.0	0.0
33 Okayama	12,295	-4.7	6.5	10,272	-5.3	7.0	2,023	-1.3	4.7
34 Hiroshima	8,475	5.1	4.5	7,255	6.1	5.0	1,220	-0.9	2.8
35 Yamaguchi	16,726	1.6	8.9	9,377	1.1	6.4	7,349	2.3	17.0
36 Tokushima	1,427	-1.4	0.8	1,327	-1.5	0.9	100	0.0	0.2
37 Kagawa	1,241	-2.1	0.7	652	-2.1	0.4	588	-2.2	1.4
38 Ehime	4,280	2.3	2.3	3,450	4.1	2.4	830	-4.6	1.9
39 Kochi	268	-3.2	0.1	182	-4.7	0.1	86	0.1	0.2
40 Fukuoka	5,790	-2.6	3.1	4,653	-1.9	3.2	1,137	-5.3	2.6
41 Saga	365	9.9	0.2	364	10.0	0.2	1	-0.1	0.0
42 Nagasaki	242	1.6	0.1	74	-0.9	0.1	168	2.8	0.4
43 Kumamoto	1,088	-5.3	0.6	1,087	-5.3	0.7	1	-6.2	0.0
44 Oita	6,910	3.6	3.7	4,578	1.4	3.1	2,332	8.0	5.4
45 Miyazaki	1,442	2.4	0.8	1,409	2.4	1.0	33	0.5	0.1
46 Kagoshima	495	8.5	0.3	449	6.3	0.3	46	36.3	0.1
47 Okinawa	638	-2.9	0.3	540	-0.8	0.4	98	-13.1	0.2